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PROJECT PERFORMANCE ASSESSMENT REPORT

MEXICO

**TRANSPORT AIR QUALITY MANAGEMENT PROJECT FOR THE
MEXICO CITY METROPOLITAN AREA
(LOAN 3543-ME)**

**HIGHWAY REHABILITATION AND SAFETY PROJECT
(LOAN 3628-ME)**

**INFRASTRUCTURE PRIVATIZATION TECHNICAL ASSISTANCE
PROJECT
(LOAN 39370-ME)**

June 23, 2003

*Sector and Thematic Evaluation Group
Operations Evaluation Department*

Currency Equivalents (annual averages)

Currency Unit = Peso (Mex\$)

1993	US\$1.00	\$3.11
1994	US\$1.00	\$5.00
1995	US\$1.00	\$7.74
1997	US\$1.00	\$8.07
1999	US\$1.00	\$9.50
2001	US\$1.00	\$9.16
2002	US\$1.00	\$10.43

Abbreviations and Acronyms

BANOBRAS	National Bank of Public Works and Services (Banco Nacional de Obras y Servicios Públicos)
CAM	Metropolitan Environmental Commission (Comisión Ambiental Metropolitana)
CAE	Country Assistance Evaluation (prepared by OED)
CID	Interministerial Commission on Privatization (Comisión Intersecretarial de Desincorporación)
CMPPCA	Commission for the Prevention and Control of Environmental Pollution in the Metropolitan Area of the Valley of Mexico (Comisión para la Prevención y el Control de la Contaminación Ambiental en la Zona Metropolitana del Valle de México)
CO	Carbon monoxide
EVM/ES	Evaluation Memorandum or Evaluation Summary (OED's review of ICR).
GDG	Government of the Federal District (Distrito Federal)
GDP	Gross Domestic Product
GSM	Government of the State of Mexico
HC	Hydrocarbons
HRRM	Highway Rehabilitation, Resurfacing and Maintenance
ICR	Implementation Completion Report
MAVC	Metropolitan Area of the Valley of Mexico
MOP	Memorandum of the President, World Bank (project document for Technical Assistance projects)
NAFIN	National Finance Institution (Nacional Financiera, SNC)
NOx	Nitrogen oxides
OED	Operations Evaluation Department, World Bank
PM10	Particulate matter less than 10 microns in diameter
PMS	Pavement Management System
PPAR	Project Performance Assessment Report
SAR	Staff Appraisal Report
SCT	Ministry of Communications and Transport (Secretaría de Comunicaciones y Transporte)
VOC	Volatile organic compounds
SHCP	Finance Ministry (Secretaría de Hacienda y Crédito Público)
SEDESOL	Ministry of Social Development (Secretaría de Desarrollo Social)

Government Fiscal Year

January 1 – December 31

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OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

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Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Contents

Principal Ratings	v
Key Staff Responsible	v
Preface	vii
Summary	ix
Background	1
Objectives	2
<i>Relevance and Design</i>	<i>3</i>
Transport Air Quality.....	3
Highway Rehabilitation	4
Infrastructure Privatization	5
<i>Project Cost</i>	<i>6</i>
Implementation	6
<i>Transport Air Quality</i>	<i>7</i>
<i>Highway Rehabilitation</i>	<i>8</i>
<i>Infrastructure Privatization</i>	<i>9</i>
Outcome	9
<i>Transport Air Quality</i>	<i>9</i>
<i>Highway Rehabilitation</i>	<i>13</i>
Transport.....	16
Railways.....	17
Airports	19
Ratings	21
<i>Outcome</i>	<i>21</i>
<i>Institutional Development</i>	<i>21</i>
<i>Sustainability</i>	<i>22</i>
<i>Bank Performance</i>	<i>23</i>
<i>Borrower Performance</i>	<i>24</i>
Lessons	25

<p>This report was prepared by Hernan Levy (Consultant), who assessed the projects in December 2002. The report was edited by William Hurlbut, and Romyne Pereira provided administrative support.</p>
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<i>Transport Air Quality</i>	25
<i>Highway Rehabilitation</i>	25
<i>Infrastructure Privatization</i>	25
Annex A. Basic Data Sheet	27
Annex B. Borrower Comments	33

Principal Ratings

Transport Air Quality Management Project (Loan 3543-Me)

	ICR	EVM/ES*	PAR
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Likely	Likely
Institutional Development	Substantial	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Transport Rehabilitation and Safety Project (Loan 3628-Me)

	ICR	EVM/ES	PAR
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Likely	Non-evaluable
Institutional Development	Substantial	Substantial	Modest
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Infrastructure Privatization TA Project (Loan 39370-Me)

	ICR	EVM/ES	PAR
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Likely	Likely
Institutional Development	Modest	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The Evaluation Summary (ES, previously known as the Evaluation Memorandum, or EVM) is an intermediate OED product that seeks to independently verify the findings of the ICR

Key Staff Responsible

Transport Air Quality Project (Loan 3543-Me)

Project	Task Manager/ Leader	Division Chief/ Sector Director	Country Director
Appraisal	Carl-Heinz Mumme	Adolfo Brizzi	Olivier Lafourcade
Completion	Carl-Heinz Mumme	Adolfo Brizzi	Olivier Lafourcade

Highway Rehabilitation and Safety Project (Loan 3628-Me.)

Project	Task Manager/ Leader	Division Chief/ Sector Director	Country Director
Appraisal	Enrique Pinilla	Ricardo Halperin	Edilberto Segura
Completion	José María Alonso-Biarge	Danny Leipziger	Olivier Lafourcade

Infrastructure Privatization TA Project (Loan 39370-Me.)

Project	Task Manager/ Leader	Division Chief/ Sector Director	Country Director
Appraisal	Michael Klein	Martin Staab	Carl Dahlman
Completion	Richard Clifford	J. Luis Guasch	Olivier Lafourcade

Preface

This is a Performance Audit Report (PAR) for three projects in Mexico: the Transport Air Quality Management Project for the Mexico City Metropolitan Area (Loan 3543-ME), the Highway Rehabilitation and Safety project (Loan 3628-ME), and the Infrastructure Privatization Technical Assistance project (Loan 3937-ME). The Transport Air Quality project was approved December 15, 1992, for \$220 million and closed June 30, 1999, two years later than planned; \$128.2 million of the loan was cancelled. The Highway project, approved June 24, 1993, for a loan of \$480 million, closed fully disbursed on December 31, 2000, six months behind the expected closing date. The Infrastructure Privatization project was approved for a \$30 million loan on August 29, 1996, and closed as scheduled on June 30, 1999; \$17.9 million of the loan was cancelled.

This report is based on reviews of the Implementation Completion Reports (ICRs), the Staff Appraisal Reports (SARs), loan documents, project files, transcripts of Board proceedings, and other Bank documents, as well as documents from other sources and discussions with Bank staff. An OED mission visited Mexico in December 2002 and discussed the projects with federal and state government officials, and with private consultants. Their kind assistance is gratefully acknowledged.

The PPAR was undertaken because the projects covered three different but important dimensions of the transport sector and therefore provided an excellent opportunity to make a broad assessment of Bank operations in the sector. The PPAR gives special attention to specific issues in each of the three projects. In the *transport and air quality project*, it assesses the impact of the project in reducing air pollutants, and in reducing air quality-related emergencies and illnesses. In the *highway project*, it examines the longstanding issue of funding for road maintenance, and the missed opportunity to advance decentralization. In the *infrastructure privatization project*, the PPAR focuses on its transport components, with special attention to the successful railway privatization, and the conditions required for infrastructure privatization to gain public acceptance. In addition, the report provides a current assessment of the outcome, representing an updating of some 3-4 years in the case of the two projects that closed in 1999.

Following standard procedures, copies of the PPAR were sent to the Mexican authorities for comments. Comments received are attached as Annex B.

Summary

This is the Project Performance Assessment Report prepared by the Operations Evaluation Department on the above projects. The Transport Air Quality project, approved in FY93, closed in FY99, two years late. The Highway project, approved in FY93, closed in FY01, six months late. The Infrastructure Privatization project, approved in FY96, closed in FY99, on schedule. More than half of the transport air quality project (\$128 million out of \$220 million loan) and of the infrastructure privatization project (\$27.5 million out of \$46 million loan) was canceled. The \$480 million highway loan was fully disbursed.

The three projects addressed different but important dimensions of Mexico's transport sector and were consistent with the Bank's assistance strategy for the country. The Transport Air Quality project, a complex project that was the first Bank operation anywhere to integrate transport and air quality, aimed to reduce the high level of vehicle emissions in the Mexico City Metropolitan Area (MCMA), develop a policy framework for transport and air policy, and strengthen institutional capabilities. The Highway project, which continued a series of Bank interventions supporting Mexico's highway system, aimed to protect the federal road network, improve planning of highway maintenance, improve road funding, and improve highway safety. The Infrastructure Privatization project, which supported the government's push to accelerate privatization, aimed to help design and implement privatization of infrastructure, including development of a regulatory framework, rehabilitation and maintenance of the federal road network, and the privatization of state-provided transport and other infrastructure services.

All three projects largely achieved their objectives, despite significant initial implementation problems in the case of the air quality and the highway projects. Approved just before the onset of the 1994/95 macroeconomic crisis, these projects suffered delays and experienced serious problems with finance, use of line of credit in the case of the Transport Air Quality project, and counterpart funding in the case of the Highway project, especially in the early years. In contrast, the Infrastructure Privatization project was designed as a response to the crisis and escaped these problems.

The air quality project, through policy instruments and related measures, led to a significant decrease in ambient concentration of pollutants originating in vehicle operations and emissions and affecting the population of the MCMA. Of significant importance were the reductions over the project period of lead (by 98 percent), ozone (by 49 percent), and carbon monoxide (by 27 percent), achieved despite increasing vehicle population and traffic in the area. Sulfur dioxide was also reduced (by 78 percent), but this was mainly the result of government programs outside the project. One result from the decline in ozone levels was the reduction in declared pollution emergency days (from 103 days/year in 1993 to 13 in 2001) calling for restrictions in the use of vehicles and preventative health measures. The decline in the level of air pollutants (although some still exceed Mexico's norm levels) has resulted in fewer respiratory illnesses and other acute syndromes caused by poor quality air.

The highway project's main outcome was an improvement in the condition of the federal road network, with roads in fair and good condition increasing from 43 percent in 1994 to 66 percent in 2001. This was achieved, despite underfunding of road

maintenance, by a fund-allocation policy that gave priority to routine and periodic maintenance over rehabilitation.

The infrastructure privatization project's most important outcome was the privatization of Mexico's railway system (the main lines were concessioned in 1996–97) that has led to substantial improvement in efficiency, traffic, and quality of service. At the same time, the transparent privatization process, compliance by operators with service and investment commitments, government social policy providing affordable passenger services where there is no road service, and appropriate protection to the railway staff made redundant, allowed this privatization to avoid the negative public perception that often besets privatization of infrastructure. Privatization of airports was also advanced, as it was in other areas (although privatization of the electricity sector was stalled). A transport regulatory agency was proposed but not created.

The outcome is rated satisfactory for the three projects. Institutional development is rated substantial for the air quality and the privatization projects, and modest in the highway project, since improvement of maintenance planning and management had been largely done under a preceding highway project. Sustainability is rated likely for the air quality and the privatization projects and non-evaluable for the highway project, since the road condition level attained cannot be sustained with present levels of funding, and it is not possible to assess the funding the government will allocate in the future. Bank and borrower performance is rated satisfactory in all three projects.

Three lessons emerge from these operations. First, much progress can be achieved in reducing the impact of road *transport on air quality* through a combination of public and private sector measures, starting with an adequate system of incentives put in place by federal and state governments. Second, *allocation of highway maintenance funding* optimizes outcome when preference is given to routine and periodic maintenance over rehabilitation, but network condition is bound to deteriorate if funding for rehabilitation is not made available. Third, *infrastructure privatization*, to gain public acceptance, requires as necessary (but not always sufficient) conditions, a transparent privatization process, compliance with commitments by private operators, and government provision of social protection to users of non-commercial services and to staff made redundant.

Gregory K. Ingram
Director-General
Operations Evaluation

Background

1. This PPAR reviews three projects, addressing different dimensions of Mexico's transport sector, that were approved in the first half of the 1990s and closed at the end of the decade. The Transport Air Quality Management Project (Loan 3543-Me) focused on the reduction of vehicular emissions in the Mexico City Metropolitan Area. The Highway Rehabilitation and Safety project (Loan 3628-Me) focused on the management of Mexico's federal road network. And the Infrastructure Privatization Technical Assistance project (Loan 39370-Me) assisted in preparing and launching privatization in several infrastructure sectors. The PPAR gives particular attention to the transport components of this project.

2. In the early 1990s, when the air quality and highway loans were being prepared, Mexico's economy was starting to recover from Latin America's 'lost decade' of the 1980s and from the worldwide debt crisis, which Mexico had led.¹ When Mexico deepened its economic reform in the late 1980s and early 1990s, growth resumed. After a decade of stagnation, GDP growth averaged 3.5 percent annually during 1989–92, and inflation in 1993 reached its lowest level (8 percent) in more than 20 years. The government pursued a wide-ranging program of reforms to consolidate an open, market-oriented economy. After years of negotiations, in January 1994, Mexico signed the North American Free Trade Agreement.

3. The World Bank supported the reforms with large adjustment loans during the 1989–91 period, but shifted in 1992–94 toward increased project lending and associated sectoral reforms, including transport and the environment.

4. In 1994, a combination of economic and political factors brought about an acute financial crisis and recession that lasted for most of 1995. The crisis had a negative effect on the implementation of the three transportation sector projects, which were underway at the time. First, fiscal resources were scarce, restricting the government's ability to provide counterpart funds and provide funding for highway maintenance. Second, private sector activity was severely curtailed, reducing traffic and investment in new vehicles.

5. In response to the 1994/95 crisis, the government pursued its reforms, including the privatization of state-owned enterprises, especially in the infrastructure sector. The Bank supported these efforts, and the infrastructure privatization technical assistance project was part of this support.

1. This chapter draws mainly from World Bank, Operations Evaluation Department. *Mexico – Country Assistance Evaluation*. Report no. 22498, June 28, 2001.

Objectives

6. Project objectives and components are shown in Box 1, below.

Box 1. Project Objectives and Components

Transport Air Quality Project

Objectives

- Reduce growth of vehicle emissions
- Develop policy framework for transport and air quality
- Improve scientific base underlying air quality program
- Strengthen institutional capabilities to plan and implement air quality programs

Components

- Vehicles:
 - Emissions standards
 - Inspection programs
 - Replacement of old vehicles
- Fuels
 - Gasoline vapor recovery
 - Alternative fuel pilot
- Transport policy and management
 - Preparation of Transport and Air Quality Management Strategy for the MCMA
- Scientific
 - Technical Assistance to CMPCCA to improve scientific base
 - Equipment for SEDESOL
- Institutional Strengthening
 - Technical Assistance to CMPCCA Technical Support Team
 - Preparation of annual environmental audit

Highway Rehabilitation and Safety Project

Objectives

- Protect and enhance past investments in federal highway system, through rehabilitation and resurfacing of paved highways
- Improve planning of highway rehabilitation, resurfacing and maintenance (HRRM)
- Support measures to improve funding of HRRM
- Reduce transport costs through better safety and more efficient traffic flow
- Support further policy improvements

Components

- Institutional strengthening that would
 - Strengthen planning capacity
 - Complete the reorganization of the maintenance directorate of the SCT
 - Develop and implement highway maintenance management programs
 - Continue interagency work on highway cost recovery
 - Implement vehicle size and weight regulation
 - Implement training program, HRRM program and traffic safety program
- Highway Rehabilitation, Resurfacing and Maintenance (27,000 kilometers)
- Road traffic safety program (350 hazardous locations)

Infrastructure Privatization TA Project

Objectives

- Help government choose structural options for sector reform
 - Develop a sound legal and regulatory framework in support of privatization
 - Reduce, and, if possible, eliminate, constraints to privatization in sectors covered by the loan
 - Provide support to privatization process through the inter-ministerial Commission on Privatization
-

Components

- Technical assistance to assist with
 - Analysis of sector structure and development of strategic options, policies and regulations
 - The design and carrying out privatization process
 - Training programs and other human resource development
 - Procurement of software, hardware and related equipment
-

Relevance and Design

7. The three projects supported government priorities and were in line with Bank assistance strategy to Mexico.

Transport Air Quality

8. The relevance of this project was high. It responded to increasing central government concern about air pollution in the Mexico City Metropolitan Area (MCMA), and to a specific government request for Bank intervention in this area. The Bank initially responded by reallocating funds from an ongoing Urban Transport project to support the government's Emergency Program, which aimed to reduce the high levels of air pollution. Almost immediately after this move, the Mexican authorities started to prepare a free-standing project.

9. While the Bank had no direct experience with transport air pollution in Mexico, in 1982 it had approved a pollution control project (Loan 2154-Me) focused on industry, which gave it some exposure to air pollution problems.

10. *Air pollution and health.* In its description of the project benefits, the SAR noted the health effects of air pollution, and identified illnesses and other consequences that the project could help reduce. However, the appraisal did not present the impact on health as a key rationale for the project, nor did it include health impacts among the project objectives. While at first sight this omission appears surprising, it is probably based on the difficulty of directly linking reduced vehicular emissions, which the project aimed to achieve, to improvements in health.

11. The linkage problems are twofold. First, it is difficult to assess how reducing vehicular emissions translates into lower ambient air concentration of pollutants. A number of physical factors, including winds, temperature, and pressure can increase or decrease the level of ambient air pollution that results from the same level of vehicular emissions. Second, reliable statistical analysis that relates ambient concentration of the various pollutants to illness incidence requires a relatively large database including time series on the level of pollutants and on illnesses in the relevant geographic area.

12. *Project Design.* Two features of the project design helped enhance the relevance of the operation:

- *Coordinated federal and state government work.* The project involved the federal government as well as the governments of the Federal District and of the State of

Mexico. Central government authorities had long insisted that Bank projects should aim to work with subnational governments.²

- *External advisory panel.* An international Panel of Experts was established and members recruited to assist periodically in reviewing implementation of the project, and to contribute up-to-date knowledge on the subject. The panel was valuable because of the complexity of the subject, the difficult environmental conditions of the MCMA, and the need to provide the government with irrefutable expert advice, especially on sensitive policy and institutional measures.

13. The project design was less successful in establishing useful performance indicators. The SAR tables showing the amount of emission reductions expected for 1995 — with breakdown by type of measure and pollutant — contained no baseline data, and there was no mechanism in place to ensure that the method of calculation used in the SAR could be replicated.

Highway Rehabilitation

14. The project's aim to improve the condition of the road system and continue the shift in the use of funding away from new construction and toward preserving the physical assets had a strong economic rationale. Efficient use of the substantial budgetary resources required by the highway system was highly relevant to Mexico's economic situation, and grew in importance after the 1994 fiscal crisis. A well functioning road transport infrastructure also was a prerequisite for the development of trade under the NAFTA agreement signed in 1994. The project was the first Bank operation in Mexico to focus directly on highway safety.

15. The value of the institutional objectives — to improve planning of maintenance and of road funding — was limited, because the consulting assistance and recommendations essential to carry out the improvements sought in planning and maintenance management had been launched and practically completed under the preceding highway project.

16. In addition, the project target regarding works by contract was unjustifiably modest. The project committed the government to increase works by contract (as opposed to force account) only for road rehabilitation, where a target of (at least) 70 percent was specified in the SAR. No commitment was required regarding periodic and routine maintenance. The 70 percent target was modest because by 1993, when the project was approved, Mexico had a well developed contracting industry that could easily carry out the works and few countries in the world continued to do any rehabilitation work of the national highway system by force account.

17. The project missed an opportunity to encourage decentralization of the highway system. The SAR provided several reasons why the project had no role in decentralization, among them: (i) states were requiring road rehabilitation prior to accepting transfer of responsibility for the management of roads currently under the

2. As noted in the 2001 Country Assistance Review.

federal government; (ii) most states lacked a qualified highway agency; (iii) there was no clear mechanism in place to provide financial compensation for the new responsibilities the states would assume; and (iv) the Inter-American Development Bank (IDB) would support road decentralization under a feeder roads project being prepared. Yet, the PPAR finds that the project should have attempted to carry out decentralization pilots in a few, well-selected states, that had good working highway departments and reasonable finances, where the chances of success were greater. The highway project was clearly better positioned for trying decentralization than a feeder roads project. Inclusion of some decentralization activity would have increased the project's value added.

Infrastructure Privatization

18. The project was highly relevant to the government's privatization program. Mexico's privatization effort had started in the 1980s, initially with divestiture of small state-owned enterprises, and later of larger companies operating in such competitive markets as manufacturing and banking. However, little progress had been achieved in privatizing infrastructure. In this field, it appeared difficult to sell companies unless issues involving the legal and regulatory frameworks were analyzed and addressed.

19. The project document (Memorandum of the President, or MOP) stated as rationale for the project: (i) support to government's long-term objectives of furthering development of the private sector and (ii) infrastructure bottlenecks and inefficient services had contributed to a high cost of doing business and to low growth. Yet, there was no data supporting the second point. In hindsight, with the knowledge that privatization of infrastructure has been highly controversial in many countries (including Mexico's own privately financed toll road program that by 1994 was in disarray and in need of a government bailout), the MOP should have better justified its rationale. A few well selected financial, fiscal, operational, and quality-of-service indicators could have easily shown what was wrong in each sector and how privatization would improve the situation. As it was, the MOP conveyed the misleading impression that infrastructure privatization was promoted for its own sake.

20. The sectors selected for assistance under the project covered a large spectrum within infrastructure:

- Electricity and secondary petrochemicals;
- Transport, including ports, railways, and airports;
- Telecommunications, including basic telephone service, satellite operations, and radio spectrum management; and
- Cross-sectoral assistance, mainly in support of the Interministerial Commission on Privatization.

21. For railways and airports, the project's timing could not have been better. In February 1995, six months before the loan was approved, the Mexican Congress amended the constitution to allow private investment in railways, and a few months later approved a regulatory law defining the conditions for private participation. For airports, as reported in the ICR, a new law passed in December 1995 opened the way for private

participation, and, in 1998, after some study, guidance for private investments in airports were approved.

22. While at the time of the appraisal the broad project scope could have been seen as ambitious but feasible, in hindsight, it is clear that not all areas had the same prospects for progress. For example, port restructuring and privatization was already significantly advanced in 1994, while the long-standing, high political sensitivity would make it unlikely that much could be accomplished in the electricity sector.

Project Cost

23. In retrospect, a problem with both the air quality and the highway project was the definition of project cost. For the air quality project, total project cost was originally estimated at \$1.1 billion. Some \$350 million (32 percent) was for the renewal of trucks that private operators would be required to make as a result of the new emissions standards to be put in place during project implementation. Following the same approach as in the SAR, the ICR estimates that, by project closing, the project had cost \$7.2 billion, with truck purchases amounting to \$6.0 billion, or 83 percent of actual project cost. Including truck purchases as a project cost was unwarranted because: (i) the large majority of the purchases were not expected to be financed under the project, and were not in practice, and (ii) it was almost impossible to ascertain the percentage of truck purchases that could be considered as being triggered by the project. The truck fleet in MCMA at the start of the 1990s was quite old; therefore, a large amount of renovation (plus normal fleet expansion) would have taken place in any case.

24. The overall cost of the highway project was estimated at \$1.56 billion, of which the 1993–96 Highway Rehabilitation, Resurfacing, and Maintenance (HRRM) program accounted for \$1.36 billion, or 87 percent of total project cost. In practice, as noted below, the project also financed works under the 1997–2000 HRRM, blurring the definition of actual project costs. The borrower was unable to make a precise estimate of such costs, which are not presented in the ICR.

25. In the infrastructure project, a large part of the loan (\$17.9 million out of the \$30 million loan) was cancelled. While some of this cancellation is explained by the fact that some of the areas expected to be addressed were not, or only minimally so, the main reason appears to be an overestimate of the cost of technical assistance to be provided under the project.

Implementation

26. The Transport Air Quality and the Highway projects were prepared and approved before the onset of the December 1994 macroeconomic crisis, but most of the implementation took place after that date. Consequently, implementation of the two projects was severely affected by restricted fiscal resources in 1994/95 and for several

years thereafter,³ which was the main factor leading to delays in the closing of the projects — two years for the air quality and six months for the highway project. However, in view of the severity of the economic crisis, the delays should not be considered excessive, especially the one for the highway project. In contrast, the Infrastructure TA, approved in 1995, and little dependent on fiscal resources, closed at the expected time.

Transport Air Quality

27. Implementation of this project was also affected by factors other than the macroeconomic crisis, such as:⁴

- Delays in declaring project effectiveness, largely as a result of conflicting views between the Federal and the GDF on the transfer of funds from the former to the latter on a grant basis, that concluded with an agreement to make funding for the GDF available through a loan to the Environmental Trust Fund (ETF);
- Delays in providing the funds after the project was approved;
- Limits sets during implementation on the use of credit line operations through NAFIN, especially not to finance taxis;
- Changes in government policies, changes in key personnel, and restructuring of key agencies; and
- The enormous complexity of the project, with its wide range of objectives and components, and difficult coordination among the three participating governments (Federal, GDF, and GSM) and agencies within each of them.

28. An important effect of the 1994/95 crisis on this project was to severely curtail financial intermediary lending for vehicles, since demand for credit from qualified applicants dropped practically to zero for the years immediately following.

29. Although nearly 60 percent of the loan was cancelled, most of the project components were carried out, albeit some with considerable delays and some with reduced scope, financed by the private sector, budget funds, or grants. The annual environmental audits stipulated by the loan agreement were not carried out, and were replaced by a single environmental audit, completed in 2001 after the project had closed.

30. The Environmental Trust Fund created under the project and funded with tax surcharges on gasoline financed a number of project items that were later reimbursed by the Bank loan. The ETF was a convenient funding instrument, and helped build up the Metropolitan Environmental Commission (CAM). However, mission discussions with Finance Ministry (SHCP) officials indicate that the SHCP is concerned about the efficiency in the allocation of ETF's resources. In the end, the ETF was underutilized. Despite the suspension of gasoline surcharges for several years, by 2002 the ETB still

3. A subsequent highway project, a \$475 million loan approved in 1997, never became effective. The government was concerned it would not be able to provide counterpart funding, following a fall of oil prices and a costly rescue of toll roads built and financed by the private sector.

4. Most of these factors are well described in the ICR.

had funds uncommitted. By end-2002, the Finance Ministry was chairing a committee charged with deciding allocation of the available funds with a view to terminating the ETF.

Highway Rehabilitation

31. In addition to the funding problems stemming from the 1994 fiscal crisis, which led to a reduction of 40 percent in the physical targets for 1995, early implementation of the project was affected by (i) difficulties in changing the role of the unit responsible for highway maintenance from managing force-account operations to planning and managing contracts and (ii) high turnover of management and technical staff.⁵

32. **Outputs.** The SAR estimate of expected project outputs was based on the project period coinciding with the 1993–96 HRRM program. In practice, however, the project also overlapped with, and financed investments from, the 1997–2000 HRRM program. Therefore, a proper comparison of targets and actual values needs to consider both HRRM programs.

33. As noted in Table 1, the project exceeded the targets for resurfacing, routine maintenance, and number of bridges rehabilitated or improved, and fell short of the target for road rehabilitation.

Table 1. Physical outputs: Target and Actual Values

	Target Values (000 kilometers) ^a			Actual (‘000 km)	Actual/Target (%)
	1993–96 HRRM (SAR)	1997–2000 HRRM ^b	Total 1993–2000 HRRM		
Rehabilitation	5.2	6.5	11.7	9.3	79
Resurfacing	21.8	17.8	39.6	41.8	106
Routine	143.2	160.6	303.8	346.3	114
Bridges (#)	280	716	996	1,021	103
Hazardous locations	350	n.a.	n.a.	942	Over 100 ^c

Source: ICR

a. Except for bridges.

b. Agreed by Implementation Letter approved in 1997.

c. On the assumption that 1997–2000 targets would not exceed 592, or a very significant increase over the 1993–96 target.

34. **Emergency works.** Following natural disasters affecting federal infrastructure in the States of Guerrero, Oaxaca, and Chiapas, the Bank agreed to a government request to use project funds for emergency works in these states. Most of these works were included thereafter under the regular HRRM program, and were not separately accounted for. In Chiapas, the project financed contracts for some \$21 million.

5. SR dated November 22, 1995.

Infrastructure Privatization

35. Implementation moved fast in three sectors: railways, airports, and telecommunications (basic telephone, radio spectrum, and satellite) with the preparation of strategic studies. The privatization process in these sectors was launched shortly thereafter, and the project supported the process with the provision of consultants to prepare technical, financial, and valuation studies, and provide advice during the process. Rapid progress also was made with the reform and partial privatization of the port system, but the project did not provide any funds since the process was well advanced by the time of project approval.

36. The project provided assistance for the design of regulatory agencies for telecommunications and energy, and for the creation of a regulatory body for the transport sector as a whole. The component aimed to analyze cross-sectoral issues was not carried out, however, since the government did not assign priority to this work.

37. The project also assisted with strategic analysis of the electricity sector, but the privatization process was stalled for lack of political support, and the constitutional and legal reforms (including a proposed Electricity Law) needed to continue the process were not approved. For similar reasons, the project did not provide assistance to secondary petrochemicals.

Outcome

Transport Air Quality

38. The project's outcome can be divided into : (i) a "hard" outcome, the reduction in the level of air pollution in the MCMA, and (ii) a "soft" outcome, the improvement in policies, institutions, and information.

39. ***Reduction in Air Pollution.*** Over the period of the project, the level of ambient concentrations of several pollutants declined. The policies and measures that led to this improvement are discussed later in this section.

40. As shown in the Table 2, vehicular emissions represent the largest source in the ambient concentration of carbon monoxide (CO) and nitrogen oxide (NO_x), 98 and 80 percent, respectively. For the other pollutants, vehicular emissions are important, but represent less than 50 percent of the total, and in all cases there is one other source that is the largest origin of the pollutant. Ambient lead, which is not shown in the table, is produced exclusively by vehicular emissions. Ozone, also not shown in the table, is produced mainly as a combination of volatile organic compounds (VOCs), of which particulate matter less than 10 microns in diameter (PM-10) is a significant component, and NO_x. Therefore, emissions of ozone are also primarily caused by vehicular emissions.

Table 2. Total Emissions, by pollutant and source, 1998

Pollutant/ Source	PM-10		SO₂		CO		NOx		HC	
	000ton/ year	%								
Industry and Power Plants	3.1	16	12.4	55	9.2	0.5	27.0	13	24.0	5
Area	1.7	8	5.4	24	26.0	1.5	10.0	5	247.6	52
Vegetation and Soils	8.0	40	n.a.	n.a.	n.a.	n.a.	3.2	2	15.7	3
Vehicles (Mobile)	7.1	36	4.7	21	1,733.6	98	165.8	80	187.8	40
Total	19.9	100	22.5	100	1,768.8	100	251.0	100	475.1	100

Source: CAM, 2002

41. As Table 3 shows, the reduction in air pollution, effected by project-supported measures listed later in this section, has been impressive for lead and substantial for CO and ozone. The gains are even more important when considering that over the period, the vehicular fleet and traffic on the MCMA increased significantly. The drop in the levels of sulfur dioxide (SO₂), has also been impressive, and, while some project measures helped, most of the reduction is the result of parallel government programs, since SO₂ is mainly generated by industry and other non-vehicular sources.⁶ No gains were achieved for NOx, which in fact increased during most of the period, although its level dropped considerably in 2001. Also, no gains were achieved for PM10, although total suspended particles (including PM-10 and larger particles) decreased by over 60 percent during the period. No data was available for the hydrocarbons (HC).

42. The lack of progress in reducing the level of PM10 is likely due to emissions from other sources, and should be reason for concern, since a high level of PM10s is a main cause of air quality-related health emergencies.

Table 3. Decrease in Ambient Concentration of Air Pollutants

6. SAR, Table 3, Annex 10.

Pollutant	Ambient Concentration (% decrease over period)	Comment
Lead	98	Leaded gasoline no longer sold in the MCMA
Ozone	27	
PM-10	No Change	The main producers of PM10 are non-vehicle sources
SO ₂	78	SO ₂ , mainly produced by non-vehicular sources, is one of the main precursors of acid rain In some areas of the MCMA, SO ₂ concentrations remain high
CO	49	
NOx	No change	
HC	No data	Only one monitoring station in the MAVC No quality of air norm established

Source: Lead, ICR. All other pollutants: SIMAT: Informe de la Calidad del Aire y Tendencias 2001. The period shown is 1990–2001, two years longer than the project period. No source could be found that showed the changes exactly during the project period.

43. The reduction in the ozone level led to a drop in the number of emergencies declared for high levels of air pollution (Table 4). Such emergencies triggered restrictions to vehicle use in the MCMA and preventive health measures.

Table 4 Emergencies due high levels of Ozone (number of days in year)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
No. of Days	78	217	167	103	127	147	86	72	77	39	24	14

44. The program for vapor recovery, financed in part by the Environmental Trust Fund, was highly successful, and led to all service stations in the MCMA installing modern equipment, with consequent beneficial health impact for service station personnel, and for residents (especially children and older people) in the vicinity of the stations.

45. *Performance indicators in the SAR and ICR.* As noted earlier, the SAR performance indicators could not be replicated, nor was there a baseline. The ICR, however, included two useful indicators relating to ozone and particulates (PM-10). Ozone and particulates are well selected because these pollutants are the most important in terms of exceeding their standards and because they are the ones for which most relevant health-related information exists.⁷ The ICR data showed that, regarding ozone, the number of days per year with extreme levels (IMECA 250) had been reduced from 61 in 1991 to 2 in 1999, those with more moderate (IMECA100) had been reduced less (353 in 1991 declining to 309 in 1999), and regarding particulates, that the level of PM-10 had changed little during the period.

46. An environmental audit, carried out under the project but completed after project closing, should have helped confirm these findings, but the PPAR mission was unable to obtain a copy, either from Mexican officials or Bank staff.

7. Source: World Bank (2002): Improving Air Quality in Metropolitan Mexico City – An Economic Valuation. Policy Research Working Paper, WPS 2785.

47. *Health impact.* Table 5 shows the trend in acute and chronic exposure of the different pollutants, and their health effects. The major reductions (in exceeding norm values) in NO_x, PM-10, lead, and CO were beneficial in reducing acute health effects, mainly pollution-induced respiratory and cardiovascular illnesses and symptoms.

Table 5. Exposure Above Norm to Air Pollutants, 1990–2001, and Health Effects

<i>Pollutant</i>	<i>Health Effects</i>	1990	1995	1997	1998	1999	2000	2001
O ₃	<i>Acute:</i> Bronchitis, cough, eye & throat Irritation, premature death	92	87	84	83	78	84	75
	<i>Chronic:</i> Asthma	98	83	74	75	73	75	65
NO _x	<i>Acute:</i> Bronchitis, lung irritation, decreased blood pressure	8.9	8.8	10	8.8	5.0	6.3	0.3
PM-10	<i>Acute:</i> Cardio-vascular illness congestive heart failure, acute bronchitis, cough, premature death	72	49	46	45	54	26	8
	<i>Chronic:</i> Asthma, chronic bronchitis, premature death	187	155	155	144	159	125	95
Lead	<i>Acute:</i> Children: reduced intellectual development, hyperactivity, behavior Adults: hypertension	100	0	0	0	0	0	0
CO	<i>Acute:</i> Fatigue, reduced vision, dexterity, and learning, death (closed areas)	40	2	1	1	0	0	0
SO ₂	<i>Acute:</i> Exacerbate existing respiratory and cardiovascular problems	3	0	0	0	0	0	2

Note: O₃=ozone, NO₂=a nitric oxide (part of NO_x), PM-10=particulates under 10 microns, CO=carbon monoxide, SO₂=sulfur dioxide.

Values for acute exposure are: for O₃, NO₂, CO, SO₂=percent days in year with values above norm; for PM-10: percentage of annual sampling over norm; for Lead: percentage of trimesters per year with average values above the norm. Values for chronic exposure are: for O₃: percent days in year with values above norm; for SO₂=annual average (parts per million).

48. **Improvements in Policies, Institutions, Information.** Various policies introduced under the project resulted in measures that helped reduce air pollution. These included:

- Encouraging modernization of the vehicle fleet
 - Tax policies to reduce the price differential between leaded and unleaded gasoline, therefore favoring newer vehicles using unleaded gasoline
 - Exemption for modern vehicles from the once-a-week ban on vehicle use in the MCMA
 - Replacement policies and financing programs for high-use vehicles (taxis, buses, trucks)
- Establishing upgraded emission standards for new vehicles
- Upgrading of inspection/maintenance system and expanding testing for CO, HC, NO_x.

49. Project-financed technical assistance and experts, including from the Panel of Experts, strengthened the Metropolitan Environmental Commission, notably for planning and implementation. The Environmental Trust Fund was valuable for building up the

Commission. Important environmental laws and norms were passed under the active leadership of the Commission. A comprehensive air quality index (called IMECA, Índice Metropolitano de Contaminación Ambiental) was established.

50. Progress was made in integrating transport and air quality with the preparation under the project of a comprehensive report on the subject.⁸ The report was the first attempt to integrate sectoral plans in transport and air quality programs in the metropolitan area of the Valley of Mexico. The report made 31 recommendations in six areas: demand management, road infrastructure, mass transit, vehicle and fuel technologies, freight transport, and concession of public transport. Most of the recommendations were sensible and useful, and some are being implemented. However, given the complexity of the subject there are still important issues to resolve, notably: (i) the most effective institutional setup to focus on integrating the two sectors (transport and air quality); (ii) selection of proposed investments, since some showed a negative net present value; and (iii) the need to prioritize the pollutants to be further reduced, rather than giving them equal weight, as was done by the model used in the study.⁹

51. The project-financed pilot program for alternative, cleaner fuels was launched, and more than 1,000 vehicles (principally police cars and garbage collection vehicles) are operating with compressed natural gas.

52. Air quality data improved considerably thanks to the upgrading and expansion of the air quality monitoring network under the project. This data is made public online on a daily basis through a Web site, which is well organized and kept current. Data is shown for various pollutants and for different geographic areas within the MCMA. Preparation of this PPAR was greatly assisted by information available in the Web site, including bimonthly analytical reports and comprehensive annual reports.

Highway Rehabilitation

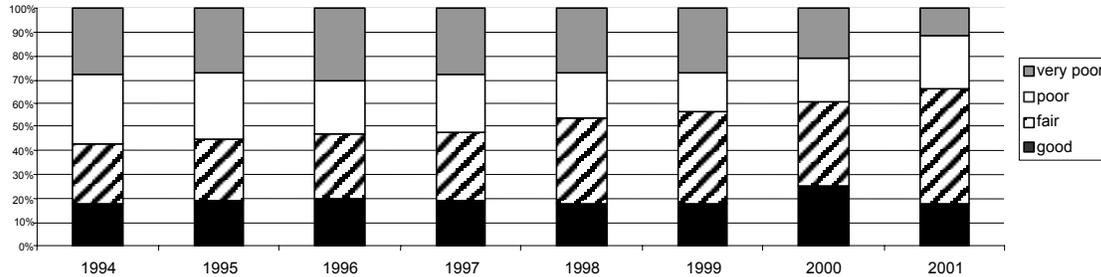
53. *Road condition.* This is the most important indicator of outcome. The percentage of Mexican federal highways in good and fair condition increased from 43 percent at the time of appraisal in 1994, to 57 percent in 1999 as reported in the ICR, and to 66 percent in the most recent survey in 2001. This result is good and shows that funding for maintenance was efficiently utilized, and focused on routine and periodic maintenance. However, the result is short of the HRRM target for 2000: to have 50 percent of the network in good condition and the remaining 50 percent in fair condition. To achieve this target would require enough funding to carry out rehabilitation works on all the very poor

8. COMETRAVI/CAM/Ochoa Consultants (1998) Estrategia Integral de Transporte y Calidad del Aire.

9. Supervision Mission. Ayuda Memoria (3 de abril, 1998). On the institutional side, the Bank's team recommended a broader perspective than that taken by the report with a view to ensuring that all players with a role in transport and air quality be properly considered. Regarding focus on pollutants, the team noted that the report's optimization model treated individual pollutants equally with respect to emission reduction priority. Rather, the focus should be on HC and NO_x, the ozone precursors, since ozone exceeds the air quality standard of the MCMA by a much greater margin and with much greater frequency than does CO. Further, CO levels are very low.

roads as well as on some of the poor roads. An increase in funding would be required even to sustain the current condition of the network.¹⁰

Figure 4.1. Condition of the Mexican Federal Highway Network



54. It is possible that new regulations on vehicle weights had a small impact on reducing the number of overloaded trucks on the highways, a major cause of road deterioration. The impact should be greater once the system of weight scales, currently being installed, is in place and enforcing the weight-limit regulations.

55. *Road safety.* Improvements made to hazardous locations resulted in a decrease of 19 percent in the number of accidents in those locations.¹¹ Further, as a result of safety campaigns (twice yearly), more stringent requirements to issue truck driver licenses, and other measures instituted by the SCT, the number of accidents throughout the federal road network was reduced by 24 percent. Unfortunately, lack of data prevents a more detailed analysis of the reduction in accidents, for example, decrease in the number of fatalities and injuries.

56. **Institutional Improvements.** *Improvements in maintenance planning.* The ICR asserts that implementation of a road management system (SISTER) and a bridge management system (SIPUMEX) has allowed sectoral authorities to (i) evaluate the conditions of the network, (ii) forecast financial needs on a multiannual basis, and (iii) optimize budget allocations. Discussions with highway and central authorities in Mexico during the PPAR mission confirmed that the SCT has greatly improved its maintenance management compared to the situation at the start of the decade. However, the design of the management systems was begun under the preceding Second Highway Sector Project (Loan 2428-Me), and the systems were fully implemented in 1994. Therefore, the project under review had little direct effect on improving the planning of maintenance.

57. *Deconcentration of highway management.* A useful outcome supported by the project's technical assistance was the strengthening of SCT regional centers, and the transfer to them of responsibilities such as analysis of unit prices and cost variations, bidding for studies, bidding for maintenance works, and supervision of works.

58. *Road maintenance by contract.* While under the project the government was committed only to increase the percentage of rehabilitation (to at least 70 percent),

10. PSR, Aide-Memoire, April 2000.

11. Source: SCT: El sector comunicaciones y transportes, 1994-2000 (p.46).

increases were achieved across the board in all categories of works. As noted in the ICR, by 2000, at least 95 percent of rehabilitation works in the federal highway system was carried by contract. The SCT reported to the PPAR mission that in 2002, all rehabilitation, and periodic as well as routine maintenance works, were carried out under contract. The SCT further reported that in 2002 all the routine maintenance was done under two-year, output-based contracts. Contracts average 80 kilometers per contract, and are mostly carried out by microenterprises. These contracts will serve as a useful step toward the preparation of performance-based contracts, which should further increase the efficiency of maintenance operations.

59. *Funding mechanisms for highway maintenance.* The project-financed study was carried out, but an outcome has yet to emerge. The study proposed creation of a Road Fund that would provide resources both for the Federal and the State networks. The approach recommended would achieve two important goals: (i) establish a reliable mechanism to provide an adequate level of funding for maintenance, and (ii) by providing funds to state road networks, it would deliver the essential financing to permit an effective and sustainable decentralization in the management of the road network. The funding source recommended in the study would be user charges, mainly a gasoline surcharge. The SHCP is reluctant to endorse this approach, which it sees as a fragmentation of fiscal resources. Further, given the political sensitivities involved with increasing gasoline prices, and legislative elections due in 2003, it is unlikely that any further debate will take place until at least 2004.

60. *Decentralization: attempt and failure.* While not required under the project, the government during the project implementation period launched a highway decentralization initiative. In 1997–98, the SCT signed agreements with 11 state governments for transferring to them responsibility for maintenance of the respective secondary road networks, until then under the SCT. This initiative was short-lived. Within one or two years, the SCT, at the request of all concerned states took back the responsibility for maintaining those roads. While this failure illustrates the difficulties involved with the decentralization of the highway system, it also suggests that all the necessary conditions and tools had not been properly assessed before the initiative was launched.

Infrastructure Privatization

61. The ICR's main findings on infrastructure privatization outside transport are summarized below. The PPAR mission found nothing that would cause it to question these findings.

- Significant privatization was achieved in basic telephone services (entry of many new operators thanks to liberalization), satellites and radio spectrum, and natural gas. However, telephone services were in need of substantial further improvements (Box 2).
- Progress was made in laying the foundation for privatizing the electric power sector (including a strategic study of the sector and recommendation on regulatory policy) but no privatization has taken place to date.

- Practically no progress was made under the cross-sectoral component of the project, covering the privatization framework, the regulatory framework, and the general business environment for private participation in infrastructure.

Box 2. Telephone Services: Key Indicators and Challenges

Documentation for a joint government–World Bank seminar in Mexico in April 2002 on privatization of infrastructure, complemented by PPAR mission discussions, provide insights regarding the situation with telephone services:

- Main fixed lines had more than doubled over 10 years to 1999. However, at 11 lines per 100,000 inhabitants, this was still low, compared to 20 in Argentina, 15 in Brazil, and 19 in Chile.
- In contrast, the number of pay phones (at 3 per 1,000 inhabitants) was comparable to Argentina and Brazil, the highest in Latin America.
- Productivity remained low, at 179 lines per employee, compared to about 300 or more in Argentina and Chile.
- Mobile phone service has increased dramatically, and, in its pre-paid modality, is affordable by low income people who do not need to commit to monthly payments.
- A challenge is to improve COFETEL, the Federal Commission for Telecommunications. While COFETEL is competent and well staffed, some of its procedures are neither transparent nor open. This happens especially with regard to pricing, where regulations are developed in secret bilateral negotiations on a case-by-case basis, instead of open rule-making procedures involving all concerned stakeholders.

Source: World Bank and Public-Private Infrastructure Advisory Facility (PPIAF). Private Solutions for Infrastructure in Mexico. Country Framework Report for Private Participation in Infrastructure. April 2002

Transport

62. Outcome on railway and airport privatization process is discussed below. The project also intended to assist the ports, but this did not take place, since the restructuring and launching privatization of the Mexico's port system was well advanced during project preparation

63. *Transport regulatory agency.* The study carried out under the project proposed creation of a Transport Regulatory Commission. While the government appeared to approve the idea in principle, it was not implemented due to administrative and fiscal constraints, namely resistance to the creation of a new government entity. The current administration appears to take the same view. On the other hand, central and sectoral regulatory mechanisms do exist, such as the Federal Commission on Competitiveness (FCC) and the SCT. The SCT's key regulatory roles have to do with provision of passenger services and with tariffs. This regulatory system, although a mix of independent (FCC, created in 1994 at the start of privatizations) and non-independent (SCT) regulatory agencies has worked reasonably well, and has provided an avenue for resolving conflicts among services providers and/or between providers and clients to be resolved.

Railways

64. Practically the whole Mexican railway system (Ferrocarriles Nacionales de Mexico, FNM) was privatized with assistance of project-financed studies and technical assistance (strategy formulation, asset valuation, financial advisors, Mexico city railway concept). Based on the privatization process and performance of the railway system to date, the privatization of FNM is likely the biggest success in infrastructure privatization in Mexico.

65. *The process.* Following the amendment to the Mexican Constitution in February 1995, allowing participation of private operators in managing the railways, a project-financed study reviewed restructuring and privatization options. The study recommended creation of three large trunk freight lines and a railway terminal in Mexico Valley to provide connections among the lines.¹² The study also recommended creation of short line concessions for lightly used branch lines. International bids based were called starting in 1996.

66. *The private concessions.* Table 6 shows how FNM was divided and concessioned.

Table 6. Concessioning of Mexican Rail System

<i>Railway Concession</i>	<i>Length (kilometers)</i>	<i>Date concession started</i>	<i>Payment made by concessionaire (Million of M\$)</i>
Noreste	3,960	12/2/1996	11,072
Mexico Valley Terminal		12/2/1996	^a
Pacifico Norte	6,200	6/22/1997	4,217
Short line Coahuila-Durango		11/14/1997	189
Sureste	2,200	6/29/1998	2,998
Short line Chiapas-Mayab		8/26/1999	141
Istmo de Tehuantepec		12/23/1999	Not concessioned. Operated by federal government
Tijuana-Tecate		4/1/2000	Not concessioned. Operated by state government

a. Payment was included in the railway concession bid. The terminal is owned in equal parts by the three trunk railways and the federal government.

67. *Operational results.* Performance improved in all aspects (Table 7). Traffic increased, equipment was better utilized, safety increased dramatically, quality of service improved substantially, and all concessionaires are generating income that covers operating costs. In addition, concessionaires have carried out major investments.

12. The study rejected the option, followed in a number of European railways, of separating ownership of infrastructure and trains as unnecessarily complex.

Table 7. Results of Railway Concessioning

<i>Indicator</i>	<i>Units</i>	<i>1995 FNM</i>	<i>2001 Range for the various concessionaires</i>
Traffic	Billion ton-km	37.6	48.0 (traffic increase was less than expected)
Locomotive availability	Available locomotive/ total locos	81.3	83.3-96.3
Quality of service	Losses & Claims (\$/000ton-km)	4.4	4.0-1.0
Working ratio	operating cost/ operating income	1.32	0.87-0.75
Train safety	total accidents/ million train-km	167.5	26.5-11.1
Staffing	Number of employees	46,000	About 20,000 for all concessionaires
Investments	Million of M\$		M\$ (2002)=16.5 (US\$1.6 billion equivalent), 32 percent higher than original commitment

Source: SCT (December 2002). *Proceso de cambio estructural en el Sistema Ferroviario Mexicano*. Prepared for the PPAR mission.

68. *Avoidance of negative public perceptions.* The privatization of the railways managed to avoid negative public perceptions that have plagued privatization, especially of infrastructure, in Mexico and other Latin American countries.¹³ This was accomplished through the following:

- *The privatization process:* The process was transparent, with a clear criterion for selection of concessionaire (net payment to government) and renegotiation of the concessions (common in railway privatization in other countries) has not taken place.
- *Compliance with commitments:* Concessionaires have improved efficiency and carried out investments as expected.
- *Passenger service:* before privatization, FNM's passenger service was minimal. After privatization, for the few lines in operation, SCT pays a subsidy under a Public Service Obligation (PSO) approach to private operators to run services at low rates to isolated communities. Such service is not discontinued until roads being built by SCT allow market-based provision of road transport services at affordable rates (Box 3). In 2002, five routes received government subsidy.
- *Protection of FNM staff:* Closing of FNM was negotiated with FNM's staff and there were no strikes. Retirement of redundant staff was advanced up to five years.
- *Safer operations:* Accidents, with and without loss of life, have been substantially reduced.
- *Ensuring competition:* CFC, the national regulatory agency, has taken a strong stance, for example, denying mergers between concessionaires that could threaten

13. According to a 2001 poll by Latinbarometro, 50 percent of Mexicans and 63 percent of Latin Americans oppose privatization. Cited on World Bank intranet (March 10, 2003) presenting a seminar, prepared by the Bank's Latin America region, labeled "Rethinking Privatization: A Soul Searching Exercise."

competitiveness.¹⁴ At the same time, while tariffs are unregulated, operators must publish them, and the SCT retains the power (which it has occasionally exercised) to refuse approval for publication.

- *Open channels of communication*: SCT organizes regular, frequent (twice a month in 2001) meetings with participation by a broad range of stakeholders (providers, clients, academics, industry, NGOs) to discuss railway services.

Box 3. Policy Regarding Rail Passenger Service

SCT policy regarding rail passenger services can be described as prudent social protection. It consists of:

- Where no alternative road service exists, retain rail passenger service at highly subsidized rates. Passengers pay 60 pesos for 300 kilometers, while government provides the rail operator a subsidy of 1,200 pesos per passenger.
- For comparison, road transport rate for similar distance is 120 pesos, and service is faster and with higher frequency.
- SCT launches construction of parallel road.
- When road built, rail service frequency initially is reduced.
- Thereafter, rail service is suspended.
- If community reaction to suspension of rail service too strong, subsidized rail service is restored.

Airports

69. The Airport Law approved in 1995 made it possible to involve private companies in the management of Mexico's airports. Studies and technical assistance financed under the project, covering the regulatory system for the airports to be privatized, and including economic and financial analysis, were instrumental in the design of the government program to concession airports. To date, much progress has been achieved with implementing the program.

70. *The process*. The privatization design, laid out in the Airport Development Master Plan, called for identification of airports to be privatized, and grouped them into concession packages. Some 35 airports were identified. Privatization was to be carried out in four concession packages, under a two-stage process. In the first stage, the strategic partner would be selected (the private investor, with international experience in airport management), and would hold 15 percent of the concession equity, with the government retaining the remaining 85 percent. In the second stage, the 85 percent is offered to the public. The strategic partner is responsible from the first stage for the operating, financial, investment, commercial, and marketing functions, as well as training and transfer of technology. For each airport, the Master Plan established a compulsory investment program for the first five years of operations, which included safety requirements, and an indicative plan for the following five years.

14. For example, as reported in EL ECONOMISTA.COM.MX of December 10, 2002, the CFC had just issued a ruling refusing authorization for the merging of the operators of the Pacifico-Norte and Sureste concessionaires.

71. Concessions are subject to tariff regulations consisting of a price-cap, with adjustment for increases in efficiency, inflation, and for investment program additions and modifications. This tariff regulation is similar to the classic United Kingdom method of price cap. However, as applied to airports, the Mexican tariff approach is different, in that the regulation is limited to the aeronautical services, while charges to commercial services (landside) are unregulated. This system appears to be efficient, although there have been complaints from airlines that charges for some services have gone up too much and are out of proportion with airports in other countries. At least one of the groups has agreed to reduce airport charges. However, airports not concessioned, managed by the government's Airports and Auxiliary Services, appear to have higher rates than those managed by concessions. A review conducted by SCT concluded that Mexico's airports were competitive, neither too expensive nor too cheap, when the services were properly compared.

72. *The concessions.* To date, three airport packages¹⁵ have proceeded through the first phase (Table 8). Altogether, these airports carried some 37 million passengers in 2001, accounting for 65 percent of all Mexico airport movements. The second phase, when privatization would be completed for these packages, has been deferred until domestic and international economic prospects improve. Processing of the fourth package, the Mexico City airport, has not started the first phase, mainly because SCT's preferred approach, the construction a completely new, privately operated airport, costing an estimated \$2.8 billion, has been plagued by controversy and negative reaction by the area neighborhoods. Private investors are unlikely to bid until the government provides assurance that the new terminal would comply with all necessary environment and social analysis.

Table 8. Concessioning of Mexico's Airports

<i>Region/Group Package</i>	<i>No of Airports included</i>	<i>Start of Concession</i>	<i>Amount Paid by Strategic Partner (US\$ mil)^a</i>	<i>Investments Projected Initial 5 years (US\$ mil equivalent)^a</i>
South East	9	4/1999	120	101
Pacific	12	11/1999	258	85
North Central	13	9/2000	91	59
Total	34		469	250

a. Unofficial estimates. The contracted amounts are in Mexican currency.

73. Investments under the first phase have suffered delays, and a new schedule, with the same investments but over a longer period, has been adopted, except for safety-related investments that government claims have proceeded on schedule. Implementation of the second phase, that is, sale of government 85 percent equity to the public, is well advanced for the South East Group (74 percent of the Group's shares were placed in the New York Stock Exchange in September 2000) but has been delayed for the other groups due to the prevailing international and domestic economic conditions.

15. The ICR reported only two concession packages completed, since concession of the third package was completed after the ICR was issued.

Ratings

Outcome

74. *Transport Air Quality*. Outcome is rated **satisfactory**. The project relevance was high and efficacy was satisfactory, since most project components were completed. Because there were no baseline performance indicators, no valid comparison can be made, for example, of gains in reducing vehicular emissions relative to expectations. However, the project achieved substantial reductions in ambient concentration for three pollutants, there was no change in the level of two other pollutants, and there was no data on another. Efficiency cannot be assessed, since the project provided no indication of the investments' economic return, cost-effectiveness, or other measures of efficiency. Measuring efficiency in the reduction of vehicular air pollution is difficult, and study methodologies are still experimental. One such study suggests that efficiency would have been high.¹⁶

75. *Highway rehabilitation*. Outcome is rated **satisfactory**. While preserving road assets, and improving their management, was a relevant objective, the limited institutional objectives meant that relevance was modest. Yet, the other two dimensions of outcome, efficacy and efficiency deserve a high rating: (i) efficacy, because physical targets were mostly achieved or surpassed and road condition overall improved, and (ii) efficiency, because the median unit cost of works was 61 percent lower than appraisal estimates, and the economic rate of return, as a result of lower-than-estimated costs and high traffic levels, was estimated at 119 percent for all sections (which compares to an ERR of 80 percent for a sample of roads in the SAR).

76. *Infrastructure Privatization TA*. Outcome is rated **satisfactory**. Privatization of infrastructure was a relevant government objective that stemmed from poor and declining performance of many infrastructure services, poor quality of service to infrastructure clients, and need to improve the fiscal situation. Efficacy is rated satisfactory, since significant assistance was provided in five of the eight sectors targeted, and some more limited assistance was provided for another (electricity). Significant "real" outcomes were reached in most sectors where assistance was provided, since much progress was made in advancing privatization. In some sectors, such as railways, assistance led to a privatization process that has proven a big success by any standard. Efficiency is considered satisfactory, since substantially fewer resources were used to carry out the project, in part because a good mix of national and international experts allowed to reduce project costs.

Institutional Development

77. *Transport Air Quality*. Institutional development is rated **substantial**. The Metropolitan Environmental Commission was strengthened. The Commission led

16. This is not a criticism of the SAR. Economic analysis of air quality improvements is highly complex. The Bank report *Policy Research Working Paper 2785*, cited earlier, estimates that reducing ozone and PM-10 by 10 percent in Mexico City would yield health benefits (avoided illness and premature mortality as well as reduced productivity losses) valued at \$760 million/year.

preparation of the 1995–2000 program to improve air quality in the Valley of Mexico (PRO-AIRE). Integration of transport and air quality was advanced by the preparation of a comprehensive report on the topic, and the broad discussions it spurred among concerned agencies. Environmental laws and regulations were modernized, and norms on air quality were established. Data collection and information on air quality was greatly improved and made transparent to everyone through a well organized Web site.

78. *Highway Rehabilitation*. Institutional development is rated **modest**. The main institutional gains cited in the ICR, improvement in the planning and management of maintenance, was mainly the result of activities financed under the preceding Bank highway project. While the SCT expanded maintenance under contract for all types of works, the most valuable achievements were for periodic and especially routine maintenance. Yet, the project only had targets for road rehabilitation works. The target was modest, 70 percent, considering that most comparable countries have long carried out all rehabilitation of the national network under contract. In the case of contracting, as well as in other areas where the management of the road sector improved, supervision reports and discussions during PPAR preparation with Mexican officials suggest that the Bank team made a significant contribution in ideas and knowledge of international experience. Yet, the rating of institutional development is based on the project's actual achievements.

79. *Infrastructure Privatization TA*. Institutional development is rated **substantial**. The privatization and structural reforms supported by the project were substantive and led to more competition in several sectors.

Sustainability

80. *Transport Air Quality*. Sustainability is rated **likely**. Most of the project gains, especially the measures taken to reduce vehicular emissions are irreversible, such as the vapor recovery systems installed in service stations, the vehicle inspection system, and the renewal and retrofitting of vehicles. The institutional set up, although it could be improved, is working reasonably well, and is unlikely to be dismantled. The Environmental Trust Fund is probably unsustainable, since it is likely to be discontinued after current funds run out. This may make it more difficult to finance future environmental activities, but it should not negate gains under the project.

81. *Highway Rehabilitation*. Sustainability is **non-evaluable**. While road condition improved over the project period, it was achieved through an effective allocation of resources that gave high priority to routine maintenance in the last years of the project. This approach cannot be continued indefinitely, and more funding for periodic maintenance and rehabilitation will be required if a new cycle of road deterioration is to be avoided. Maintenance funding overall was a third less than originally targeted (and probably two-thirds below requirements according to one study).¹⁷ There are no clear ways to assess the risks that the required funding levels may not be provided in the future. The government under an ongoing highway project, is committed to provide adequate funding for maintenance, and appears to be complying. On the other hand, the

17. An SCT study in 1990–92 cited in the ICR.

government has deferred debate on recommendations for establishing a stable mechanism for funding road maintenance. The modest institutional improvements are likely to be sustained, although the maintenance planning model, SISTER (which is based on visual rather than instrument-recorded road data), is now considered obsolete and introduction of more sophisticated models is being considered.

82. *Infrastructure Privatization TA.* Sustainability is rated **likely** on two counts. First, overall, the quality of advice provided under the project was highly professional, reflected frontier knowledge in infrastructure privatization and was well adapted to Mexico, again thanks to the well-organized teams of foreign and national experts. Second, the design of the privatization process, and its implementation, has been successful. While small adjustments to the current privatization frameworks are likely to occur, there are no obvious signals suggesting that substantive reversals could happen.

Bank Performance

83. As noted in the CAE, the value of Bank projects in Mexico depends greatly on the quality of knowledge transfer they effect. While the Bank had little expertise directly available in the field of transport air quality, the project team managed to make available for Mexico an impressive amount of expertise via consultants that helped design the project and through the Panel of Experts that accompanied the project during implementation. In the highway rehabilitation project, the Bank assigned some of its most senior personnel, and their dedication and knowledge was praised particularly in regards to their work with field offices of the SCT. However, the Bank would have had a much greater impact had the project covered states in addition to the federal governments, since the SCT has highly qualified staff, which is not the case in most of the states. Knowledge transfer under the infrastructure privatization project was significant, largely because the Bank allocated to this project highly knowledgeable staff, with worldwide experience in privatization, as required to deal with a country of Mexico's sophistication. The project team helped sectoral agencies prepare terms of reference and identify top-quality consultants for invitation to the various technical assistance tasks

84. *Transport Air Quality.* Bank performance is rated **satisfactory**. The Bank team prepared a highly complex and innovative project that later served as a model for similar projects in other countries. However, the project design had drawbacks: it lacked useful performance indicators, incorrectly formulated project cost, and reflected an inadequate understanding of the administrative difficulties in setting up the Environmental Trust Fund (that delayed project effectiveness). Bank staff continuity throughout the project cycle was remarkable, facilitating the dialogue and credibility with Mexican authorities and counterparts. During supervision, the Bank team responded flexibly and rapidly when required.

85. *Highway Rehabilitation.* Bank performance is rated **satisfactory**. The preoccupation with efficient allocation of highway funding was correct. The modest institutional development objectives were, as implied by the SAR, the limit of what could be agreed with the government at the time. During implementation, the Bank team took a broader view and supported the efforts to decentralize management of the network. Supervision missions were detailed. A supervision mission prevented duplication of

efforts at the SCT, when it detected that SCT's maintenance department was launching development of a geographic information system (GIS), a task that had already been undertaken by SCT's Mexican Transport Institute and essentially completed. The Bank team was at fault, however, in the preparation of an ICR that had incomplete data on the cost of the project.

86. *Infrastructure Privatization TA*. Bank performance is rated **satisfactory**. Preparation and appraisal were comprehensive, and helped with the design of legal changes that were essential to implement the reforms and privatization sought. The broad sectoral coverage was justified, with the possible exception of ports, since there was evidence at appraisal that the process was too advanced to require support from the project. Inclusion of electricity and petrochemicals, probably the most politically sensitive, was worth the effort, since they were high risk, but also high reward. The PPAR concurs with the ICR that given that Interministerial Commission on Privatization (CID) did not take the central role initially expected, it was appropriate for the supervision missions to deal directly with the line ministries.

Borrower Performance

87. *Transport Air Quality*. Borrower performance is rated **satisfactory**. The borrower (NAFIN) and the concerned federal and state agencies took strong ownership of the project and worked closely with Bank staff in the preparation and appraisal of the project. Despite delays in implementing components due to funding problems, most were implemented. Emission standards, the inspection system, and the vehicle registration system were installed with little delays. Some organizational problems did occur, however, especially allocation of roles between NAFIN and BANOBRAS, and there were delays in providing resources and in preparing audit reports by the various implementing agencies.

88. *Highway Rehabilitation*. Borrower performance is rated **satisfactory**. The borrower and the executing agencies took ownership of the project, from preparation through implementation. Yet, overall funding for maintenance was less than targeted, in part because of the 1994/95 fiscal crisis and its ripple effects. Allocation of resources with focus on maintenance rather than rehabilitation was correct, and physical targets were essentially achieved. On the whole, the ICR gives high marks to the implementing agency. The PPAR, however, finds that (i) internal coordination could have been better, as illustrated by the GIS issue noted above under Bank performance, and (ii) project records were not satisfactory, since the SCT's maintenance division was unable to provide the PPAR mission basic data about the project cost at completion (in the simple cost table format of the SAR), which was lacking in the ICR.

89. *Infrastructure Privatization TA*. Borrower performance is rated **satisfactory**. The constitutional and legal changes made, some during preparation and some during implementation, to permit privatization of infrastructure, were remarkable, and showed a strong ownership of project objectives. While CID may not have provided the central role that was expected as a project coordinating agency, it did provide essential strategic guidance for the privatization process, while leaving each sector to adopt an appropriate privatization framework. The fact that, compared to most other countries where similar

privatization of infrastructure has been launched, Mexico's program had relatively little negative reaction from the major stakeholders attests to good design and good implementation. As noted earlier, concessioning of FNM deserves to be considered a big success, and continuing SCT attention to railway services, including frequent meetings with a broad spectrum of stakeholders has been an important vehicle to ensure that the privatized operations remain competitive and provide satisfactory service.

Lessons

Transport Air Quality

90. An *external panel* of reputable, international experts to provide advice and review during implementation is especially useful for projects addressing new areas, where several sectoral agencies and levels of governments need to be coordinated, and where external experts can provide credible and unbiased recommendations on sensitive matters.

91. Much progress can be achieved in reducing the impact of *road transport on air quality through a combination of public and private sector measures*, starting with an adequate system of incentives put in place by federal and state governments.

Highway Rehabilitation

92. *Decentralization in the management of the highway network*, while generally advisable especially in large countries, is bound to fail if requisite conditions are not obtained. Critical among these are ensuring that local governments receive adequate funding corresponding to their new responsibilities for highway maintenance, and that they have the required expertise to manage the road network.

93. *Allocation of highway maintenance funds* optimizes outcome (measured as condition of the network) when funding is used for routine and periodic maintenance in preference over rehabilitation. However, this approach is only valid for a few years, and unless funding levels are increased to allow rehabilitation works to proceed, the condition of the road network is likely to worsen.

Infrastructure Privatization

94. *Infrastructure privatization*, to gain public acceptance, requires as necessary (but not always sufficient) conditions, a transparent privatization process, compliance with commitments by private operators, and government provision of social protection to users of non-commercial services and to staff made redundant

95. *Establishing a regulatory framework* for the infrastructure sectors/enterprises to be privatized should be considered early on in the design of the privatization process, together with an assessment of the capacity of existing agencies with regulatory

functions, in case fiscal and administrative constraints make it politically impossible to create new regulatory bodies.

Annex A. Basic Data Sheet

Transport Air Quality Management Project (Loan 3543-Me)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	1,086.7	n.a.a/	n.a.
Loan amount	220.0	91.8	42
Cofinancing	0	0	
Cancellation		128.2	

a/ The ICR presents an estimate of actual costs, but the PPAR disagrees with the approach used to make the estimate.

Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum		
Negotiations		
Board approval		December 15, 1992
Signing		
Effectiveness		June 27, 1994
Closing date	June 30, 1997	June 30, 1999

Staff Inputs (US \$ thousand)a/

	<i>Total</i>
Preparation to Approval	551.6
Appraisal to Board	102.7
Negotiations through Board	75.2
Supervision	415.8
Completion	16.7
Total	1,162.0

a/ As reported in the ICR. Includes Bank and Trust Fund resources.

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Staff days in field</i>	<i>Specializations represented</i>	<i>Performance rating DO</i>	<i>Performance Rating IP</i>	<i>Types of problems</i>
Identification/ Preparation	3/89	3	9	E,T			
	5/89	4	5	E,T			
	8/89	2	2	E,T			
	9/89	11	12	E,T,A,P			
	5/90	11	3	E,T			
	6/90	4	10	E,P			
	1/91	12	16	E,T,L,F			
	7/91	10	20	E,T,F,T			
	10/91	6	18	E,A,L,F,T			
Appraisal	2/92	9	20	E,A,L,F,T			
Supervision	4/93	4	8	E,T,F	S	S	Funds transfer
	7/94	3	5	E,F	S	S	Funds transfer
	1/95	4	5	E,F	S	S	Bus finance
	8/95	2	10	E,F	S	S	Delays in
	3/96	2	5	E,F	S	S	Procur't study
	5/96	3	5	E,F	S	S	Project revision
	12/96	2	5	E,F	S	S	Project revision
	4/97	1	5	F	S	S	Project revision
	3/98	6	10	E,T,A	S	S	Project revision

Staff skills: E=environmental engineer, A=air quality engineer, L=lawyer, T=transport Specialist, F=financial analyst, P=procurement specialist

Performance ratings: DO=development objectives, IP=implementation progress

Other Project Data

Borrower/Executing Agency:

FOLLOW-ON OPERATIONS

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
GEF2: Mexico Second Air Quality Project Air Quality II		100	Proposed for FY04

Highway Rehabilitation and Safety Project (Loan 3628-Me)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	1,560.0	n.a a/	n.a.
Loan amount	480	480	100
Cofinancing	0	0	
Cancellation	0	0	0

a/ Actual project costs were not shown in the ICR, and were not available at the DGCCOP

Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum		
Negotiations		
Board approval		June 24, 1993
Signing		July 8, 1993
Effectiveness		December 6, 1993
Closing date	June 30, 2000	December 31, 2000

Staff Inputs (staff weeks)

	<i>Total</i>
Identification/Preparation	52
Appraisal/Negotiations	71
Supervision	162
ICR	7
Total	292

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Performance rating DO</i>	<i>Performance Rating IP</i>
Identification/ Preparation	4/91	1	E		
	6/91	3	E,E,C		
	1/92	2	E,C		
	10/92	2	E		
Appraisal/Negotiations	2/93	8	E,TE,TE,L,FA,RA,C		
Supervision	11/93	3	E,E,E	S	S
	2/94	3	FA,FA,E	S	S
	5/94	3	E,E,E	S	S
	2/95	1	E	S	S
	8/95	3	E,E,TS	S	S
	10/95	2	E,E	S	S
	3/96	3	E,TS,FA	S	S
	7/96	1	E	S	S
	2/97	1	E	S	S
	8/97	1	E	S	S
	11/97	2	TS,E	S	S
	1/98	2	E,E	S	S
	8/98	2	E,TS	S	S
	11/98	3	E,FA, TS	S	S
	2/99	1	E	S	S
	7/99	2	E	S	S
	11/99	2	E,E	S	S
	4/00	3	E,E,TE	S	S
	6/00	2	E,E	S	S
	Completion	6/00		E,TE	

Staff skills: E=engineer, C=consultant, TE=transport economist, L=lawyer, FA=financial analyst
RA=research assistant, TS=transport specialist

Other Project Data

Borrower/Executing Agency: Secretariat of Communications and Transport

FOLLOW-ON OPERATIONS

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Federal Roads Modernization Project (Loan was never signed and withdrawn 3/18//1999)	4206	475	FY97
Federal Highway Maintenance Project		218	FY01
Highway Finance Project		200	Proposed for FY04

Infrastructure Privatization Technical Assistance Project (Loan 3937-ME)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	46.0	18.5	40
Loan amount	30.0	12.1	40
Cofinancing	0	0	
Cancellation		17.9	

Project Dates

	<i>Original</i>	<i>Actual</i>
Initial Bank mission		
Project Concept Document		January 1995
Appraisal		March 26, 1995
Board approval		August 29, 1995
Effectiveness		January 16, 1996
Closing date	June 30, 1999	June 30, 1999

Staff Inputs (staff weeks)

	<i>Total</i>
Identification/Preparation	45.1
Appraisal/Negotiations	19.4
Supervision	80.9
ICR	10.0
Total	155.4

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Performance rating</i>	<i>Rating trend</i>	<i>Types of problems</i>
Identification/ Preparation	1/95	3	P,P,P			
	2/95	1	P			
	2/95	2	P,TC			
	3/95	3	P,RW,RW			
	3/95	1	E			
	3/95	2	TC,RW			
Appraisal/Negotiations	3/95	7	TM,P,RW, A,TC TC,E			
Supervision	4/95	1	P			
	5/95	3	P,E,E			
	5/95	5	E,E,TC,T,P			
	6/95	1	T			
	6/95	2	P,PT			
	8/95	3	E,T,TC			
	8/95	1	A			
	9/95	1	E			
	9/95	1	TC			
	10/95	1	A			
	11/95	1	A			
	2/96	1	E			
	2/96	7	TM,P,TC,RW,A,E,CS	S		S
	3/96	1	TC			
	5/96	1	E			
	7/96	1	TC			
	8/96	1	TC			
	8/96	1	RW			
	9/96	1	RW			
	9/96	1	A			
	11/96	2	TM,TC	S		S
	11/96	1	A			
	2/97	1	TM	S		S
2/98	2	TM,E	S		S	
3/98	1	P				
1/99	1	TM	S		S	
Completion	7/99	1	TM			
	3/00	1	C			

Staff skills: P =privatization TC=telecom, RW=railway specialist, E=energy specialist,
TM=task manager, A=airport specialist, T=transport, PT=petrochemicals, CS=cross-sectoral, C=Consultant

Annex B. Borrower Comments

Page 1

Translation of Letter sent by BANOBRAS

BANOBRAS
National Bank of Works and Public Services, SNC
International Manager
GI/161200/1108/2003

Mexico, DF, June 10, 2003
“2003 CCL anniversary of Birthdate of
Don Miguel Hidalgo y Costilla, Founding Father”

Mr. Alain Barbu
Chief, Sector and Thematic Evaluations
Operations Evaluation Department
World Bank

I refer to your note of May 8 transmitting for comments the draft of Performance Assessment Report of Loan 3628-ME, Road Rehabilitation and Traffic Safety Project.

In this regard, I inform you that the comments on this draft are as follows:

- The number of the project on page 1 of Background is incorrect, it says 3623-ME while the correct number is 3628-ME
- We suggest that future reports be presented separately, that is, per project, so as to allow a more expeditious review by the executing body.

It is worth noting that these comments were sent to you by email of June 6, 2003.

Kind regards.

Sincerely,

(signed)
Alejandro Peralta Moreno
Manager

Translation of letter from the Government of the Federal District

Government of the Federal District
Mexico. City of Hope.

Secretary of the Environment
Executive Directorate,
Intitutional Coordination and Policy Integration

DECIIP/517/03

Mexico, DF, June 3, 2003

Alain Barbu
Chief, Sector and Thematic Group
Operations Evaluation Department
The World Bank

In relation to your letter of May 8 conveying a copy of the report on the Transport Air Quality Management Project for the Mexico City (Loan 3543-ME), we find that the information in the report is compatible with the execution and implementation of the loan.

Therefore, we have no comments.

Kind regards.

Sincerely.
Effective suffrage. No reelection.
The Executive Director.

(signed)
Luz Elena Gonzalez Escobar