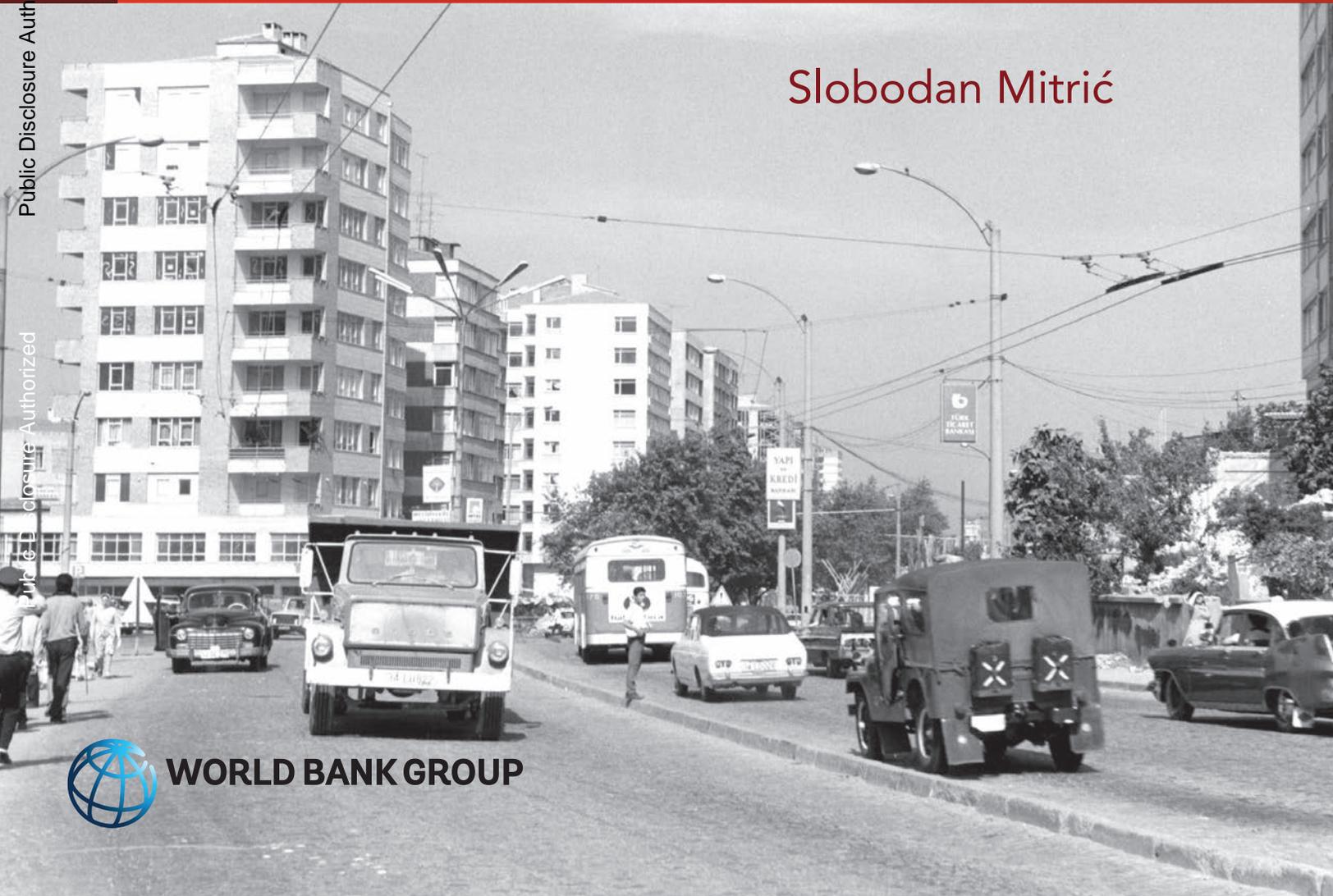


World Bank's Engagement With Transport In Cities: The Early Years

Slobodan Mitrić



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Photo: New construction in the suburbs of Istanbul, Turkey, as part of the Istanbul Urban Development Project circa 1973.

Slobodan Mitrić (1941–2018) was an urban transport specialist at the World Bank, where he had spent 25 years in active service before retiring in 2003. He held a diploma from the University of Belgrade, Serbia, as well as ME and PhD degrees from the University of California, Berkeley, all in transport engineering.

A note from the World Bank Group Archives in memory of Slobodan Mitrić: Slobodan Mitrić passed away a few weeks before publication of this, his final report. Throughout his retirement, Slobodan strove to make the lessons from the past accessible to the transport specialists of today. He methodically researched changes and patterns to transport lending and policy in the World Bank. To this research he added his expertise, gathered over a long career at the World Bank, and that of his fellow transport specialists. His goal was to create an accessible path into the institutional memory for future generations. This publication honors his legacy.

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FOREWORD

As urbanization continues its rapid and accelerating pace across the world, mobility is a key piece of sustainable and efficient cities. This historical analysis of World Bank urban transport projects from 1972 to 1982 presents some of the key lessons in this important area of engagement, including analytical approaches, investment programs, and policy advice to developing countries.

The urban transport portfolio over that decade included a wide range of interventions from road and urban rail projects to improved services to slums and bus systems. The projects supported the development of metropolitan transport agencies and traffic and road management units.

The report presents a solid overview of lessons learned, including from projects that did not achieve their planned objectives in what is a very complex sector. Some of the institutional reforms had long-lasting impacts that can be observed today, while others proved to be far more difficult, particularly when coordinated action across diverse agencies was

required. Many of these lessons continue to have relevance today.

The agenda of urban transport and mobility has evolved rapidly over the past few years, with new important dimensions of climate change, disruptive technologies, land use planning, and innovative financial approaches. Nevertheless, understanding the history of the sector can bring important lessons for our current and future engagement.

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ABSTRACT

In the late 1960s, the World Bank turned its attention to cities in developing countries, spurred by unprecedented rates of urbanization, massive urban poverty, chaotic spatial expansion, emerging motorization, generally poor infrastructure, and a lack of funding and institutional capacity available to cities to deal with these problems. Urban transport was quickly added to the urban agenda, with two different problems to tackle: access to employment and services; and traffic congestion in central areas and on arterial road corridors. Starting in 1972, the urban transport lending program produced one to two projects per year. A pioneering strategy document, *Urban Transport Sector Paper*, was published in 1975 to guide the lending program. The strategy focused on the relation between poverty and transport, recommending a spatially-extensive, low-cost, and price-based response to access and traffic problems; improvements in provision of public transport services; and coordination between land use and transport planning.

This study looks at the project practice in light of the strategy as declared in the sector paper. The main focus is on the first decade of the urban transport lending program (1972–82). By and large, this batch of projects adhered to the strategy, except there was little effort to engage with land use planning. Project investments included roads in slum areas, improvements of radial corridors and central area road networks, fleet and facilities for city- and state-owned public transport operators, and select investments in major road and urban rail projects. On the policy side, projects strove to improve cost recovery of public-owned transport operators, facilitate the private provision of public transport services, designate street space for exclusive use of buses, and introduce

congestion charges. In the institutional dimension, projects assisted in setting up traffic management units and some form of metropolitan transport planning entities.

Investment outcomes varied. Some projects were highly successful, notably the two projects in Brazil that focused on roads in slums and bus priority. Others were highly disappointing, as in Tehran, where the government went into major road building rather than pursue traffic management and public transport improvements championed by the project.

Project policy initiatives produced mixed results with less than complete achievement of cost recovery in public transport services and a failure to introduce congestion charges. Improved regulation of privately provided public transport had several bright spots (e.g., Kuala Lumpur, Calcutta), but also persistent failures (e.g., Kingston). Efforts to set up traffic management units in the city government gave some very good results (e.g., Tunis), but the creation and nurture of metropolitan transport planning institutions turned out to be far more difficult. Overall, these pioneering efforts in both strategy and practice were well-conceived and executed and played a catalytic role in most client cities. Weak aspects include overselling traffic management as a substitute (rather than a complement) to road investments, together with failing to evolve a constructive approach to urban road network development in rapidly growing cities. There were no attempts to tackle urban road funding as a part of the national road funding setup. Instead, over-optimistically, several projects attempted to introduce sophisticated price instruments such as congestion charging, which proved a long shot in the weak policy and institutional environments found in many client cities.

"and so we sailed, from one shore
to another,
days and days, nights, years.
The most beautiful shores, of course, we never reached.
Only the wind brought broken threads
of fragrance from blossoming orchards
at the end of the world,
just a bit away from our itinerary . . ."

From "Argonauts" by Ivan V. Lalić, translated by Charles Simic.

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The author is grateful to the World Bank Group Archives for supporting his research and providing access to the records, organizing the panel discussion in 2016 jointly with the History, Urban & Water and Transportation Thematic Groups of the 1818 Society to share and discuss his findings, and sponsoring this publication. This work will give Bank staff a unique opportunity to glimpse into the past, learn how the evolution of policy ideas influenced Bank projects, and uncover the knowledge hidden in the historical records of the World Bank Group Archives.

The author is grateful to Elisa Liberatori-Prati, Chief Archivist of the World Bank Group, for her interest and unwavering support. Vlada Alekankina, Senior IT Officer, Information Management Services, made all the practical arrangements and listened to vague statements of progress with great kindness and patience. Members of the Internal Documents Unit and Jeannette Smith were invariably welcoming and helpful in explaining the intricacies of access to the enormous treasure trove of information which is the World Bank. Special thanks are due Gerhard Menckhoff who graciously accepted to be the peer reviewer of the report and, as always, provided perceptive, rich, and fair comments. Richard Barrett, Peter Midgley, and Gabriel Roth, all former colleagues of the author, shared over years their notes and informal papers. Desmond McNeal and Gabriel Dupuy contributed their hard-to-find papers from the mid-1970s, full of precious insights and recommendations. Joan McQueeney Mitrić edited the report. Catherine Farvacque-Vitkovic selflessly and steadily worked to get this study published.

The views and opinions expressed in this paper are those of the author only and should not be attributed to the World Bank or to its affiliated organizations.

INTRODUCTION

This paper covers the initial period of the World Bank's engagement with transport in cities, beginning in 1972 and stretching about 15 years. It is a linked review of the practice, that is, a set of urban transport projects funded by the World Bank (hereafter referred to as the Bank) in that period and the strategy guiding them.

A strong premise of the work is that knowing the history of one's field is a key aspect of a professional's profile.¹ In the relatively new discipline of urban transport planning in a development lending context, knowing the history of the pioneering effort by the Bank is a must for today's operational staff and policy makers, inside and outside the Bank. Unfortunately, this is easier said than done. The 40-plus years' accumulation of archives is enormous. Finding information on specific projects or reports has become easy, but the amount of time and effort needed to get an overview of the entire urban transport program over the longer term is simply prohibitive for operational staff.

This work is an attempt to make the history accessible. It is a part of a larger research effort that explores roughly four decades of the Bank's urban transport activities.² The adopted approach is to study the joint, longer-term evolution in policy ideas and their implementation through the lending program.

BACKGROUND

In the 1950s, the Bank gradually shifted its lending focus from Western European countries, in the context of the post-World War II reconstruction, to the developing countries of Latin America, Africa, and Asia, many of them newly independent following

the postwar wave of decolonization. The geographic focus changed but, for a while, the initial *modus operandi* remained: lending for individual infrastructure, agriculture, and industrial projects meant to accelerate economic growth.³ Another change took place in the 1960s, as the Bank's managers realized more was required for the institution's new client countries than was deemed appropriate and sufficient for France or Finland. A much broader and inclusive approach to development was initiated. Without abandoning its concern for economic growth and a project-driven approach to development, the lens of the Bank's operational and research complexes widened to encompass diverse social problems, especially that of poverty. In investment banking terms, this meant the enlargement of the lending agenda to sectors such as education, health, and population, with an explicit stress on poverty in the analytic work and the selection of investments.

Initially the poverty work focused on the countryside. In the late 1960s, the recognition of the then-unprecedented rate of urbanization, much of it through migration by the rural poor, pushed cities into the front line of development. In 1969, the Bank set up an Urbanization and Regional Projects Division in its Special Projects Department to undertake exploratory studies of the new urban sector and engage in first lending operations therein. The year 1972 saw the publication of *Urbanization—Sector Working Paper*, the Bank's first formal and comprehensive statement of its perception of urban problems, policy stances relative to key issues and instruments, and action agendas for client cities and for itself (World Bank 1972a).⁴ A chapter in this sector paper placed urban transport squarely among major urban problems in the developing world. A similar sector paper was published for the

1 The use and misuse of history is a discipline in itself. For a recent statement relevant to development work, see Woolcock et al. (2010).

2 The 40-year period coincides roughly with its author's employment with the World Bank. Two reports belonging to this program are available (Mitrić 2003; Mitrić 2013).

3 For further details, see Alacevich (2008).

4 The lead author of this report was Harold Dunkerley.

BOX 1: Timeline of Milestones in the First Decade of the World Bank's Early Engagement with Transport in Cities

1972	Publication of Urbanization – Sector Working Paper and Transportation – Sector Working Paper
1972	Approval of Malaysia – Kuala Lumpur Urban Transport Project, nominally the first lending operation in the urban transport sector, and Turkey – Istanbul Urban Development Project
1973	Approval of Iran – Tehran Urban Transport Project and Tunisia – Tunis District Urban Planning and Public Transport Project
1973	Publication of Wilfred Owen's staff working paper <i>Automobiles and Cities – Strategies for Developing Countries</i>
1975	Publication of Urban Transport – Sector Policy Paper
1976	Approval of India – Bombay Urban Transport Project, Malaysia – Second Kuala Lumpur Urban Transport Project, and Cote d'Ivoire – Urban Development Project
1978	Approval of Thailand – Bangkok Traffic Management Project, Costa Rica – San Jose Urban Transport Project, and Brazil – Urban Transport Project
1980	Approval of India – Calcutta Urban Transport Project and Brazil – Second Urban Transport (Porto Alegre) Project
1981	Approval of Brazil – Third Urban Transport Project and Cote d'Ivoire – Second Urban Development Project

transport sector in the same year, again with a brief look at transport in cities (World Bank 1972b).⁵ That same year the Bank approved its first freestanding urban transport loan, for the Kuala Lumpur Urban Transport Project.⁶ Subsequently, one or two urban transport projects were approved in most years. In addition, several urban development projects included major urban transport components. Box 1 lists these milestone events.

Preceding and overlapping these first urban transport projects were three activities that aimed to

provide the intellectual underpinning for the lending program:

- The transport research program at the Brookings Institution, led by Wilfred Owen, funded by the United States Agency for International Development with participation by the Bank;
- The Bank's in-house urban research program with field work done in major cities, including Bangkok, Mumbai (Bombay), Cairo, Djakarta, Istanbul, Kingston, Singapore, Taipei, and Bogota; and
- Urban transport and land use studies in Amman, Bangkok, Bogota, Kuala Lumpur, Nairobi, Singapore, and Tehran, carried out by independent consultants, funded by the United Nations Development Programme, with the Bank as the executing agency.

The Brookings program, directed by Wilfred Owen, produced several classic volumes on transport in developing countries. None of these focused solely on transport in cities until Owen was commissioned by the Bank to do so, producing the classic *Automobiles and Cities – Strategies for Developing Countries* (Owen 1973).

In 1975, using these sources of new knowledge, the Bank published *Urban Transport – Sector Policy*

⁵ The fact that urban transport belonged to both the urban (geographic and multisector) concerns and the transport (functional) sector from the very beginning posed a problem for the organizational design in the Bank. Urban transport started as an integral part of the new urban program, set up in a central (global) projects department. The program was decentralized by creating regional urban projects divisions in the early 1980s. In the next wave of reorganizations, urban transport was taken out of urban projects divisions and given to regional transport divisions. As of this writing (September 2017), it remains there, organizationally remote from its mother discipline.

⁶ Before 1972, there were several highway or railway projects involving some small urban transport investments. These projects were done in the then-prevalent style (investment only, no engagement with policy). One of these, the Third Highway Project in the República Bolivariana de Venezuela (1969), is unique in that it focused exclusively on urban expressways in Caracas and included funding for a major urban transport policy study. On these grounds, as noted later in the text, this project was included in what follows, in spite of being approved 3 years before the nominal beginning of the Bank's urban transport program.

Paper.⁷ This paper was the first formal, book-length statement by the Bank (or any other international agency) on the topic of urban transport in developing countries.⁸ Following the format established by the earlier sector papers for the “parent” urban and transport sectors, this new document consisted of a diagnosis of urban transport problems in the developing world and the principal policy and investment “leanings” of the Bank.⁹ It provided strategic guidance for the design of all subsequent urban transport lending operations and related analytic activities and remained the key strategic statement of the Bank for urban transport until its successor document came out a decade later (World Bank 1986).

THE STUDY APPROACH

As noted above, the approach used in this work proceeded on two fronts: ideas and practice. For the analysis of ideas, the main source was the 1975 Urban Transport Sector Policy Paper (SPP). Additional insights were gained from the 1972 sector papers on urbanization and transportation and an array of mostly informal papers on transport in cities produced in the Bank in the 1970s.¹⁰

The analysis of the practice dimension covered 20 projects. The work focused on key project documents: appraisal reports, loan and project agreements, completion reports, and performance audits. A profile was created for each project, summarizing the most important numbers and dates, the features of the city (or cities) and urban transport systems, the project’s objectives and content, and outcomes at the end of its implementation period. In each profile, linkages

7 Note the evolution in titles, from a “sector working paper” in the 1972 urbanization document to a “sector policy paper” for urban transport in 1975. Eventually, sector policy papers morphed into sector strategies.

8 The term “*formal*” means that it was a public document, addressing both internal and external audiences. The first comprehensive document addressing the same subject was Wilfred Owen’s *Automobiles and Cities – Strategies for Developing Countries*, published in 1973 as an internal staff working paper (Owen 1973).

9 In all likelihood, Harold Dunkerley, the author of the urbanization sector paper also wrote the urban transport paper, with substantial contributions by Gabriel Roth.

10 Chief among these papers is a draft Operations Manual Statement (OMS) entitled “The Private Automobile – Considerations for Urban Transport Project and Study Preparation” dated January 29, 1980. Written by Harold Dunkerley, it was meant as a revision to an earlier OMS on the automobile. A paper copy of the 1980 draft, apparently never issued in final form, was available to the author. The original OMS was not available.

to source materials are provided to facilitate further explorations of this rich subject matter.

Each project is a multidimensional bundle and could be studied in different ways, drawing different samples from the same documents. The profiles made in this study reflect its author’s main interest: the interaction between strategy and practice and the evolution of both. Hence, the focus on three aspects of each project: problem formulation (diagnosis), the response (project design), and outcomes.

ORGANIZATION OF THE REPORT

Beyond this introduction, the report has three more sections. The second section distills the content of the 1975 Urban Transport Sector Policy Paper: its perception of urban transport problems in developing countries and the underlying causes, its policy and investment stances, and the declared role of the Bank. The third section summarizes the experience with urban and urban transport projects undertaken in this early period, then focuses on four stand-out features of this experience: poverty alleviation, traffic management, delivery of public transport services, and institutional development. The final section is a synthesis of the complement of sector policies and project experiences from a vantage point 40 years later.

LIMITATIONS

This study was constrained by its author’s main interest and available time. Specifically regarding the review of the practice dimension, the author opted to limit the research to the main project documents (i.e., appraisal, completion, and audit reports), all accessible online. The voluminous and content-rich project files, especially the supervision reports and project-financed studies, were not mined. The current work, therefore, should be seen as a first step toward deeper research or for research that asks different questions.

Though all the main project documents followed the same structure, there were large variations between reports in the depth of coverage of different subjects. This issue was especially true of the city and country diagnostic sections in project appraisal

reports. The ex-post evaluation reports also varied in the depth and coverage of the projects' history and interpretations. The formal position of the Bank as an apolitical institution meant that some crucial aspects of the milieu in which projects had been designed and implemented went unmentioned in the source documents.¹¹ The project profiles in Annex 3 reflect these variations. Finally, this study's exclusive focus on

urban transport, as opposed to looking at the entire urban experience, is limiting in itself. Urban reality is multidimensional and highly interactive; thus it cannot be cut into separate sector-specific pieces without a loss of understanding. Altogether, focusing on urban transport meant that much less attention was paid to other crucial aspects of client cities, countries, and the world prevalent in the period under study.

¹¹ Readers interested in seeing the difference in institutional and individual takes on the same situation should compare documents for the Brazilian projects reviewed herein, probably the best-written ones in this group of projects, with that of Darbera and Prud'homme (1983).

THE 1975 URBAN TRANSPORT SECTOR POLICY PAPER

ROOTS AND PERSPECTIVE

The 1960s and 1970s were a heady time for the new discipline of urban transport planning worldwide, brimming with new ideas, techniques, and experiments addressing problems stemming from accelerating motorization.¹² The majority of innovations involved planning techniques originated in the United States, the first country to deal with moving massive numbers of cars in cities. It is common to consider the publication of the Chicago Area Transportation Study in 1962 as a breakthrough of the planning approach focused on computer-based modeling of urban transport demand and supply. Major institutional developments in the United States, including the creation of federally mandated metropolitan planning organizations in 1962 and the Federal Department of Transportation in 1966, went hand in hand with the development of modeling, forecasting, and project evaluation.¹³ City after city commissioned planning studies in the new mold, with incentives to do so provided by federal legislation. Consulting firms and academic departments arose that specialized in these techniques and served to diffuse the new approach overseas, first in the United Kingdom and Western Europe, then to other continents. In the United States, the transport planning agenda in large cities was driven by the availability of federal funds, for both studies and investments. By and large, the early agenda was dominated by questions of investing in urban freeways and rapid transit lines and by engineers as a profession. In other developed countries, the approach evolved to suit the peculiarities of local urban and urban transport settings, notably a much larger role played by public transport modes

than in the United States. In the United Kingdom, for example, much of the original work concerned traffic restraint, including charging for use of roads, notably congestion charging.¹⁴ In France, though a country quick to adopt a modeling approach to urban transport planning, the dominance of public transport modes in daily travel meant that questions of the organization, regulation, and finance of this sector remained at the top of the planning agenda (Ziv and Napoleon 1981).

Major cities in developing countries were not far behind in trying the new transport planning approach. Since none had indigenous capacity to carry out the requisite studies, these were done by international consultants, initially a few major firms from the United States and the United Kingdom, with varying degrees of participation by local professionals. A consequence of this arrangement was a transfer of the “American way” of urban transport planning (i.e., the use of demand forecasting models to develop investment programs featuring major investments: primary roads and rail rapid transit). Unfortunately, this approach was seen as unsatisfactory in the U.S. context already by the late 1960s, most notably because it examined a narrow range of (large) options and focused on a distant (20 to 25 years) planning horizon, while neglecting what was happening in the short-to-medium range, especially low-cost investments and policy instruments.¹⁵ If this criticism was valid in the U.S. context (and it was), it was much more so in developing countries. With few exceptions, consultants in these early studies nudged the client cities to invest in urban expressways and metros, as if the

12 A timeline of analytical and institutional milestones of the new-style urban transport planning is in Annex 1.

13 Weiner (2010) provides an excellent history of technical and institutional developments in the United States.

14 The iconic Buchanan (1963) and Smeed (1964) reports, the latter with a first-ever, formal proposal for congestion charging in London, came out roughly at the same time as the final report of the Chicago study.

15 See Kain (1969) for a succinct criticism of the Chicago-style urban transport planning. In the early 1970s, the Boston Transportation Review was the first major attempt to transform the agenda and the process of urban transport planning in the United States (Gakenheimer, 1976).

BOX 2: Highlights of the 1975 Urban Transport Sector Policy Paper: Diagnostic Aspects

Problem perception:

- Low accessibility to jobs and other activities, especially for poor residents in outlying areas, acts as barrier to their inclusion in the urban economy
- Traffic congestion in spite of low level of vehicle ownership

Underlying factors:

- Generally low-income countries, with skewed income distribution
- Unprecedented rates of urbanization (population and spatial extent)
- Massive urban poverty, much of it place-specific
- Low availability of local government resources
- Accelerating motorization
- Public transport operators worked in difficult operating environment, under financial pressure, often poorly managed when state or city owned
- Accommodation of individual motorized mobility took precedence over a more inclusive approach

main urban transport problems in client cities were limited to handling peak hour traffic 20 years hence.¹⁶ The Bank's Urban Transport Sector Policy Paper can be seen as a countermove, reformulating the urban transport problem in the double context of economic growth in the presence of massive poverty.

DIAGNOSTIC STATEMENTS

The 1975 Urban Transport Sector Policy Paper (SPP) started with the observation that performance of transport systems in large cities of the developing world on the whole was low. The situation was equally difficult in richer cities such as Caracas and Rio de Janeiro, as in poor cities such as Mumbai and Jakarta. Traffic congestion was chronic on major arterials, and peak conditions lasted much of the day. Public transport operators and passengers suffered disproportionately more from congestion than cars and freight vehicles. In addition to low travel speed and reliability caused by congestion, conventional public transport services also had problems of frequency, comfort, and safety. Informal public transport

modes were emerging in response to failures by conventional, public-owned services, but they had their own problems with service and safety. Among traffic categories, pedestrians and bicyclists were worst off. Geographically, the worst served were poor people living in peripheral areas. These areas, generally weak in public utilities, tended to lack basic road networks and linkages to main arterial roads, in addition to being sparsely covered by public transport service networks.

Among the factors co-producing this situation, the SPP highlighted unprecedented rates of urbanization; a chaotic spatial expansion of cities to accommodate newcomers; a shortage of resources available to cities; and generally low incomes, with sharp inequalities (see Box 2).¹⁷ The SPP also stressed that inherited urban structures, especially land area under roads, were not suited for the era of motorization, even when vehicle ownership was still at low absolute levels. The quoted rates of urbanization over the preceding 20 years were in excess of 5 percent per annum, and often higher than 7 percent, doubling within a decade. Roughly half of the population increase consisted

¹⁶ Excellent discussions of the problem with the transfer of Chicago-style know-how are in Coing et al. (1975) and McNeill (1977).

¹⁷ The SPP does not use the term *inequality* preferring *skewed income distribution*.

of migrants from the countryside. Most population growth was in low-income categories. In many cities, poverty is location-specific, typically in the form of sprawling shantytowns at urban fringes. The cited share of urban populations under the poverty threshold was staggering in some cities (e.g., 77 percent in Recife, 55 percent in Curitiba, about 50 percent in Abidjan). The failure of urban transport systems to serve these huge populations slowed down their inclusion in urban economies and the ascent toward higher incomes and a better life.

While urbanization was driven by poverty, motorization was driven by higher incomes.¹⁸ The motorization growth rates cited in the SPP were over 10 percent per annum for developing countries taken together and 20 percent per annum in some major cities. The absolute auto ownership rates were still low in the early 1970s: about 100 cars per 1,000 people in some Latin American and Southeast Asian cities, but fewer than 20 cars per 1,000 people in poorer Asian and African cities.

POLICY ORIENTATIONS

Policy orientations in the SPP were grouped in four categories: rationalizing the use of transport facilities, promoting (public transport) efficiency and coordination among agencies, the achievement of better urban patterns, and improving urban transport planning (see Box 3).

Rationalizing the use of transport facilities

The SPP noted that automobiles in congested areas imposed large costs on other road users and non-road users, which were not reflected in higher charges for the use of roads. Therefore, the market mechanism did not function. Under these conditions, congestion was sending a false signal calling for expansion of road

¹⁸ The SPP recognized that very large variations are cited in auto ownership between cities at similar income levels (e.g., Tunis having close to nine times as many cars as Seoul, or Kuala Lumpur having a similar motorization rate to Buenos Aires, which has three times the income) (World Bank 1975, 17). At least some of these variations are explained by taxes and import quotas. Also, data are not reliable, because of inadequacies in vehicle registration systems.

capacity. A system of congestion charges, in combination with economic parking charges, should be introduced to make motor vehicle users pay for extra costs imposed on others as well as to compensate for pollution, noise, and other forms of environmental degradation. The scale of impacts would depend on the level of latent demand, but it was likely that operating conditions for public transport would improve and new financial resources would be generated. It was recognized that there were formidable technical and political obstacles to implementing such a charging system. No city had, as yet, done so, but the matter was under consideration in several developed and developing countries. Failing the adoption of congestion charging, the SPP recommended higher ownership taxes and import quotas.¹⁹

Additional measures of physical control were recommended for consideration. These included staggered work hours; vehicle entry prohibitions; one-way streets; the use of traffic signals to dissuade entry or to make trips longer; geometric redesign of intersections; traffic engineering measures to regulate conflicts at intersections; area coordination of traffic signals to increase network capacity; priority of passage at intersections; and reserved lanes for public transport vehicles, cycles and motorcycles, and pedestrians.²⁰

Promoting public transport efficiency

The SPP observed that inefficiently run public transport services in state or municipal ownership were common in cities of developing countries. Urban railways were singled out for particularly poor performance. Low availability of funds and poor regulations were contributing factors, but so were practices such as overstaffing and sheer neglect. There was an overemphasis on keeping fares low and not enough emphasis on reducing costs. Privately owned (bus) operators and intermediate public transport (paratransit) modes appeared to do better with respect to production efficiency, but they also (and the services they provided) suffered if unrealistic fare levels were required by governments.

¹⁹ The possibility of introducing economic parking charges even if congestion charges cannot be implemented is actually not stated.

²⁰ A distinction is made between the past use of traffic engineering methods to speed up traffic and their use to "ensure adequacy of basic services" (World Bank 1975, 38).

BOX 3: Highlights of the 1975 Urban Transport Sector Policy Paper: Policy Orientations

Rationalizing the use of transport facilities

- Introduction of congestion charges coupled with economic parking charges
- Traffic management methods: geometric redesign of intersections, traffic signals at intersections, and area traffic control
- Priority including reserved lanes and priority of passage and entry for public transport vehicles, bikes, and pedestrians

Promoting efficiency and coordination among agencies

- Improved management of public transport operations in state and municipal ownership to reduce costs (and improve services)
- Joint design of policies on public transport fares, subsidies, and funding
- Encouragement of intermediate public transport modes
- Establishment of small, analytical, and policy units close to the center of municipal decision making to overcome the problem of fragmented institutions
- Consumer participation at various stages of policy and planning processes

Transport and urban form

- Establish desirable land development patterns to encourage lower densities overall and to discourage excessive centralization of economic activities
- Promote multiple activity centers and activity corridors, with a mixture of land uses
- Use pricing (for public utilities) and taxation instruments to achieve the preceding items
- Use transport investments and policy as a guiding force if land use controls are weak

Planning methodology

- Adjust for the interactive nature of urban transport and land patterns by a two-tier modeling and planning approach. First make strategic decisions between multiple development scenarios, then focus on a more detailed evaluation of remaining design options.

The SPP recommended a careful scrutiny of the complement of fare, subsidy, and funding for public transport systems in each individual case. It recognized that a case for subsidy could be made on social policy grounds, because of differences in the cost structure of individual public transport modes, and because the use of roads by automobiles was underpriced. The counterarguments involved the negative impact of subsidies on operator efficiency and long-run impacts on sprawl. The source of subsidy payments also mattered; the capacity to pay subsidies was deemed paramount.

A case was made for intermediate public transport (paratransit) modes, providing opportunity for

small-scale entrepreneurs to provide good-quality services at prices somewhat higher than those on the conventional public transport network.

Finally, the SPP noted that most of the preceding measures required multimodal coordination. The status quo in cities was that of institutional fragmentation and weak coordination mechanisms, both within modal subsystems and between them. The diversity of institutional, political, and legal frameworks precluded a general recommendation regarding institutions. Establishing urban transport agencies with authority over all modes would not necessarily be effective, and the same might hold for public transport authorities. The SPP recommended the setting of “small analytical and policy

units close to the center of municipal decision making” (World Bank 1975, 46). It further recommended introducing consumer participation at some stages of regulatory and planning processes.

Toward better urban patterns

Given the rapid pace of urbanization and changes in land use in developing cities, compared with relatively slower and more stable urbanization processes in developed countries, the former setting allowed for a more activist stance on future urban patterns. The SPP noted two trends: overcentralization, enhanced by investments in radial road and rail lines; and extensive low-density developments that were more and more distant from the center, thus increasingly dependent on motorized transport. It argued that a polynuclear pattern would do much better in reducing the amount of travel while still permitting cities to reap economies of density. Since it might be difficult to promote smaller activity centers with already a substantial proportion of residential land use (unless multiple-use nuclei had already formed), one of the alternatives the SPP recommended was to promote activity corridors.

Overall, the SPP proposed a three-pronged approach:

1. Relate both land development regulations and urban transport development to whatever urban pattern is desired;
2. Ensure a timely threshold investment in chosen centers of growth; and
3. Introduce or adjust utility prices and property taxes to reflect full social costs involved in various activities.

If strong land use controls were not possible, it might work to use transport investment to guide land use development. In this context, the SPP underlined that design standards and planning approaches for transport facilities should be chosen with resource limitations of host cities in mind. A specific approach cited was to reserve a full right-of-way for a new urban road, but introduce staged construction and leave as many options open as possible.

Planning methodology

Following the above-cited recommendations, the SPP singled out problems of methodology and measurement

as major obstacles to better urban transport planning. It noted that planning models suffered from a sequential treatment of factors that were interdependent (e.g. land use and transport). It also noted that models commonly in use were incapable of testing soft policies such as congestion charging. Finally, given the “abruptness and rapidity of change in social and economic structures” of cities in developing countries, the use of (single-valued) long-range forecasts was judged inappropriate (World Bank 1975, 54). Investment decisions based on these forecasts would tend to be self-fulfilling, “in that they [these investments] create the demand they are designed to satisfy” (World Bank 1975, 55). Among possible actions to correct these problems, the SPP proposed the development of strategic models capable of quick and inexpensive generation and testing of multiple future scenarios. Once the closure on some developmental patterns was reached by decision makers, more detailed (and piecemeal) testing of remaining options would be undertaken using “design” models.²¹

CRITERIA FOR THE DESIGN OF PROJECTS

The SPP provided a significant amount of detail on the difficulties in lending for transport in cities, notably, the political and technical complexity of the sector, weak technical methodologies, problems of coordination between multiple local institutions, issues with procurement of vehicles using competitive approaches, and the danger that expanding congested urban roads would serve mainly car-owning urban residents and negatively affect urban expansion. These difficulties, however, were more than matched by imperatives of the engagement: mobility as the critical input to industry, commerce, tourism, and other economic activities on both local and national levels; urban transport as the key determinant of urban expansion; and urban transport as an effective instrument for the reduction of urban poverty. Specifically in response to concerns about the state of the art of analytical methodologies for urban transport

²¹ The idea of two-level modeling was first attempted in a Bank-funded urban project in Istanbul, approved in 1972. As a technical idea, it was elaborated some years later in a working paper by Michael Thomson (1984). It was subsequently implemented in some major studies in East and South Asian cities (Guangzhou, Bangkok).

BOX 4: Highlights of the 1975 Urban Transport Sector Policy Paper: Role of the Bank

General approach to project design

- Physical investments to be complemented by policy reforms and buildup of institutions
- Projects to be considered in the context of their longer-term contribution to improving basic urban transport systems and the form of urban growth
- Key policy areas include the financial viability of public transport enterprises, the design of public transport subsidies, congestion pricing, and parking pricing

Priorities for investment components

- Investments directed to the needs of majority of urban populations who cannot afford automobiles, and for goods traffic: (a) bus and urban rail systems, including relevant infrastructure; (b) financial intermediaries for smaller public and private transport operators; (c) facilities for pedestrians and cyclists; (d) road access to port and industrial areas and wholesale goods markets; (e) bypasses for cities or congested centers; and (f) terminals and goods facilities
- Projects to help extract the maximum advantage from existing transport infrastructure

planning in developing countries, the SPP noted that the right course of action in many specific situations is evident and that a paralysis in the face of rapid urban developments was simply not acceptable.

The main guiding idea put forward in the SPP for the design of Bank-funded urban transport projects was to value policy and institutional improvements at least as important as investments. While the SPP pointedly did not provide a list of “satisfactory” policy and institutional orientations, it singled out three policy categories: contributions to the financial viability of public undertakings in urban transport, the design of subsidies for public transport operations, and charging (plus supplementary measures) for the

use of urban roads. Regarding project approval criteria, the SPP cited the projects’ longer-term contribution, direct or indirect, to wider problems of urban systems and the form of urban growth.²²

The SPP assigned high priority to two classes of investments: first, those whose beneficiaries were drawn from the majority of urban residents (meaning low-income groups), specifically those who did not own motor vehicles; second, those involving measures to get the maximum use of the existing urban transport infrastructure (further details are in Box 4). A special mention was made of measures to improve urban freight, such as road access to ports, industrial areas, and wholesale markets.

²² No details were provided in connection with this highly ambitious approach to project evaluation.

THE PRACTICE

Over the 10-year period starting in 1972, the main focus of this study, 11 freestanding urban transport projects were approved, roughly one per year.²³ In addition, 10 urban development projects approved in the same period had urban transport components.²⁴ All freestanding urban transport projects from this period and five urban development projects, each one with major urban transport elements, were included in this study. In addition, the study looked at four projects falling outside the 1972–82 period. One of them, the Third Highway Project in the República Bolivariana de Venezuela, approved in 1969, was selected because it was an “ancestor” urban transport project, with an exceptional feature: a hands-on consideration of introducing road congestion charges in Caracas. The remaining three projects were approved in the period 1983–85. The Second Urban Transport Project in Tunisia and the Fourth Brazil Urban Transport Project were selected because they formed a coherent sequence with their predecessor projects approved in the 1972–81 decade. Finally, the Kingston Urban Transport Project was included because its focus on deregulation of public transport supply formed a cluster with initiatives in the earlier projects in Kuala Lumpur and Calcutta. In all, 20 projects were reviewed. For all these projects, Annex 2 lists the basic data (approval and completion dates, project costs, loan amounts, and disbursements actually made by the Bank). Full project profiles are in Annex 3. Box 5 provides the most important take-away points for each project.

²³ The decade of the 1970s was one of major economic and political upheavals, some of which were worldwide. The first oil price shock took place in 1973, and the second one in 1979, with consequent recessions, exchange rate fluctuations, inflation, and devaluations. There was a sharp price fall in world prices of commodities like cocoa and coffee in 1977. Some client countries (e.g., Brazil and Turkey) went through periods of military rule.

²⁴ This number includes all urban development projects where urban transport components accounted for 10 percent or more of project costs at the appraisal stage (Source: World Bank, 1986, Table A-8).

Most of the studied projects were standard investment operations, consisting of an investment program, one or more policy initiatives, and one or more institution-building initiatives.²⁵ Three operations did not follow this pattern. The Istanbul Urban Development Project had no investment components. It consisted of technical assistance for policy formulation and institution building, for urban development in general, and for urban transport specifically. At the other extreme, the Third and Fourth Brazil Urban Transport Projects had elements of a program loan: a large part of their investment program was not appraised before loan approval, but in the course of implementation. In addition, it was not the Bank team that did the subsequent appraisal, but the borrower’s executing agency.

Most of the projects focused on a single city, but three Brazilian projects included multiple cities: the First Brazil Project involved six metropolitan regions; the Third Brazil Project had a roads-and-traffic improvements program intervening in 10 medium-size cities and a bus route paving program in some 150 medium-size and smaller cities; and the Fourth Brazil project involved nine metropolitan regions. The Second Urban Transport Project in Tunisia was designed to include both Tunis and Sfax, the second-largest city in Tunisia, but the Sfax component was dropped by the government during project implementation.

As noted above, each project was a multidimensional combination of (design) ideas and implementation processes. This same set of projects could be analyzed using a different lens, depending on the interest of the analyst. In this work, the focus is on strategic aspects of project design, including the fit (or otherwise) between the projects and the Bank’s policy as stated in the Urban

²⁵ A concise review of the structure of development projects for transport in cities is in Mitrić (2008). On the general subject of World Bank and its development projects, including various stages of the project cycle, see Baum and Tolbert (1985) and World Bank (2011).

BOX 5: Project Summaries

Venezuela: Third Highway Project

- Investment in a major urban expressway in the Caracas metropolitan area and some smaller road investments
- Agreement to use specific design standards for the roads funded under the project
- Commitment to carry out adequate maintenance on the national road system and enforce axle loads and vehicle size regulations
- Study of congestion charges for roads in Caracas
- Results: The planned investments were carried out, with good-quality output, but with long delays and cost overruns, caused by a combination of design changes, incomplete designs, difficult terrain, and problems with relocation of households from the right-of-way. Maintenance funding was increased, but not to sufficient levels. The congestion pricing study was carried out, but the government declined (on political grounds) to pursue its implementation. The new expressway reached its capacity soon after completion.

Malaysia: Kuala Lumpur Urban Transport Project

- Investment in a major urban road
- Minimal policy and institutional initiatives
- Results: Road investment successful in functional and economic terms, in spite of major delays and cost overruns; congestion charges study successfully completed but not implemented.

Turkey: Istanbul Urban Development Project

- Technical assistance project meant to develop urban development and urban transport plans, strengthen institutions, and prepare future urban and urban transport projects
- Results: Overall not successful, the design having overestimated the capacity of local institutions and underestimated the political tensions between the regional and national institutions.

Iran: Tehran Urban Transport Project

- Direct investment in fleet and facilities of a public transport operator (UBC)
- Major reform program regarding organization and management of UBC, plus fare and subsidy arrangements between UBC and the government
- Street and traffic improvements and related institution building
- Results: Failure in both public transport and traffic management; government moved in the opposite direction.

Tunisia: Tunis District Urban Planning and Public Transport Project

- Direct investment in the bus fleet and facilities of SNT, the state-owned public transport company serving Greater Tunis; and a complete reconstruction and new rolling stock for a suburban line Tunis – La Marsa, then also included in the SNT
- Major reform program regarding organization and management of SNT, plus fare and subsidy arrangements between SNT and the government
- Minor traffic improvements to benefit cars, pedestrians, and public transport vehicles (including bus-only lanes)
- Institution building for metropolitan management and planning, focused on Tunis District, a newly established agency
- Results: Investments successful; only a partial outcome for the fare and subsidy issue; Tunis District moderately successful.

BOX 5: Project Summaries (continued)

Malaysia: Second Kuala Lumpur Urban Transport Project

- Investment in new roads
- Investment in traffic management
- Investment in low-income shelter (sites-and-services)
- Introduction of bus priority
- Raising bus fares and improving bus regulation
- Liberalization of market entry for minibuses
- Introduction of congestion charges for central area
- Institution building for road planning, traffic management, and shelter planning
- Results: Investments successful; bus priority less so; public transport regulatory reform successful; shelter component canceled; institutional development slow; congestion pricing canceled.

Philippines: Manila Urban Development Project

- A large in situ slum improvement program, affecting some 200,000 people, including the provision of shelter, on-site and off-site urban infrastructure, and social services
- Investments in major roads in the same urban quadrant as the slum improvement program (and in the hinterland of a major port)
- Investments in centralized traffic control, and street and intersection improvements (re-alignment, traffic signs and markings, footpath and street crossings, and passenger shelters at bus and jeepney stops)
- Policy initiatives exclusively focused on the provision of shelter for low-income residents, including cost recovery, mortgage finance, land tenure, and so forth, with a modest effort to demonstrate benefits of low-cost traffic improvements
- Institutional initiatives mainly aiming to transform the newly set up National Housing Authority into a comprehensive shelter delivery and policy-making public institution focused on the lower-income segment
- Results: Most physical outputs in the shelter component were delivered, after a difficult implementation taking twice the time to complete; seen as instrumental in a major life improvement for the low-income communities; and achieved the project's traffic improvement objectives.
- Major policy aims (government adoption of the area upgrading approach, with self-help and cost recovery) not achieved
- Major roads component completed in an expanded form, traffic control subcomponent also implemented successfully, whereas most civil works for the traffic component were canceled to adjust for cost increases under the roads component; overall, transport components seen as having visibly improved the traffic flow
- A traffic engineering and management unit set up and functioning, poised to be transformed from an ad hoc institution into a normal part of the urban government

India: Bombay Urban Transport Project

- Direct investment into fleet and facilities of BEST, a public transport wing of the electricity company
- Low-cost street and traffic improvements (no bus priority)
- Initiative to reform the fare and subsidy arrangement between BEST and the state
- Results: Successful in the investment component, but only partially successful in dealing with the fare and subsidy issue.

BOX 5: Project Summaries (continued)

Cote d'Ivoire: Urban Development Project

- Road construction
- Traffic improvements including bus priority and one exclusive busway
- Shelter with accompanying basic services (paving of roads and bus routes)
- Establishment of a traffic management bureau
- Results: Traffic management component successful, including bus priority; road investment implemented with demand shortfall; shelter component downsized, not successful; traffic bureau established successfully

India: Madras Urban Development Project

- Balanced investments in sites-and-services, slum improvement, water supply and sewerage, road and traffic improvements, fleet renewal and auxiliary facilities for the public transport operator
- Policy initiative: Resolve fare and subsidy issue for public transport
- Institutions: Establishment of traffic management units in the municipality, state highway department, and the police
- Results: Successful all around, especially in the public transport component.

Costa Rica: San Jose Urban Transport Project

- Investments to improve radial roads
- Traffic management including bus priority
- Road maintenance equipment
- Equipment for traffic police
- Policy initiatives in traffic management and public transport fare regulation
- Institution building for traffic engineering, transport policy, and road maintenance
- Results: Investments implemented with good results; poor performance in regard to policies and institutions, though traffic management accepted as strategy, including police role.

Brazil: Urban Transport Project

- Road, public transport, and traffic investments in five metropolitan areas: Belo Horizonte, Curitiba, Porto Alegre, Recife, and Salvador. The focus was on roads in low-income areas; line-haul and terminal facilities for exclusive busways; and traffic engineering and management improvements in central areas, radial corridors, and critical points elsewhere
- Policy initiative: Revision of property values (tax base) in line with infrastructure improvements
- Institutional initiatives: Build up investment planning and policy-making capacity at the federal level and traffic management at the city level
- Results of investments: Variable between cities, but altogether successful across the board in that the performance of transport systems was improved, especially for public transport passengers and low-income residents. Value of the low-cost, traffic management approach and the provision of street space for exclusive bus use was demonstrated.
- Results for institutions: Satisfactory results on both federal and city level.
- Results for policies: Property revaluation was not implemented.

BOX 5: Project Summaries (continued)

Thailand: Bangkok Traffic Management Project

- Investments in roads plus traffic management
- Major program of bus priority
- Policy initiatives: Introduction of congestion pricing and parking management; staggered work hours; and noise and pollution abatement
- Institutional initiatives: Strengthen urban transport planning office and traffic police
- Results: Considered not successful overall, due to cancellation of congestion pricing scheme, need to restructure investment program, and poor performance in regard to institution development; still, bus priority program and parking management program implemented and successful, though with sustainability problems.

Brazil: Second Urban Transport (Porto Alegre) Project

- Full reconstruction of a suburban rail line on an existing right-of-way
- Reservation of additional right-of-way for future extensions
- Creation of a new company to operate the line, in public ownership but run along commercial lines
- Transforming an existing metropolitan institution into a transport authority
- Results: Investment carried out below cost, company set up and operational; patronage a fraction of the forecast, leading to a money-losing operation requiring huge (federal) subsidies; establishment of a transport authority not successful.

India: Calcutta Urban Transport Project

- Direct investments in fleet and facilities of a state-owned bus company and a tram company
- Smaller investment in stop and terminal facilities used by private bus operators plus traffic management improvements on major corridors
- Policy initiatives: Improve regulation and supervision of private bus services; carry out major internal reforms to public-sector companies; reform fare and subsidy policy arrangements to enable public companies to reach financial health
- Results: Investments carried out but failed to improve performance of state-owned companies; good results with investment and regulatory actions in regard to private operators.
- Overall result: Not successful.

Brazil: Third Urban Transport Project

- A combination project and program loan for medium-size cities, focusing on low-cost road and traffic improvements and paving of bus routes, both in poor areas
- A federal-level Urban Transport Agency (EBTU) to appraise major parts of the program and manage the whole operation
- Institutional initiative: the EBTU to evolve beyond project planning and implementation into policy-making domain; improvements of local (state and municipal) institutions
- Results: Overall success, though with large variations between cities, requiring reductions and increases of investments; a major expansion of the bus paving program, ultimately involving about 1,000 km in 146 cities.
- The EBTU was strained by size of the program, therefore slower in its evolution and attention to studies meant to define policy reforms (including road maintenance).

BOX 5: Project Summaries (continued)

Cote d'Ivoire: Second Urban Development Project

- Road investments in Abidjan, including a bypass road with an exclusive busway
- Investments in primary road in low-income areas
- Traffic management in central area and beyond
- Investments in bus stops, terminals, and a depot for the state-owned bus company
- Pilot program of investments in two secondary cities
- Policy initiative to improve fare and subsidy arrangement for the bus company, enabling it to reach financial health
- Results: Overall satisfactory; bus company showed major improvement in service quality and internal efficiency; fare and subsidy initiative positive but not resolved; secondary city component not successful.

Tunisia: Second Urban Transport Project

- Investment in a limited-access road corridor in Greater Tunis and in the public transport company in Sfax
- Street and traffic improvements, and a parking management program in the Municipality of Tunis (a replacement for the Sfax component canceled by the government immediately on loan effectiveness, with no explicit reason given)
- Creation of an interministerial mechanism for the coordination of urban transport policies and investments in the country
- Results relative to the restructured design: Satisfactory in all investment components and in parking management; modest results in the institution-building dimension with regard to training and studies program, but falling short on the effort to unify policy and investment activities at the national level.

Jamaica: Kingston Urban Transport Project

- Traffic improvements in Kingston Metropolitan Region designed and selected to dovetail with an on-going reform of the public transport sector, involving the closing down of the state-owned public transport operator while re-regulating the informal service providers
- Road maintenance investments to reduce a large backlog
- Technical assistance to build up the public transport regulatory function of the government in an all-private supply market
- Results: The traffic improvements component implemented in a drastically reduced form and weak results in institution building, both a consequence of failure in the public transport regulatory initiative.
- Road maintenance component implemented at a much larger scale than envisaged at appraisal

Brazil: Fourth Urban Transport Project

- A major program of multimodal urban transport investments in nine metropolitan areas, focused on bus priority and related infrastructure
- Further strengthening of institutional capacity at the federal level (a continuation of efforts under the First and Third Brazil Urban Transport Projects) regarding investment planning and the regulation of the public transport sector
- Strengthening of state and local institutions for metropolitan transport planning
- Results: The project was canceled at an early stage because of the elimination of the key partner institution at the federal level in line with provisions of the new Brazilian constitution, meant to diminish the federal role in urban transport matters in favor of states and local governments.

Transport Sector Policy Paper (SPP). Four of these aspects were deemed of special, indeed major, importance: (a) focus on (demand side) poverty; (b) traffic management as a strategy; (c) improving the provision of public transport services; and (d) approaches to institution building.

FOCUS ON URBAN POVERTY

In the 1970s, improving the lot of very large, low-income urban populations was at the top of the agenda of the World Bank. The Urban Transport Sector Policy Paper (SPP) identified transport in cities as one of the critical factors both in directly raising the standard of living for low-income residents and their integration into the urban economy. Accordingly, all projects in the first decade of the program addressed poverty. Some did it directly by having poverty up front as a dominant aspect of project design (e.g., Manila); others did it without an explicit poverty orientation (e.g., Mumbai, Tunis).

To understand the structure of any one urban transport project as an instrument for reducing poverty, it is useful to classify the ways transport instruments influence poverty reduction. In essence, there are three main categories of action.

1. The first category is applicable when low-income households are segregated spatially from other income groups, as in Brazilian *favelas*, North-African *bidonvilles*, and Turkish *gecekendus*. It consists of actions to improve the state of the basic street infrastructure within poor areas and linkages of that infrastructure first to the primary urban road network, then to locations of employment and other nonlocal activities.
2. The second category also involves road infrastructure, but outside low-income areas. It includes actions to improve street infrastructure, typically in radial corridors, so as to favor transport modes that are heavily, or predominantly, used by low-income travelers (i.e., nonmotorized modes such as walking and biking) and public transport vehicles.
3. The third category consists of actions addressing the service performance and price of public transport modes, these being the main means of motorized travel by low-income people. Actions

in this category typically involve direct financial support (capital and/or current subsidies) to service providers as a compensation for maintaining low fares, and improving government regulations of the public transport sector, notably the market entry and allocation rules.

Among the freestanding urban transport projects, the First and Third Brazil Projects were the most direct, most successful interventions focused on poverty. In the terms of the preceding paragraph, these projects consist entirely of the first two categories: road paving and neighborhood bus terminals in poor areas, bus penetration roads, staircases, various types of bus terminals, traffic management improvements on radial roads, pedestrian-only areas, and exclusive bus lanes.²⁶ These were also among the largest urban transport projects in this time slice, with costs of US\$249 million and US\$257 million for the First and Third Projects, respectively. The aggregate scale of these interventions is impressive (e.g., the paving of about 1,100 km of bus routes in 146 medium and smaller cities in the Third Project). Still, on a per-city basis, these were small interventions, the largest being the component in Curitiba at about US\$50 million. The success of these two projects is evident in that most planned investments were carried out and improved the life and mobility of low-income households.²⁷ A notable legacy of these projects was to demonstrate the benefits of bus priority, ranging from simple bus-only lanes to early versions of bus rapid transit. Though several early projects (e.g., in Tunis and Kuala Lumpur) also included reallocation of road space for exclusive use of buses, none did it on the scale of the Brazilian projects. All busways were centrally located, but with variations regarding the location of stops and

²⁶ Bus companies in Brazilian cities, the dominant transport mode therein, were all privately owned, therefore the absence of investments belonging to the third category in these two projects. The Second (Porto Alegre) Project, on the contrary, focused entirely on a suburban railway, which was in public ownership (details below). All urban transport projects in the later stage of the Bank's urban transport program in Brazil involved the third category of interventions, investing in metro and suburban rail improvements, and working toward better integration of bus and rail networks.

²⁷ Even in these early projects, attempts were made to include a monitoring dimension, aimed at making corrections to project design, improving local understanding of the program, and impact evaluation. The monitoring programs, however, were not agreed to before loan approval, but were left for the executing agency to develop once the project started. Overall, monitoring of physical outputs was carried out, but not of outcomes, nor were there any feedback loops leading to project modification—probably too much to hope for at that time.

the method of separation from opposite bus lane and street traffic. Feeder networks were designed and implemented. The convoy operation was successfully tested and the data on achieved maximum flow rates led to changes in engineering textbooks in Brazil and elsewhere.²⁸ The whole experience enriched the debate about prospective metros and alternatives in major Latin American cities.

Where these two projects did *not* do as well was in the policy dimension. Given the sheer scale of the First Project, its policy initiative (other than reallocation of road space to favor public transport vehicles achieved directly through investment) consisted of a single item: an attempt to move toward cost recovery through the revision of property values in areas benefiting from project investments. This initiative, subject to a covenant in the loan agreement (but not a subject of a detailed analysis in project documents), did not succeed.

A policy that should have been included immediately in the First Project was that of ensuring proper road maintenance, not just of the subnetwork improved by the project, but generally. This issue was raised in the ex post project evaluation, and a study to develop a new maintenance policy for road infrastructure was included in the Third Project. The study was carried out but it did not lead to steps to resolve the issue, thus casting a shadow on the sustainability of benefits from the paving program.²⁹ A similar vexing experience occurred under most other urban transport projects in this time slice and in all activities requiring current spending, whether road maintenance or traffic management. The resolution of this problem has to do with achieving healthy municipal (and metropolitan) finance, a subject that these early urban transport projects could not address.

The success of investment components under these two Brazilian projects and weaker results on policy and institutional development (more details below) led to a proposition that interventions composed of numerous, small-scale investments in multiple cities may be better handled through multisector urban

development projects, reserving urban transport projects for larger interventions in individual cities, thus creating space for place-focused institutional and policy changes.

A different approach to addressing poverty was tried in the multisector urban development projects. These projects tended to combine low-income shelter components with transport improvements, some as an integral part of the shelter initiative (basic infrastructure) and others as improvements to streets and public transport services in the city at large. Each of the four urban projects included in this review had a different design and different fortunes.

The First Urban Development Project in the Cote d'Ivoire had a shelter component of about US\$66 million, inclusive of primary and secondary street infrastructure, and paving of bus routes; it also had a major transport component, of US\$50 million, of which US\$47 million was for the construction of a primary urban road, and US\$3.3 million was for street and traffic improvements. This last item included a 2.7 km exclusive busway and 1.7 km of bus-only lanes. The implementation of this project took place just as the Cote d'Ivoire went into recession. The shelter component did not do well, but the transport component was considered a success, especially its traffic improvements initiative, and in contributing to a much-improved performance of SOTRA, the public transport operator. The follow-up, Second Urban Development Project, approved in 1981, was de facto an urban transport project (83 percent of project costs at appraisal and closer to 95 percent as executed). This project included the paving of primary roads in low-income areas, numerous road and traffic improvements, both in the city center and outlying areas, a bypass road with a rapid busway, and pedestrian underpasses. It also contained direct investments in facilities for SOTRA: a new depot for 180 buses and upgrading of 20 bus terminals and 80 bus stops. This initiative was quite successful in that all the investments were carried out, and those addressing traffic management and public transport operations made a measurable impact on the traffic flow and SOTRA's performance. The main exceptions to this positive rating were on the policy side, where the initiatives concerning the fare and subsidy issue and institution building for traffic management were only partially successful (more information on this topic below).

28 Two hundred forty buses per hour on Pre-corridor Assis Brazil in Porto Alegre, at a good level of service, and 270 to 280 buses per hour at a reduced level of service.

29 The same initiative regarding road maintenance was subsequently made a part of the Fourth Urban Transport Project, approved in 1987 but terminated early in its implementation cycle.

The Madras Urban Development Project had a more balanced structure: US\$7.8 million for sites and services; US\$4.9 million for slum improvement; US\$9 million for water supply and sewerage; US\$7.7 million for road and traffic improvements; and US\$5.9 million for fleet replacement, depots, and passenger shelters of the STC, the public transport operator. Transport improvements, other than street paving in slums, included 250 km of footpaths, some bike paths, and nine pedestrian subways. The project got a successful rating, especially in its public transport initiative, where it was seen to increase both the efficiency of the STC and services it offered to passengers. Sadly, the new footpaths and bike lanes suffered from encroachment for nontransport uses, and the failure to ensure proper maintenance meant that benefits of all newly paved facilities were not sustained.

The Manila Urban Development Project also had a balanced structure: about US\$25 million for comprehensive improvements in two large slum areas (including internal roads and footways), about US\$11 million for major roads and bridges in the quadrant of the metropolitan region where the two slum areas were located, and about US\$5 million for traffic management improvements in the central area. This last was meant to demonstrate the value of low-cost improvements to a government focused on building large roads. The slum area improvements were carried out successfully, thus raising the standard of living of some 200,000 slum dwellers, but it took twice the planned period to complete and required a supplemental loan. The cost recovery objective in this component was not achieved. Despite this successful large-scale demonstration, the area upgrading approach was not adopted as government policy. In the transport category, the major roads and street upgrading within the slum improvements component were implemented successfully and met performance expectations. The traffic management component was implemented in a reduced form, much too small to make a discernable difference in the transport system's performance in a metropolitan area of Manila's size, much less to lead to the adoption of traffic management as government policy. Altogether, the physical size and complexity of this project overtaxed the capacity of local institutions. In fact, the success of physical investments was "paid" for in part by a neglect of the policy dimension.

TRAFFIC MANAGEMENT AS A STRATEGIC INNOVATION

Almost all of the projects included in this study had traffic management components, typically paired with street rehabilitation, public transport initiatives, or comprehensive (slum) area improvements. With two major exceptions (the projects in Tehran and Kingston), these components were carried out as planned, achieved positive results, and succeeded in having the low-cost approach to transport improvements accepted in client cities. This said, there were considerable variations in project design (and ambition) and in outcomes of various subinitiatives within the traffic management category.

The idea of traffic management, a pillar of the Bank's urban transport strategy as expressed in the Urban Transport Sector Policy Paper (SPP), had its source in the U.S. Federal Aid Highway Act of 1968, which introduced a Traffic Operations Program to Improve Capacity and Safety (TOPICS) focused on nonprimary urban roads (Gakenheimer and Meyer 1977; Weiner 1997). This program was one of the U.S. Government's responses to a mounting civil, political, and academic resistance to large-scale building of limited-access urban roads that had taken place in the United States over the preceding decade. The technoeconomic logic of the program was simple: we should *not* invest large sums of money in new urban road infrastructure before spending modest amounts of money to ensure that already existing infrastructure operates to its full potential. Three aspects of this development are of essence. First, U.S. cities already had extensive street networks. Second, the cities already had well-developed institutions to deal with streets and traffic and well-developed structures for municipal finance. Third, the TOPICS program was designed with a strong incentive: cities would receive federal funds for new roads only when they demonstrated they had taken steps to improve the performance of what already existed.

The way that traffic management was presented in the SPP, and also the urban transport status quo in prospective client cities, differed in several important ways from the United States case. First, urban road networks tended to be underdeveloped, both in structure and density. Second, there were simply no institutions

for traffic management at either national or local levels or at the metropolitan level in large urban areas with multiple municipalities. Third, municipal finance tended to be weak with municipalities relying both on transfers from national and state governments and on direct investment by these governments. In particular, this meant weak current budgets (on which low-cost improvements would normally depend). Fourth, there was no external incentive to practice traffic management (i.e., establishing that cities would get road building funds from the national government *only* after demonstrating that low-cost traffic management instruments were used to the fullest extent). This last point is crucial, given that the traffic management approach was presented by the Bank to client cities as a tool to postpone, even cancel, capital investments in urban roads, not as a condition to get more funding.

In addition to these remarks and to best make sense of the experience with early projects, it is useful to see traffic management as a set of three distinct instruments:

1. Standard traffic engineering measures implemented in tandem with street (and/or area) improvements: paving, minor realignment and widening, sidewalks, staircases, lane markings, traffic signs, channelization at intersections, minor entry prohibitions, rudimentary parking control, public transport bays and shelters, (one-way) circulation schemes, and traffic signal control at individual intersections, along corridors and in entire subareas;
2. Measures involving street space reallocation to give priority to specific groups or transport modes; and
3. Measures for rationing road space: time-and-place parking control, parking charges, and congestion charges.

All of the above may be low-cost categories, but there all similarity ends. Measures included in the first category are of a routine nature, with more beneficiaries than losers, thus the least likely to create conflicts on the demand side. The second group of measures, the reallocation of street space, constitutes a considerable policy (even strategy) change, and may face a coalition of powerful losers against many small beneficiaries. The pricing measures in the third category raise the conflict bar even higher, with congestion charging at the top.

The majority of the early Bank-funded projects drew on instruments belonging to the first two categories cited above: standard traffic engineering measures and bus priority. A common arrangement in project design was to fund the construction of one or two major new roads and add in traffic management on existing roads, on radial corridors, or in specific subareas (e.g., Abidjan). Another variation was to add traffic improvements to projects with major public transport content (e.g., Tehran, Tunis, Mumbai, Madras). By and large, traffic management components of these projects were successful in that investments were carried out and outcomes related to traffic flow and public transport performance were positive. Bus priority elements of these projects, involving a change in public policies and acceptance on the demand side, arguably were the most successful aspect of the entire 1972–81 program, with the Brazilian projects being in a class of their own.

Numerous problems were encountered regularly during implementation of street improvement works. Some problems occurred already at the procurement stage. For example, it was quite a challenge to write open specifications for traffic control equipment to conform to the guidelines for international competitive bidding. This was due, in part, to shortages of expertise independent of manufacturers. Typical problems during execution of works included relocation of utilities, land acquisition, and respect of stoppages of street traffic and access to buildings during construction. Also problematic was cooperation between numerous local agencies, each of which had authority over a different dimension of the implementation process. It did not help that the traffic management institutions, that most often piloted the implementation, were created within the project preparation process and lacked both the experience and numbers to carry out the requisite tasks (more below). A key lesson of experience under these projects was that the inclusion of the traffic police (as a partner institution in the project) was essential, both for the implementation and for subsequent functioning of new measures. This point was of particular importance for bus-only lanes, where lax enforcement simply nullified the engineering and policy effort (notably in the Tunis and Bangkok projects).

The project in Tehran, rated as unsuccessful, is of special interest. It paired US\$40 million investments in the city-owned public transport company with

US\$20 million in traffic management improvements. All of the latter belonged to the first category cited above (i.e., routine traffic management measures plus some over- or underpasses at major intersections). The objectives were (a) to improve the performance of the public transport operator, which was in technical, financial, and managerial distress; and (b) to arrest the rise of street congestion through simple, low-cost measures while plans for a more comprehensive program were developed (also under the project). The project was approved in 1973, coinciding with the worldwide rise in oil prices, thus a boost in Iran's revenue. The public transport investments were carried out in part (mainly the fleet purchases), but brought no improvements either in the operator's performance or in regulatory policies, notably those involving the fare and subsidy issue. Most of the traffic management program was canceled. The city government went in exactly the opposite direction, favoring street widening, sidewalk removals, multistorey car parks, and prefabricated overpasses—all to accommodate the rise in traffic. The studies for medium- and longer-term transport and urban development were completed, but their recommendations suffered the same fate: disregard by the authorities. Apart from having to do a much better job of understanding intricacies of local political and economic context and culture (always good advice), the *ex post* evaluation report suggested that a proper response to a huge macro-change is to immediately restructure the project. This said, there may have been a problem in presenting traffic management measures as an alternative to investments in new urban roads, rather than as complements flexible enough to accommodate policy shifts, even strategic ones. When there is a strong local push for new roads, a compromise approach may be the right thing to do (as the Bank did 20 years later, in its urban transport program for China).

The Kingston project is an unusual case of coupling traffic management with a public transport regulatory reform, without any investments in public transport fleets and facilities. The project included a US\$10.8 million traffic management component, US\$7.8 million for road maintenance, plus a sizeable (US\$4.1 million) technical assistance component, most of it going to the Ministry of Construction where the new Traffic Engineering Section was to be set up. Public transport

reform, following the closure of the public-owned bus company, involved setting up a new regulatory transport authority to award franchises to private operators for packages of routes. The route structure was to be overhauled, and the traffic management investments funded by the Bank loan were to focus on streets and corridors belonging to the new network. The unusual aspect of the design was that the public transport reform was not a part of the project, in the sense of being included as an explicit project objective. Confusingly, many of the project's monitoring indicators (but not loan covenants) addressed the public transport reform explicitly. The reform failed (more on this below), and the traffic management component shrank to US\$3.8 million. The funds were diverted to road maintenance, much of it spent for roads outside the Kingston area. Thus, an urban transport project became a national road maintenance project.

Coming finally to the third category of traffic management instruments as defined above, three projects tried to introduce the most innovative and challenging instrument: congestion charges for urban roads. The initial experience was in the "ancestor" urban transport operation—Third Highway Project in the República Bolivariana de Venezuela (1969)—essentially an urban expressway project for Caracas. While the project was being prepared, the Government asked the Bank about a possibility to fund a metro in Caracas, as a complement to constructing major new roads. The Bank team responded that neither new roads, nor the metro, were likely to resolve the street congestion in that city. Drivers were not being charged the full social cost of using their cars, hence the congestion was sending the wrong signal. Only if the prices were right would it make sense to invest in new infrastructure. The Bank team proposed, and the Government accepted, to include in the project a study of congestion charges for roads in Caracas.³⁰

³⁰ Congestion pricing for cities has an engaging and important history in which the World Bank participated. The idea itself dates from France circa the 1840s and is linked to the concept of marginal cost pricing for public utilities. In the urban transport context, it was first put forward in theoretical papers by William Vickrey in the United States and Gabriel Roth and Alan Walters in the United Kingdom (Roth 1961; Vickrey 1959; Vickrey 1963; Walters 1961). The first formal proposal for a specific city appeared in the 1963 Smeed Report on London (Smeed 1964), based on the technical work done by Alan Walters, Michael Thomson, and Gabriel Roth. Both Walters and Roth subsequently moved to the World Bank and played prominent roles in the project work and policy development for transport overall and urban transport specifically.

The study was carried out with a high-quality output, but the Government declined to implement it, citing a lack of political acceptance. A contributing factor may have been, just as noted earlier in connection with the Tehran project, that the República Bolivariana de Venezuela's oil revenues had jumped.³¹

Two later urban transport projects in this set, Bangkok and Kuala Lumpur, included the introduction of congestion charges. Both failed. Bangkok in the mid-1970s was a city of about 5 million people, with a growing economy centered around small-scale private enterprises, relatively low poverty rates, and rapid motorization based on both cars and motorcycles. The city had a weak central area and featured cluster developments of mixed use and mixed income. Traffic congestion was horrendous. Proposals for large-scale road and public transport investments were abundant. The Bangkok Traffic Management Project, approved in 1978, tried to buck this trend by proposing a set of small-scale road and traffic improvements. Many of these were meant to improve the operating environment of the city-owned bus company by measures such as 100 km of bus-only lanes, bus and pedestrian priority in the central area, bus bays, and passenger shelters. In addition, the project included a major policy change: congestion charging as in Singapore. One other aspect of the project was notable: investments were appraised on sketch designs, postponing more serious design and evaluation work for later. The same held for the congestion charging scheme: the preparation study was to be done after loan approval. The project, as designed, failed. It came close to being canceled several times, but ultimately it was restructured. Its investments were regrouped into 10 comprehensive route improvement schemes and the congestion charging initiative was dropped. The route schemes were implemented, as was a scheme for 100 km of with-flow, bus-only lanes, coupled with intense enforcement by the police. Also, parking management was introduced on 39 arterial roads (no charges involved).³² Outside the Bank-funded project, the city also went ahead with building high-capacity

roads. Spending on the Traffic Management Project accounted for 1.4 percent of total transport investments in Bangkok between 1980 and 1984.

The Bangkok experience invites several lines of inquiry. One of them concerns a minimal amount of knowledge of local culture and institutions necessary to design a small, but complex, project, requiring coordinated action by a multitude of institutions. The same thing is true for the nature of commitment in politically unstable environments. Another aspect is the potential of using a program approach in fast-changing circumstances, especially if project development has not progressed. Yet another matter, echoing what was said above about the project in Tehran, is the strategic view of traffic management interventions. Are they substitutes for larger investments or are they complements? Project documents, and not just for these two operations, indicate that the Bank teams took the former approach, placing traffic management in direct opposition to what was a locally favored (road expansion) strategy. In document after document, traffic management measures were praised for "exceptionally high rates of return," both *ex ante* and *ex post*. Not only was this a misunderstanding of project economics, but it pitted large investments ("with rates of return barely above the cut-off rate") against small investments, altogether a dubious strategy.

The failed attempt to introduce congestion charges in Bangkok requires special attention, just as it does in the Second Kuala Lumpur Project (1976). Before these projects, the only world city where it was introduced was Singapore, in 1975, under very specific political and urban conditions. The SPP endorsed the concept, while underlining its technical and political complexity. The paper suggested prior application of measures with higher probability of acceptance, notably parking management. For sure, the probable pattern of winners and losers was enough to stop, or at least delay, this measure in most societies. Consider that in London, where the proposal was put forward first, in 1963, it took until 2003 to implement. All things considered, it was premature and unrealistic to include a congestion charging policy in Kuala Lumpur and Bangkok, cities with only rudiments of institutional capacity for traffic management and transport planning and with underdeveloped road networks.

31 The author is grateful to Gabriel Roth, a member of the Bank team working on the Caracas project, for bringing this project to his attention and for helping to locate the final report of the study. (Voorhees 1973).

32 The Bangkok project also funded a notable Short-Term Urban Transport Review, a high-quality study, possibly the first of its kind to introduce a budgetary constraint in the proposed investment program.

The problem with theoretically sound measures, like congestion charging, is that they are conceived in a social and political vacuum, whereas possible applications take place in unique and complex local settings. In any given urban area, there is a cycle of urban road expansion linked to motorization, urban growth, economic growth, and the like. It may be that measures such as congestion charging must wait until the road building process encounters obstacles that lead to the formation of local coalitions strong enough to push through drastic countermeasures. Such coalitions evidently did not exist in Bangkok and Kuala Lumpur.

IMPROVING THE PROVISION OF PUBLIC TRANSPORT SERVICES

Projects dealing with the provision of urban public transport services were done in three different settings: public sector monopoly or dominance (Tehran, Tunis, Sfax, Abidjan, Mumbai, and Madras); private and public provision (Calcutta); and predominantly private provision, whether of conventional or informal (paratransit) type (Kuala Lumpur, San Jose, Brazilian cities, and Kingston). The guidance provided by the SPP was focused on public sector operators—this being the arrangement in the majority of anticipated client cities—though with some important ideas related to the improvement of the regulatory setting for private sector, especially for informal modes. Accordingly, most projects in this group engaged with public sector companies. A common project structure was to invest in fleet and service facilities, passenger shelters and terminals, and technical assistance for managers and staff. On the outcome side, operators were expected to show performance improvements (productivity and service). These were measured by indicators such as commercial speed, load factors, passengers per bus per day, and percent of fleet placed in peak service. On the policy side, a common thrust was to introduce an improved fare and subsidy policy and practice, with the aim that operators become more financially sound. Typically, this objective was addressed through loan conditionality with respect to percent fare increases and financial health indicators (e.g., cost recovery ratios, or more formal working and operating ratios, and debt-equity ratios).

The results were mostly positive on the investment and service side, but much less so regarding the fare and subsidy policies. In all seven cities with major public transport components (Tehran, Tunis, Abidjan, Mumbai, Madras, Calcutta, and Porto Alegre), investments were carried out largely as planned. In five of these (Tunis, Abidjan, Mumbai, Madras, and Porto Alegre), outcomes on the performance side were definitely positive, though with variations in the scale of improvements from city to city. Patronage rose, except in the Second Brazil (Porto Alegre) Project. In Tehran and Calcutta, this initiative failed; operator performance actually was worse at the time of ex post project review, while competing (private) modes increased their share of the public transport markets.

The fare and subsidy reforms proved to be a conundrum difficult to resolve. In spite of meeting the contractual fare hikes and consequent improvements in cost recovery in most cities, there was not a single case where the client government and its public transport operator struck a formal agreement on the modalities of an improved and sustainable fare and subsidy arrangement. Governments generally preferred occasional fare increases and occasional subsidies, whether current or capital (Mitrić 1991). Several factors were under this vexing outcome, the main one being a tug-of-war between two objectives: affordability of fares for low-income populations (often related to efforts to keep the social peace) and the desirability of having public transport at levels of service high enough to retain middle-income passengers.³³

In two cities, regulatory improvements affecting private providers of public transport services had surprisingly large positive outcomes, given the seemingly small reforms. In the second project in Kuala Lumpur, the initiative for increasing fares and relaxing licensing rules resulted in accelerated growth of the private bus fleet and opened the door to less formal minibus services. In Calcutta, where the efforts to improve the performance of state-owned operators failed utterly, improved regulations governing the issuance of service permits to private operators, as well as small-scale project investments in passenger shelters and terminals,

³³ Voluminous literature has emerged in the intervening years on the subject of poverty and prices of basic services: transport, water, and electricity. Issues become even more complex for high-cost urban transport modes designed to provide high-quality services (e.g., for metros and suburban rail lines).

had large positive impacts on services to passengers and a considerable increase in private fleets.

These results are of continuing interest because of what transpired in the decades that followed. At the end of the 1970s, the debate pitting public and private provision of services had intensified, spurred by the tsunami of British deregulation under the Thatcher government. Eventually, the position of the Bank turned strongly in favor of the private sector, stressing superior performance in the cost dimension.³⁴ Yet, the experience from the period reviewed in this study is anything but straightforward. Among the public-owned operators, some had efficient operations and high performance. Others did not. It was a matter of study and judgment to decide which company to invest in. In Calcutta and Tehran, the Bank teams made poor choices, but in Mumbai, Madras, and Abidjan, even in Tunis, the choices were good.

Having a dominant private sector did not necessarily resolve the fare and subsidy issue in a way satisfactory to public interest. Private bus companies in Brazil received no subsidies, but the downward pressure on government-regulated fares meant that their profit margins were quite low. Operators' counterstrategy was to overload vehicles and generally reduce the level of service. In Brazil, eventually, there was movement toward the direct and targeted subsidy of low-income travelers, through the *vale transporte* program. It is unfortunate that it took so long for a constructive approach to pricing basic services to emerge and be tried.

The Kingston experience confirms these observations and conclusions, but under rather unique circumstances. As noted above, the Bank-funded project, with its traffic management and road maintenance components, was designed to support an ongoing reform of public transport provision, itself formally outside the project. The reform consisted of extinguishing a failed public-owned operator and reorganizing the informal minibus-based sector into competitively awarded franchises for packages of service routes. The public-owned operator was closed down, but the re-regulation of the private sector failed, leading to a drastic reduction in the traffic management component of the Bank-funded project. Over the following decade,

several waves of the minibus sector reform were tried in Kingston, with and without subsidies. None was successful (Cervero 2000; Gwilliam 1996). As always, there were multiple reasons for this, but one of them was clearly dominant: the approved fares were so low that the only sustainable services were of poor quality.

Of the seven projects focusing on public transport services, three had components with rail-based systems. In Tunis, the project included a complete overhaul of the suburban rail line Tunis-La Goulette-La Marsa (TGM). In Calcutta, the project invested in the fleet and depots of the Calcutta Tram Company (CTC). In Porto Alegre, the project funded a new suburban rail line (on an almost-abandoned rail right-of-way). The TGM component in the Tunis project was quite successful in that the project was implemented well on the engineering side and overcame the price increase for the rolling stock by getting additional funding from non-World Bank sources. On completion, the line was operating at a high level of service, and its patronage had increased. The fare and subsidy issue, as noted above, was not resolved. The Calcutta case, also noted above, did not succeed either in improving the internal efficiency of the CTC or the level of service for passengers. CTC's finances deteriorated and it lost patronage. This was a case of a triple error of judgment in project preparation. The commitment of the government to resolve the fare and subsidy issue and the commitment (or the ability) of the CTC management to carry out an internal reform were both overestimated. Last but not least was the decision to invest in rail technology operated without priority in a chaotic traffic environment.

In Porto Alegre, a company was set up to operate the new suburban rail line to be constructed under the project. The line was to be owned jointly by the federal, state, and municipal governments, but run along commercial lines and expected to achieve financial independence. The line was built and equipped at costs lower than forecast (a rare case). It was operated efficiently but, because of a forecasting error, at operating costs well above those anticipated at appraisal. The patronage, however, was a fraction of what was expected, even at fares lower than parallel bus fares. Explanations centered on the Brazilian recession and a slow-down of Porto Alegre's development, but probably also involved technically weak forecasting and the absence of a risk management plan, a "must have" for

³⁴ This turn is quite visible by comparing the stances relative to provision of urban public transport services in the 1975 Sector Policy Paper with those in its successor (World Bank 1986).

large, long-lived projects.³⁵ At the time of the ex post project review, the company required major operating subsidies, all paid by the federal government. This experience is remarkable on several grounds, including the government's passivity (at all three levels) in the face of a persistent demand and revenue shortfalls.³⁶

These experiences with urban rail, especially those in Calcutta and Porto Alegre, are of particular interest in that they may have contributed to a negative image of rail-based urban transport modes in the Bank.³⁷ The SPP is moderate on the subject.³⁸ In the subsequent decade, however, the Bank's public stance vis-à-vis rail-based urban modes became explicitly negative and generated an antirail image for the institution (World Bank 1986). This result was unfortunate because the "railness" in these early projects mattered only in Calcutta, because of the absence of a separate right-of-way for its trams.

INSTITUTION BUILDING

The SPP was quite forceful in pointing out the critical importance of institutions for managing and planning urban transport systems. This said, the SPP acknowledged great diversity in systems of governance from country to country (sometimes also from city to city). Hence its caution in putting forward any strong recommendations as to which form these institutions should take.

Most of the 20 projects reviewed in this study engaged in some form of institution-building activities, using

project-funded technical assistance.³⁹ The Istanbul project, as stated above, was focused entirely on institution building. Technical assistance usually took three forms: (a) training: courses, seminars, and technical visits organized locally or abroad; (b) direct assistance by expert consultants working within project entities or other project-related organizations in the client country; and (c) studies done by consultants.⁴⁰ Studies were envisaged variably as instruments to prepare policies, specific programs (e.g., road maintenance or a new route network for a public transport operator), urban or urban transport master plans, and investments to be implemented within the current or some future project. Technical assistance was also used to strengthen project execution, by funding supervision consultants.

While technical assistance instruments tended to be detailed in project documents, institution-building objectives were not always explicit (i.e., stated up front in appraisal reports and in loan and project agreements).⁴¹ More often, objectives were stated in neutral terms (e.g., referring to capacity building, without any performance criteria or indicators). Beneficiaries included already well-established local institutions, some newly created within the project preparation process, or entirely new ones.

Most institution-building efforts were directed at these major lacunae diagnosed during the project preparation stage:

- Capacity to prepare and implement investment projects;
- Capacity to manage public transport companies;
- Capacity for traffic management;
- Capacity for public transport regulation;
- Capacity or even existence of metropolitan planning structures, some focused on transport matters, others with a multisector urban scope; and
- Capacity for policy making at the national level.

With some exceptions (e.g., projects in India and Tunisia), most capacity building took place at the

35 The Porto Alegre project was the only urban transport project among the 20 projects reviewed in this study that was not processed by the Urban Projects Department but by the Transportation Department. The significance of this is the relative crudity of demand forecasting tools commonly used by staff working on intercity and rural transport projects.

36 Whatever the cause of the demand shortfall, an already-made investment of several hundred million dollars must not be allowed to remain "unsuccessful." Instruments always exist for achieving this (e.g., investing in diverse development schemes in the relevant corridor).

37 This was the time of a raging bus versus rail debate among academics and practitioners in the United States and the United Kingdom, which has lasted to this day. This subject has generated a very large body of literature. A perceptive summary of arguments is in Gakenheimer (1989).

38 The SPP is moderate in the main text, but it is naively antirail in the technical Annex 5 (comparative review of transit modes). It is also true that the Bank staff monitoring the UNDP-funded transport studies in Tehran and Singapore in the 1970s criticized the consultants' recommendations to construct metros in these two cities, but on specific technical grounds. The peer reviewer's comment in this matter is that the anti-urban-rail stance by the advisory-level professionals in the Urban Projects Department was well established by the early 1980s. The author agrees, based on his notes and recollections from meetings of the urban transport group from about mid-1980. This said, there was an evident divide between advisor-level staff (mainly economists) and project staff (mainly engineers).

39 Occasionally technical assistance was funded by partner organizations (e.g., the UNDP or various bilateral aid organizations).

40 In addition, projects funded various kinds of equipment used by project entities (e.g., computers, furniture, and vehicles).

41 These early operations did not adhere to a tight linkage between objectives, instruments, and measures of performance that later became the hallmark of Bank-funded projects.

national level, even for such locally focused activities such as traffic management. This reflected the distribution of political and administrative powers, funds, skills, and experience between diverse levels of government.

The results of institution-building activities under these 20 projects are summarized in Box 6. These are crude summaries and generalizations are few. The subject of institutions was amorphous to the early practitioners, links between technical assistance provided and institutional history were difficult to establish, and the before-and-after approach used in ex post reviews was (and still is) much less reliable for institutions than for investment outcomes.

With the above reservations, the overall judgment of this review is that the World Bank's institution-building effort was most successful in the realm of investment execution. This was true from the earliest, relatively small project in Kuala Lumpur to the cluster of large projects in Brazil. These projects achieved a progressive increase in the capacity of a national agency (EBTU) to plan and manage the implementation of transport projects in multiple cities, eventually as many as 146.⁴²

The stress on implementation of investments sometimes took extreme forms (e.g., the weakening of the [ministry level] Traffic Bureau in Abidjan under the second project in the Cote d'Ivoire, in favor of a project implementation complex attached directly to the president of the country). Altogether, the success in project execution may appear like a small matter, but that would be far from true. Most local professionals of that era had never encountered international competitive bidding as an approach to choosing civil works contractors and equipment suppliers. Some of the works were small scale, but complex and risk-laden (e.g., street improvements in urban areas, especially in central zones and along radial corridors). Procurement of bus vehicles and traffic control equipment, markets with few major suppliers, posed considerable technical challenges in writing specifications and evaluating bids.

42 In truth, the EBTU was in quite a different class from all other project execution institutions in this group of projects, not least because it was also a funding agency. The EBTU's demise a few years later, during implementation of the Fourth Urban Transport Project in Brazil, was not a result of that agency's poor performance or the whim of a president. It followed from a shift in the relations between the federal, state, and local governments in Brazil after a renewal of democracy in the country.

The success in building traffic management institutions, a crucial aspect of the Bank's strategic push to adopt a low-cost approach to urban transport problems, gave some good results and some poorer ones. There was only one case (in the two projects in Tunis) of this process exceeding expectations. Initially, under the Tunis District Project, a core unit was created to focus on a traffic control system funded by the project. Under the second project, it grew into a competent, multiple-function traffic management group, comfortable within its (municipal roads) environment, with excellent prospects for survival and growth. A similar institution in Abidjan (within a national ministry) showed very good results in the first project in the Cote d'Ivoire, only to end up in a weak state by the end of the second project. The Bangkok project illustrated the ups and downs that implanting traffic management often involved, ending up (at the time of ex post project review) with the traffic group stronger on paper than in reality. On the whole, these experiences illustrate the expensive side of the low-cost approach; to work it needs a continuous, high-skill effort (involving high current cost in salaries) to maintain its positive impacts on traffic flow. In all likelihood, this approach is only possible in well-managed municipalities, with strong political backing at the top.

The efforts to establish and empower metropolitan planning agencies had weak outcomes. The Tunis District and Madras Metropolitan Development Authority came close, but failed to reach what was hoped for: institutions with technical capacity and decision-making power for policy making and managing public investments on a metropolitan scale. Even worse were results of those few attempts, mainly under the Brazilian projects, to establish some form of French-style metropolitan public transport authorities which would take the responsibility for the regulation of public transport services away from constituent municipalities.⁴³

Trying to explain the weak results in the institutional dimension, the project completion reports state in several cases that these early projects were not designed with a thorough understanding of local political cultures and power arrangements. Teams composed of

43 There appears to be some productive linkage between a direct presence of money (as in investments) and institutional improvements (project execution unit, traffic management units). When there is no money involved, things do not move.

BOX 6: Institution-Building Initiatives in 1972–85 Projects

Venezuela: Third Highway Project:

- No institutional initiatives

Malaysia: Kuala Lumpur Urban Transport Project:

- Successful in creating an effective (investment) project management unit in the Roads Division of the (Federal) Public Works Department

Turkey: Istanbul Urban Development Project:

- Not successful in development and integration of national and local institutions for urban planning, in part because of overloading the Master Plan Bureau for Istanbul (national level institution) with project execution responsibilities, but generally lacking both understanding and tools to deal with tense and turbulent relations between national and metropolitan institutions and foreign consultants

Iran: Tehran Urban Transport Project:

- Initially successful in having a Traffic Planning Manager appointed at the municipality and having authority over traffic signals transferred from the police to the municipal government, but thereafter the process of building traffic management capacity stalled
- Not successful in laying an institutional and planning framework for urban and urban transport development (focused on the Secretariat of the Tehran Development Council)

Tunisia: Tunis District Urban Planning and Public Transport Project:

- Partially successful in building the Tunis District into an effective metropolitan planning institution, (no power to coordinate and monitor public investment programs by ministries and municipalities)
- Successful in assisting the Traffic Management Unit at the Municipality of Tunis become fully staffed, equipped, and an effective institution

Malaysia: Second Kuala Lumpur Urban Transport Project:

- Partially successful in building the capacity of K-L Traffic Management Department
- Temporary success in creating traffic wardens as an identifiable part of the police specialized for traffic management (enforcement of bus priority)
- Not successful in having a Highway Planning and Public Transport Unit set up in the Ministry of Transport

Philippines: Manila Urban Development Project:

- Successful in creating a Traffic Engineering and Management Unit, at the time in a special projects format, but seen as likely to become a “normal” part of the governmental structure. This took place in spite of the fact that much of the project-funded traffic improvements component was canceled because of cost overruns under the major roads component
- Successful as a similar unit formed in at least one secondary city

India: Bombay Urban Transport Project:

- Not successful in helping the Bombay Metropolitan Region Development Authority to become a full-scope metropolitan planning agency, especially in the transport dimension
- Successful in improving organization and management of BEST (public transport operator)

BOX 6: Institution-Building Initiatives in 1972–85 Projects (continued)

Cote d'Ivoire: Urban Development Project:

- Successful in the creation and building up the capacity of the Traffic Bureau in the Ministry of Public Works, initially focused on project execution but expanding into continuing traffic management activities (for later developments, see below Cote d'Ivoire: Second Urban Development Project)

India: Madras Urban Development Project:

- Successful in helping the Madras Metropolitan Development Authority become a key institution to plan and coordinate infrastructure projects without usurping the investment and budget powers of numerous sector agencies at state and local level
- Successful in helping create traffic management capacity in the Madras Municipal Corporation

Costa Rica: San Jose Urban Transport Project:

- Successful in building up the capacity for traffic management
- Not successful in establishing and building up the capacity of institutions to deal with road maintenance, public transport regulation, and general transport policy making
- Reasons: Too ambitious policy and institutional objectives, too many expatriate advisors, institutional volatility; and focus narrowed to implement investment parts of the project.

Brazil: Urban Transport Project:

- Successful in building up the capacity of the Brazilian Agency for Urban Transport (EBTU) to prepare, appraise, and monitor the implementation of investment projects

Thailand: Bangkok Traffic Management Project:

- Not successful in having the Urban Transportation Planning Office (national level) become a metropolitan planning institution capable of coordinating numerous national and metropolitan agencies dealing with traffic and transport
- Partially successful in setting up and building the capacity of the Traffic Engineering Department of the Bangkok Metropolitan Administration
- Partially successful in setting up, clarifying lines of responsibility, and building the capacity of the Traffic Police Division

Brazil: Second Urban Transport (Porto Alegre) Project:

- Successful in the setting up of the TRENURB, the new company operating the suburban rail line funded by the project
- Not successful in establishing the (state) Agency for the Coordination and Regulation of Urban Transport as a public transport authority for the Porto Alegre metropolitan area

India: Calcutta Urban Transport Project:

- Not successful in improving the organization and management of state-owned public transport operators
- No data on the Traffic Engineering Unit of the Calcutta Metropolitan Development Authority

Brazil: Third Urban Transport Project:

- Successful in further development of the EBTU's capacity for conceiving and implementing large investment programs
- Less successful in having the EBTU become a national policy-making institution for urban transport

BOX 6: Institution-Building Initiatives in 1972–85 Projects (continued)

Cote d'Ivoire: Second Urban Development Project:

- Traffic Bureau in the Ministry of Public Works, successfully established in the first Urban Development Project, weakened, its evolution into a planning and programming institution slowed down, if not stopped
- Institutional focus of the government shifted to a special agency for project execution based on expatriates.

Jamaica: Kingston Urban Transport Project:

- Successful in reorganization of the Ministry of Construction along functional lines and in setting up a Traffic Engineering Section therein
- Successful in building up the capacity of the Constabulary Force (traffic police)
- Ignored the needs of the new Transport (Regulatory) Authority

Tunisia: Second Urban Transport Project:

- Unsuccessful in creating an effective and sustained mechanism to coordinate urban transport policies and investments at the ministerial level
- Minimally successful in the training initiative
- Successful in carrying out a major program of urban transport studies, helping to build up the technical capacity of the Tunis District, but helpless to prevent the District's loss of decision-making power (in favor of ministries of public works, transport, and interior)

Brazil: Fourth Urban Transport Project:

- Because of loan cancellation, the project did not succeed in its ambitious program of institutional development at federal, state, and metropolitan levels.

engineers, economists, and financial specialists were not well equipped to deal with institutional change; and perhaps investment projects were not the most suitable instruments for introducing such changes. All reallocation of political and economic power has winners and losers; therefore the change process must include incentives and compensations to smooth the transition. Even a small reform, such as the change of authority over traffic signals, requires balancing gains

and losses between municipal engineering departments and the police. When changes are large and involve large funds—moving regulatory power over public transport from one institution to another, or the decision-making power over investment programs from a ministry (or ministries) to a local body—weighing of relative political powers and analyses of incentives and compensations are paramount and require special competences.⁴⁴

⁴⁴ Problems of institutional change continue to haunt today's urban transport projects (Kumar and Agarwal 2013).

WEAVING IT ALL TOGETHER

Most of the essential ideas put forward in the 1975 Urban Transport Sector Policy Paper (SPP) have stood the test of time:

- On the demand side: focusing on poverty, both in its place aspect (basic services in slums) and access aspect (corridor movements to centers of employment);
- On the road supply side: arguing for low-cost improvements to improve the performance of the available road infrastructure, while tilting toward adapting the infrastructure to give priority to non-motorized and public transport modes;
- On the provision of public transport: improvements to internal productivity and performance of public sector operators; improvements to operators' finances through reforms of the cost recovery policy; reallocation of street space to raise performance and reduce costs of public transport services; and unshackling private sector operators, in both conventional and paratransit formats;
- On policy and institutional aspects: treat them as essential components of development projects, alongside investments in works and goods; and
- On the planning and management of urban growth and urban transport: establish linkages and coordinating mechanisms.

The practice, as seen in the 20 projects reviewed above, adhered rather closely to the strategy. The biggest achievements were as follows:

- Improving basic infrastructure and services for poor residents; this was done both in freestanding urban transport projects and within multisector urban development projects, typically pairing transport and shelter programs;
- Demonstrating the immediate value of low-cost street and traffic improvements and initiating

requisite institutional developments (creation of traffic departments);

- Being instrumental in allocating scarce street space to exclusive use of public transport vehicles, or to pedestrians and other nonmotorized modes;
- Improving the performance of public transport operators through direct investments in fleets, structures, and equipment of public sector operators; and
- Helping to adjust regulatory policies to facilitate the operation and growth of private sector operators.⁴⁵

A major policy initiative in all the projects that involved urban public transport services was to improve cost recovery. This objective was achieved primarily through fare increases, but also through combinations of improved cost-efficiency of operators and payments of compensation and subsidies by governments. These efforts produced some positive results, but fell short of thorough and sustainable policy reform. Nominally, the problem for partner governments was the concern to keep fares low because of the poverty of many passengers, though facts on the ground in some cases indicated benefit leakages to less impoverished passengers. On the subsidy side, governments preferred ad hoc payments of operational subsidies and injections of capital to the making of contractual or quasicontractual arrangements with operators. These arrangements would have brought out into the open the unsustainable nature of then-prevalent fare policies. Decay in operator productivity and transport services, a direct consequence of the failure (incapacity) to pay

⁴⁵ The failed experiences with public-owned operators in Tehran and Calcutta do not contradict this assessment, but they do show the importance of thorough diagnostic work to gauge the health and potential of public sector operators seeking World Bank funding, apart from problems they may have had because of the fare and subsidy issues.

compensation and subsidies, apparently had lower political costs than fare increases. The use of public transport fare and subsidy policy as a political instrument by governments trumped the transport concerns and could not be reformed through urban transport projects (alone).

On the institution-building side, the best results were achieved with organizations engaged with processing investment projects and those engaged in traffic management, both directly related to project-funded investments. The effort to strengthen institutions for metropolitan management and development planning gave some positive results, but fell short in the essential dimensions of policy making and coordination of multisector public investments. If the combination of investment funds and technical assistance explains good results with project execution and traffic management, technical assistance alone did not suffice to produce the desired developments in metropolitan institutions. Given the dominance of national and state governments in most client cities, with only rudimentary moves toward decentralization, the effort to build strong metropolitan institutions through urban transport projects was probably premature.

Urban development regulation and planning was one area considered as essential in the strategy put forward by the SPP that found very little application in the actual practice. Some efforts were made in projects combining shelter and urban transport components, but practically none in the freestanding urban transport projects. When tried, outcomes were not positive, mainly because of divergence in what the client governments felt was the right strategy (slum clearance, subsidized shelter) and the strategy favored by the Bank (sites and services, cost recovery). In all likelihood, multisector urban projects, with or without urban transport components, were better suited as instruments to address urban development planning.

Looking at the strategy explicit in the SPP together with the project practice, from the vantage point 40 years later, two lacunae stand out.⁴⁶ The first is,

paradoxically, a by-product of the strong focus on low-cost road improvements and traffic management: a negative view and neglect of primary urban roads and, generally, urban road development. In cities with unprecedented growth of population, incomes, and motorization, it was not realistic to act as if the low-cost and traffic management approach would exhaust the action agenda on urban roads. Low-cost and traffic management should have been presented as a complement to a road-building activity, not its opposite or substitute. By overselling traffic management, the Bank did not stop the development of urban roads, or at least not for long. What it may have done was to keep the Bank out of urban road development in client cities. Furthermore, the stand discouraging large investments in new roads and public transport systems contradicted the strategic concern for urban development. A strategy that favors small-scale and low-cost investments is short on instruments to influence urban expansion patterns. A promising compromise approach would have been to engage with road planning in cities, thus having the opportunity to argue (and back up arguments with funds) for road design standards consistent with the rest of the Bank's strategic agenda, especially regarding road space dedicated to nonmotorized and public transport travel and guidance of urban expansion.⁴⁷

The second weak spot of both strategy and the practice was relative neglect of the funding dimension for urban roads. While the notion of cost recovery from direct beneficiaries was prominent in both shelter

⁴⁶ There is another weak spot, but one less specific than the two preceding ones. It concerns the generation and dissemination of ideas and experience. The SPP has very few references and no bibliography, making it difficult to know the scope of the literature and experience consulted during its drafting. This said, it is visible that the SPP is heavily based on Anglo-American sources

and ideas, in addition to being written by economists (i.e., without urban transport planners or experts in public transport operations). This fact is easy to understand, given the dominance of the U.S. and U.K. theorists and practitioners in the field of urban transport planning at the time. Still, it is also true that some cities in continental Europe (e.g., Copenhagen, Vienna, Zurich, Munich, and Lyon) were showcases of urban transport, in 1975 and now, superior to anything found in the United Kingdom or the United States. It is of course impossible to guess what would have happened if the best European urban transport experience were better represented in World Bank's urban transport work. One area where it may have had much to offer is the organization and regulation of public transport services, especially concerning public and private roles on the supply side, and funding. The French case would have been of great interest here, especially its introduction of a local transport tax ("versement transport"), which turned out to have been a catalytic event in the subsequent renaissance of urban public transport services in that country.

⁴⁷ Some projects actually did this on a small scale (e.g., the [First] Kuala Lumpur Urban Transport Project and the two projects in Abidjan [Cote d'Ivoire]).

and urban public transport components, no similar line of thought was pursued on the urban road side.⁴⁸ If there is a sector exhibiting rapid rise in demand, while also suffering from a lack of funds to maintain, operate, and expand the supply (urban road network), it is imperative to look at cost recovery from direct and indirect beneficiaries. An explicit look at the cost

recovery aspects of urban roads would have immediately led to a link with national road funding policies and further to efforts to develop a consistent and joint strategy for funding and pricing. Instead, the SPP and several projects focused on congestion charging as a demand management instrument, not as a cost recovery instrument.

⁴⁸ The same is true of the Owen paper (Owen 1973) that preceded the SPP and can be seen as its parent paper.

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ANNEX 1

TIMELINE OF URBAN TRANSPORT PLANNING MILESTONES PRECEDING THE 1975 URBAN TRANSPORT – SECTOR POLICY PAPER

- 1955** The publication of Matson et al.'s *Traffic Engineering*, the first textbook on this subject.
- 1962** The completion of the Chicago Area Transportation Study by a team led by J. Douglas Carroll, widely considered the “mother of all subsequent urban transport studies” over the next 40 years.
- 1963** Publication of Sir Colin Buchanan's *Traffic in Towns*.
- 1964** Publication of Reuben Smeed's *Road Pricing: The Economic and Technical Possibilities* (“The Smeed Report”).
- 1965** Publication of Meyer et al.'s book, *The Urban Transportation Problem*, addressing the situation in the United States, but resonating worldwide.
- 1968** Initiation by the U.S. Bureau of Public Roads of the first traffic management program, Traffic Operations Program to Increase Capacity and Safety (TOPICS), with 50-50 matched funding between the federal and state governments.
- 1968** Establishment of Urban Mass Transportation Administration within the U.S. Department of Transportation.
- 1971** A local transport tax (“versement transport”) is introduced in Paris, later extended to other cities. It is levied on enterprises with more than eight employees. The proceeds of this tax initially were used to finance capital investments in urban public transport, but subsequent addenda to this law expanded its use to include operating shortfalls of public transport operators.
- 1972** Approval by the World Bank Board of Directors of a loan to fund Kuala Lumpur Urban Transport Project in Malaysia, its first standard investment loan with “urban transport” label.
- 1972** Approval by the World Bank's Board of Directors of a technical assistance loan to fund Istanbul Urban Development Project.
- 1973** Publication of Wilfred Owen's “Automobiles and Cities: Strategies for Developing Countries” as a World Bank staff working paper, the first book-length treatment of this topic.
- 1975** Publication of World Bank's first “Urban Transport – Sector Policy Paper.”

ANNEX 2

BASIC DATA FOR 20 PROJECTS INCLUDED IN THE STUDY

Project Name	Country	Year ^a Approved	Year ^a Closed	Original Cost (US\$ millions)	Loan/Credit (US\$ millions)	Final Cost (US\$ millions)	Disbursed (US\$ millions)
Third Highway Project	Venezuela, RB	1969	1977	43.2	20.0	63.7	20.0
Kuala Lumpur Urban Transport Project	Malaysia	1972	1978	31.6	16.0	40.7	16.0
Istanbul Urban Development Project	Turkey	1972	1980	3.3	2.3	2.3	1.6
Tehran Urban Transport Project	Iran	1973	1977	65.9	42.0	NA	24.2
Tunis District Urban Planning and Public Transport Project	Tunisia	1973	1981	28.6	18.0	53.4	17.9
Second Kuala Lumpur Urban Transport Project	Malaysia	1976	1982	72.0	26.0	67.8	22.0
Manila Urban Development Project	Philippines	1976	1986	65.0	32.0	91.9	39.3
Bombay Urban Transport Project	India	1976	1984	50.5	25.0	45.0	25.0
Urban Development Project	Cote d'Ivoire	1976	1983	122.3	44.0	103.9	39.7
Madras Urban Development Project	India	1977	1982	52.0	24.0	62.3	24.0
San Jose Urban Transport Project	Costa Rica	1977	1983	31.5	16.5	32.1	16.5
(First) Urban Transport Project	Brazil	1978	1984	248.9	88.0	242.3	88.0
Bangkok Traffic Management Project	Thailand	1978	1982	34.0	16.0	12.5	7.6

Project Name	Country	Year ^a Approved	Year ^a Closed	Original Cost (US\$ millions)	Loan/Credit (US\$ millions)	Final Cost (US\$ millions)	Disbursed (US\$ millions)
Second Urban Transport (Porto Alegre) Project	Brazil	1980	1986	312.8	159.0	249.4	133.0
Calcutta Urban Transport Project	India	1980	1985	121.7	56.0	98.3	44.6
Third Urban Transport Project	Brazil	1981	1986	257.0	90.0	200.7	90.0
Second Urban Development Project	Cote d'Ivoire	1981	1987	104.0	51.0	88.5	50.9
Kingston Urban Transport Project	Jamaica	1984	1993	29.7	16.0	21.2	11.4
Second Urban Transport Project	Tunisia	1984	1993	82.5	33.0	72.1	33.0
Fourth Urban Transport Project	Brazil	1987	1992	468.2	200.0	NA	NA

^aCalendar year.

Note: NA = not applicable for "Final Cost"

NA = not available for "Disbursed"

ANNEX 3

PROJECT PROFILES

1. Venezuela: Third Highway Project (1969)
2. Malaysia: Kuala Lumpur Urban Transport Project (1972)
3. Turkey: Istanbul Urban Development Project (1972)
4. Iran: Tehran Urban Transport Project (1973)
5. Tunisia: Tunis District Urban Planning and Public Transport Project (1973)
6. Malaysia: Second Kuala Lumpur Urban Transport Project (1976)
7. Philippines: Manila Urban Development Project (1976)
8. India: Bombay Urban Transport Project (1976)
9. Cote d'Ivoire: Urban Development Project (1976)
10. India: Madras Urban Development Project (1977)
11. Costa Rica: San Jose Urban Transport Project (1977)
12. Brazil: Urban Transport Project (1978)
13. Thailand: Bangkok Traffic Management Project (1978)
14. Brazil: Second Urban Transport (Porto Alegre) Project (1980)
15. India: Calcutta Urban Transport Project (1980)
16. Brazil: Third Urban Transport Project (1981)
17. Cote d'Ivoire: Second Urban Development Project (1981)
18. Jamaica: Kingston Urban Transport Project (1984)
19. Tunisia: Second Urban Transport Project (1984)
20. Brazil: Fourth Urban Transport Project (1987)

THIRD HIGHWAY PROJECT (P008188)

Country:	República Bolivariana de Venezuela
Borrower:	Government of the República Bolivariana de Venezuela
Implementing agency and arrangements:	Ministry of Public Works through its Directorate of Transport
Concept review date:	June 1965 (first mention in files)
Board approval date:	June 10, 1969
Effectiveness date:	August 29, 1969
Closing date:	December 12, 1973 (original); June 30, 1977 (actual)
Instrument category:	Standard investment Loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	43.2 million
Financing plan (US\$):	Government of the República Bolivariana de Venezuela 23.2 million; World Bank 20 million (Loan 616-VE)
Final project cost in US\$:	63.7 million
Amount disbursed in US\$:	20 million
Diagnostic highlights:	<p>In the late 1960s, the metropolitan area of Caracas had a population of about 2 million, growing at 6 percent per annum. It was expected that population growth would slow down to 3.5 percent per annum, hinging on the success of the government efforts to discourage further development. Caracas had a heavy concentration of industrial, commercial, and administrative (government) activity, employing about one-fifth of the country's labor force. A combination of difficult topography (a valley 25 km long and only 4 km wide), a generally limited road space, and rapid motorization had led to persistent traffic congestion. This was at its highest in the main east-west urban corridor, where traffic was growing at 6 percent per annum.</p> <p>The motorization rate in the area was about 75 cars per 1,000 population and still growing rapidly (about 9 percent nationally in recent years). The passenger vehicle fleet included more than 150,000 cars, 9,000 taxis, and 900 buses. Of 2.7 million daily trips, cars carried 1.2 million, buses carried another 800,000, and taxis carried 500,000 trips. All bus operators were private and subject to minimal regulations.</p> <p>In response to traffic congestion, the government in the early 1960s started to construct a network of urban expressways and later on initiated a planning process for a metro system. There was a budding perception that the combined growth of population and motorization would generate traffic levels that the planned transport system could not handle. The planners' focus was therefore expanding to include traffic limitations, including road user charges. The existing charges (fuel and purchase taxes) were low, the revenues accounting for about 35 percent of all highway-related budget outlays, and inadequate as a management tool.</p> <p>The Transportation Department of the Ministry of Public Works was in charge of planning both expressways and the metro, while an Executive Committee for Transportation in the Metropolitan Caracas was set up to provide the overall coordination.</p>

THIRD HIGHWAY PROJECT (P008188)

Prior studies:	A feasibility study prepared for the Government of the República Bolivariana de Venezuela by the consulting firm Miller-Warden-Western (United States).
Project objectives:	None in explicit terms. The implied objective was to reduce vehicle operating costs, user travel time, and accidents on the road network.
Investment components:	<p>The project as a whole consisted of the following:</p> <ul style="list-style-type: none">(a) Completion of construction of the four-lane Cota Mil Expressway (name later changed to Avenida Boyaca), 21.5 km long, adjoining the northern part of Caracas, together with a connection to the Autopista del Este. This would involve about 14 interchanges and 6 km of access roads. Total costs would be US\$ 97.08 million (US\$ 44.7 million for works, 1.0 million for lighting, and 35.2 million for the right-of-way, plus 20 percent contingencies);(b) Reconstruction of Avenida El Panteon (US\$9.0 million for works, 6.0 million for the right-of-way, and 20 percent for contingencies); and(c) Consulting services for the preparation and supervision of works and for studies (US\$4.7 million). <p>Of the above, the World Bank would fund the works for the Cota Mil expressway costing US\$41.8 million including contingencies, and US\$1.4 million for consulting services, of which US\$0.3 million was for the study of road user charges for Caracas (see below)</p>
Policy components:	<p>None in explicit terms, either in the Staff Appraisal Report or in the Loan Agreement. The inclusion of funds for a study of road user charges implied a policy intention.</p> <p>Article V of the Loan Agreement has two covenants that could be construed as policy initiatives:</p> <ul style="list-style-type: none">1. Section 5.01(e) obliges the Borrower to use specific road design standards (listed in Schedule 5) for investments funded under the project, including <i>inter alia</i> axle loads and type of paving.2. Section 5.08 obliges the Borrower to carry out adequate maintenance on the national highways system, including the enforcement of size and weight of vehicles, without going into further details.
Institutional components:	None
Complementary/related operations:	The Second Highway Project, approved in 1964 with a loan of US\$30 million included two expressways in the Caracas metropolitan area, in addition to two trunk highways in southwestern Venezuela. At the time of loan approval for the Third Project, the Second was 95 percent complete, having experienced delays and cost overruns, some caused by right-of-way acquisition.

THIRD HIGHWAY PROJECT (P008188)

Status and results:

The construction of the Cota Mil Expressway was completed in 1977 and the loan was closed in that year. At completion, the Expressway carried 100,000 vehicles per day on the most loaded sections. This investment (and therefore the project) was seen as successful in both functional and economic terms. The Expressway was described in the Project Completion Report as “excellent, well-designed and well-constructed” and noted that its impacts would be even better had the surrounding street system near interchanges been wider. Ex post economic evaluation resulted in a rate of return of 25 percent in spite of a 4-year delay and 47 percent cost overrun (additional comments on this subject are below). The Completion Report also noted that the Expressway reached its capacity on all sections soon after the completion. This, and the analysis of the traffic patterns beyond the corridor, provided strong evidence that transport problems of Caracas could not be “solved” by road investments.

Delays and cost overruns had multiple causes, the main ones being numerous design changes, poor (incomplete) engineering designs, terrain-related problems, and difficulties in the process to relocate some 1,500 households to make the right-of-way available to contractors. All these combined to produce a fitful procurement process.

The road user charges study was carried out, with a high-quality output, but the government declined to implement the system of congestion charges recommended by consultants (additional comments below).

The two loan covenants cited above were not met. The project had some success in having the government focus on road maintenance, and the relevant budgets were increased, but not up to what was considered warranted. Also, the government was reluctant to enforce vehicle size and load standards.

The road user charges study:

The study of road user charges for Caracas was included at the request of the government. The firm of Allan Voorhees and Associates (United States) had been already involved in the planning of the Caracas Metro and was selected for this study. The team was led by Thomas Deen and had William Vickrey among its consultants. The terms of reference called for, inter alia,

- (a) Analysis of congestion costs in Caracas;
- (b) Calculations of appropriate user charges for periods of heavy and light traffic;
- (c) Review options for the collection of charges;
- (d) Design one or more structures of road user charges;
- (e) Review the administrative, legal, and fiscal implications;
- (f) For the period 1971–80, estimate traffic volumes and speeds, revenues from road user charges and investment levels for the transport sector in the metropolitan Caracas, for “with charges” and “without charges” scenarios, as well as “with metro” and “without metro” scenarios.

THIRD HIGHWAY PROJECT (P008188)

The study defined 12 charging methods and compared them using three criteria: (a) economic efficiency, (b) financial results, and (c) social equity. The recommendation of the study was to introduce a supplementary license fee for vehicles entering a designated area in the central business district, amounting to 6 Bolivar per day for cars, 20 Bolivar for taxis and shared taxis (“por puestos”), and 15 Bolivar for freight vehicles. (Note: The exchange rate was about 4.5 Bolivar per US\$). Buses would not be charged. The study also outlined the design and display of the license permits, sale method, and organizational and administrative arrangements. Finally, the study established a connection between a pricing strategy and road investment strategy, in which the former would be a demand management tool as well as the generator of investment funds for network expansion.

Lessons:

The course of project implementation indicated five important lessons:

1. Having good-quality engineering designs early in the project cycle;
2. Acquiring the right-of-way before the bidding process;
3. The need to expand the ex ante evaluation to encompass social impacts (e.g., relocation);
4. The failure of road expansion as a tool for solving urban transport problems; and
5. Limits to policy influence of the Bank in countries where, because of economic growth, funds are not scarce and the administration is well organized.

In addition, the project provided an early and striking illustration of unreliability of economic evaluation, both ex ante or ex post, for major urban road investments under highly congested traffic conditions. The ex ante rate of return for the Cota Mil Expressway was 13 percent, while the ex post analysis resulted in a rate of return of 25 percent in spite major cost overruns and delays, actual traffic levels lower than initially forecast, and a saturation of the new road immediately on completion. Evidently, the evaluation methodology imported from the experience with intercity roads did not work well where traffic volumes in either or both with project and without project situations correspond to the near-vertical domain on the travel time (cost) curve.

Team:

R. Paraud, M.S. Parthasarathi, G. Roth (Transportation Department)

Profile author and date:

Slobodan Mitrić, March 4, 2016

Key Documents of the Venezuela: Third Highway Project

Project Appraisal Document:

World Bank. 1969. *Venezuela - Third Highway Project*. Transportation projects series; No. PTR 12. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/1969/05/1556089/venezuela-third-highway-project>

Loan Agreement:

Legal ISC Files. 1969. *Venezuela - Third Highway Project: Loan 0616 - Loan Agreement - Conformed*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/1969/06/18177276/venezuela-third-highway-project-loan-0616-loan-agreement-conformed>

Project Performance Audit Report (includes Project Completion Report):

World Bank. 1978. *Venezuela - Third Highway Project – Project Performance Audit Report*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/515061468915676975/Venezuela-Third-Highway-Project>

Final report of the road user charges study:

Alan M. Voorhees and Associates, Inc. 1973. *Caracas road user charges opportunities and potentialities*. Washington, DC: World Bank Group. <http://documents.worldbank.org/curated/en/2015/10/25126417/caracas-road-user-charges-opportunities-potentialities>

KUALA LUMPUR URBAN TRANSPORT PROJECT (P004234)

Country:	Malaysia
Borrower:	Government of Malaysia
Implementing agency and arrangements:	Special unit formed in the Roads Division of the Federal Public Works Department
Concept review date:	July 1968 (first mention in files)
Board approval date:	July 6, 1972
Effectiveness date:	October 20, 1972
Closing date:	April 30, 1977 (original); January 19, 1978 (actual)
Instrument category:	Standard investment loan
Project type:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	31.6 million
Financing plan (US\$):	16.0 million IBRD loan (851-MA), the rest invested by the government
Final project cost in US\$:	40.7 million (no change in scale)
Amount disbursed in US\$:	16.0 million
Diagnostic highlights:	<p>A corridor through Klang Valley connecting the city of Kuala Lumpur (K-L) to Port Klang, all in the State of Selangor on the western coast of Malaysia, led the country's economic growth in 1960s. The country's main international airport (Subang) was built there, as well as two new towns, Petaling Jaya near K-L and Shah Allam near Port Klang. K-L metropolitan area (synonymous with Klang Valley region) had about 700,000 inhabitants in early 1970s, having doubled in 20 years; 450,000 were within the K-L City boundary. Average per capita income was US\$660 in 1970, but the entire area exhibited large income disparities, correlated with ethnic lines. In 1969, more than one-third of K-L City residents were squatters.</p> <p>Much of the new industrial and residential growth in the area took place in Petaling Jaya. Residences therein were sold on open markets. Hence they attracted mainly higher- and middle-income groups employed in commercial and administrative activities located in K-L's downtown. Inversely, the new industrial estates had to draw their employees from the K-L city. This planning mismatch had major consequences for daily transport patterns in the corridor. Also, investments in urban utilities (roads, water, sewerage) lagged behind various development schemes, resulting in poor communal services and becoming a barrier to further growth. At least some of these problems were caused by a fragmentation of responsibilities between the Federal Government, the Selangor State, and the Municipality of Kuala Lumpur.</p>

KUALA LUMPUR URBAN TRANSPORT PROJECT (P004234)

About 70,000 passenger automobiles were registered in the region in 1970, growing at about 10 percent per annum. Motorized two-wheelers (low-powered motorcycles and scooters), normally associated with mid-to-low incomes, also numbered 70,000, growing at 15 percent per annum. The motorization rate was about 44 passenger cars per 1,000 population, similar to Bangkok and Singapore at that time, but rose to about 92 vehicles per 1,000 population when motorized two-wheelers were included. About 45 percent of households had access to a motor vehicle. By 1985, this was expected to rise to 80 percent of households, in spite of steep license fees and taxes on both vehicles and fuels. Revenues from motor vehicles are more than eight times the total road expenditures by various levels of government.

Public transport services within and to K-L were provided by nine private bus companies operating 800 vehicles. One of them, Sri Jaya Company, carried two-thirds of 70 million annual passengers. Another 600 buses provide company services. Within the K-L city, it was estimated that buses carried more than one-third of all passenger trips. Private companies were profit making in spite of the fare staying unchanged at about US\$ 0.013 per mile since the 1940s.

A four-lane divided road (Route 2 or the Federal Highway) was constructed in the late 1950s in the Klang Valley corridor to facilitate growth processes. A parallel railway line served mainly the freight traffic. By late 1960s, economic development of the K-L metropolitan area, the concurrent population growth of about 5.5 percent per annum, and an even more rapid growth of vehicular traffic had progressed to the point where the road and its intersections at grade became a bottleneck to further development, specifically on the section passing through Petaling Jaya. (Note: This new town was growing at 12 percent per annum, and the vehicular travel in the area was growing at about that rate.)

Cars accounted for about 67 percent in this section of the Federal Highway, while two-wheelers accounted for close to 20 percent. Because it passed through the middle of the town, there were high volumes of pedestrian traffic across the highway. This situation resulted in a high risk for pedestrians but also reduced the road's practical capacity.

Prior studies and projects:

This project grew from recommendations of a UNDP-funded study, Transport Development in Malaysia, completed by Nathan Associates in 1969. The World Bank was an executing agency for this study. The relevant feasibility studies were completed in 1971 by Freeman, Fox, and Partners, under British financial assistance.

Development objectives:

Improve travel and access along and across a rapidly developing metropolitan corridor of the Federal Highway with special emphasis on the needs of public transport passengers, motorcycle riders, bicyclists, and pedestrians (Staff Appraisal Report, Chapter IV. B. 4.03-4.04). It is understood that this intervention alone would not suffice to resolve the transport problem in the larger metropolitan area. The project is seen as a first in a sequence, hence the inclusion of studies to plot the next steps.

KUALA LUMPUR URBAN TRANSPORT PROJECT (P004234)

The Project Completion Report (paragraph D 2.09) cites the following objectives, only the first of which was explicit:

- (a) Short-term traffic relief on Federal Highway (Route 2) between Kuala Lumpur and Petaling Jaya;
- (b) Set the stage for a comprehensive transportation planning and development effort in the K-L metropolitan area; and
- (c) Strengthen the Public Works Department's capacity for handling road projects of greater scale and complexity.

Monitoring indicators:

None

Project components:

- (a) **Road improvements (US\$19.5 million for construction plus US\$9.3 million for detailed engineering, supervision, land acquisition, service relocation, and project management):** improvement of about 6 miles of the Federal Highway from K-L through the new town of Petaling Jaya, including relocation of utilities, widening from two to three lanes in each direction (plus a 4,000-foot segment with four lanes per direction), dual 12-foot bicycle lanes along the highway, five grade-separated intersections, and three pedestrian bridges.
- (b) **Studies (US\$2.8 million):**
 - (i) Detailed engineering of about 137 miles of Route 1 leading from Kuala Lumpur toward Singapore (US\$1.9 million);
 - (ii) A study of the road maintenance organization of the Public Works Department (US\$240,000); and
 - (iii) Studies of transport problems in the Kuala Lumpur Metropolitan Area, with emphasis on policies and measures to improve public transport services feasibility study and preliminary engineering of complementary road improvements (US\$648,000).

Policy components:

None

Institutional components:

No explicit institutional component, but see item C in the section on objectives above.

Economic evaluation:

The analysis followed a standard predict-and-provide approach, based on the consumer surplus. A do-nothing option was considered unrealistic given predicted traffic growth, so a do-something option was used instead as a null alternative. The latter had construction costs of almost half of the selected design.

The internal rate of return for the road investment was 37 percent, including benefits from both vehicle operating cost and travel time; it was 22 percent if travel time benefits were excluded.

Key conditionality:

- (a) Government to ensure the proper use of cycle lanes. Note: The term "cycle" in this context refers to motorcycles (see diagnostic highlights above).
- (b) Government to initiate a program of periodic traffic counts and origin–destination surveys on federal roads in urban areas.
- (c) Land acquisition will be completed before awarding the construction contract.

KUALA LUMPUR URBAN TRANSPORT PROJECT (P004234)

Additional project features:

- A single contract award for the entire component (a) to be based on international competitive bidding, a first such instant for roads in Malaysia. Traditionally, roads were built by various levels of government using the force account.
- In parallel with the project, a regional planning study for Klang Valley, financed by UNDP, was to take place, to overcome the above cited fragmentation of developmental efforts.

Complementary and related activities:

A UNDP-funded Klang Valley Regional Planning and Development Study was being done in parallel with the project and was expected to identify priority infrastructure investments and produce terms of reference for the associated feasibility studies.

Status and results:

The project was completed in 1978, essentially as designed. Both the Project Completion Report and the Project Performance Audit Report rate it as successful, perhaps very successful.

Traffic volumes from the counts taken in 1979 are somewhat less than those forecast in the feasibility study, and construction costs were somewhat higher in real terms. Economic re-evaluation established an upper-bound rate of return of 30 percent, less than that estimated at appraisal but still quite high.

The project experienced delays and a jump in prices. Delays were caused by problems with land acquisition, stemming from the state government and not the federal government having had the power of eminent domain. Difficulties were also encountered with relocation of utilities, where again the Federal Public Works Department did not have authority over agencies in charge of utilities, and there was no project agreement with these agencies. Cost overruns for the relocation were the highest recorded under the project. There were also some delays in the beginning caused by contractor's relative inexperience with complex urban projects, apparently not noted in the prequalification exercise. The contractor, however, overcame these problems.

Price increases for some construction materials and services, following the oil shock of 1973, were extraordinary and threatened to bankrupt the contractor, since only a simple price variation formula was included in the contract. Ultimately, the government and the contractor renegotiated a new price escalation formula.

The new limited-access road had its startup problems, including accidents, in part because drivers had no prior experience with this type of road. Speed limits were introduced and relaxed only as the learning process unfolded. Fencing-off the improved road also encountered problems from residents used to liberal crossing over the old road.

The completion report considers the cycle lanes the most successful element of the project, in part because motorcycle traffic showed the highest growth rate of all categories, in part because the separation of four-wheel and two-wheel motor vehicles resulted in greater functionality, but also because benefits to cycle traffic went to lower-income groups.

KUALA LUMPUR URBAN TRANSPORT PROJECT (P004234)

The pedestrian overpass component was also judged to be successful, but the client (The Public Works Department) concluded that there should have been more overpasses in the project.

One of major successes of the project was in the institutional dimension. With direct assistance from external advisers, the Roads Division of the Public Works Department evolved from a small unit (five engineers) with no experience with large construction project and international competitive bidding to a 40-strong outfit.

The study of urban transport in the metropolitan area ended with dappled performance. The consultants produced a useful planning framework but recommended an investment program without reference to the funding capacity of the client. In the public transport domain, the consultants failed to consider the option of deregulation, possibly a defect of the terms of reference. The modeling effort was quite sophisticated but probably needlessly so and inappropriate in the Malaysian context. The Project Performance Audit Report considers that the Bank did not provide sufficient resources to supervise this study and made serious comments on the work only after the final report was delivered.

Subsequent projects:

The Second Kuala Lumpur Urban Transport Project, stemming from the Klang Valley study and recommendations of the K-L transport planning study funded by the current project, was approved in 1976 (Loan 1214-MA, P004245).

Team:

Identification through appraisal: Donald Strombom, Gabriel Roth, Calisto Madavo, Jacques Yenny, Robert Mulligan, William McCulloch, A. Bergan, S. Hara, N. Noon, R. Woodford.

Supervision: A. Bergan (principal), S. Agra, R. Woodford, G. Roth, H. Young, R. Venkateswaran, S. Sandstrom, D. Williams, K. Willen

Completion: Alan Walters, Richard Podolske

Profile author and date:

Slobodan Mitrić, September 23, 2014

Key Documents of the Malaysia: (First) Kuala Lumpur Urban Transport Project

Project Appraisal Document:

World Bank. 1972. *Malaysia - Kuala Lumpur Urban Transport Project*. Special projects series; No. PS 10. Washington, DC. <http://documents.worldbank.org/curated/en/1972/05/722428/malaysia-kuala-lumpur-urban-transport-project>

Loan Agreement:

World Bank. 1972. *Malaysia - Kuala Lumpur Urban Transport Project: Loan 0851 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1972/07/18179276/malaysia-kuala-lumpur-urban-transport-project-loan-0851-loan-agreement-conformed>

Project Performance Audit Report (includes Project Completion Report):

World Bank. 1979. *Malaysia - Kuala Lumpur Urban Transport Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/793401468914109948/Malaysia-Kuala-Lumpur-Urban-Transport-Project>

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

Country and region:	Turkey
Borrower:	Republic of Turkey
Implementing agency and arrangements:	Overall responsibility was given to the Ministry of Reconstruction and Resettlement, delegated to its Department of Metropolitan Planning, specifically its Master Plan Bureau for Istanbul, in association with the Municipality of Istanbul and the General Directorate of Public Works (Ministry of Public Works).
Concept review date:	July 1969 (first mention in files)
Board approval date:	June 27, 1972
Effectiveness date:	January 5, 1973
Closing date:	June 30, 1977 (original); June 30, 1980 (actual)
Instrument category:	Technical assistance credit
Project total cost at appraisal (in US\$):	3.3 million
Financing plan (US\$):	World Bank - 2.3 million (Credit 324-TU); Government of Turkey - 1.0 million
Final project cost in US\$:	2.3 million
Amount disbursed in US\$:	1.6 million
Diagnostic highlights:	<p>Turkey's post-WWII efforts to industrialize its economy were accompanied by a massive migration from rural area to cities. The Istanbul area alone received half a million new residents between 1965 and 1970, increasing its population to 2.8 million. Projections were for a 5.5 percent annual growth rate between 1975 and 1995.</p> <p>Urban expansion in the Istanbul area was neither planned for nor regulated, resulting in huge spontaneous settlements (gecekondus). These sheltered 35 to 40 percent of the total urban population and 50 percent of the area, but were largely devoid of water, sewerage, power, and streets. The poverty of services was not limited to gecekondu. Reasons for this situation included geographic, historical, and governance factors. Istanbul's topography was difficult: hilly terrain, the Bosphorus Straits separating the European from the Asian part of the area, without a single bridge, plus another watercourse, – the famed Golden Horn, bisecting the European side and crossed by only two overloaded bridges. Historically, the city development strategy was based on defense considerations, not on public infrastructure. Most of the metropolitan growth took place on the European side of Bosphorus, hampered by a lack of intercontinental road connections.</p>

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

The institutional setup when this project was being prepared in late 1960s and early 1970s was complex. In addition to the large Municipality of Istanbul (a population of about 1.8 million in late 1960s), there were about 30 smaller municipalities. There was no metropolitan government to handle matters transcending municipal boundaries. Instead, the integrating role was played by the national government, directly through ministries and their specialized agencies, and through provincial and district governments. The key instrument for exercising this power was money, since the majority of local taxes were collected by the national government. Municipal budgets were transfers from the national level, and the majority of investments were made directly by the national government.

In the 4-year period preceding the loan approval, the government created several new institutions specifically for the coordination of planning, investment decisions, implementation, and related measures for metropolitan areas. Specifically for the Istanbul area (and similarly for other urban areas), a Master Plan Bureau (MPB) was set up in the Department of Metropolitan Planning of the Ministry of Resettlement and Reconstruction. The MPB was a small agency, handling mainly physical planning for the Istanbul area, without functional linkages to investment planning by municipalities or by other sector ministries.

The advance of motorization in Istanbul was as rapid as that of population. Vehicle registrations went up fivefold between 1955 and 1970, to a total of about 106,000, of which there were about 60,000 automobiles; another 35,000 vehicles operated in Istanbul though registered elsewhere in Turkey. (These numbers are for the Istanbul province; the automobile category lumps together personal and business vehicles and all paratransit vehicles except minibuses.)

The transport system of Istanbul was road-based, except for ferries across the Straits. The street system was sparse with few arterials, narrow and wavy side streets, and not much space for expansion. The level of traffic management was low. Major arterial roads suffered from heavy congestion (were "choked" as the appraisal report stated). The highest level of congestion was in the central area of the European section, on each side of the Golden Horn, intensified inter alia by the presence therein of the main wholesale market. A first bridge across Bosphorus was being built, including major arterials feeding it on each side. This was to permit more urban development on the Asian side of the area along corridors meant to keep coastal zones free.

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

Public transport carried about 60 percent of daily trips. Conventional public transport services were provided by a division of the Istanbul Electric Tramway and Tunnel Authority (IETT), with a fleet of 900 buses (600 in service) and 100 trolley-buses (70 in service). In 1969, IETT serviced about 580,000 revenue passengers per day. IETT did not cover its operating costs from fare revenue, receiving subsidies from its electricity division, but not sufficient to rejuvenate and increase its fleet. The company also suffered from weak organization and management, including overstaffing, and a rigid system of routes and frequencies. Moreover, IETT was not a monopoly provider of transport services. About 16,000 paratransit vehicles (shared taxis and minibuses) carried as many, perhaps more, passengers as IETT, following a free-wheeling modus operandi of flexible routes, stops, and fares.

Prior studies:	The Special Projects Department carried out in 1971 a study: Istanbul – Review of Urban Development.
Objectives:	<ul style="list-style-type: none">(a) Assist in the preparation of an integrated urban development program for the Istanbul Metropolitan Area;(b) Assist in the development and integration of relevant local and national institutions and their instruments for planning, and implementation; and(c) Prepare a program of investment projects for diverse urban subsectors. <p>Note: This project was approved in the period when the term “objectives” referred to what the project was going to do (outputs), not what it was aiming to achieve (outcomes). Hence the objectives section is in essence identical to the list of project components cited below.</p>
Components:	<ul style="list-style-type: none">(a) Technical assistance for the preparation of an integrated urban development program for the Istanbul Metropolitan Area;(b) Technical assistance for development of institutions and their instruments to coordinate and implement the urban development program;(c) Technical assistance for preparation of priority investment projects, such as basic infrastructure in squatter settlements, new urban clusters, relocation of the wholesale market, wastewater disposal, and traffic improvements in the Municipality of Istanbul;(d) Technical assistance for preparation of an urban transport and land use model to serve as an aid for future investment decisions;(e) Training, fellowships, and seminars; and(f) Equipment and vehicles for agencies participating in implementation. <p>In total, activities under the project were expected to take 326 person-months by consultants and 564 person-months by Turkish counterparts.</p>
Policy components:	No explicit policy components other than those stated in Objectives, item (b).
Institutional components:	No explicit institutional components

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

Additional project features:

The planned urban transport and land use model was to be a tool for quick and inexpensive exploration of alternative future scenarios, in contrast to a then (globally) standard approach of producing an urban transport plan based on a “fixed” land use and traffic forecast. The model was to be taken over by Turkish counterparts and used in perpetuity within future planning activities.

Outcome:

The project had a history of delays and problems. Ultimately, it fell short of achieving any of its three objectives, though the degree of success or failure varies between individual initiatives.

Three main sets of factors explain this disappointing outcome. First, at the macro level, there was political instability in the country throughout the project life, fed by economic difficulties sparked by the oil price rise in 1973. There were frequent government changes, with a progressive loss of the political support that the project had at the outset of the preparation process. The second set of factors had to do with the complexity of the Turkish system of governance, especially regarding power and financial relations between and within the national and local levels. Third, the project design placed an inordinate load on its main implementing agency, the Metropolitan Planning Bureau (MPB), including the metropolitan planning, institutional change, and preparation of investment projects, in addition to changing itself. The MPB started as a small institution, with limited managerial and technical experience, meant for a narrowly defined task of physical planning. It had severe and long-lasting problems acquiring and retaining technical staff with requisite skills, the main reason for delays. There were continuous tensions between MPB and locally based functional agencies in Istanbul. Finally, there were problems between foreign consultants and their Turkish counterparts, most visibly manifested in the language barrier, but going beyond that to involve questions of confidence, differences in pay, and the allocation responsibility for outputs.

The flagship effort to create an integrated urban development plan fell short of expectations. A review of the existing plan for Istanbul was carried out, but a new plan was not made. Multiple actors involved (national and local governments, MPB, its consultants, and the Bank) could not agree on key elements of the strategy (i.e., those regarding gecekondu improvements and urban cluster developments). For example, the Turkish side favored cluster development and major roads, while the Bank argued for low-income sites and services. The consultants did recommend a new institutional setup for the area and MPB subsequently was charged with drafting the corresponding legislative documents. The Turkish politics of the moment obstructed any further advance in this dimension.

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

The three investment preparation studies had widely different results. **The study for the relocation of the wholesale market** stopped at the interim report stage. While the study was being done, the originally agreed on new site was gradually occupied by squatters (eventually 2,000 families) and a new site could not be found. **The wastewater study** was completed in 1975, but the Bank-funded wastewater disposal project did not materialize until 1982, the delay needed for the government to establish a regional agency for water and sewerage (in line with legislative proposals made by the consultants and the MPB cited above).

The traffic management study for Istanbul was completed by the MPB staff assisted by the consultants originally commissioned to work on the transport and land use study (see below). The proposals coming out of this study, together with those made in another study regarding the organization and finance of IETT (see the box on related projects below), were used to prepare an urban transport project for Istanbul to be funded by the Bank. This project stopped at the appraisal stage because IETT management at that time did not endorse the key changes they would have to make in the company's organization and management. Eventually, outside this project, many of the traffic and IETT improvements were implemented.

The transport and land use study advanced only to the end of the first phase (model construction and calibration) and some trial runs to define and evaluate some investment. The second phase (definition and evaluation of alternative land use scenarios, transport investments, and policies) did not take place. The client (MPB) felt that the model exceeded the capacity of its computer system, faced the flight of some of its (Turkish) staff, and there were persistent doubts about benefits of using foreign consultants. The entire project at that time (after 1975) was losing the support of the government. Altogether, the institutional milieu in Istanbul and the country had not advanced to a point where a model of this kind could be readily incorporated into planning and decision-making processes. Most of Turkish professionals trained in the context of this study left the MPB for jobs abroad, in Europe and the Middle East.

The Project Completion Report and its audit concluded that, for a project of this kind, much more thorough diagnostic work had to be done to understand the local culture, institutional capacity, and power relations. This effort would have helped moderate the ambition to introduce change. The reports also underline the importance of establishing goals and priorities during project preparation and proceeding only when the government's commitment is assured and made part of the legal agreements. The audit also concluded that the selection of the MPB as the main institution for numerous and very diverse project activities probably was not warranted, because of its limited capacity and authority. It probably would have been better to have started with a simpler, subsector investment project, with implementation responsibilities assigned to functional agencies and a generous provision for training local staff.

ISTANBUL URBAN DEVELOPMENT PROJECT (P008899)

Complementary and related operations:

Istanbul Water Supply Project was prepared and negotiated in 1972, in tandem with this project, involving a US\$37 million loan (Loan 844-TU).

A US\$14 million loan for the Istanbul Power Distribution Project was approved in 1973 (Loan 892-TU). This loan included funds to study operational, administrative, and financial aspects of IETT and the overall urban public transport regulatory setup. The study was completed in 1975. Together with the above-cited program of traffic improvements, a potential Bank-funded transport project for Istanbul was formally identified in 1975, but its preparation was stopped in 1976 because of IETT's management rejection of some of its proposals (separation from the electricity company and reorganization of management), in addition to the government's change of priorities.

A loan for sewerage in Istanbul was approved in May 1982 (Loan 2159-TU), with the project design based on a wastewater study funded by the project under review, completed in May 1975. The delay was caused by waiting for the establishment of the Istanbul Water Supply and Sewerage General Directorate, which took place in November 1981. An interim arrangement to satisfy loan covenants for the 1972 project was to establish a Municipal Union for Water Supply and Wastewater Disposal.

Team:

Appraisal: G. A. McBride, E. R. Rotner, R. Venkateswaran, (Special Projects Department); C. Tager and I. Ozusta (consultants).

Profile date and author:

Slobodan Mitrić, April 28, 2015

Key Documents of the Turkey: Istanbul Urban Development Project

Project Appraisal Document:

World Bank. 1972. *Turkey - Istanbul Urban Development Project- Staff Appraisal report*. Special projects series; No. PS 12. Washington, DC. <http://documents.worldbank.org/curated/en/1972/06/722414/turkey-istanbul-urban-development-project>

Loan Agreement:

World Bank. 1972. *Turkey-Istanbul Urban Development Project: Credit 0324 - Credit Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1972/06/18224028/turkey-istanbul-urban-development-project-credit-0324-credit-agreement-conformed>

Project Performance Audit Report (includes Project Completion Report):

World Bank. 1983. *Turkey - Istanbul Urban Development Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/180751468914353086/Turkey-Istanbul-Urban-Development-Project>

TEHRAN URBAN TRANSPORT PROJECT (P005205)

Country:	Iran
Borrower:	Government of Iran, in part on-lent to the City Government of Tehran and to United Bus Company (UBC)
Implementing agency and arrangements:	<p>(a) For the public transport component: the general manager of the UBC assisted by an Economic and Technical Advisory Group, a joint body of UBC managers and foreign consultants to be set up under the project;</p> <p>(b) For the Traffic Circulation component: a Traffic Planning Manager appointed by the Mayor of Tehran; and</p> <p>(c) For the policy and planning studies relevant to urban and transport development: Secretariat of the Tehran Development Council.</p>
Concept review date:	June 1970 (first mention in files)
Board approval date:	August 7, 1973
Effectiveness date:	July 19, 1974
Closing date:	June 30, 1977 (original and actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	65.9 million
Financing plan (US\$):	42.0 million WB (Loan 952-IRN; 17.8 million canceled at loan closing)
Final project cost in US\$:	Not available
Amount disbursed in US\$:	24.2 million
Prior studies:	Transport Study for the Metropolitan Area of Tehran, carried out by SOFRETU (France), was financed under the Iran Fifth Road project (Loan 697-IRN). One of its first outputs, in 1971, was to design a package responding to immediate transport needs. SOFRETU recommendations were the basis for this project. Longer-term recommendations were delivered when the project was underway.
Diagnostic highlights:	Iran's economy grew at 11 percent per annum in the period 1967–71, with accompanying rapid growth of urban populations and motorization. These processes overwhelmed the financial and institutional capacity of urban governments, resulting in chaotic development patterns and severe performance problems in urban infrastructure and services: housing, water, sewerage, waste collection, and transport. Average per capita income in Iran was US\$480 per year, with high inequality, in part because of migrants coming from villages looking for employment. Expenditures per capita of one-fifth of urban households were four times as great as for the rest of urban households. These developments took their most extreme form in the capital, Tehran Metropolitan Area.

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In 1973, Tehran had about 3.8 million inhabitants (from 1.7 million in 1956), growing at 6 percent per annum. Much of its expansion was taking place in the form of sprawl, largely independent of the stipulation of the 1966 Master Plan, itself an overconstrained and rigid instrument based on serious underestimates of growth rates. Most jobs went to the overloaded center city, hence long commutes. Income disparities were striking: the average 1972 income was \$820 per capita, whereas for 62 percent of the population it was \$305 or less.

There were about 140,000 passenger cars registered in the area, plus 35,000 other four-wheel motor vehicles. There were also over 100,000 bicycles and about 40,000 motorized two-wheel vehicles. Instances of overconcentration of activities, especially employment densities in the central Tehran, poor physical layout of the road infrastructure (discontinuities, poor connection between radials, insufficient secondary road network), and weak traffic management contributed to highly congested traffic even at the then low level of vehicle ownership (less than 50 autos per 1,000 residents). Only about 25 percent of the population of Tehran (15 percent of households) had access to cars; 85 percent of motorized daily trips were carried by faltering public transport services and taxis.

Intraurban public transport services were provided by the city-owned United Bus Company (UBC) with about 2,350 vehicles, but only 62 percent utilization rate. Difficulties on the operational (cost) side and revenue collection (fares constant over a 10-year period and high rate of fare avoidance) led to UBC's weak financial position, with the well-known negative feedback loop of deteriorating services and dwindling passengers. A direct cost recovery from fare revenues was 58 percent in 1972. The company received occasional cash advances and long-term loans from the government, but not enough to achieve financial stability and make overdue investments and other improvements.

UBC's problems contributed to transport by taxi becoming a growth sector. The main taxi category, 2,300 service taxis, with fixed itineraries and fares, saw a fleet growth of 65 percent over the preceding 3 years. Even more numerous were orange taxis with on-request, shared services. Altogether taxis carried nearly 30 percent of all public transport trips. Suburban services were provided by 64 private operators regulated by the Ministry of Interior but without oversight and coordination of routes and schedules. These services were profit making and their traffic was growing.

Development objectives:

Investment components of the project were oriented toward remedial, short-term measures, the main objectives being to restore public transport services to a reasonable level and arrest further increase in street congestion. The longer-term objectives, said to be the most important under the project, were to lay an institutional and planning framework for urban and urban transport development. The project was conceived as a first step in a longer-term World Bank engagement in Tehran.

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Monitoring indicators:

No “contractual” indicators at loan approval, pending the study to be carried out by consultants to the Economic and Technical Advisory Group. The Staff Appraisal Report provided a set of indicative targets:

- Passenger trips (in million): 700 in 1973, 950 in 1978;
- Percentage of overload: 20 in 1973, none in 1978;
- Average waiting time (minutes) in peak periods: 15 in 1973, 5 in 1978;
- Maximum waiting time (minutes, 95th percentile) 30 in 1973, 10 in 1978;
- Fleet availability (in percent): 72 in 1973, 85 in 1978;
- Fleet utilization (in percent): 64 in 1973, 85 in 1978;
- Diesel consumption (l/100 vehicle-km): 62 in 1973, 35 in 1978; and
- Number of breakdowns per 10,000 vehicle-km: 20 in 1973, 1 in 1978.

Investment components:

- (a) **The UBC component (US\$39.9 million)** consisting of actions to improve public transport services:
- (i) Purchase of new 250 standard buses and 115 double-decker buses (US\$23.1 million). This was considered a minimum purchase, with ongoing studies expected to show whether more vehicles would be warranted;
 - (ii) Repair of 235 existing buses and rehabilitation of further 635 buses (US\$5.6 million);
 - (iii) Construction and equipment purchase for two bus depots each for 250 vehicles (US\$1.9 million); and
 - (iv) Technical assistance to the Economic and Technical Advisory Group to develop an action plan covering UBC’s operations, management, and finance (US\$0.5 million).
- (b) **Street traffic improvements (US\$19.6 million):** Introduction of a system of one-way streets; construction of five underpasses; various intersection improvements including realignment, channelization, and signs; surface improvements on two squares and diverse street improvements over a length of 43 to 60 km in the southern part of the city; and traffic signals on each main corridor.

Policy components:

A reform program for UBC meant to improve its operations, services, and finances, notably

- (a) Development of a set of operating and financial performance targets against which the results of an agreed reform plan would be monitored and controlled;
- (b) Introduction of a cost accounting system;
- (c) Revaluation of UBC’s assets;
- (d) A revision of UBC’s fare schedule so as to achieve at least a 25 percent increase in its operating revenue; and
- (e) A schedule for operating and capital subsidies from the government to UBC (further details are in the section Agreements and Covenants below).

Items (b) through (e) indicate a desired move toward UBC’s financial self-sufficiency.

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No other policy initiatives were included in the Loan Agreement. The Staff Appraisal Report cites what is implicitly a new traffic management policy: an understanding that the Government would pursue longer-term policy recommendations of the SOFRETU study, including better use of the available road network and public transport provision; pricing and investment policies to discourage the use of automobiles; and demand management through urban growth policies, meant to reduce the need for travel.

Institutional components:

- (a) Introduction of a position of Traffic Planning Manager attached to the Mayor's office (appointment was a condition of loan effectiveness). (Loan Agreement, Section 8.01(d)).
- (b) Transfer of responsibility for traffic signals from the Traffic Police to the city government (if not done, the national government would have to implement the traffic control subcomponent).
- (c) Creation of an Economic and Technical Advisory Group for the UBC.
- (d) Studies (other than for the investment components cited above):
 - (i) Long-term urban and regional planning study for the Tehran area (US\$2.2 million plus contingencies); and
 - (ii) Long-term transport planning study for the Tehran area (US\$3.5 million plus contingencies).

Additional project features:

In parallel with the project preparation process, a legislative proposal to create a Tehran Development Council (TDC) was introduced to the Parliament in June 1973 and eventually approved. The council was envisaged to have three functions:

1. Establishment of government-wide urban development policies;
2. Coordination and control of actions affecting urban development of the Tehran area on national, municipal, and private levels; and
3. Carrying out (directly or through consultants) of the requisite planning studies.

TDC would be governed by a High Council chaired by the Deputy Prime Minister and include the Mayor of Tehran and relevant sector ministers. A Secretariat (headed by a Secretary General) would be staffed to provide the technical support to the High Council.

At negotiations, the government provided assurances that consultants to the TDC will be commissioned to draft a medium-term plan of action and investment policy guidelines for major infrastructure investments for the area.

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Agreements and covenants:	<ul style="list-style-type: none">(a) Following the requisite studies carried out under the TDC, the government will adopt a long-term transport system plan, carry out subsequent detailed design studies, and review these with the Bank (Loan Agreement, Section 3.07 (a));(b) The government will provide the UBC a grant, to be paid on quarterly basis, sufficient to cover the (local) capital expenditures for the investment program cited above, in addition to on-lending loan funds for this component (Loan Agreement Section 3.02 (ii));(c) The government will provide to the UBC a grant, to be paid on quarterly basis, to cover the difference between UBC's operating income and its operating expenses (including depreciation) plus debt service requirements (Loan Agreement, Section 3.02 (iii));(d) Following the UBC study and on recommendations by the UBC's Economic and Technical Advisory Group regarding the company's operational, management, and financial actions, the government will take actions necessary on its part to have these actions carried out (Loan Agreement, Section 4.02);(e) Included in the Staff Appraisal Report (but not in the Loan Agreement) is the assurance that the government will cancel all loans that the UBC had received from the government, followed by the introduction of a cost accounting system for the UBC and a revaluation of its assets.
Economic evaluation:	<p>Economic evaluation done for the UBC component resulted in an internal rate of return of 10 percent when only monetary benefits are taken into consideration, but jumping to 36 percent when travel time savings to passengers are added.</p> <p>For the traffic improvement component, an internal rate of return of 14 percent was estimated, giving a weighted average rate of 28 percent for the project.</p>
Complementary and related operations:	None in Iran, but similar urban transport projects were being implemented in Tunisia and Malaysia.
Status and results:	<p>The project had a difficult history and failed to meet its objectives across the board.</p> <p>In the public transport component, operational and service improvements did not materialize because of failure on both investment and policy sides. The only investment item that was completed involved a purchase of 150 standard-size buses and 250 double-decker buses from Leyland Motors Iran, for a total of US\$21.5 million (taxes included), the last batch of which arrived in late 1976, 3 years after the project started.</p> <p>The bus rehabilitation subcomponent was canceled after a pilot rehabilitation of two standard and two double-decker buses revealed that, contrary to conclusions at the time of project appraisal, proceeding with vehicle rehabilitation and repairs would not be economically justified, not least because UBC was found to lack the technical and managerial capacity for this job.</p>

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The procurement processes for the construction of the two planned bus depots and for the purchase of maintenance equipment started, but got bogged down at various parts of the procurement cycle for various items because of misunderstandings about the rules spelled out in the loan agreement (e.g., the imperative of international competitive bidding). For depot construction, UBC in essence proceeded on their own, following local procurement procedures, in part to make use of local funds that had become available.

The key item on the policy side, fare increases, was not implemented. This was because of political sensitivities, given that the majority of bus passengers were from lower-income households. The financial position of UBC took a serious turn for the worse, with the operating loss for the year 1976–77 forecast at three times the operating revenue. The government failed to sign the on-lending agreement with UBC, preferring instead to pass both its contribution and the loan funds as capital grants. This action had become possible because of increased government revenues.

The **traffic improvement component** initially had some successes in that a Traffic Manager was appointed, though with merely three technical staff that office was not up to the job at hand. Also, the responsibility for traffic signals was transferred from the Traffic Police to the municipal government. On the contrary, the traffic investment component did not get off the ground at all. It took until March 1975 for consultants to be commissioned and another year to prepare requisite plans and designs. In March 1976, an action plan for the following year was developed by the consultants, accepted by the Tehran City government and the Bank. The plan focused on improvements meant to benefit public transport vehicles and pedestrians (bus priority lanes, bus priority at signals, pedestrian crossings, parking control, etc.). This done, however, the city went ahead with implementing their own ideas and paid for them by own funds rather than the loan proceeds. These actions included street widening at the detriment of sidewalks, removal of pedestrian crossings, one-way circulation schemes to benefit cars, multistorey parking silos, and prefabricated overpasses. Another attempt to get the progress back on the agreed track was made later on in 1976, with the same result. The consultants were ignored and their contract expired in February 1977.

In **the urban transport planning initiative**, the consultants produced a long-range development plan, with a metro as its crowning feature. However, a team of experts commissioned under the project to review this plan concluded that it had been based on an implausible demand forecast (itself based on an outdated urban development plan for Tehran) and had not looked at promising, lower-cost options, notably bus rapid transit. Before the review team had a chance of delivering its final report, the government (at the national level) opted to pursue the metro.

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The urban planning initiative had a similar destiny. Consultants were commissioned to assist the TDC with its gradual evolution into an urban planning institution with decision-making powers and with the work on a new urban development plan. Initial proposals by the consultants were not heeded, the city continuing the practice of ad hoc decisions regarding land use and infrastructure in central Tehran and ministries doing the same in the wider urban area. By 1976, the consultants' scope of work was reduced to a study of broad strategic alternatives for urban development, without any operational involvement. The final report was produced nearly a year after the loan was closed and is not known for having had any impact.

Toward the end of the project implementation period, the Bank management concluded that there was a continuing lack of commitment by the client concerning the objectives of the project, at all three levels (national, city government, and UBC). In fact, the client's actions were in opposition to what had been agreed or newly proposed within the project effort. Moreover, it was concluded that the counterpart institutions lacked capacity to make requisite changes.

The key exogenous event that affected the project was a huge increase in Iran's oil revenues starting in 1973, just a few months after the loan was negotiated. Its immediate consequence was to make ample funds available on both national and urban level, and also increased household revenues, thus accelerating motorization.

To continue with the project in these circumstances would have required major staff resources with still low likelihood of success. Accordingly, the Bank let the loan agreement expire on the original loan closing date. The undisbursed balance of US\$17.8 million was canceled.

The key lesson drawn in the Project Performance Audit done by the Operations Evaluation Department was to make entry operations simpler, so as to learn more about the capacity and culture of local institutions before a more complex operation is designed.

The Audit Report also recommended that a drastic change of a country's circumstances, such as happened under this project, should trigger an immediate reassessment and possible redefinition of the project. On the subject of fare increases, the audit concluded that more flexibility should have been shown by the Bank, especially as low fares benefited mainly lower-income passengers.

Subsequent projects:

Tehran Transport Emissions Reduction Project, funded on grant basis through the Global Environment Facility, was approved in 1993 (P005114).

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Additional comments (by profile author):

1. Given that the gap between costs and revenues was generated not only by low fares and fare fraud, but also by inefficiencies in the service provision, the team may have used a composite indicator, such as cost recovery ratio.
2. The conflict over the metro proposal was very likely the first such situation to arise in the context of a Bank-funded operation, the first in a long sequence of such conflicts. The expert team referred to above included John Kain and Michael Beesley, both among the best known transport economists of that time.

Team:

Project preparation team: R. A. Sison, P. Ljung, R. Venkateswaran, G. S. Aiyer (Staff); K. Hansen, G. Hughes, K. Strong, M. O. Smith, I. Ozusta (consultants). Completion report: Peter Midgley

Profile author and date:

Slobodan Mitrić, November 24, 2014

Key Documents of the Iran: Tehran Urban Transport Project

Project Appraisal Document:

World Bank. 1973. *Iran - Tehran Urban Transport Project – Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1973/07/727199/iran-tehran-urban-transport-project>

Loan Agreement:

World Bank. 1973. *Iran - Tehran Urban Transport Project: Loan 0952 - Loan Agreement - Conformed*. Washington, DC. <http://documents.worldbank.org/curated/en/1973/08/18179773/iran-tehran-urban-transport-project-loan-0952-loan-agreement-conformed>

Project Performance Audit Report (includes Project Completion Report):

World Bank. 1978. *Iran - Tehran Urban Transport Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/128091468914069184/Iran-Tehran-Urban-Transport-Project>

TUNIS DISTRICT URBAN PLANNING AND PUBLIC TRANSPORT PROJECT (P005614)

Country:	Tunisia
Borrower:	Republic of Tunisia
Implementing agency and arrangements:	District of Tunis (overall supervision of project execution and implementation of its own program); Municipalities of Tunis and Sfax, and Société Nationale des Transports (SNT)
Concept review date:	February 28, 1972 (first mention in files)
Board approval date:	August 7, 1973
Effectiveness date:	September 24, 1974
Closing date:	December 31, 1976 (original); December 31, 1981 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	28.6 million
Financing plan (US\$):	IBRD Loan 937-TUN- US\$11 million; IDA Credit 432-TUN - US\$7 million; UNDP - US\$0.85 million for the Tunis District study program; Tunisian banks - US\$6.1 million (for the SNT bus component); Government of Tunisia - US\$3.6 million
Final project cost in US\$:	53.4 million
Amount disbursed in US\$:	17.9 million
Diagnostic highlights:	In the early 1970s, Tunis dominated the country, holding more than a half of the nation's construction, commerce, administration, and other white-collar jobs. Per capita income in the Tunis metropolitan region was US\$450 in 1971, about twice the national average, and four times that in the rural areas. The region more than doubled its population between independence in 1956 (400,000) and 1972 (900,000). The Municipality of Tunis, the largest and most densely populated, had in 1972 about 560,000 residents. The regional forecast was for 1.5 million inhabitants by 1980, with both a natural growth component and in-migration from the countryside. The city and its region were not in a good shape to absorb the expected demographic wave.

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The topography was challenging. The two cells of the central city, the historic dense Medina and its modern “European” twin, were squeezed on a narrow band between the Lake of Tunis and the mountains. All regional and interregional traffic passed through this tight space. Already the crowding in the center had produced a batch of little-controlled developments at the periphery, with industry in the south, squatter settlements in the west, and higher-income suburbs in the north. Institutions to manage public infrastructure and plan its extensions were not up to the challenge. Most decisions affecting the metropolitan region were made by sector ministries, with weak coordination among them. There was an institutional gap between the dominant municipality (Tunis) and sector ministries. In recognition of this problem, in 1972, the government set up the Tunis District, an agency charged with planning, programming, and supervision of public investments for the metropolitan area. The district was to be governed by a board of regional representatives chaired by the Governor-Mayor of Tunis, but with decision-making power vested in a ministerial-level council chaired by the Prime Minister.

The transport problems went well beyond those generated by a mismatch between road infrastructure and the aggregate of local, regional, and national traffic. Travel was dominated by school trips (more than half of the total) and work trips. Walking was the major travel mode, accounting for 70 percent of all trips; public transport carried 22 percent (73 percent of motorized trips), and autos only 5 percent (about 17 percent of motorized trips). The low modal share of the automobile was caused by a low level of motorization. Some 45,000 motor vehicles, of which 31,000 automobiles, were registered in the capital area. Another 20,000 autos were registered elsewhere but operated in Tunis, giving a motorization rate of only 40 to 50 vehicles per 1,000 population. Still, peak hour speeds were about 12 km/h, and the central area was clogged. The structural constraints on street development, the absence of alternative regional and national routes, and a low level of traffic engineering and management combined to generate considerable traffic congestion in the central area even with such a small number of cars. If the level of service for autos was low, it was much worse for the main mode of motorized travel: public transport.

SNT, a state enterprise, provided extensive services (50 urban and suburban lines totaling 500 km) with a fleet of 360 standard-size buses. SNT also operated a 20-km suburban railway Tunis–LaGoulette–La Marsa (TGM), which linked the downtown with townships on the narrow strip of land between the lake and the Mediterranean. TGM’s infrastructure and rolling stock dated from early 1900s. Also, the national railway company (SNCFT) provided suburban services on a 17-km corridor south of the city.

At the time of project appraisal, SNT employed a total of 2,640 staff, of which 1,500 people worked on the bus system. When SNT’s trolley-bus and taxi operations were discontinued, many of the surplus staff were retained as a social service. SNT’s fleet was aged and small relative to the demand, and the supporting maintenance and repair facilities were in poor shape. In addition, buses operated in a difficult street environment, which increased their operating costs and reduced the level of service to passengers. Commercial speed of buses during peak hours of travel was about 10 km/h and waiting was long.

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Through 1971, SNT still recorded a modest net operating income, but this was because of deferring maintenance and replacement. This practice had reached its end, both on service quality grounds and the likelihood of a deficit in 1972. (SNT's interurban operations were close to a deficit already in the preceding year.) On the revenue side, the government dictated low general fares on social grounds and very low fares for some classes of passengers. Especially privileged were school children: they accounted for 32 percent of all passengers but contributed merely 5 percent of total revenue. SNT's statute provided for annual compensation of the difference between general fares and special fares, but the company had not made use of this provision until 1972. Similarly, general fares were neglected; in the preceding 20 years, there had been only one fare increase, in the late 1960s.

Prior studies:

Feasibility studies, commissioned by the government in early 1972, were carried out by BCEOM (for the SNT bus system) and SOFRERAIL (for the TGM suburban rail system).

Development objectives:

- (a) Establish effectively the Tunis District, the first metropolitan planning authority in Tunisia, and to build up its capacity to plan, program, and supervise public investments; and to design urban policies for the region.
- (b) Improve public transport services in the capital.
- (c) Improve traffic conditions for both private and public transport in Tunis, guided by an approach involving traffic restraint.

Monitoring indicators:

None in the loan and project agreements; a system of operating and financial performance targets for SNT to be established by April 30, 1974 and thereafter reported by the company every 6 months, with an annual review to include the government, the district, and the Bank (Project Agreement, Section 3.06).

Investment components:

- (a) **Tunis District Study Program (US\$1.7 million for technical assistance):** (i) Initial phase and permanent responsibilities (general urban strategy and planning studies, including studies of land development and transport policy; public investment coordination and programming exercise; supervision of diverse activities, including the current project); (ii) special policy studies; and (iii) feasibility studies.
- (b) **SNT Public Transport (US\$24.8 million):** Procurement of up to 210 buses and spare parts, and a new bus maintenance depot at Bir Kassa; modernization of the suburban rail line TGM, including a purchase of 26 electric railway cars, signaling equipment, and other materials required for the track renovation; and technical assistance for both managerial and technical matters.
- (c) **Traffic engineering improvements in the Municipality of Tunis (US\$1.8 million):** Redesign and reconstruction of six major intersections; synchronization of signals at these improved intersections; installation of traffic signals at 15 intersections; construction of pedestrian underpasses at 5 major squares, including two of the improved intersections; and technical assistance to the Municipality of Tunis with regard to data collection and bus priority schemes. The content of this component subject to modifications depending on the outcome of the transport policy study to be carried out within the study program of the Tunis District.

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(d) **Urban Study for Sfax (US\$319,000):** Evaluation of development options recently proposed by the government, and elaboration of projects deemed suitable for external funding.

Policy components: Reallocate street space to exclusive use of public transport vehicles.

Institutional components: Build up the Tunis District into a metropolitan planning organization.

Major loan conditionality: Conditions of loan effectiveness:

- (a) Issuance of a decree specifying Tunis District's organization, staffing, financial authority, and relations with other agencies (Loan Agreement, Section 8.01 (d)). (Note: A draft decree was agreed at loan negotiations.)
- (b) Hiring of staff in the district qualified to serve as counterparts to consultants to be funded under the project;
- (c) Establishment and maintenance of a Technical Coordination Committee for the project, composed of decision-making officials of interested ministries and public agencies (Loan Agreement, Section 4.03 and 8.01 (e)).

Covenants:

- (a) The government shall not undertake new commitments to arterial highway investments in the District of Tunis, including the (north-south) expressway Z4 and La Goulette to La Marsa highway (parallel to TGM) until the urban transport policy study is completed and the district has consulted with the Bank (Loan Agreement, Section 4.02).
- (b) The government shall provide SNT with funds required to cover its revenue losses due to introduction and maintenance of reduced fares (Loan Agreement, Section 4.04 (a)).
- (c) The government will (a) cause SNT to adjust its fares as per standing SNT law, and (b) provide SNT with additional funds on grant basis to cover, for its urban operations, the difference between operating income and operating expenses plus debt service requirements in excess of depreciation (Loan Agreement, Section 4.04 (b)).
- (d) The foregoing funds will be paid on quarterly basis within an annual state budget limit to be established for this purpose by the government, on the basis of the system of performance targets referred to under Section 3.06 of the SNT Project Agreement and the cash needs of SNT as estimated by SNT for the purpose of the preceding paragraph.

Additional project features: This was the first urban transport project funded by the World Bank to include an urban rail component.

Subsequent projects: Tunisia - Second Urban Transport Project, in 1984–93
Tunisia – Transport Sector Adjustable Program Loan, 2001–09

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Status and results:

The project was completed in 1981, 5 years later than envisaged at appraisal. The total amount disbursed fell just short of the loan plus credit amount, but actual project costs were 87 percent higher than the appraisal forecast. The government provided the additional funds and secured a loan from Abu Dhabi. The delays and cost overruns were caused by a combination of political difficulties, poor performance by implementing institutions, design changes, and the price shocks in the aftermath of the 1973 oil price increase. All investment components were carried out, some with major modifications. Similarly, the project's policy and institutional initiatives were carried out but with a varied pattern of completion, success, and sustainability. Overall, the Completion Report considers the physical works successful, while the judgment on the soft aspects is "cautious optimism." This having been the Bank's first urban operations in Tunisia, the project succeeded in focusing the political attention on the urban sector and laid down the basis for its longer-term development.

Results by component:

- (a) **Tunis District:** The district was established as a functioning and effective institution, but the process was difficult and slow, given that it involved redistribution of political power away from the central government (ministries). The passage of legislation creating the District Organization Decree took an entire extra year, hence the delay in loan effectiveness. The final version of the decree still had major lacunae, notably on subjects of the district's role in selecting and programming investments by ministries, public agencies, and other levels of government, the compromise being that these subjects would be covered in subsequent directives (*circulaires d'application*). The planned study program was carried out, the outputs were of good quality, and there was evidence of positive impacts on diverse urban policies (e.g., those on low-income housing, small-scale enterprises, solid waste management, and spatial pattern of development in the capital region). The impacts on investment decisions were lower. Both Sfax and Sousse, the two next largest cities in Tunisia, requested that similar organizations be set up for their urban regions. Nominally, the district has a mandate exactly as stated in the project objectives (see above), but its overall impact on policy making and investment decisions was limited and the prospects uncertain. Its 10-year dappled history showed the importance of leadership, specifically that of its director-general, against the nominal text of laws and supporting directives.
- (b) **SNT component:** (a) All of the planned 210 buses were purchased using loan funds, at prices forecast at appraisal, since bids were called before 1973 price rises. An additional 367 buses were purchased using other funding sources. The fleet in 1980 was 69 percent larger than in 1973, in spite of old vehicles having been scrapped. Most performance indicators showed a substantial improvement (e.g., the jump in fleet availability from 60 percent in 1973 to 80 to 83 percent in late 1980s). (b) The maintenance facility at Bir Kassa was built with major delays and remained not quite complete at loan closing; it incurred costs much greater than expected, mainly because of squabbling over its location; altogether it was done too late to contribute

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to performance objectives set for SNT under this project. (c) TGM infrastructure (track, signals, substations, and depot) was reconstructed and the line was equipped with new rolling stock; the cost of this component doubled as a result of a steep rise in prices on world markets from 1973 onwards. As noted above, supplementary financing from the government and a loan from Abu Dhabi was obtained to cover costs overruns on the Bir Kassa and TGM components. This last meant a major fall in the expected rate of return, from 16 to 17 percent forecast at appraisal to 3 to 10 percent at completion. The line operates smoothly and provides a high level of service to passengers with respect to speed, reliability, and comfort.

SNT instituted several organizational and operational changes, notably a new cost and revenue accounting system, new departments for budget planning and supervision, and the procurement of spare parts.

The company saw its patronage increase much more than expected at appraisal: from 135.8 million in 1973 to 230.2 million in 1980 in urban bus operations, and from 16.3 million passengers in 1973 to 22.4 million in 1980 on TGM. At least some of these increases were caused by higher frequencies and other aspects of the quality of service, even though the commercial speed of buses did not rise as expected. This lack of an increase in speed was caused by the traffic growth, the failure of the Traffic Police to enforce the exclusivity of use on new bus lanes in central Tunis, and, generally, weak traffic and parking management therein (see below).

There were several fare increases, and the government fulfilled its commitment to pay regularly the compensation for social fares. It did not, however, fulfill the commitment to agree on a transparent and explicit method of calculating this compensation. Instead, it provided what was likely much less than fair compensation, preferring to help SNT by capital injections and conversion of SNT's debt into equity. The net result is that SNT's financial weakness remained unresolved and its dependence on the government remained.

Overall, SNT ended at the completion of the project as a much improved company, but also with a major agenda of unresolved issues. These ranged from internal problems such as poor and expensive maintenance (caused in part by overstaffing dictated by the government on social grounds), fare and compensation policy (again in the hands of the government), and the state of bus vehicles in the rapidly deteriorating traffic environment in central Tunis. This last issue may have provided a push for the approval of a new, y-shaped 30-km light-rail line to create a high-performance public transport corridor passing through the city center. The construction started in 1980, with Franco-German funding, against the Bank's reservations about its functional, financial, and economic prospects. Also on the agenda was splitting SNT into three companies (urban bus operations, intercity bus operations, and rail-based operations – TGM plus the new light-rail system).

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- (c) **Traffic management:** This component was implemented at a much larger scale than originally planned, following recommendations of a study carried out after the project had started. An area traffic control system comprising 44 intersections was introduced (five times the original amount), and another six “isolated” intersections were provided by traffic signals. Eleven intersections were reconstructed and channelized. A new circulation plan was implemented. The planned pedestrian underpasses were dropped because of high capital costs; instead, pedestrian signals and protections were instituted at these locations. In addition, 20 streets were reserved for pedestrians and three pedestrian areas were improved (10 times the original plan). About 5 km of with-flow, bus-only lanes were introduced, but failed to remain effective because of a lack of enforcement by the Traffic Police. No progress was made in downtown parking, either in the realm of on-street parking space management and pricing or in enforcement.

Using technical assistance from the project, the Municipality of Tunis created a Traffic Management Unit, which went through its birthing pains in parallel with implementing the above described traffic improvements program. (Note: The setting up of this unit was not a specific requirement or commitment in loan documents.) The end of external advisers’ tenure left this young institution with a kernel of local staff not sufficiently trained and experienced to deal with the intricacies of the signal system maintenance (done under contract with suppliers), routine but dynamic tasks of daily traffic management, and major partners like the SNT and the Traffic Police. This said, the unit appeared to have the support of the municipality, an essential ingredient for its continuation and growth.

- (d) **The Sfax study:** This study was carried out as planned and successfully. It provided both a framework and a program for urban development in Sfax.

In sum, this very ambitious project, a first Bank operation in the urban sector in Tunisia, showed a pattern of under- and overachievement both between and within components. The Completion Report states that “on narrow indicators the performance was less, while on the more abstract or fundamental criteria the performance was better than expected – although of uneven (prospects for the) long term.”

Team:	N. Carrere (appraisal, supervision)
Profile author and date:	Slobodan Mitrić, December 31, 2014

Key Documents of the Tunisia: Tunis District and Urban Transport Planning Project

Project Appraisal Document:

World Bank. 1973. *Tunisia - Tunis District Urban Planning and Public Transport Project – Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1973/07/727213/tunisia-tunis-district-urban-planning-public-transport-project>

Project Agreements:

World Bank. 1973. *Tunisia - Urban Planning And Public Transport Project for The Tunis District: Credit 0432 - Project Agreement - 1 - Conformed*. Legal ISC Files. Washington, DC <http://documents.worldbank.org/curated/en/1973/08/18224111/tunisia-urban-planning-public-transport-project-tunis-district-credit-0432-project-agreement-1-conformed>

World Bank. 1973. *Tunisia - Urban Planning And Public Transport Project for The Tunis District: Credit 0432 - Project Agreement - 2 - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1973/08/18224296/tunisia-urban-planning-public-transport-project-tunis-district-credit-0432-project-agreement-2-conformed>

Loan Agreement:

World Bank. 1973. *Tunisia - Urban Planning And Public Transport Project for The Tunis District: Loan 0937 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1973/08/18179660/tunisia-urban-planning-public-transport-project-tunis-district-loan-0937-loan-agreement-conformed>

Credit Agreement:

World Bank. 1973. *Tunisia - Urban Planning and Public Transport Project for The Tunis District: Credit 0432 - Credit Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1973/08/18223474/tunisia-urban-planning-public-transport-project-tunis-district-credit-0432-credit-agreement-conformed>

Project Completion Report:

World Bank. 1984. *Tunisia - Tunis District Urban Planning and Public Transport Project – Project Completion Report*. Washington, DC: <http://documents.worldbank.org/curated/en/1984/03/741592/tunisia-tunis-district-urban-planning-public-transport-project>

SECOND KUALA LUMPUR URBAN TRANSPORT PROJECT (P004245)

Country and region:	Malaysia, East Asia, and Pacific
Borrower:	Federal Government of Malaysia. A portion of the loan would be passed as grants to the City of Kuala Lumpur and the Urban Development Authority and is reserved for the sites and services component.
Implementing agency and arrangements:	A Highway Planning and Public Transport Unit in the Roads Division of the Ministry of Works and Transport (unit newly established under this project)
Concept review date:	July 1974 (first mention in files)
Board approval date:	February 24, 1976
Effectiveness date:	September 30, 1976
Closing date:	June 4, 1981 (original); December 31, 1982 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	72.0 million
Financing plan (US\$):	46.0 million Federal Government of Malaysia; 26.0 million IBRD loan (Loan 1214-MA)
Final project cost in US\$:	67.8 million
Amount disbursed in US\$:	22.0 million; 4.0 million canceled
Diagnostic highlights:	<p>In 1973, the City of Kuala Lumpur had about 490,000 inhabitants, with a total of 860,000 in the metropolitan area in the Klang Valley. In 1974, the city area became a federal territory, though all of it is located in the State of Selangor. The metropolitan area thus has three levels of government.</p> <p>In the 1960s, Malaysia went through an accelerated growth of 6 percent per annum, spearheaded by the Klang Valley. Per capita income was US\$490 in 1973, the highest in East Asia after Hong Kong SAR and Singapore. Income disparities were high, with the ethnic Chinese population, concentrated in urban areas, having average incomes twice that of ethnic Malays living in rural communities. Large land holdings and much of the corporate sector were foreign-owned. The government policy was to encourage migration to cities as a means of reducing inequality. For this purpose, a spatial development policy was adopted, featuring new towns, such as Petaling Jaya west of Kuala Lumpur (K-L). Generally, further development of the K-L conurbation was being discouraged in favor of other regions, but this was difficult to achieve given that the K-L area held a heavy concentration of administration, service, and manufacturing sectors, which were growing more rapidly than other sectors.</p> <p>Overall, large sectors of K-L's population had poor housing, utilities, road infrastructure, and services. Squatters on unserviced land made up some 30 percent of the population.</p>

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Transport in the urban area was 60 percent by private motor vehicles, fueled by high ownership of cars and motorcycles (122 per 1,000 persons, twice that of Hong Kong SAR and Singapore). The fleet was growing at about 11 percent per annum throughout the 1960s, in spite of high road user charges. The road network, by its structure, extent, and traffic management, was not up to carrying these traffic volumes. Public transport services of the conventional (fixed route, fixed schedule) type were provided by eight private companies, with a total fleet of about 715 vehicles. Services were of low quality and followed a downward trend, due in great part to a combination of low fares, unchanged since 1953, punitive taxation, and street congestion. Unusually for Southeast Asia, there was no paratransit.

Prior studies:

An Urban Transport Policy and Planning Study for Metropolitan Kuala Lumpur (funded through Loan 851-MA cited below) was executed in 1973 by Wilbur Smith and Associates (United States) with Llewelyn-Davis Weeks Forestier-Walker & Bor (United Kingdom) and the SGV Group (Singapore). The study recommended street priority for public transport vehicles, restraints for private motor vehicles, and an investment plan of US\$400 million, of which US\$280 million was for roads. The federal government and the Bank thought the policy measures recommended by consultants were too weak and road investment was too high. It was decided to reduce the 1974–90 envelope to US\$200 million (in 1974 prices) and divide it into two phases of which only the first phase (US\$72 million) would be implemented under the current project.

The Klang Valley Regional Planning and Development Study was executed in 1972–73 by the Shankland Cox Partnership (United Kingdom) with Freeman Fox and Associates (United Kingdom), Coopers and Lybrand (United Kingdom), and Binnie and Partners (Malaysia). This study was funded by the UNDP, with the World Bank acting as the executing agency, as was a Study of Transport and Development in Malaysia.

Complementary and related operations:

This project follows and arises out of the Kuala Lumpur Urban Transport Project approved in 1972 (Loan 851-MA) and the Malaysia Second Highway Project approved in 1973 (Loan 931-MA).

Development objectives:

The overall objective is to make more efficient use of existing and planned urban transport facilities in the K-L area. Specifically, it is desired to encourage the use of high-occupancy (public transport) vehicles, discourage the use of low-occupancy vehicles, and facilitate the collection and dispersal of interregional traffic using federal routes. Additional objectives are to introduce the concept of low-cost urban settlements and orderly and socially acceptable methods of resettlement of households and businesses displaced by major construction projects.

Monitoring indicators:

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Investment components:	<p>(a) New roads and road improvements (US\$44.5 million): On the Southern Ring Road, Inner Ring Road (the future cordon for the congestion charging system), and elsewhere. In all, this would involve the construction of about 7 miles of new arterial roads, mostly to two-lane standards, and 10 miles of improvements to existing roads in central K-L. (Note: This was considered stage 1 of the road development program.)</p> <p>(b) Traffic Engineering and Control (US\$10.4 million): Improvements at 12 intersections, central area circulation scheme and a traffic control system, priority schemes for high-occupancy vehicles, and area road pricing.</p> <p>(c) Sites and services (US\$7.5 million): New sites and services and squatter area upgrading.</p> <p>(d) Technical assistance (US\$9.6 million): Feasibility and engineering studies and supervision for components a, b, and c; advisers and training for various institutional partners; and preparation of national sites and services program, plus training.</p>
Policy components:	<p>(a) Introduction of minibus services; (b) raising bus fares; (c) introduction of priority for high-occupancy vehicles; (d) raising of parking charges; (e) introduction of a road pricing scheme for the central area of K-L; and (f) modification of building regulation in favor of low-cost standards.</p>
Institutional components:	<p>Setting up and strengthening of (a) a Highway Planning and Public Transport Unit in the Ministry of Transport; (b) a Traffic Management Department in the K-L city government; and (c) Sites and Services Unit in the Urban Development Authority.</p>
Additional project features:	<p>Project documents make an explicit link between recommendations contained in the Bank's Urban Transport – Sector Policy Paper (SPP), 1975, and the design features of this project, the first to be approved after the publication of the SPP (Staff Appraisal Report, para. 3.01). The proposed road pricing scheme for Kuala Lumpur should be seen in the light of a first-ever area road pricing system introduced in Singapore in 1975.</p>
Major covenants:	<p>(a) Traffic Management Department in the Kuala Lumpur city government to be appropriately staffed and managed, and to function in accordance with sound practices (Project Agreement with the City of Kuala Lumpur, Section 3.01);</p> <p>(b) Traffic Management Department to monitor and evaluate transport components as the implementation proceeds (Loan Agreement, Section 3.09 and Project Agreement, Section 2.08);</p> <p>(c) The bus seat tax to be abolished within 4 years (Loan Agreement, Section 3.06);</p> <p>(d) Priority lanes for high-occupancy vehicles to be introduced and not substantially modified without prior exchange with the Bank (Loan Agreement, Section 3.08 and Project Agreement with the City of Kuala Lumpur, Section 2.10);</p> <p>(e) Area road pricing system to be implemented not later than July 1, 1977 (Loan Agreement, Section 3.10 and Project Agreement, Section 2.07). (Note: Enabling legislation for road pricing was drafted by appraisal.)</p>

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- (f) The structure and level of bus and minibus fares to be reviewed annually and adjusted to keep these public transport services commercially viable (Loan Agreement, Section 3.11);
- (g) Applications for licenses to operate a sufficient number of public transport vehicle to achieve the objectives of the project to be approved (Loan Agreement, Section 3.12); and
- (h) The cash surplus generated by sales of serviced plots to be placed into a separate fund and used only to finance further sites and services and squatter area upgrading projects (Loan Agreement, Section 3.13).

Note: The list of covenants in the legal documents does not include the stipulations on parking charges.

Monitoring indicators:

- (a) The proportion of total motorized trips by bus in peak periods: 38 percent in 1975, to increase by 10 percent by 1980, and a further 5 percent by 1985.
- (b) Average private car and taxi occupancy: 1.9 in 1975, to be raised by 10 percent by 1980 and by a further 5 percent by 1985.
- (c) Average bus passenger trip speed: 6.6 mph in 1975, to increase by 20 percent by 1980 and a further 10 percent by 1985.
- (d) Percent buses in the peak period too full to take on passengers: 30 percent in 1975, to fall under 10 percent by 1980.
- (e) Average cost of low-income plot and house: (i) M\$5,500 or less in 1975 terms for 1,200-square foot plots in Phase 1; (ii) M\$4,000 or less for 1,200-square foot plots in Phase 2; and (iii) M\$5,500 or less for 1,800-square foot plots in Phase 2.
- (f) Monthly household income of purchasers of low-income plots (excluding displaced squatters) should be M\$300 or less for 1,200-square foot plots and M\$400 or less for 1,800-square foot plots (all in 1975 prices).
- (g) Number of employees of businesses who have purchased and occupied plots: should through 1980 increase more rapidly than experienced on the previous sites over the past 4 years.

Average household income: income distribution should not deteriorate and average income should increase relative to the federal territory average.

(Note: The covenants and monitoring indicators are not matching.)

Status and results:

The project was completed with mixed results. Physical investments in road and traffic management improvements were implemented successfully, after overcoming delays early in the implementation process. Moreover, facing traffic growth much greater than forecast at the appraisal of this project, the government on its own accelerated the construction of Stage 2 road improvements (please refer to the section on prior studies above).

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The progress on the policy and institutional front was only partial. Street priority for public transport vehicles was introduced but allowed to lapse and was not extended beyond initial steps. The government took a position that all the road improvements (Stage 1 and 2) provided sufficient capacity for smooth flow of traffic; hence the priority program could be postponed. There was some pressure from business interests (shop keepers and taxi operators) on the corridors where bus priority was implemented or considered. The same logic was used to postpone indefinitely (cancel) the area road pricing initiative, again with political issues related to ethnicity of commuters from outlying areas.

The public transport initiatives were implemented in great part and resulted in a considerable increase in services. The sites and services component was canceled after only one out of three planned phases was executed, amid strong disagreement between the City of Kuala Lumpur and the Bank. The city had a strong preference for higher design standards for low-income housing, involving high rates of interest subsidies. The Bank team was as rigid in its insistence for the sites and services approach, including self-help and incremental construction. It did not help that a long list of covenants was included for a component facing conflicts.

Compliance with major covenants:

- (a) Staffing of the K-L Traffic Management Department was carried out in part: at completion, the number of senior staff was not adequate and assistant engineer staffing was at 75 percent of the authorized level; all levels needed training.
- (b) Transport monitoring activities were carried out satisfactorily.
- (c) The bus seat tax was abolished.
- (d) Two major priority lanes for high-occupancy vehicles were introduced, as well as some minor bus priority measures, but Traffic Wardens were eliminated later on, thus ending the enforcement. Further priority lanes are in the planning stage.
- (e) Introduction of the area road pricing scheme was postponed indefinitely, by the Cabinet. (Note: Enabling legislation for road pricing was drafted by appraisal; the Completion Report does not state whether it was passed.)
- (f) The structure and level of bus and minibus fares were reviewed and adjusted, though on an ad hoc basis. Still, added revenue has led to new investments by bus companies.
- (g) The progress on bus service licensing had a slow start, but ultimately moved, leading to substantial growth in bus fleets: the number of standard buses increased by 18 percent in 1980, 14 percent in 1981, and 8 percent in 1982. Mini-bus seating capacity increased from 16 to 25 seats on 70 buses out of 400.
- (h) The fund to draw on for the future sites and services projects was not set up, since the component was canceled.

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The Project Department's completion report and the audit by the Operations Evaluation Department agreed in the judgment that the project had too many components, was overloaded with policy and institutional changes, and did not show sufficient understanding either of the institutional capacity of the borrower or of the political realities in K-L and the country (especially the ethnic divide mapped into locational and economic dimensions). It was also noted that a disproportionate amount of the supervision budget went into the doomed shelter component. The inclusion of this component in an urban transport project was a case of poor judgment, given that already at appraisal it was seen that the government support was weak. This issue was compounded by the supervision team being too rigid (especially with regard to the urban development component) and having a too high staff turnover.

Team:	S. Sandstrom, G. Roth, A. Bergan, J. Hillier, and D. Williams (appraisal)
Profile author and date:	Slobodan Mitrić, December 16, 2014

Key Documents of the Malaysia: Second Kuala Lumpur Urban Transport Project

Project Appraisal Document:

World Bank. 1976. *Malaysia - Second Kuala Lumpur Urban Transport Project – Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1976/02/724589/malaysia-second-kuala-lumpur-urban-transport-project>

Loan Agreement:

World Bank. 1976. *Malaysia - Second Kuala Lumpur Urban Transport Project: Loan 1214 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1976/02/18185291/malaysia-second-kuala-lumpur-urban-transport-project-loan-1214-loan-agreement-conformed>

Project Agreement:

World Bank. 1976. *Malaysia - Second Kuala Lumpur Urban Transport Project: Loan 1214 - Project Agreement – Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/532881468044997559/Malaysia-Second-Kuala-Lumpur-Urban-Transport-Project-Loan-1214-Project-Agreement-Conformed>

Project Performance Assessment Report (contains Project Completion Report):

World Bank. 1985. *Malaysia - Second Kuala Lumpur Urban Transport Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/963501468915094902/Malaysia-Second-Kuala-Lumpur-Urban-Transport-Project>

Other:

Peter J. Rimmer. 1986. *Rikisha to Rapid Transit: Urban Public Transport Systems and Policy in Southeast Asia*. New York: Pergamon Press.

MANILA URBAN DEVELOPMENT PROJECT (P004445)

Country:	Philippines
Borrower:	Government of the Republic of Philippines
Implementing agency and arrangements:	<p>Lead agency and all shelter-related matters: National Housing Authority (NHA).</p> <p>Water and sewerage: Metropolitan Waterworks and Sewerage System.</p> <p>Flood drainage works, surveys, and studies (including a transport land use study for Manila, and a national transport planning study): Department of Public Works, Transportation, and Communication (DPWTC)</p> <p>Major roads and traffic components: Department of Public Highways (DPH).</p>
Concept review date:	August 1972 (first mention in files)
Board approval date:	May 27, 1976
Effectiveness date:	December 1976
Closing date:	March 1981 (original); July 1986 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	<p>Area upgrading (including internal roads and footways): 65 percent of base cost.</p> <p>Major roads and traffic improvements: 35 percent of base cost.</p>
Project total cost at appraisal (in US\$):	65 million
Financing plan (US\$):	<p>Government: 33 million;</p> <p>World Bank: 22 million at standard terms (Loan 1272-PH), and 10 million at "Third Window" terms (Loan 1282-PH).</p> <p>A supplementary loan (1282-1-PH) of 10.5 million was approved in 1984, as part of a 1983–84 Special Assistance Program for Philippines, to cover additional costs due to changes in the physical design of project components, and disbursement rates for works components were increased from 43 percent to 85 percent.</p>
Final project cost in US\$:	91.9 million (not comparable to appraisal cost estimates because of design changes, addition, and deletion of subcomponents)
Amount disbursed in US\$:	39.3 million

MANILA URBAN DEVELOPMENT PROJECT (P004445)

Diagnostic highlights:

In 1975, following a decade of economic growth, metropolitan Manila had 5.5 million inhabitants, having grown at 5 percent per annum since 1960. Migration from the countryside accounted for much of this increase, as people moved to urban areas in search of jobs and higher-paid jobs. The common form of settlement was squatting on unserviced land. About 1.8 million people, close to a third of the area population, lived at incomes below minimum subsistence level, in enormous slums, in makeshift shelters, largely without tenure, and with limited access (or no access) to water, sewerage, electricity, and social services. The ad hoc approach used by the government to improve shelter and related services, essentially that of destroying slums and resettling its occupants elsewhere, often at distant locations, was too costly and slow, not conducive to economic integration of residents, and politically troublesome. Many resettled residents abandoned their sites and returned to slums to be closer to potential jobs. The private market for housing was active, but not touching the demand by low-income households.

Population and economic growth in the preceding decade also led to increased motorization. Between 1965 and 1970, car ownership in the country increased at 13 percent per annum, then slowed down in the next 5-year period to 8 percent per annum. In the mid-1970s, Manila had about 230,000 passenger vehicles (43 per 1,000 people). Neither the development of road infrastructure nor institutional capacity to manage it kept up with the motorization process, resulting in major congestion throughout the day.

Most daily trips in Manila (about 70 percent) were carried by public transport services. These were dominated by more than 13,400 privately owned jeepneys (minivans), organized into cooperatives and operated in paratransit mode. Other paratransit modes included some 8,800 taxis and 3,200 motorized tricycles. These last served short trips, operating mainly on local roads, but still accounted for about 8 percent of daily motorized trips. Conventional public transport services, using standard-size buses, were provided by some 120 private companies, with a fleet of about 3,000 vehicles. Another set of private companies served external trips, with about 2,000 standard buses. Fares were kept low by the government, which over time meant that services also were low quality and less than safe. Overall, jeepney operators were better in adapting to this regulatory regime than the operators providing conventional services. The latter kept losing passengers and were in dire financial straits. In 1974, the government introduced a public sector operator, Metropolitan Manila Transit Corporation, initially with only a few hundred buses, but with ambitious expansion plans. The number of private operators was reduced to 12, with about 1,200 buses. It was not yet clear whether the change of ownership would succeed in resolving the service and financial problems of this sector.

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The government's main response to the rising motorization and its consequences was to build new roads, many designed to dual-carriage standards. There were still crucial road links and bridges missing, especially roads to carry heavy commercial traffic generated by the port and related facilities. The low-income areas lacked road links to major roads, not to mention the internal street infrastructure, where more than 80 percent of the existing streets were in bad condition. Much of the congestion on major roads, however, was caused by a low level of traffic control at intersections (poor signal equipment, inadequate timing schemes, and a lack of interconnection along corridors and in busy areas). The effect of poor signalization was exacerbated by ad hoc manual interventions by police officers.

On the governance side, Metropolitan Manila suffered from a lack of institutions with jurisdiction over the entire area, in effect having the national and provincial governments play the metropolitan role. In 1975, the government established the Metropolitan Manila Commission, consolidating 17 local governments. In parallel, trying to unify and focus its efforts to improve the situation in the shelter sector, the government consolidated six different agencies into a National Housing Authority. In the transport dimension, the strongest institution was the Department of Public Highways, reasonably strong in road construction though weak in traffic engineering and management. In 1974, the Department of Public Works, Transport, and Communications (shorn of what had become Department of Public Highways) was responsible for national transport planning, policy development, and implementation.

Prior studies:

No comprehensive urban transport study was available when this project was being prepared.

Development objectives:

- (a) Improve shelter, on- and off-site infrastructure, and integrated social services for residents in two large slums in the vicinity of the port area: Tondo Foreshore and Dagat-Dagatan, with about 180,000 residents;
- (b) Demonstrate benefits of a comprehensive slum improvement in situ as opposed to resettlement;
- (c) Mobilize private investment in the shelter sector in the lower-income strata;
- (d) Introduce cost recovery mechanisms in the shelter sector;
- (e) Provide land tenure in slums;
- (f) Experiment with employment generation through programs;
- (g) Demonstrate benefits of the low-cost (traffic management) approach to transport improvements as opposed to road infrastructure expansion; and
- (h) Strengthen the new urban institutions, primarily the National Housing Authority and the Metropolitan Manila Commission.

(Note: These objectives are drawn from the section "Purposes of the Project" from the Staff Project Report. A somewhat different statement of objectives is in the Project Completion Report.)

MANILA URBAN DEVELOPMENT PROJECT (P004445)

<p>Investment components:</p>	<ul style="list-style-type: none"> (a) Tondo Foreshore area upgrading: US\$19.19 million base cost, of which US\$12.4 million was for civil works (water supply and sewerage, surface water drainage, electricity and street lighting, internal roads, and footways). Some 15,000 housing structures would be served and 1,000 new residential lots would be created, as well as 15 ha of industrial and commercial estates. (b) Dagat-Dagatan area upgrading: US\$6.07 million base cost, of which US\$1.96 million was for civil works similar to those cited for the Tondo Foreshore upgrading component. (c) Sewage outfall: US\$1.07 million base cost. (d) Major roads and bridges: US\$10.91 million base cost. (i) 5.4 km of a coastal radial road (R-10) serving as port access and diversion link, and a link to Dagat-Dagatan project area; (ii) 1.4 km of C-2 road, a part of the development plan for the Tondo Foreshore project area; (iii) 0.3 km of C-3 road and 0.4 km of the Dagat-Dagatan spine road, access to the new development at Dagat-Dagatan; and (iv) five two-lane bridges. (e) Traffic improvements: US\$4.78 million base cost. Geometric improvements at intersections; an area traffic control system comprising 88 sets of signals (38 new installations and 50 existing ones); road markings within 50 m of 200 intersections and for 200 crosswalks; 20 km of footpaths and 150 bus shelters; 20 km of priority lanes for buses and jeepneys; equipment for traffic police, inclusive of equipment for the central traffic control center and 400 mobile radios; technical assistance for land use and transport planning; parking charges and road pricing; and training in traffic engineering and management. (f) Technical assistance: US\$5.76 million base cost. Including training, both on-the-job and formal, and studies. Studies related to transport components included a land use and transport study for Manila, and a national transport investment plan for the period 1977–80. Some of the training programs were meant for staffs of the Department of Public Highways (DPH) and the Department of Public Works, Transport, and Communications (DPWTC), combining visiting lectureships at local universities, special short courses, and four overseas fellowships.
<p>Policy components:</p>	<p>Adoption of the sites-and-services approach to slum improvement and improved cost recovery in the shelter components.</p> <p>Adoption of the low-cost approach to tackling traffic problems.</p>
<p>Institutional components:</p>	<p>Strengthening the National Housing Authority capacity to deliver shelter, manage the program to become financially self-reliant, and develop sector policy. (There were no explicit institutional objectives for the roads and traffic component.)</p>
<p>Monitoring indicators:</p>	<p>A comprehensive monitoring program for the shelter components covering both the demand side (households' income, expenditures, access to services) and the supply side (engineering and economic aspects of area upgrading, sites and services, on-site and off-site infrastructure).</p> <p>For the transport and traffic component, surveys were to be carried out to monitor changes in modal split, vehicle flow at 35 control stations, intersection performance, vehicle journey times for each transport mode along specified routes, and fleet expansion by vehicle class.</p>

MANILA URBAN DEVELOPMENT PROJECT (P004445)

Complementary and related operations:

Philippines: Second Urban Development Project (Loan 1647-PH), approved in December 1978.

Philippines: Third Urban Development Project (Loan 1821-PH), approved in 1980.

Both of these projects focused on shelter.

Status and results:

Overall, the project succeeded in delivering most of its physical output and in doing so, together with self-help in money and effort by residents, was highly beneficial in improving lives of almost 200,000 low-income people and involving them in the decisions throughout the process. The slums were transformed into “an upwardly mobile neighborhood without appearing to have evicted the truly poor.”

The roads and traffic components, the latter in considerably truncated version, succeeded in improving traffic flow in the central area and on major road corridors in the urban quadrant where shelter components took place.

The project did not do as well in reaching its policy and institutional objectives in that cost recovery objectives were not achieved, and the area upgrading approach did not become the government’s main policy in spite of a conclusive demonstration of its advantages over the resettlement route. The NHA was strengthened especially in its technical capacity to deliver improved housing for the low-income segment of the demand, but not in the financial and policy-making spheres. It remained one of many institutions in the shelter sector.

The implementation took about 10 years to complete, instead of 4 years as planned, and required a supplemental loan (see above) to cover design changes, physical and price contingencies, and shortages of counterpart funds. Project implementation coincided with a macroeconomic downturn for the country, notably the collapse of sugar prices and the second wave of oil price increases. These had repercussions for the availability of public funds, attention of political decision makers, and ability of households to pay for improved shelter. Key difficulties specific to the project included its unprecedented complexity (technical, financial, and institutional), the inexperience of main counterpart institutions, and less-than-complete project preparation before loan approval. Especially this last item resulted in delays for land acquisition and the need to redesign components because of unanticipated physical and engineering problems and design errors. Works on the roads component, for example, started only in 1981, the original completion year. On the Bank side, relative inexperience and undue optimism of both staff and consultants, and high staff turnover, all contributed to implementation problems. The supervision effort, estimated at 56 staff weeks at appraisal, actually took 194 staff weeks, most of it spent on processing the works components. Much less attention was given to the progress on policy and institutional front, especially concerning mortgage documentation, cost recovery, and financial management.

MANILA URBAN DEVELOPMENT PROJECT (P004445)

Outputs by component:

In the shelter category, 15,000 housing structures were improved in the Tondo Foreshore area and 2,500 serviced sites were developed in the Tondo and Dagat-Dagatan areas. Achievement rates were 71 percent for upgrading and 83 percent for serviced lots. All elements of on-site and off-site infrastructure were provided and became operational. Diverse community facilities were built, including classrooms for primary and secondary education (165 and 50, respectively), two new and upgrading at five health centers, and 28 multipurpose community centers.

In the major roads component, the work program was delivered at a scale about twice of that envisaged at appraisal (110 percent in terms of work quantities), involving large cost increases, but still giving acceptable economic rates of return. Additions included realignment works for the C-2 ring road, which required filling in the Fisherman's Channel, extension of C-2 through the Dagat-Dagatan industrial and commercial area, and a bridge over the Navotas River.

In the traffic improvements component, only the traffic control elements were implemented: about 88 interconnected traffic signals were installed and a traffic control center was equipped. Four hundred mobile radio units for traffic police were purchased. Pedestrian barriers were installed in medians and along curbs. Some bus lanes were implemented. Bus and jeepney waiting sheds were installed.

Due to cost overruns in the major roads component, all civil works in the traffic improvements component were canceled, including intersection improvements, bus shelters, road markings, and footpaths. Ex-post economic evaluation was carried out for the traffic control program and showed excellent results.

In the course of and for the needs of project implementation, a **Traffic Engineering and Management Unit** was created successfully and performed well, in spite of a high turnover of staff. At the completion of the project, it was still a special projects group, but with strong chances of getting a permanent status in the government and being replicated in other cities. The training program for this unit's staff was implemented, with on-the-job training by resident specialists (consultants funded by the project and Japanese bilateral aid) proving the most useful. The planned traffic surveys were carried out, providing the data necessary to carry out the ex-post economic evaluation of roads and traffic components.

Both studies, the Manila land use transport study and the national transport investment program, were carried out successfully.

Team:

At appraisal: D. Cook (lead); A. Pellegrini, D. Steel, S. Basta, B. Veuthey, and R. Middleton (all Bank staff); K. Huddart (consultant)

Profile author and date:

Slobodan Mitrić, February 11, 2016

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Relevant Sector Work:

Philippines – Urban Transport Sector Review (1983), Report 4134-PH

Vol. 1 – Main report:

<http://documents.worldbank.org/curated/en/447751468095057112/Main-report>

Vol. 2 – Annexes:

<http://documents.worldbank.org/curated/en/548291468094483999/Annex>

BOMBAY URBAN TRANSPORT PROJECT (P009723)

Country:	India
Borrower and beneficiaries:	Bombay Metropolitan Region Development Authority, with a guarantee from the Government of India. The principal beneficiaries would be Bombay Electricity Supply and Transport Undertaking and Bombay Municipal Corporation, to which loan funds would be on-lent.
Implementing agency and arrangements:	Bombay Municipal Corporation (BMC), Bombay Electricity Supply and Transport Undertaking (BEST), and Bombay Metropolitan Region Development Authority (BMRDA). BMRDA had the overall project coordination responsibilities, for which purpose a Project Coordinating and Monitoring Unit was set up in its Transport and Communication Division.
Concept review date:	1970 (earliest mention in files)
Board approval date:	October 26, 1976
Effectiveness date:	March 12, 1977 (original); March 10, 1977 (actual)
Closing date:	June 30, 1980 (original); June 30, 1984 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	50.5 million
Financing plan (US\$):	15.3 million internal funds; 10.2 million open market loans; 25 million IBRD loan (Loan 1335-IN)
Final project cost in US\$:	45.04 million
Amount disbursed in US\$:	25 million
Diagnostic highlights:	<p>The Mumbai (Bombay) metropolitan area grew from a harbor on the west coast of India, in the state of Maharashtra, to become a pre-eminent industrial and commercial center. In 1975, it held about 6 million people, following two decades of rapid population and economic growth. Poverty was rampant.</p> <p>Its topographic constraints, specifically its location on an island, with sizeable wetlands and a national park, and the presence of two major railway corridors with high-capacity passenger services, meant that the area expanded mainly in the northward direction. The growth process itself was weakly managed, resulting in an overconcentration of jobs in the central area, especially too many industrial jobs, and bedroom communities at longer and longer distances from the urban core. The railways made this type of development possible, while also becoming a critical factor in daily functioning of the region.</p>

BOMBAY URBAN TRANSPORT PROJECT (P009723)

Generally, urban growth went faster than the expansion of transport infrastructure and services, in fact faster than all urban infrastructure and services. In 1973, responding to accumulated areawide problems, a study carried out a diagnostic of urban management and planning and developed a regional development plan with a horizon of 25 years. Top priorities included industrial decentralization and investments in water supply, sanitation, shelter, and public transport services. In 1974, the state set up the Bombay Metropolitan Region Development Authority (BMRDA) to lead the implementation of the plan. This fledgling agency became the major institutional partner in this (Bombay Urban Transport) project.

About 7.5 million motorized trips were made in the region on a daily basis. Eighty percent of these trips were carried by public transport modes, suburban railways, and street-based buses, with roughly equal shares. Taxis, of which there were about 20,000, carried about 9 percent. Private autos carried about 11 percent of trips, reflecting a small auto fleet of about 112,000 vehicles registered in the region (motorization rate of 16 vehicles per 1,000 population).

Suburban railway services were provided by the Western and Central Western Divisions of Indian Railways. The Western Division had four tracks for 30 km from the central terminus, but its suburban services extended as far as 60 km northward. The Central Division had two independent lines, one with four tracks and the other with double tracks, with suburban services extending about 60 km from the terminus. Peak passenger flows reached 120,000 per hour per direction. Major urban expressways were located in the same corridors as the railways.

Street-bus services were provided by a division of BEST, a public company owned by the BMC and enjoying a monopoly position on city streets. The company had a fleet of 1,700 buses and employed about 24,000 staff. In the suburbs, the principal role of the buses was as feeder and distributor to the suburban rail system, while in the central area buses served the line-haul, feeding, and distribution roles. Several corridors carried volumes of 80 to 120 buses per direction per hour, and peak passenger volumes were about 35,000 per hour.

Fare on both modal systems covered direct operating costs but did not suffice to fund capital investments for the replacement and expansion of fleets and facilities. Suburban railways, of course, were parts of a large national system (India Railways) and had to compete for funding with other parts of that system. BEST's bus organization depended on its electricity twin and also had to deal with its owner, BMC.

Both modal systems operated in difficult environments. Suburban railways experienced encroachment of the right-of-way, producing delays, conflicts, and fatal accidents. BEST buses were subject to congestion on city streets, generated by the sparse street space, a complex street environment of transport and nontransport activities, and a generally low level of traffic and parking management and law enforcement. In spite of heavy bus volumes on many corridors, buses had no exclusive use or even priority. Some 100 intersections were signal-controlled, but both the equipment and programs were obsolete and there was no areawide signal coordination. Particularly difficult traffic problems were present on street networks in the vicinity of rail stations in the central area.

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The institutional setup to operate and regulate the regional transport system was in place, but suffered from the fragmentation common to urban and regional context, exacerbated in this case by several levels of government (national, state, and municipal). There were evident lacunae regarding transport planning and traffic management skills, as well as the existence of focal groups for these two functions. BEST itself had not sufficiently developed its internal organization and suffered from unresolved financial relations with BMC.

In all, and in spite of a very large throughput of the transport system, its performance was of low quality marked by severe crowding, low travel speeds, and safety problems. Action was clearly warranted in investment, policy, and institutional categories for all transport modes. Given that the railway side depended on the national government, and that some action on that side was thought imminent, the attention of the state and regional authorities was focused on the road infrastructure and bus services.

Prior studies:

The World Bank's (1971) **Report on Bombay** identified transport as a priority sector, identifying the need for (i) low-cost improvements for road-based public transport services; (ii) policy measures to improve efficiency of transport services and urban growth management; and (iii) a region wide and multisector framework for management and planning. Annex III of the report focused on transport.

Development objectives:

- (a) Improve services and operating costs of BEST (through company-internal measures);
- (b) Improve traffic flow in corridors with high volumes of public transport vehicles; and
- (c) Strengthen capacity of BEST, BMC, and BMRDA to manage and plan the urban transport system and to carry out regional development planning in the Mumbai metropolitan area.

(Note: No explicit objectives were provided in project documents; the above statements are inferred from the text of the Staff Appraisal Report.)

Investment components:

- (a) **Bus services improvements – BEST component (US\$37.29 million):**
 - (i) The purchase of 700 single- and double-deck buses and spare parts for BEST, of which 433 would be replacements and 267 would represent a fleet increase (US\$25.29 million); (ii) construction and equipment for three depots and one workshop for BEST; (iii) construction of 11 sheltered bus stops and terminals; (iv) 20 person-months of technical assistance to BEST in areas of operations and financial management to prepare service operations and development guidelines and a costing system for the transport division, to identify immediate route and schedule changes, and to prepare a more comprehensive route and schedule change plan following the commuter survey and installation of the costing system.

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- (b) **Traffic improvements – BMC component (US\$12.38 million):**
- (i) Road and traffic improvements along high-frequency bus routes: construction of eight overpasses, channelization and signalization at 12 intersections, two street widening and extensions, one major bridge widening, two pedestrian bridges, and five pedestrian tunnels;
 - (ii) 20 person-months of technical assistance plus training in traffic engineering and planning techniques for BMC's Roads Department, specifically for its newly established Traffic Planning Division and Traffic Operations Division.
- (c) **BMRDA program (US\$0.4 million):** Technical assistance to BMRDA for organization, management, and finance; technical assistance for regional development planning (US\$60,000); and technical assistance and training in traffic management and public transport planning to BMRDA's Traffic Planning and Evaluation Subcommittee.

Policy components:	None is explicit in the documents, but it is evident that the team pursued a change in the contract between BMC and BEST regarding fare and subsidy (compensation) policy.
Institutional components:	Establishment of (i) a Bus Operations and Management Task Force for BEST and (ii) BMRDA project coordination and monitoring unit. (Note: BMC's Traffic Planning Division and Traffic Operations Division already were established during the project preparation process.)
Covenants and monitoring indicators:	The loan covenants were focused on the agreements to hire specialists and provide various operational and financial reports. For the BEST component, there was an indicative (non-contractual) list of performance indicators, as follows: <ul style="list-style-type: none"> ■ Percent of fleet in active status: 94 percent in 1975; 95 percent target; ■ Fleet availability: 92 percent in 1975; maintained at that level; ■ Fleet utilization: 95 percent of scheduled kilometers run in 1975; 98 percent target in 1978; ■ Effective kilometers per bus per day: 214 in 1975; 219 in 1979; and ■ Average load factor (total passenger kilometers per seat per standee kilometer run): 0.68 in 1975; 0.73 in 1979.
Additional project features:	The project has some program aspects in that a long list of traffic improvements and BEST terminals and depots, agreed on at appraisal, was subject to subsequent deletions, revisions, and additions depending on, inter alia, the outcome of evaluation done under the project.
Complementary and related operations:	Eleventh Railway Project (Credit 280-IN), approved in 1972, included funds for imported equipment for suburban services in the Mumbai Metropolitan Area provided by the Western and Central Railways. Calcutta Urban Development Project (Credit 427-IN), approved in 1973, was the first urban operation of the World Bank in India. It had a small urban transport component consisting of road improvements and a bus depot.

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Status and results:

The project was completed in 1984, 4 years behind schedule. The loan was fully disbursed, but costs were considerably higher than forecast, requiring additional funding apart from the loan. The investment program was implemented largely as envisaged at appraisal, with remarkably few procurement issues. Two major components were redesigned in the course of project implementation (details below), which in part explains both delays and larger costs.

The BEST component:

All 700 buses were purchased and placed in service, at costs as expected. Five out of six planned depots were constructed and 10 out of 11 shelters. The major change from the plan involved the workshop at Wadala, originally planned for 2,000 buses. This figure was changed to 3,500 buses, requiring time redesign and involving disputes with consultants. The cost for the built and equipped facility jumped fivefold and therefore could not be accommodated from the loan. Only the basic infrastructure was completed, while the purchase of equipment and the design of work procedures and management remained to be funded from own funds or alternative sources.

The evaluation of performance vis-à-vis targets was complicated because of the 4-year delay. The BEST bus fleet target was met: 2,049 vehicles in 1981 versus the target of 2,050; this number increased to 2,325 vehicles in 1984. The effective fleet size was 1,938 in 1981 (and 2,289 in 1984), exceeding the 1981 target of 1,534 vehicles. BEST carried 4.29 million passengers in 1981 against the target of 3.89 million (but only 3.65 million in 1984). Limited measurements showed a reduction of travel time from 54 minutes to 42 minutes along the corridor where all five overpasses were built, in spite of higher traffic levels and before the traffic signal system was fully operational and tuned.

In the BEST technical assistance program, several officers were sent abroad for short training courses and study tours. Consultants were commissioned and carried out the work. At least some of the consultants' recommendations were accepted and implemented (e.g., route rationalization for BEST buses). In the organizational dimension, a post of Chief Development Adviser was created and staffed. An Operations and Management Cell was formed. Overall, BEST improved its procedures and management. On the contrary, the recommendations of financial consultants concerning the financial relations between BMC and BEST (regarding fares and subsidies), which would have required amendments to several BMC acts, were not implemented. This said, there were five fare increases between 1975 and 1984, ranging from 14 percent to 27 percent. Still, BEST's financial situation deteriorated, as illustrated by the operating ratio being 114 in 1981, against the target of 100 (and increasing to 119 in 1984). This decline was attributed to increases in both direct operating costs (salaries and fuel) and the impact of new investments on depreciation and interest expenses.

The BMC Traffic Management component:

This component saw the most changes from the program that was agreed on at negotiations. The major change was positive, involving the traffic signals subcomponent. Following the outcome of studies done after the project started, the modest investment in traffic signals of US\$0.4 million was expanded into a traffic control system covering 82 intersections in six corridors, costing US\$3.2 million. This subcomponent is credited with (at least) keeping traffic flows satisfactory in spite of large increases in traffic volumes.

Another expansion, also very much warranted, involved the inclusion of Traffic Police in the project. This expansion took the form of additional investments in equipment (40 motorcycles, CCTV, and communication devices) and a training program for the Deputy Commissioner of the Police and his officers.

Other subcomponents were reduced: out of eight planned overpasses, five were built, while three were rejected following detailed cost-benefit evaluation. In other cases (e.g., dropping three out of five planned pedestrian subways), there were unexpected costs attributed to underground utilities that made these investments uneconomical. Improvements on the major north-south arterial (Drainage Channel Road) were canceled after encountering difficulties with relocation of squatters' houses built on the road right-of-way. This cancellation led in turn to a cancellation of one of BEST's depots. All road subcomponents experienced delays and cost increases caused by surprises in the location of underground utilities, shortages of key construction materials (cement, steel, sand), and traffic diversion on sparse road networks.

The technical assistance subcomponent was successful. BMC strengthened its Traffic and Bridges Section by creating new managerial and professional posts and filling them, as well as providing the support staff. New high-level posts included a Chief Engineer (Roads) and Executive Engineer (Monitoring). These posts, done in the context of project implementation, were made permanent. BMC hired consultants to produce a traffic management plan for Mumbai and provide hands-on training for the staff of the Traffic and Bridges Section.

BMRDA component:

The BMRDA component did not do as well as expected. Notably, an Urban Traffic Adviser was not engaged by BMRDA. The rationale was that BMC had already availed itself of specialized consultants in this area. Likewise, BMRDA did not engage an Urban Transport Policy Adviser, preferring to use their own staff for the preparation of a regional investment plan for 1985–91. The plan included major urban transport investments, but it is not clear whether it included a policy dimension. Also, BMRDA engaged consultants to study its organization, staffing, and financial management but discontinued the contract before completion. This said, BMRDA did make major organizational changes toward the end of the project. The size of the main body (Authority itself) was reduced from 46 to 17 members, and all midlevel committees and functional boards were abolished. A new structure of six secretariats was introduced

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(planning; transport and communications; town and country planning; engineering; administration; and finance and accounts). The agency appeared to emerge a stronger institution, though it was too early to gauge its performance in the new format and prospects for sustainability.

In sum and overall, the project was a success in that its major objective (i.e., improving public transport services provided by BEST and improving the company's operating side) was achieved. The weakest aspects had to do with institutions and policies (e.g., the nonresolution of BEST's financial situation and the failure to take a more activist and explicit stand as to the street priority for public transport vehicles and introduction of parking management). The Completion Report also expressed regrets that the project was not much larger and that it did not include suburban railways.

Subsequent related projects:	Calcutta Urban Transport Project, encompassing both bus and urban rail components, was approved in 1980. Mumbai Urban Transport Project, with a focus on suburban railway transport, was approved in 2002.
Team:	Appraisal through board presentation: R. Woodford, H. Peters, A. Va Nimmen, and M. Mould (staff), plus J. Herbert, G. Hughes, and N. Sullivan (consultants).
Profile author and date:	Slobodan Mitrić, January 22, 2015

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URBAN DEVELOPMENT PROJECT (P001117)

Country:	Cote d'Ivoire (Ivory Coast)
Borrower:	The Government of the Republic of Cote d'Ivoire
Implementing agency and arrangements:	Ministère des Travaux Publics et des Transports (MPWT); Société d'Équipement des Terraines Urbains (SETU); Fonds National de l'Assainissement (FNA); Société Ivoirienne de Construction et Gestion Immobilière (SICOGI); Banque Nationale pour l'Épargne et le Crédit (BNEC); Crédit de la Côte d'Ivoire (CCI); Autorité Régionale de Sud-Ouest (ARSO); and Ministère de la Construction et de l'Urbanism (MCU)
Concept review date:	January 1972 (first mention in files)
Board approval date:	December 14, 1976
Effectiveness date:	May 16, 1977 (original); March 9, 1978 (actual)
Closing date:	December 31, 1980 (original); March 30, 1983 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	43 percent urban transport and 57 percent urban development
Project total cost at appraisal (in US\$):	122.30 million (CAF 27,522 million)
Financing plan (US\$):	Thirty million standard World Bank loan (Loan 1048-IVC) and 14 million Third Window Bank loan (Loan 1348-T-IVC); 21 million U.S. Agency for International Development (for the shelter component only); the rest is government equity.
Final project cost in US\$:	103.9 million (CAF 27,220 million) with major reductions in scope
Amount disbursed in US\$:	39.7 million
Prior studies:	Abidjan Urban Development Study (1974–75), financed under the Bank-funded Second and Third Highway Projects.
Diagnostic highlights:	<p>In the 25-year period preceding the appraisal of this project, Cote d'Ivoire experienced a steady improvement in its economy, which grew at 7 percent per annum, largely because of high world prices for coffee and cocoa. Per capita income grew at 3 percent per annum in spite of huge population growth. The city of Abidjan spearheaded this process, increasing its size from about 125,000 in 1955 to about 1 million people in 1975. Migration accounted for about a half of the population growth, with some people coming from rural areas and some from neighboring countries. Abidjan was expected to reach a population of 1.65 million in 1980 and 2.2 million in 1985. The prosperity of the southern part of the country, and of Abidjan in particular, was in sharp contrast to the impoverished north. Efforts were being made by the government to redirect at least some of this growth to smaller cities and northward, with limited success.</p>

URBAN DEVELOPMENT PROJECT (P001117)

In spite of a large investment program carried out by the government, the provision of diverse urban services in Abidjan lagged behind its demographic and spatial growth. There was a shortage of affordable housing, especially so for the foreign migrants, and half the population had no water connection or even access to a standing pipe. Behind urban transport difficulties lay a combination of difficult topography (presence of diverse bodies of water), the paucity of bridges, the separation of work locations and residences, and a sparse arterial road network that served both national, intracity, and local traffic. The commercial center (Plateau) was especially congested, its roads serving both cross-town and local traffic and also as parking lots. Low-income areas were especially distant from places of potential employment, while being poorly connected to main roads and having underdeveloped local road networks.

Half of all trips in Abidjan were made on foot. In 1977, there were about 49,000 cars in the area and some 2,500 taxis. SOTRA, a state-owned bus company, operated about 720 standard-size buses and 320 minibuses and employed about 6,500 staff. It carried just under 50 percent of all motorized trips in Abidjan, while operating under difficult traffic conditions, with little protection both at stops and in line-haul. It had good financial results until 1974 and reasonable operating performance (6.2 staff per bus in service). Both changed because inflationary costs increases were not compensated through fare increases and the management was not able to absorb a huge addition to the fleet (80 percent increase between 1976 and 1977).

In 1975, the Abidjan Urban Development Study proposed a major program of road construction and public transport facilities, the latter including an at-grade, rail-based rapid transit line. Uncertainties as to the direction of urban development (infill versus expansion) left room for postponing some of the proposed investments. Ultimately, the east-west corridor was chosen as the one deserving immediate attention.

Project origin:

The project grew out of a request by the government for an expressway link from Abidjan to the north. The Bank's view was that large road investments could be avoided, reduced, or postponed by introducing traffic management interventions, especially those specifically favoring street-based public transport operations and the pedestrian traffic. During preparation, a compromise position was reached. The shelter components were added later on.

Development objectives:

- (a) Improve access to affordable housing and diverse urban services for low-income groups;
- (b) Strengthen institutions charged with implementing the investment program; and
- (c) Provide ongoing planning and programming capability for urban programs.

URBAN DEVELOPMENT PROJECT (P001117)

Investment components:	<p>(a) Urban transport component (US\$50.3 million): (i) traffic improvements to benefit public transport vehicles in Abidjan (US\$3.3 million), consisting of an exclusive busway (2.7 km long), bus-only lanes (1.7 km long), and diverse improvements to streets and intersections comprising a coordinated traffic control system, a circulation scheme, traffic signs, and road markings; (ii) construction of an 8.6-km dual-carriage expressway, an east-west link between the central area of Abidjan with the main national highway (Autoroute du Nord) north (US\$47 million). Two grade-separated interchanges were included in the design, two at-grade ones, and a railway overpass.</p> <p>(b) Shelter component (US\$66.3 million): (i) slum upgrading (US\$34.5 million) and sites and services (US\$13.5 million) in Abidjan (316 ha) and San Pedro (60 ha), expecting to benefit some 222,000 people; low-cost housing in Abidjan (US\$12 million); two trunk sewers to serve project sites and other low-income communities (US\$4.3 million); small loans (US\$2 million). Some urban development subcomponents also included primary and secondary street infrastructure, specifically paving of bus routes.</p> <p>(c) Technical assistance (US\$5.7 million) for (i) Ministry of Public Works and Transport for the establishment of a Traffic Bureau. The Bureau would design and implement a traffic improvement program, coordinate urban transport planning, and recommend methods for limiting the use of private cars in congested areas; (ii) Ministry of Communications and Urban Development and its land development agency SETU for the implementation of the shelter component of this project, and to carry out the Ten-Year Development Study; and (iii) BNEC for its capacity building.</p>
Policy initiatives:	<ul style="list-style-type: none"> ■ Privileging public transport vehicles on city streets; and ■ Major policy changes in the shelter component.
Institutional initiatives:	<p>Setting up of a Traffic Bureau in the Ministry of Public Works.</p>
Conditionality:	<ul style="list-style-type: none"> ■ Establishment of the Traffic Bureau was a condition for disbursement; and ■ Major urban transport investments in Abidjan to be postponed until the completion of the Ten-Year Development Study, to be followed by an investment review done in consultation with the World Bank.
Additional project features:	<p>The project was focused on Abidjan with one (upgrading) component in San Pedro. This last was canceled during implementation; therefore all of the project took place in Abidjan.</p> <p>For the east-west road subcomponent, the first-year rate of return was calculated with and without time savings for 1980. A full analysis was not deemed possible because of perceived impossibility of a do-nothing option over a longer period, given traffic growth rates of about 7 to 10 percent per annum.</p>
Complementary and related operations:	<p>Second Urban Development Project, approved on August 25, 1981, with a loan of US\$51 million (Loan 2048-IVC). This project in essence continued the urban transport work started by the first project, adding some pilot municipal development interventions in secondary cities. There were no shelter components.</p>

URBAN DEVELOPMENT PROJECT (P001117)

Status and results:

The beginning of the project coincided by a reversal of the country's economic fortunes, both in its commodity exports and the availability of aid finance. The debt crisis peaked in 1980–81 and the gross national product fell sharply, while the population growth went on unabated. These developments, and a drastic fall in the CAF exchange rate, affected the shelter component of the project considerably. The costs of the component went up and the downward pressure on incomes affected the ability of low-income populations to pay for shelter and services. This component went through numerous changes, involving both downsizing and cancellations.

Because of its early completion, the urban transport component was not affected as regard to the investment costs. Overall, this component was successful. However, full economic returns from investments in new roads and traffic management would materialize only if motorization and traffic growth were to resume at the level experienced in the early 1970s.

The project as a whole was rated marginally satisfactory, with modest institutional development and uncertain sustainability. The main criticism of the preparation process was that it had not taken into account the harbingers of the economic slowdown, already present as the project was being appraised. Also, given that 80 percent of households in Abidjan were renting, there were questions about the distribution of benefits between owners and residents. As for the transport component, constructing an east-west expressway was in collision with the declared urban development strategy featuring densification in the north-south corridor.

Traffic management. This subcomponent, a first of its kind in Africa, was implemented successfully and had the hoped-for results. Three intersections along the Eastern Boulevard were improved in the first phase of the program (through 1979), followed in the second phase by the circulation scheme for the major downtown area (the Plateau), improvements at 16 intersections, reconstruction of sidewalks, pavement strengthening, road markings, and traffic signals. Also in this phase, an exclusive busway was introduced along Boulevard de la République, and three bus-only lanes were added on secondary corridors. The introduction of exclusive bus lanes required major changes in the bus company's routes and schedules, but generated substantial benefits to the company and its passengers. The bus lanes ultimately carried 255 buses per hour, and bus speeds in the area increased from 10.5 km/h to 15 km/h.

The last phase of this subcomponent, in 1980, included the synchronization of traffic lights at 58 intersections on the Plateau, with accompanying elements (signs and markings). Traffic volumes during peak hours increased by 20 to 30 percent and bus flows increased 50 to 75 percent on the north-south axis of the Plateau.

At the conclusion of the implementation, there were doubts as to the ability and commitment of city authorities to enforce the exclusivity of bus lanes and ensure maintenance of streets and control devices.

URBAN DEVELOPMENT PROJECT (P001117)

Using its own funds, the government invested an additional US\$50 million (CAF 13,070 million) in complementary works: connecting roads, an additional interchange, and a bus terminal.

The newly established Traffic Bureau (see below under the technical assistance heading) had to deal with some problems not anticipated at appraisal (e.g., problems with traffic control hardware operating under tropical conditions and with voltage variations). Maintenance of traffic control equipment had not been included in the project-financed package, requiring extra funding for the arrangement for maintenance with the main supplier and the establishment of a team within the bureau for smaller maintenance works.

The government's request to continue the traffic improvement program under the succeeding Second Urban Development Project, against initial misgivings and opposition by the Ministry of Transport, supports the claim that this component was successful.

The East-West Highway. This subcomponent was implemented in 1980, as planned. There was a design change: the road width was increased from four to six lanes. The additional cost, financed by the government, was only US\$1 million because the original design already included sufficient land and facilities such as bridges. The Bank team argued against this change, but ultimately acquiesced. Traffic counts in 1983 showed the road being underutilized, carrying about 3,000 passenger car units (pcu) in the peak, compared with the forecast of about 5,000 pcu for 1978. As noted above, the rationale for this expressway had not been clear, given that the adopted urban development strategy was that of densification, not expansion. There were other, noncontroversial additions to this component: the construction of one additional interchange, a long-distance bus terminal, and several access roads. The entire component cost US\$42.9 million versus US\$50.3 million at appraisal, because of exchange rate variations.

Technical assistance. Nearly all of the technical assistance activities related to project execution, focusing on the capacity of existing institutions, heavily reliant of expatriate staff, rather than on building new, "ivorianized" institutions aiming for the long term.

The **10-Year Development Study for Abidjan** had a double objective, that of creating a medium-term investment program for the capital and helping to develop planning and programming capability in Ivorian institutions. The study was carried out, but it fell short of expectations. There had been no explicit project (funding) support for Ivorian counterparts to be involved and trained; hence institution building did not materialize. As for its technical output, the study used unrealistic assumptions about economic growth and accordingly recommended numerous high-cost investments in infrastructure. This was in contradiction to the spirit of cost-effectiveness that the project attempted to introduce in Abidjan. The sole focus on investments, rather than a broad interpretation of the term "development" to include policies and institutions, reflected a weak study design.

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The creation of the **Traffic Bureau** focused on the assistance in project execution rather than (explicitly) on long-term institution building. The bureau was successful in its initial task, despite the problems with traffic control subcomponents cited above. Going beyond this, under Ivorian leadership, the bureau expanded its agenda and evolved toward being a fully local traffic management institution. It initiated a parking management program, including meters, police monitoring, and booting of illegally parked vehicles. The charging aspect did not work, but better police engagement and towing did. It also designed the traffic improvement program for the successor (Second Urban Development) project. The prospects for its further evolution and sustainability were high.

Team: Preparation: Claude Delapierre, Peter Watson, Peter Midgley, Bernard Veuthey.

Profile author and date: Slobodan Mitrić, February 24, 2015

Key Documents of the Cote d'Ivoire: (First) Urban Development Project

Project Appraisal Document:

World Bank. 1976. *Ivory Coast - Urban Development Project*. Staff Appraisal Report. Washington, DC. <http://documents.worldbank.org/curated/en/1976/11/734543/ivory-coast-urban-development-project>

Loan Agreement:

World Bank. 1976. *Ivory Coast - Urban Development Project: Loan 1347 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1976/12/18190735/ivory-coast-urban-development-project-loan-1347-loan-agreement-conformed>

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Project Performance Audit Report (includes Project Completion Report):

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MADRAS URBAN DEVELOPMENT PROJECT (P009724)

Country:	India
Borrower:	Government of India
Implementing agency and arrangements:	Madras Metropolitan Development Authority: overall project management and coordination of the following implementing agencies (all of which retained direct control over implementation of their components): Tamil Nadu Housing Board Tamil Nadu Slum Clearance Board Madras Corporation Madras Metropolitan Water Supply and Sewerage Board Pallavan Transport Corporation Department of Highways and Rural Works Small Industries Development Corporation Department of Social Welfare
Concept review date:	April 1972
Board approval date:	March 8, 1977
Effectiveness date:	April 1, 1977 (original and actual)
Closing date:	September 30, 1981 (original); December 31, 1982 (actual)
Instrument category:	Standard investment loan
Project type:	Multisector urban project
Project total cost at appraisal (in US\$):	52 million
Financing plan (US\$):	IDA Credit: 24 million (Credit 687-IN); Government of Tamil Nadu: 28 million
Final project cost in US\$:	62.3 million
Amount disbursed in US\$:	24 million
Diagnostic highlights:	With its population of about 4.4 million in the late 1970s, Madras (name changed to Chennai in 1996) was the fourth largest urban agglomeration in India. It had grown at 5 percent per annum and was projected to grow at 4 percent. About 40 percent of population growth was based on migration from rural areas, searching for employment opportunities in manufacturing and services. Small businesses accounted for almost 40 percent of all jobs. Average per capita incomes were low, US\$95 in 1970–71, lower than in other major Indian cities. Almost a half of the population had incomes under the absolute poverty line. Many (about 30 percent of the population) lived in slums.

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Madras authorities had been unable to handle the rapid population growth. The provision of urban infrastructure and services lagged behind demand across the board, with slum dwellers at the tail end of the amenities provided. Shelter, water supply, and sewerage were most wanting. Behind this state of affairs was a combination of unresolved municipal funding and inadequate ideas on how to proceed in various sectors.

The agglomeration consisted of the large Madras municipality, under the autonomous Madras Municipal Corporation, several smaller municipalities, townships, and villages. The Government of Tamil Nadu (GTN) was de facto an agglomeration government, acting through its departments and statutory bodies with sector responsibilities. The GTN appointed both a special officer to govern the Madras Municipality (instead of a council) and a commissioner as the executive head of the corporation.

The Madras Metropolitan Development Authority (MMDA), set up in 1972, had the responsibility for developing master (infrastructure and zoning) plans. As the current project was being prepared, MMDA was starting to collect data on capital programming and budgetary planning by sector agencies, with a perspective of one day working out a public investment strategy for the agglomeration.

Urban transport in Madras was dominated by public transport and nonmotorized modes. Bus services accounted for 42 percent of daily trips, as did walking and biking. Train services operated by India Railways carried 11 percent of trips. The remaining 5 percent was split between cars and motorcycles. Bus services were provided by the metropolitan wing of the state-owned Pallavan Transport Corporation (PTC), with a fleet of about 1,500 buses and a staff of about 12,000. The PTC was well run but unable to replace its buses, mainly because of financial problems caused by the failure to increase fares in line with inflation. In the course of project preparation, fares were raised by 22 percent in 1976, the licensing regulation that restricted the use of buses to specific routes was abolished, and staggering of work hours in the agglomeration was introduced. These measures were expected to reduce the company's operating ratio from 112 in 1975–76 to 103 in 1976–77, and further downward in subsequent years.

Madras exhibited few symptoms of traffic congestion in the usual sense, but the performance of the street system was low because of the poor shape of the road infrastructure, chaotic wrangling of diverse modes over the same space, and the inability of the bus operator to replace and increase its fleet. This state of affairs to the contrary, the planned urban transport strategy was to invest heavily (US\$164 million over 5 years) in major roads and a rail rapid transit line.

Prior urban projects in India:

Calcutta Urban Development Project, approved in 1973, funded through a US\$35 million IDA credit (Credit 427-IN).

Bombay Urban Transport Project, approved in 1976, funded through a US\$25 million IBRD loan (Loan 1335-IN).

MADRAS URBAN DEVELOPMENT PROJECT (P009724)

Development objectives:	<ul style="list-style-type: none"> (a) Develop and promote low-cost solutions of Madras' problems in the sectors of shelter, employment, water supply, sewerage, and transport, and particularly make investments responsive to the needs of the urban poor. This objective was reformulated toward redirecting and substantially increasing public investment for low-income people; (b) Ensure replicability by introducing full cost recovery for key investments for which costs have traditionally not been fully recovered; and (c) Strengthen metropolitan planning and capital programming and budgeting.
Investment components:	<ul style="list-style-type: none"> (a) Sites and services, US\$7.8 million base cost (b) Slum improvement, US\$4.9 million base cost; (c) Small-scale business, US\$2.4 million base cost; (d) Maternal and child help, US\$0.7 million base cost; (e) Water supply and sewerage, US\$9.0 million base cost; (f) Road and traffic improvements, US\$7.7 million base cost: completion of 12-km section of the Inner Ring Road, 250 km of footpaths and nine pedestrian subways, two grade separations, street improvements and minor bridges, and equipment; (g) Bus transport, US\$5.9 million base cost: purchase of 285 buses; construction of three depots, eight terminals, and 400 passenger shelters; and (h) Technical assistance, US\$0.8 million base cost.
Policy components relevant to urban transport:	<p>PTC to reach a sound financial position (details below).</p>
Institutional components relevant for urban transport:	<ul style="list-style-type: none"> (a) Establishment of a Traffic Engineering Unit in the Madras Corporation, specifically for improvement and construction of footpaths and cycle tracks; (b) Establishment of a Traffic Engineering Unit in the (Tamil Nadu) Department of Highways and Rural Works; and (c) Establishment of a Traffic Management Unit by the police.
Legal covenants relevant to urban transport:	<ul style="list-style-type: none"> ■ PTC's operating ratio is not to exceed 99 for 1977–78, reducing gradually to 95 for 1980–81. ■ PTC's debt service coverage ratio of not less than 1.5 is to be maintained from 1977 to 1978.
Complementary and related operations:	<p>Second Madras Urban Development Project, approved in 1980 and closed in 1988, funded by an IDA credit of US\$42 million (CR 1082-IN). This follow-up project had the same structure of investment albeit on a larger scale. Its transport components included a purchase of 550 buses for the PTC, a 6-km section of the Inner Ring Road, and a 12-km section of Madras-Tiruvellor Road.</p>

MADRAS URBAN DEVELOPMENT PROJECT (P009724)

Status and results:

The project was implemented quite close to what had been planned and to a high physical standard of completion. It succeeded in its major objectives: getting benefits to the low-income population of Madras, the adoption of new policies, and stronger institutions.

There was a 15-month delay and some cost overruns. Both delays and cost overruns were caused mainly by problems with land acquisition and India's high inflation in this period (above 15 percent per annum). There were also shortages of building materials. Land acquisition, much from private monopoly owners, took three times longer than planned.

Various shelter components were successful, both in terms of its physical output and in the evolution and consolidation of public policies on slum improvement (e.g., the importance of the security of tenure in slums and benefits of the sites-and-services approach versus hitherto dominant slum clearance). The performance regarding cost recovery was positive for the sites-and-services subcomponent but less so for slum improvements and the water supply.

The results of the transport part of the project varied significantly between subcomponents. The public transport component was among the most successful project initiatives, resulting in much improved functioning of the PTC, higher cost recovery, and better services. With rapid bus procurement, the PTC was able to increase the availability of its fleet to nearly 88 percent. The financial covenant regarding the operating ratio (cost recovery), however, was met only late in the project, because of slow progress on the fare increase front ("tardy and inadequate fare increases"). Disbursements under the projects were formally suspended until the GTN increased fares by 33 percent in 1985, politically a very unpopular decision. Without prejudging the long-term political evolution in this subject, it is a significant achievement to have brought the fare and cost recovery issue in the public transport domain out into the open.

Intersection and street improvements also were successful, though steep grades on overpasses were challenging for bike riders and animal-drawn vehicles. The component involving footpath and bike lane improvements was implemented as planned, but its outcome was not as expected because of a lack of discipline in the highly heterogeneous traffic stream (and other street activities) and suffering from a lack of maintenance. The subcomponent involving the road infrastructure in slum areas was successful, but the question remained on how to ensure proper maintenance. The construction of the Inner Ring Road, the largest piece of road infrastructure included in the project, remained incomplete because of land acquisition problems.

The MMDA was successful in its role as the project coordinator, helping to move the project forward while balancing sector and local interests and intergovernment and interagency relations. This is no small achievement given that there were 10 implementing agencies. The MMDA found a niche for a strong advisory role without having the control over (current and investment) budgetary processes of other sector and government institutions in the agglomeration. An exception to this positive outcome involved the project's information system, which was reasonably adequate for managing implementation, but not for measuring and evaluating results.

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While institutional improvements in the MMDA were the largest, other implementing agencies also emerged stronger, both in experience, new instruments, and new agendas. The Madras Corporation, for example, acquired a new accounting system permitting estimation of municipal service costs, undertook a reform of property valuation for tax purposes, and improved its revenue collection.

Among ingredients of success of this project, three aspects were dominant: (a) project components constituted a well-timed and focused response to problems in Madras; (b) executing agencies were well run and had both capacity and experience to implement large projects; and (c) neither investments nor policy initiatives represented drastic departures from what had been done in Madras, and there was strong commitment by governments and agencies.

Related developments:

A 10-year structure plan for the Madras Metropolitan Area was prepared by consultants commissioned by the MMDA with funding by the Overseas Development Authority (United Kingdom). The study made detailed surveys of the existing situation and trends, developed growth guidelines and alternative development strategies, and recommended action priorities for different sectors. Subsequent studies were expected to move the process into financial policies, investment planning, and programming.

Key aspects:

- Land acquisition as a barrier to project implementation;
- Private and public roles in the land and real estate market;
- Infrastructure maintenance as a factor in sustainability of benefits, especially for low-cost improvements;
- Pricing and cost recovery for public services in the presence of poverty;
- Institutional setup for multisector projects; and
- Metropolitan planning and governance.

Team:

Appraisal: S. Sandstrom, D. Cook, I. Sud, A. Van Nimmen (staff); A. Bertaud, J. Cooper, and K. Huddart (consultants)

Profile author and date:

Slobodan Mitrić, May 14, 2015

Key Documents of the India: Madras Urban Development Project

Project Appraisal Document:

World Bank. 1977. *India - Madras Urban Development Project*. Staff Appraisal Report. Washington, DC. <http://documents.worldbank.org/curated/en/1977/02/727434/india-madras-urban-development-project>

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Project Performance Audit Report (Contains Project Completion Report):

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SAN JOSE URBAN TRANSPORT PROJECT (P006917)

Country:	Republic of Costa Rica
Borrower:	Government of Costa Rica
Implementing agency and arrangements:	<p>For all components except the land use study: Ministry of Public Works and Transport (MPWT) through its Directorate of Highways (for all construction on roads and streets), Directorate of Automotive Transport (for public transport and traffic planning aspects), and Directorate of Traffic (for enforcement aspects). A MPWT project manager was to provide cross-departmental coordination. A San Jose Urban Transport Project Committee was created by the MPWT including directors of the departments cited above, the Director General of the Planning Directorate, and the Executive Director of TRANSMESA (see below). The Chairman of the Committee had vice-ministerial rank. An expatriate adviser to the committee was funded from the loan.</p> <p>For the land use study: National Office for Economic Policy and Plans.</p>
Concept review date:	December 1975 (first mention in files)
Board approval date:	October 18, 1977
Effectiveness date:	December 1977 (original); March 1978 (actual)
Closing date:	June 1981 (original); December 1983 (the date of final disbursement)
Instrument category:	Standard investment loan
Project type:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	31.5 million
Financing plan (US\$):	Government of Costa Rica: 15.0 million World Bank: 16.5 million (Loan 1491-CR)
Final project cost in US\$:	32.1 million (includes major changes in investment components; the original project would have cost \$39—42 million)
Amount disbursed in US\$:	16.5 million
Diagnostic highlights:	<p>The city of San Jose (population 600,000 in 1977) had a dominant, medium-density center attracting travelers from the entire urban area and fed by radial road corridors. The center was compact and fully built, while the suburban developments were low density, with much vacant land. Urban development was not planned or regulated.</p> <p>Public transport vehicles, privately owned street-based buses, carried about 75 percent of all motorized trips and cars carried about 21 percent. The automobile fleet was still small: 39,000 vehicles (about 32 per 1,000 population). It had doubled in the 1962–72 period and was growing rapidly at about 6 to 9 percent per annum. Motorization was fed by a rise in incomes: GDP grew at 6.5 percent between 1960 and 1975; GDP per capita was \$1,110 in 1976. Years of economic growth in the country had made possible major gains against inequality and poverty and in literacy and health care.</p>

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Major roads in San Jose were becoming gradually congested, though not yet at a crisis stage. Traffic problems were caused by population and motorization pressures, the urban structure with an economically dominant downtown, and the poor state of the road network: pockmarked pavements and sidewalks, low protection of traffic lanes from other activities, and low use of traffic management instruments (channelization, signs and markings, signals, and parking control).

Public transport passengers and operators bore the brunt of this situation. The latter, some 240 small-scale private companies, operated a total fleet of about 500 vehicles, under 7-year concession agreements with the MPWT. In addition to operating in a congested street environment, they were also having problems with regulatory policies and with access to funds for fleet replacement and expansion. Routes, frequencies, and fare levels were regulated by the government, with regular reviews meant to ensure an agreed level of net revenues (25 percent of operating costs). When in 1976 political protests prevented a 25 percent fare increase, the government started to pay compensatory subsidies, initially for longer trips, then by facilitating access to new buses through TRANSMESA, a bulk buyer attached to the state-owned oil company.

A transport study completed in 1975 (see below) made traffic projections based on the trends of the preceding decade and recommended a large-scale program of road construction. Following discussions with the World Bank, the government became interested in trying an approach that would be less capital-intensive and focus on travelers other than auto users.

Prior studies:

San Jose Transport Study carried out by Alan Voorhees and Associates (US), 1973–75, funded by the UNDP, World Bank acted as executing agency.

Specific preparation studies were carried out by MPWT assisted by Wilbur Smith and Associates (U.S.), funded under the Bank's Fourth Highway Project (Loan 1187-CR).

Development objectives:

- (a) Provide relief for the existing and potential near-term problems of moving people and goods in San Jose, following a strategy of low-cost improvements to increase the effective capacity of the existing street infrastructure (thus limiting new road construction to critical links and avoid making changes that would block future development options);
- (b) Improve the performance of the transport system for public transport passengers and pedestrians through application of priority measures; and
- (c) Build local capacity to plan, implement, and monitor transport improvements on a continuous basis and enhance local understanding of the low-cost approach to urban transport planning and management.

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Investment components:	<ul style="list-style-type: none">(a) Widening, rehabilitation, and redesign of eight major radial roads (total length about 20 km), and construction of one new road 2.3 km long (connector with San Jose – Siquirres highway) (US\$11.5 million, plus US\$6.7 for right-of-way purchase, plus contingencies of about 20 percent).(b) Program including an integrated traffic lights system for the city center, intersection improvements, inclusive of bus lanes; subarea traffic flow schemes; traffic dispersal schemes; pedestrian facilities; and a bus circulation plan for the inner center, also inclusive of some bus priority (US\$1.9 million plus 15 percent contingencies);(c) Equipment for road maintenance, signing, marking, traffic law enforcement, and the construction of a bus inspection facility (US\$2.9 million base cost);(d) Technical assistance for project management, traffic planning, public transport promotion, traffic law enforcement, road maintenance, and a land use and urban growth study for the San Jose Metropolitan Area (about US\$1 million); and(e) Training program for the MPWT staff connected to urban transport (US\$0.8 million).
Policy components:	<ul style="list-style-type: none">(a) Issuance of a new (or modified) traffic policy statement, following the studies for the extension of the program for bus priority beyond what is included under the project (Loan Agreement, Section 4.05(a));(b) Revision of the public transport policy based on a study of overall regulatory design, routes, fares and fare structure, and the cited subsidy study (Loan Agreement, Section 4.05(b)); and(c) Following the forthcoming elimination of the bus subsidy (planned for 1978), carrying out of a study of this effect on the urban poor, or, if the subsidy is not eliminated by a specified date (June 1978), carrying out of a study of the effectiveness, incidence, and potential fiscal burden of the current subsidy policy (Loan Agreement, Section 4.05(c)).
Institutional components:	<ul style="list-style-type: none">(a) Establishment of a Public Transport Department, Traffic Engineering Department, and a Transport Policy Studies Unit within MPWT's General Directorate of Automotive Transport (Loan Agreement, Section 3.03 (a)); and(b) Establishment of a Metropolitan Area Road Maintenance Unit (Loan Agreement, Section 3.03(b)).
Monitoring indicators:	<p>MPWT, assisted by advisers from the technical assistance program, will establish a monitoring program with three levels of activity:</p> <ul style="list-style-type: none">(a) Functional monitoring of progress on project components;(b) Monitoring of service standards for both public transport passengers and car users; and(c) Monitoring of modal split.

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Additional features of the project: The project design called for the commissioning of an unusually large number of nonstaff experts (19), many of them foreign. One of the Bank's staff involved in the preparation of the project was given a leave of absence and appointed a special advisor to the Coordinating Committee for the initial 2 years of project implementation.

Complementary and related operations: None

Status and results: The project was completed with a delay of 2.5 years and a problem-ridden history. The most important physical elements of the project were implemented, were functioning well, and were deemed economically justified. Parts of the investment program were dropped to accommodate cost increases (relative to estimates made at appraisal). The policy and institutional initiatives did not fare so well. Overall, the strategy featuring low-cost traffic improvements and law enforcement as a substitute for major capital investments, or an instrument for their delay and down-sizing, was adopted by local institutions and has become a part of their routine functioning.

Delays and cost increases were caused by a combination of three factors: (i) an entirely unexpected and hitherto unexperienced recession, brought about by the end of a coffee boom and rising price of oil, with negative growth in two consecutive years, high inflation, and a downward pressure on public budgets; (ii) local institutions' (especially MPWT's) lack of capacity and experience to deal with such matters as land acquisition (687 parcels) and utility relocation, and effectively use numerous foreign advisers provided under the project; and (iii) government's wavering on urban transport strategy underlying the project, multiplied by changes in key decision makers and key local personnel (three different ministers and four directors of public works over the life of the project). A drastic example involves the decision by the MPWT to proceed with the construction of a new southern bypass road, contrary to the agreed strategy favoring low-cost improvements, and in spite of an evident fall in traffic levels. This in turn made shortages of counterpart funds for the project even more severe.

Among project components, road and traffic improvements fared the best: (i) six out of eight radial corridors subprojects were completed, and (ii) traffic improvements were largely completed, except for the integrated (area) traffic control scheme, which was canceled because of a lack of counterpart funding. Though traffic fell short of forecasts, ex post economic evaluation showed that all of these investments had acceptable rates of return.

Most of the planned equipment was bought. The bus inspection center was still being worked on by loan closing, but the equipment had been purchased.

The planned technical assistance and training took place, but had its problems and mixed results. Local institutions dealing with traffic engineering and traffic law enforcement benefited the most. The land use planning study was dropped since the National Planning Office was pursuing a similar study under an alternative arrangement.

SAN JOSE URBAN TRANSPORT PROJECT (P006917)

Several “soft” initiatives of the project (e.g., the monitoring effort and a revision of public transport policy) appear to have been abandoned. With difficulties involving land acquisition, utility relocation, and shortages of counterpart funding, the focus of both Costa Rican Project Managers and Bank staff supervising the project in its second half was on “hard” components.

Lessons:

1. A much more serious diagnostic work on the capacity of local institutions and features of local administrative processes should have been done during project preparation to avoid problems (and delays), such as managing simultaneous construction contracts, absorption of external advisors, and dealing with items such as land acquisition and utility relocation.
2. The use of external advisors, especially foreign ones, had its severe limitations because of communication problems, skills and experience of team members, the consultants’ functioning as a team, and the size of the team relative to the local absorption capacity.
3. Training key local staff in an environment of frequent reorganizations (following political changes) was not productive; it may be better to pursue training through local educational institutions.
4. Generally, it is prudent to scale down ambitions for rapid implementation and policy and institutional change.

Team: Appraisal: C. Madavo (lead), P. Watson, A. Walters, B. Rush, and G. Morra (staff); J. Cracknell (consultant)

Profile author and date: Slobodan Mitrić, April 30, 2015

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World Bank. 1977. *Costa Rica - San Jose Urban Transport Project- Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1977/09/749899/costa-rica-san-jose-urban-transport-project>

Loan Agreement:

World Bank. 1977. *Costa Rica - San Jose Urban Transport Project - Loan 1491 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1977/10/18196576/costa-rica-san-jose-urban-transport-project-loan-1491-loan-agreement-conformed>

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URBAN TRANSPORT PROJECT (P006292)

Country:	Brazil
Borrower:	Federal Government of Brazil
Implementing agency and arrangements:	Brazilian Urban Transport Agency (EBTU); Salvador Metropolitan Development Agency (CONDER); Recife Metropolitan Development Agency (FIDEM); Urban Planning and Research Institute of Curitiba (IPPUC); Porto Alegre Metropolitan Region Development Foundation (METROPLAN); Metropolitan Planning Agency Belo Horizonte (PLAMBEL)
Concept review date:	August 13, 1975 (first mention in files)
Board approval date:	May 9, 1978
Effectiveness date:	September 1, 1978
Closing date:	December 13, 1981 (original); March 30, 1984 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	248.9 million
Financing plan (US\$):	EBTU: 87.4 million (original), 72.3 million (actual); States and municipalities: 73.5 million (original), 82 million (actual); World Bank: 88 million (Loan 1563-BR)
Final project cost in US\$:	242.3 million
Amount disbursed in US\$:	88 million
Diagnostic highlights:	In the mid-1970s, Brazil had experienced two decades of rapid growth in urban populations: from 18.7 million in 1950 to 52 million in 1970. In the 1960s, the urban growth was 5.6 percent per annum, while the country's population grew at 2.9 percent per annum. Though the older cities in the southeast, Rio and São Paulo, retained their dominance by size and economic activities, much of the growth took place in the central-western region (Belo Horizonte, Brasília, and smaller cities), and the large cities in the northeast (Fortaleza, Recife, Salvador).

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The growth was mainly through migration of poor people from the countryside. The 1970 census revealed that the poverty rate was 69 percent in Salvador, 55 percent in Curitiba, and 77 percent in Recife. The growth overwhelmed the resources, financial and otherwise, that cities had at their disposition to accommodate it. The migrants tended to settle at urban fringes, creating huge areas suffering from poor housing and communal infrastructure: shanty-town housing, roads unpaved and subject to flooding, and dearth of water and sewerage. Unemployment was high, 25 to 50 percent in cities where surveys were done, though only 3 to 4 percent in the formal sector. Employment prospects for the residents of peripheral areas were dimmed by poor transport: difficult access to public transport services and low travel speeds. Average journey to work was 1 hour, but for travelers from urban fringes it could take 3 hours or more. Because of the centrality of job opportunities, congestion and air pollution were high on approaches to and within central cities, inconveniencing both the low-income and middle- and higher-income travelers and the economic activities in which they participated.

Daily travel in Brazilian cities was dominated by public transport modes (e.g., 81 percent modal share in Rio and 52 percent in São Paulo), but this was falling because of a high rate of motorization: 11 percent per annum since 1965 (twice the urbanization rate). In all but the two largest cities, the public transport system was based on buses operating in mixed traffic on city streets. The urban bus sector was financially solvent, but plagued by street traffic problems, hence low operating speeds (5–8 km/h). The majority of bus operators were private franchises, with only a few cities having both private and municipality-owned bus operators. Operators were regulated by local authorities, but fares were established and updated by the federal government, with an established process of cost tracking and fare reviews.

Urban rail systems, mainly suburban rail services owned by states, existed in several cities, but significant patronage was only in Rio de Janeiro and São Paulo (e.g., 500,000 daily trips in São Paulo, out of a 12 million total). In other cities, suburban rail systems had low capacity and were poorly integrated with the bus network, hence their weak role in daily transport. New metros were being built in both Rio and São Paulo and similar projects were planned for Belo Horizonte, Porto Alegre, and Recife.

The institutional arrangements for dealing with transport in cities, in fact for dealing with urban matters overall, were in flux. The laws in place allocated the responsibilities for transport between the three levels of government (federal, state, and municipal), but policy making and investment planning were rudimentary and the know-how still weak. A major lacuna was at the metropolitan level, needed to coordinate municipal transport decisions. In 1976, the federal government created an agency specifically for dealing with transport in cities, Brazilian Urban Transport Agency, Empresa Brasileira dos Transportes Urbanos (EBTU). The EBTU's main roles included urban transport policy making at all three government levels and the provision of grants to cities for investments in urban road and public transport systems. In parallel with the EBTU, a planning agency, Empresa Brasileira de Planejamento dos Transportes Urbanos (GEIPOT), was set up under the Ministry of Transport that could be commissioned by cities directly or through the EBTU to carry out diverse urban transport studies. Some cities such as Curitiba had their own transport planning organizations, while others used GEIPOT.

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The initial arrangement for funding the EBTU was to transfer funds from the National Urban Development Fund, Fundo Nacional de Apoio do Desenvolvimento Urbano (FNDU) through its Urban Transport Development Fund, Fundo de Desenvolvimento de Transportes Urbanos (FDTU), a part of itself. The FNDU was funded from fiscal revenues, mainly vehicle registration fees, taxes on fuel and lubricants, and discretionary allocations from the Energy Conservation Program. In the period 1976–79, the FNDU had resources of about US\$1.5 billion, 75 percent of which was channeled through FDTU (ultimately through EBTU). Given its small scale (relative to the task at hand), EBTU's funding had twin roles of leveraging investments from external sources (e.g., from the World Bank), as well as being an instrument for the federal level to have a say in local decisions.

As the current project was being prepared, the government had started creating in major cities a new type of institution, a body to regulate, coordinate, and sometimes provide public transport services, Empresa Metropolitana de Transporte Urbanos (EMTU).

Development objectives:

- (a) Improve the provision of public transport services particularly for the poor segment of the population in participating urban areas (more than 60 percent of project benefits to go to low-income residents);
- (b) Promote and support the development and implementation of urban transport policies; and
- (c) Strengthen municipal, state, and federal capacity to prepare, appraise, and execute urban transport projects.

Monitoring indicators:

No monitoring indicators were agreed at appraisal, but at negotiations it was agreed that the EBTU will develop a monitoring program. This program would include functional monitoring of the street network where interventions were being made, service standard monitoring for public transport systems, and modal split monitoring. Monitoring was to serve three functions: (a) making corrections to project design; (b) improving local understanding of the program, thus facilitating the design of follow-up actions; and (c) evaluation of the performance (impacts) of project activities.

Investment components:

The project included investments in five urban areas: Belo Horizonte, Curitiba, Porto Alegre, Recife, and Salvador. The components in Curitiba and Recife and Salvador were appraised in the course of project preparation, whereas the Belo Horizonte and Porto Alegre components were designed and appraised during project implementation by the EBTU, subject to a Bank review (and approval).

Curitiba component:

- (a) Construction of new structural road axis including a busway plus improvements on existing roads in this axis (US\$19.16 million);
- (b) Construction of eight interchange terminals for express and feeder buses along structural roads (US\$18.62 million);
- (c) Improvements on roads and staircases used by feeder buses in low-income areas (US\$9.51 million).

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Recife component:

- (a) Central area improvements: exclusive bus facilities, reorganization and reconstruction of bus terminals, traffic engineering measures (US\$1.48 million);
- (b) Traffic engineering improvements on radial bus corridors and critical intersections (US\$1.48 million);
- (c) Paving of feeder roads in poor areas (US\$5.11 million);
- (d) Rehabilitation, widening, and construction of the Second Perimetral Road (US\$19.56 million);
- (e) Traffic management improvements on secondary roads serving peripheral municipalities (US\$3.3 million);
- (f) New maintenance facilities and equipment for Companhia de Transportes Urbanos – Recife (US\$2.8 million); and
- (g) A study of regional bus operations and regulation (see the technical assistance component below).

Salvador component:

- (a) Introduction of exclusive bus facilities in six corridors, inclusive of a bus-and-pedestrians-only areas (US\$8.61 million)
- (b) Modifications to bus terminals (US\$6.75 million)
- (c) Traffic management improvements in the central area and critical points outside (US\$0.79 million);
- (d) Road paving and neighborhood bus terminals in poor areas (US\$6.17 million);
- (e) Equipment for traffic engineering and control (US\$0.81 million);
- (f) Paving in poor areas (US\$1.45 million);
- (g) A bus penetration road in vale do Queimado (US\$1.45 million);
- (h) An integrated transport infrastructure program for Nordeste de Amaralina (US\$4.66 million) and a bus penetration road Vale das Pedrinhas (US\$0.89 million); and
- (i) Reconstruction of Avenida San Martin (US\$2.76 million).

Technical assistance component:

- (a) Advisory services to EBTU and project cities (204 person-months);
- (b) Studies: (i) a bus regulation and operations study for the metropolitan area of Recife (36 person-months); (ii) a program of monitoring and evaluation of the project (107 person-months); (iii) study of the development of metropolitan urban transport companies (29 person-months); (iv) a study of the relationship between employment, poverty, and urban transport (36 person-months); and (v) a study of the potential to introduce urban road pricing (36 person-months); and
- (c) Short-term on-the-job training for the staff of the EBTU and local and federal agencies.

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Policy components:

As per objectives (a) and (b) cited above, the project sought the adoption of a low-cost approach to traffic improvements to maximize the use of the available road infrastructure; an activist approach to on-street public transport priority; and a poverty focus in the selection of investments.

The percentage of project benefits going to low-income residents was estimated at 87 percent in Salvador, 69 percent in Curitiba, and 64 percent in Recife.

A covenant in the loan agreement obliged the participating cities to revise the valuation for tax purposes of properties standing to benefit from transport improvements financed under this project.

Institutional components:

As per objective (c) cited above, the project sought to build up urban transport planning institutions at all three levels of government, focusing especially on the EBTU.

Status and results:

The project was completed as conceived. There were varying degrees of performance among participating urban areas. The best results were reached in Curitiba, Belo Horizonte, and Porto Alegre, less so in Recife and Salvador. Overall, the project was a resounding success, in all three of its objectives: (a) the performance of urban transport systems was improved, particularly so for public transport passengers and residents of low-income areas; (b) the effectiveness of low-cost traffic management techniques and allocating street space for exclusive use of public transport vehicles was successfully demonstrated, becoming a standard feature of urban transport agendas in Brazil; and (c) EBTU and local institutions were strengthened with regard to the entire range of urban transport activities: planning, policy making, project development and implementation, and operations. The loan covenant regarding the revision of property values in the gravity zone of traffic improvements was not met.

Belo Horizonte:

- About 121 km of roads in low-income areas were paved.
- Improvements to Ave Cristiano Machado, with a high-capacity central busway, were completed (2.1 km longer than initially planned).
- Traffic improvements in the central area were completed, except that the traffic signal program was canceled because of import restrictions imposed at the time.

Curitiba:

- The structural connector incorporating a central busway was completed (with a 1.5km extension relative to the design agreed on at appraisal).
- Road improvements along bus routes were completed in full.
- Ten bus terminals (two more than initially planned) were completed and functioned well as parts of the trunk and feeder system.

Porto Alegre:

- Improvements were completed on five corridors featuring bus priority and a trunk and feeder system with integrated fares.
- Seventy-five kilometers of bus routes in low-income areas were paved (17 km more than initially included).

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- Various other road and traffic signal improvements were made.
- A bridge was canceled because of problems with land acquisition.

Recife:

- About 17 km of perimeter roads were improved.
- Improvements on corridors and the central area were completed, providing a showcase for pedestrian and bus priority (subcomponent noted for strong performance by traffic police).
- Three traffic and safety (TOPICS) schemes were completed, blended with the regular program of the Federal Highway Department.
- A program of road paving in low-income areas was completed.
- One out of four planned bus terminals was completed. The remaining three were canceled having become unnecessary after bus route changes.
- One fringe car parking (out of five planned) was built, the cancellation based on the poor performance of the one built.

Salvador:

- Sixty percent of the planned road paving in low-income areas was completed (complemented by a municipal program of improvements to water supply, sewerage, community facilities, and a change in zoning regulations).
- Traffic improvements on corridors were completed and succeeded in improving circulation.
- Exclusive bus facilities were implemented in six corridors but later removed or fell into disuse, hence eliminating public transport benefits in this city's program.
- Four out of five planned critical point improvements and three road schemes were completed.
- Two out of the planned four bus terminals were constructed and were successful.
- One of the two bus terminals (Lapa) grew from a US\$3.25 million investment based on conceptual design to a US\$11.5 million when submitted for re-evaluation by the Bank, and ultimately took US\$18.66 million to complete. It handles 100,000 passengers a day.

Technical assistance:

- Expert advice from a wide spectrum of technical fields was provided to EBTU and local institutions, successfully raising their capacity to design, evaluate, and supervise projects, inclusive of producing a series of technical manuals for these activities.
- Overseas training, in Europe, Canada, and United States, was reduced due to high cost, while training in Brazil was increased, mainly through seminars and short courses.

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- Four studies were carried out of five planned: (a) transport organization and travel by low-income residents; (b) the potential for road pricing in Brazilian cities; (c) organization of metropolitan transport institutions; and (d) monitoring project results (used to evaluate outcomes of this project). The bus operation study for Recife was dropped, the city opting for another approach.

EBTU:

- The EBTU was the major beneficiary of institution-building efforts under this project. Beforehand, the agency was focused on disbursement and application of funds, while it now gradually acquired skills to prepare, appraise, and monitor the implementation of investment projects. The learning curve was steep, the difference already visible between its first appraisal of the Porto Alegre subproject and the second one in Belo Horizonte. Subsequently, the EBTU played a major role in initiating and processing the continuing stream of Bank-funded urban and urban transport projects in Brazil (see the section on related projects below).
- Generally, the EBTU's progress was the most visible in engineering design, including value engineering, and in the production of manuals for cities covering diverse subjects relevant to project identification, evaluation, and implementation. The staff had persistent difficulties in cost and schedules estimation, but with a positive trend as the experience gradually accumulated. Economic evaluation remained as the weakest spot, especially as a tool for choosing between options. Overall, the progress in acquiring technical skills went well, but problems with internal organization were more difficult to deal with, as well as the management of sensitive relations between the EBTU and local governments.
- The initial arrangement for funding the EBTU lasted through 1980. In that year, 60 percent of the EBTU's funds came from earmarked tax revenues, 25 percent from the Energy Conservation Program, and 15 percent from Bank loans. In 1981, the EBTU's access to earmarked funds was stopped, turning instead to a combination of funds from the general (federal) budget and international loans. Toward the end of the project, in 1984, major institutional changes were initiated regarding the urban domain in Brazil. A new Ministry of Development was established in 1985. The EBTU became its constituent agency in 1986, having already gone through an internal reorganization and having lost its suburban rail functions to the new Companhia Brasileira de Trens Urbanos (CBTU) attached to the Ministry of Transport.

Key lessons:

1. Strong police involvement was a factor essential to the success of the traffic management components.
2. Contrary to expectations, land acquisition proved to be a major factor in implementation delays, taking both more time and more funds than anticipated. In the case of the Lapa bus terminal, the land factor was pivotal in transforming a US\$3 million design into a US\$18.7 million one.

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3. In institution-building activities, getting economic evaluation accepted at the local level was difficult, and then only as an investment justification tool, rather than a tool to choose among design alternatives.
4. Cost estimates at appraisal were based on conceptual designs and proved to be weak, a joint result of inaccuracy and design changes. It is advised to appraise investments on the basis of preliminary engineering designs.
5. A contradictory approach to selecting project investments was evident: investments were agreed on at appraisal for three cities on the basis of conceptual designs, whereas those approved in the course of implementation for the remaining two cities were subjected to a much more stringent approval process, generating considerable delays and absorbing major supervision funds. Adopting a middle road for future projects would be necessary, especially if a sector-type operation is envisaged.
6. Attention is drawn to incremental modifications of designs. The Lapa bus terminal in Salvador (details above) was a unique case in that a sequence of such incremental modifications led to an order-of-magnitude cost increase, without the final design being subjected to economic evaluation.
7. Cost recovery was not considered under this project, save for the failed attempt to capture benefits through revisions of real estate values for tax purposes. This meant that the project did not generate funds for maintenance of the newly provided infrastructure (roads, terminals, etc.). Consequences of inadequate maintenance were observed. A stronger effort should be made under future projects to ensure cost recovery, or make alternative (broader) institutional arrangements for funding maintenance, thus ensuring the sustainability of benefits.
8. Experience with the monitoring component showed how difficult it is to introduce new approaches to decision making, specifically the use of measurements to modify the course of actions. Generally, the monitoring component was most successful in providing data for ex post project evaluation, but much less as a tool for supervision and course correction.

Additional comments:

Several preceding Bank-funded urban transport projects (e.g., Tunis, Kuala Lumpur) included bus priority, but none on the scale and degree of exclusiveness of this first Brazilian project. In Brazil, this issue was of particular importance given the background of the then recent investments in new metros and proposals for more.

A considerable experience in the design, implementation, and operations of busways was generated and the performance potential of this public transport mode was demonstrated. A trunk and feeder system was developed. All busways were centrally located, but with differences in design arrangements as follows:

- In Curitiba, a single, two-lane busway, separated by curbs, with stops generally on-line;

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- In Belo Horizonte, a single, two-lane busway, curb separated, with stops off-line; and
- In Porto Alegre, two single-lane busways, separated by a median; segregation by heavy studs; convoy operation mostly using standard-size vehicles; and stops generally on-line.

The highest flows were achieved on Pre-Corridor Assis Brazil in Porto Alegre: volumes of 240 buses per hour were maintained at a good level of service, and volumes of 270 to 280 buses per hour at a reduced level of service. This last is equivalent to a peak flow of 25,000 passengers per hour per direction.

Complementary and subsequent operations:

This project was the Bank's first urban operation in Brazil, starting a long and continuing sequence of urban and urban transport operations, the longest and largest in the history of Bank's global engagement with transport in cities. The next four urban and urban transport operations were as follows:

1. Medium-size Cities Project, Loan 1720-BR, approved in June 1979;
2. Second Urban Transport ("Porto Alegre") Project, Loan 1839-BR for US\$159 million, approved May 6, 1980;
3. Third Urban Transport ("Ten cities") Project, Loan 1965-BR for US\$90 million, approved March 31, 1981; and
4. Fourth Urban Transport ("Sector") Project, Loan 2822-BR, for US\$200 million, approved May 26, 1987.

Team at appraisal:

Calisto Madavo (lead), Peter Watson, Charles Goldfinger, E. Canessa, and R. Buhler (staff); John Cracknell, Dick Westin (consultants)

Profile author and date:

Slobodan Mitrić, March 17, 2015

Key Documents of the Brazil: Urban Transport Project

Project Appraisal Document:

World Bank. 1978. *Brazil - Urban Transport Project* – Staff Appraisal Report. Washington, DC. <http://documents.worldbank.org/curated/en/1978/04/726900/brazil-urban-transport-project>

Loan and Project Agreements:

World Bank. 1978. *Brazil - Urban Transport Project. Loan 1563-BR. Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/922581468216972527/pdf/Loan-1563-Brazil-Urban-Transport-Project-Loan-Agreement.pdf>

World Bank. 1978. *Brazil - Urban Transport Project. Loan 1563-BR. Project Agreement No. 6 - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1978/05/18196924/brazil-urban-transport-project-loan-1563-project-agreement-5-conformed>

Project Performance Audit Report (contains Project Completion Report):

World Bank. 1987. *Brazil - Urban Transport Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/589521468915034064/pdf/multi-page.pdf>

BANGKOK TRAFFIC MANAGEMENT PROJECT (P004705)

Country:	Thailand
Borrower:	Kingdom of Thailand
Implementing agency and arrangements:	<p>Urban Transportation Planning Office (UTPO) was until 1982 the lead project implementation and coordination agency, supported by a Project Executive Committee chaired by the Minister of Interior. As of 1982, the Traffic Engineering Department (TED) of the Bangkok Metropolitan Administration (BMA) took over the project execution.</p> <p>Other implementing agencies included</p> <ul style="list-style-type: none">(a) Bangkok Metropolitan Administration (BMA);(b) Ministry of Interior (Mol);(c) Bangkok Mass Transit Administration; and(d) Traffic Police Department. <p>Funds were channeled through the Ministry of Interior and allocated to the five agencies through their annual budgets.</p>
Concept review date:	November 1972 (first mention in files)
Board approval date:	December 12, 1978
Effectiveness date:	April 1979
Closing date:	September 30, 1982 (original); September 30, 1985 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	34 million
Financing plan (US\$):	<p>The government through the Ministry of Interior: 18 million; 53 percent of project costs.</p> <p>World Bank: 16 million (Loan 1638-TH); 47 percent of project costs.</p>
Final project cost in US\$:	12.5 million (revised scope)
Amount disbursed in US\$:	7.6 million
Diagnostic highlights:	<p>With its 1978 population of 4.8 million and growing at 5 percent per annum, Bangkok dominated Thailand's urban scene (the next largest city was Chiang Mai with 105,000 people). It contributed 27 percent of Thailand's gross domestic product. The government was therefore keen that the city functioned well, but also interested in spreading growth over other regional centers. Bangkok's economy was vibrant, based on small-scale private enterprises. Unemployment was low at 2.5 percent. About 15 percent of people were under the relative poverty line (9 percent under the absolute poverty line), living in pockets spread throughout the urban area.</p> <p>The city at that time had a weak central area, characterized by a mixture of commercial and residential land uses. Numerous small centers, with mixed land uses dotted the area.</p>

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About 200,000 cars were registered in the city in 1976, having grown at 10.5 percent per annum in the preceding decade. There were also about 95,000 motorcycles and 60,000 trucks, growing at 8 percent and 7 percent, respectively. Roughly 10 percent of the population could afford a car, and 20 percent could afford access to some form of motorized transport.

Motorized daily travel was dominated by public transport modes, which accounted for about 65 percent of all passenger trips. Buses carried about 50 percent, minibuses another 12 percent, and the rest went by regular taxis and three-wheel rickshaws ("samlors"). Cars carried about 26 percent and motorcycles carried about 7 percent.

The public transport system was a mixture of conventional (fixed-route, fixed-stop) bus services and minibuses operating in paratransit fashion. Conventional services were provided by the state-owned Bangkok Mass Transit Authority (BMTA), with an active fleet of about 4,800 vehicles. BMTA carried about 3.3 million trips per day, with a high peak to base ratio. BMTA was created in early 1976 when the government took over some 24 private companies and invested heavily in fleet expansion. Only 2 years into its existence, BMTA was already in a poor financial state because of its internal problems (fusing so many companies and increasing the fleet by more than 150 percent in a short period of time) and had a major reliance on long-term loans to fund investments and operations. A difficult operating environment on city streets added to operating costs and reduced the level of service to passengers.

The paratransit domain consisted of two parts: about 2,000 "authorized" minibuses, which operated as franchises on the BMTA routes at government-established fares and carried about 600,000 passengers a day, and 5,000 to 8,000 minibuses. The latter were neither registered nor franchised and worked day and night at their own fares.

In spite of the still low level of motorization in Bangkok, traffic congestion was considerable and spread throughout the day. This problem was caused by both the structure of the road network and the absence of traffic management in its engineering and enforcement dimensions. The road network was unusually sparse (less than 10 percent of the area in the core), with just a few main roads and connectors. Most of the network consisted of narrow, meandering, and discontinuous minor streets (sois). A network of sois and canals, and associated travel modes (walk, bike, and boat), was a well-integrated organic system suited for local travel, but not up to handling longer journeys by the ascendant array of motor vehicles. The use of traffic engineering techniques was not much in evidence, and the police were not organized to perform routine enforcement functions.

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There was no institution with overall responsibility for urban transport in Bangkok. Fragmentation is the term that best described the status quo, with complex issues of authority and responsibility within and between the national and local governments. The city was managed by the Bangkok Metropolitan Administration (BMA), created in 1972, whose jurisdiction was over a wide range of urban services (e.g., education, health, sanitation, drainage, roads and canals, and other public works). Separate areawide authorities existed for important subsectors (e.g., housing, water, telephone, and power). In the urban transport domain, BMTA was responsible for public transport services, and the Expressway and Rapid Transit Authority dealt with the provision of major transport infrastructure. A Traffic Engineering Department existed within the BMA, but it had no traffic engineers and dealt mainly with traffic signs and markings. The (Bangkok) Metropolitan Police Bureau had overall responsibility for traffic law enforcement, but had no internal focus on traffic law enforcement until a new Traffic Police Division (TPD) was established in the course of preparing the current project.

The recognition on the national level of the critical nature of urban transport in Bangkok led to the commissioning of a large-scale urban transport study in 1973 (see below). In line with its recommendations, the government established several institutions. These included a National Traffic Board (NTB), which reported directly to the cabinet, and an 80-staff Urban Transportation Planning Office (UTPO) in the Ministry of Interior to act as NTB's secretariat. UTPO was meant to focus initially on Bangkok, gradually expanding its agenda to include other cities. When a Committee for Management of Road Traffic was formed, UTPO became its secretariat under the name Office of the Committee for Management of Road Traffic (OCMRT).

Generally, the government was favoring large-scale road and public transport projects. These included four new arterial roads, one of which was a tolled facility, to create downtown bypasses, connect the port and the airport with points north of the city, and open new areas for urban development. Plans to construct at least one rapid transit line also existed but were still in the feasibility study stage.

Prior studies:

An urban transport study for Bangkok was carried out in the period 1973–76 by F. H. Kocks and Rhein-Ruhr Ing GMBH Consultants, funded by the Federal Republic of Germany and supervised by the World Bank. Its host institution was the National Economic and Social Development Board.

The study produced a longer-term program of investments in major infrastructure, a short-term program of low-cost improvements, and recommendations for setting specialized institutions for urban transport. The government eventually realized that the short-term program was not in conflict with larger investments and would yield quick benefits.

Project objectives:

- (a) Increase travel speeds in Bangkok;
- (b) Increase the person-trip capacity of the existing transport system;
- (c) Improve the capability of Bangkok officials to plan, design, execute, and enforce urban transport projects and programs; and
- (d) Encourage urban and industrial growth outside Bangkok.

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Investment components:

- (a) **Equipment for institutions dealing with urban transport management** (US\$1.5 million): police equipment for the Traffic Police Division of the Metropolitan Police Bureau (cars, motorcycles, tow trucks, and radio communication equipment) and traffic monitoring equipment (counters, speed measuring devices, air pollution, and noise measurement instruments) for the Urban Transport Planning Office.
- (b) **Urban road improvements** (US\$24.2 million): signal coordination for 92 intersections; area signal control system including 48 intersections; signal modernization at 70 intersections; new signalization at 20 intersections; overpasses at seven sites, five of which would be associated with the area pricing scheme; street and intersection improvements outside the core area; construction of 10 missing road links; and signs and markings along major arterial roads.
- (c) **Public transport improvements** (US\$1.4 million): 100 km of with-flow bus lanes; bus and pedestrian priority measures in the core area; and 100 bus shelters and extensions at 40 bus bays where bus volume exceeds 50 vehicles per hour.
- (d) **Policy measures** (US\$0.57 million), details below.
- (e) **Technical assistance and training** (US\$3.17 million):
 - (i) One hundred twenty expert-months of technical assistance to UTPO for internal organization matters, and all aspects of developing and implementing urban transport policies and projects;
 - (ii) Six expert-months of assistance to UTPO for public relations;
 - (iii) Eight expert-months of technical assistance to UTPO for setting up a traffic monitoring program, inclusive of monitoring of project impacts (this was in addition to a US\$72,000 grant by the United Kingdom Overseas Development Administration through the Transport and Road Research Laboratory Road for monitoring project impacts, to be carried out by the Asian Institute of Technology);
 - (iv) Seventy-five expert-months of assistance to BMTA with a special focus on operations and financial management;
 - (v) Training program for the TPD; and
 - (vi) One hundred expert-months for the carrying out of an Eastern Seaboard and National Secondary Cities Development Study.
- (f) **Design and supervision** (US\$3.08 million).

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Policy components:	<p>(a) Introduction of area congestion pricing, Singapore style, expected to generate about US\$15 million annually; it was left open whether this revenue would go into the general budget or be earmarked for investments in Bangkok road network through a special fund; details to be established by the National Traffic Board;</p> <p>(b) Revision and expansion of the on-street parking management program to favor short-term over long-term usage, and the use of attendants vs. parking meters;</p> <p>(c) Introduction of staggered work and school hours; and</p> <p>(d) Introduction of a traffic noise abatement program and air pollution detection along major corridors.</p> <p>Details of (a), (b), and (c) to be worked out by the National Traffic Board.</p>
Institutional components:	<p>Staffing and technical assistance to strengthen the two newly established institutions:</p> <p>(a) Traffic Police Division of the (Bangkok) Metropolitan Police Bureau, inclusive of a noise control program; and</p> <p>(b) Urban Transportation Planning Office, inclusive of a new air pollution monitoring program.</p>
Monitoring indicators:	<ol style="list-style-type: none">1. Travel speeds to increase to increase 25 percent for cars and 40 percent for buses on principal arterials;2. Traffic delays at intersections with new overpasses to decrease by 20 percent;3. Number of buses overloaded in peak hours to decrease (no targets cited);4. Car occupancy within the pricing area to increase by 20 percent;5. Number of person trips into and within central area to remain constant;6. Public transport modal share to increase by 15 percent;7. Noise levels on arterial streets to reduce to standards; and8. Implement the pricing program to all spaces with an occupancy of 85 percent or higher.
Additional features of the project:	<p>No feasibility studies and no engineering designs were carried out before loan approval. The project was prepared based on the recommendations of the above cited Kocks study.</p>
Complementary and related operations:	<p>Second Kuala Lumpur Urban Transport Project (Loan 1214-Ma, approved in 1976) also featured traffic management and area congestion pricing.</p>

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Status and results:

The project ran into technical and political difficulties already in the beginning of the implementation period and was rated a problem project throughout its course, several times being on the verge of cancellation. Eventually the project was restructured and implemented in a substantially reduced and different form, becoming essentially empty of policy content and with only minor progress on the institutional front.

Implementation problems included staff shortages and inexperience in executing agencies; the need to have new laws passed before some subprojects could be implemented; unclear lines of authority for multiagency matters and generally a lack of cooperation among agencies and unresponsiveness of some key agencies (Public Works Department of the BMA); conflicts among agencies responsible for traffic management; unilateral actions by agencies affecting the program being carried out under the project; abandonment of policy commitments, notably the rejection of the area pricing scheme by the new Minister of Interior in 1979, itself a response to a popular discontent; poor design of some physical investments (overpasses); and accusations of graft related to the traffic signal component.

Main outputs and changes in the investment and policy components:

- Minor road improvements were grouped into 10 comprehensive route improvement schemes, including improvements at five major intersections, and were redefined as components, these activities becoming the major and successful physical output of the project.
- One hundred kilometers of with-flow bus lanes were introduced, and an intensive regime of police oversight was applied, making this component a success; the initial level of enforcement could not be sustained, leading to a decrease but not elimination of benefits; the government subsequently (in 1984) expanded the bus lane system as a part of one-way traffic scheme done outside the project, this time using a contraflow approach.
- Initially there was a major expansion of the area signal control system, followed by its cancellation.
- Six out of seven overpasses were canceled.
- The component to construct missing road links was canceled.
- The area congestion charging scheme was abandoned.
- The parking management program was implemented in part: parking was banned on 39 major arterials, with good compliance; the charging system was not introduced. Staggering of work and school hours was abandoned as inappropriate in a setting where there were no discernable peaks.
- Technical assistance was doubled relative to appraisal estimates. The increases were needed to support technically complicated expansion of the traffic signal system and to carry out an additional and highly successful study, the Short Term Urban Transport Review, consisting of a resource-constrained urban transport investment and policy agenda for Bangkok.

In the institutional dimension, implementation of organizational and staffing changes fell far short of those agreed on at negotiations. Overall, the problem of lines of responsibility and authority remained both within and between agencies equally at the national and the city level, and qualified staff remained scarce in spite of training provided under the project. UTPO, or rather OCMRT as it was renamed, acquired a large staff (about 100), many of them having worked on the Kocks study and having solid technical skills, but never truly became the lead agency for the project. It had problems dealing with city institutions from its position in a national ministry, while lacking the promised high-level support in decision making. The committee it was under met only a couple of times throughout the project. Eventually it was shorn of its operational functions, remaining a national body for policy, planning, and standards. The Traffic Engineering Department (TED) took over as the lead agency under the project, but the transfer of skilled staff from OCMRT to TED did not take place. Similarly, the new Traffic Police Division suffered from a lack of proper integration in the existing police hierarchy and never grew to a full staff complement. Also there were tensions between the TED and the police regarding the authority over traffic schemes, notably the signal system.

Main lessons:

1. Traffic management should not be seen as a substitute for major investments but as their complement, with its relative importance based on city-specific situations. In Bangkok, major road investments were clearly warranted; therefore, a project design combining the two, with a whole system analysis in the background, would have been better. As it transpired, expenditures under the project amounted to 1.4 percent of total transport investments in Bangkok in the period 1980–84, a size illusory attracting and maintaining the attention of decision makers, and for leveraging major policy and institutional changes.
2. There is no substitute for a thorough preparation of projects before they are presented to the Board, including diagnostic (sector) work, strategy, engineering designs, and feasibility studies. This said, there is a case for using a program approach for traffic management, retaining the flexibility to add, drop, or extend subcomponents as the project unfolds.
3. Restructuring physical investment components in the course of implementation proved to be possible and productive, thus making up for omissions caused by incomplete preparation. On the contrary, this was not possible with institutional and policy components. These aspects therefore require an especially thorough preparation regarding the capacity and commitment. The experience with area congestion pricing in Bangkok provided a striking illustration of this issue, wherein a trust in one powerful individual's position could not make up for insufficient understanding of the dynamic of relevant institutions, including both the political system and the implementing agencies and probable reactions of the beneficiaries and losers (on all sides).

BANGKOK TRAFFIC MANAGEMENT PROJECT (P004705)

4. Even seemingly minor initiatives, such as those in the traffic management program for Bangkok, require a deep analysis of local institutions and the wider local milieu. Since traffic management involves small expenditures, hence diffuse benefits and dis-benefits, the organization, leadership, and motivation of local institutions are pivotal factors, as is the distribution of impacts on the local community.
5. Very high rates of return are a signal that the approach to economic evaluation should be re-examined.
6. Small-scale interventions in complex and dynamic situations, such as traffic and transport in Bangkok, pose great challenges not only in implementation but in measuring and attributing impacts. This calls for much care in designing the monitoring activities and also implies that project impacts must not be oversold at the approval stage.

Team: **Preparation:** D. B. Cook, G. Roth, R. Podolske, and K. Willen (staff); K. Huddart (consultant).

Profile author and date: Slobodan Mitrić, March 26, 2015

Key Documents of the Thailand: Bangkok Traffic Management Project

Project Appraisal Document:

World Bank. 1978. *Thailand - Bangkok Traffic Management Project – Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1978/11/726801/thailand-bangkok-traffic-management-project>

Loan Agreement:

Legal ISC Files. 1978. *Thailand - Bangkok Traffic Management Project: Loan 1638 - Loan Agreement - Conformed*. Washington, DC. <http://documents.worldbank.org/curated/en/1978/12/18202721/thailand-bangkok-traffic-management-project-loan-1638-loan-agreement-conformed>

Project Performance Audit Report (contains Project Completion Report):

World Bank. 1987. *Thailand - Bangkok Traffic Management Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/685491468915330726/Thailand-Bangkok-Traffic-Management-Project>

SECOND (PORTO ALEGRE) URBAN TRANSPORT PROJECT (P006307)

Country:	Brazil
Borrower:	Federative Republic of Brazil
Implementing agency and arrangements:	State of Rio Grande do Sul Empresa de Trens Urbanos de Porto Alegre (TRENSURB), containing a project implementation unit (Nucleo Executivo de Projecto) Fundacao Metropolitana de Planejamento (METROPLAN) Rede Ferroviaria Federal S.A. (RFFSA) Empresa Brasileira de Planejamento de Transportes (GEIPOT) Empresa Brasileira de Transportes Urbanos (EBTU)
Concept review date:	September 1977 (identification mission)
Board approval date:	May 6, 1980
Effectiveness date:	December 9, 1980 (actual)
Closing date:	December 31, 1984 (original); December 31, 1986 (actual)
Instrument category:	Standard investment loan
Project type:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	312.8 million
Financing plan (US\$):	World Bank loan: 159 million (Loan 1839-BR), on-lent through the EBTU to TRENSURB; Federal Government through the EBTU: 73.66 million RFFSA: 67.90 million State of Rio Grande do Sul: 17.52 million Porto Alegre Municipality: 4.30 million Others: 18.22 million
Final project cost in US\$:	249.4 million (refers to a changed scope of the project)
Amount disbursed in US\$:	133.0 million
Diagnostic highlights:	Like other urban areas in Brazil in the 1960s, Porto Alegre experienced rapid urban growth, much of it based on low-skill migrants from rural areas, small towns, and secondary centers. The newcomers tended to settle in peri-urban areas, creating a huge demand for infrastructure and services while having low ability to pay and not contributing to the local tax base. On the supply side, there was a problem of governance. Large urban areas consisted of multiple municipalities, without there being a metropolitan-level government and metropolitan-level agencies. The federal and state governments actually played metropolitan roles, with relative degrees of involvement depending on the sector in question.

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As this project was being appraised, the metropolitan region of Porto Alegre had 2.38 million people, a result of a 5 percent growth, most of which was attributable to migrants. Between one-third and one-half of households were considered poor, this in spite of the region having high average income per capita. The metropolitan region consisted of a large municipality of Porto Alegre (1.9 million population) on the eastern bank of Rio Guaíba (lake), itself a part of a large delta, and a string of smaller municipalities strung along a narrow northwards corridor with a four-lane divided road as its spine. The region was the prime economic engine of the state, accounting for half of all industrial production and about 40 percent of its total output.

The transport system was road-based, with buses carrying about 67 percent of 1.95 million daily motorized trips in 1979, and cars and taxis carrying about 30 percent. The car fleet was 251,000 vehicles (about 105 vehicles per 1,000 population), having grown at an annual rate of 12 percent over the preceding decade. An old, meter-gauge, overage and little used railway line, owned by the Federal Railway Company, went northward from the central city for about 24 km, and an abandoned rail right-of-way continued for another 6 km to the municipality of Novo Hamburgo. The line carried a negligible number of passengers on commuter trains and some freight traffic generated by the port.

Bus services were provided by 42 privately owned companies. Of these, 32 were licensed by municipalities to provide intramunicipal services, and 10 were licensed by the State of Rio do Sul to provide intermunicipal services. Fares were regulated by the state and municipalities, subject to a review (and approval) by the National Interministerial Council on Prices. Operators were profit making, but the level of service was low because of passenger overloading and street congestion, which was reaching high levels.

On the institutional side of urban transport in the Porto Alegre region, there was flux and multiple players. The federal government was creating organizational and funding instruments to implement the urban strategy included in the Third (national) Development Plan (1980–85). The strategy aimed to prevent excessive growth in the Southeast (Rio and São Paulo), encourage the development of secondary cities, and introduce a system of metropolitan government. In 1975, the government created the Brazilian Urban Transport Corporation (EBTU), an autonomous agency under jurisdiction of the Ministry of Transport, charged with promoting national urban transport policies and investing directly in urban transport projects. A National Transport Planning Agency, GEIPOT, was set up also under the auspices of the Ministry of Transport, essentially a think-tank for the entire transport sector.

Initially, the EBTU was funded from the Urban Transport Development Fund (a subfund of the National Urban Development Fund), which was nourished from fuel tax revenues and vehicle registration fees. It was anticipated (in 1980) that the EBTU would be getting major additional funds from the Energy Mobilization Program.

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In 1975, the State of Rio do Sul established METROPLAN, a metropolitan planning agency for the Porto Alegre region to coordinate land use and social and economic activities, including all public services. It was also in charge of updating the region's master plan, but it still lacked the capacity for this work. Nor did it have the power to ensure that municipalities would follow the master plan.

In 1979, in the course of preparing this project, the state acted under an existing federal law to create the Agency for the Coordination and Regulation of Transport, Nucleo Metropolitano de Transportes Urbanos, (NMTU) for Porto Alegre. This agency, still in the process of birth as this project was being appraised, was to take over the regulation of all bus services from the state and the municipalities, inclusive of fare regulation. It was also to have responsibilities and powers to manage the private vehicle traffic through parking and other user charges and taxes, review and advise all proposed transport investment decisions in the metropolitan area, and prepare a rolling 5-year transport plan to guide public and private investment decisions.

Porto Alegre had already taken part in the federal urban transport initiatives. Various street improvements funded under the Bank's First Urban Transport Project, piloted by the EBTU, had improved the situation somewhat, and an exclusive bus lane was about to be introduced in 1980. The growth prospects, however, indicated that these actions would not suffice to ensure a good level of transport services in the region, especially in the spinal north-south corridor. The strategic leaning of some major decision makers was to provide for the motor vehicle traffic. A proposal to build another urban expressway in the north-south corridor, on a 24-km stretch between Porto Alegre and Scharlau, was already under development. The situation indicated the need for stronger action in favor of public transport passengers and disciplining the use of individual motor vehicles.

Prior projects:	Brazil – Urban Transport Project , approved in 1978 (Loan 1563-BR), focused on road infrastructure and traffic management in five cities (including Porto Alegre). Its aims were to improve the mobility of residents of low-income areas and the street environment of public transport modes.
Development objectives:	<ul style="list-style-type: none"> (a) Establishment of an independent urban rail company, to operate on the existing right-of-way, to be run on commercial basis; (b) Modal shift from automobiles and buses in the north-south corridor of the Porto Alegre metropolitan area to the new rail line; and (c) Stimulation of growth centers around rail stations in line with the metropolitan land use master plan.
Monitoring indicators:	None

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Investment components:

- (a) Construction of a 26.7-km broad-gauge railway line between the central market of Porto Alegre and the Municipality of Sapucaia (US\$161.6 million), including track, fencing, signals, telecommunications, power substations, and catenary; 14 passenger stations; 16 pedestrian underpasses or overpasses; 10 road vehicle bridges; six railway bridges; unit train maintenance depot and administration building; and construction of automobile parking lots near stations with a total capacity of 13,500 spaces;
- (b) Purchase of 25 electric unit trains (US\$124 million);
- (c) Expropriation of about 339,000 m² of land for part a; expropriation of land sufficient for 9,000 parking spaces; expropriation of 63,000 m² of land for the future continuation of the line to Novo Hamburgo (US\$23.3 million);
- (d) Studies and programs (US\$3.9 million: (i) organizational study of TREN-SURB; (ii) preparation and monitoring of a program to restrict the use of automobiles in the Porto Alegre metropolitan area; (iii) study of the bus network restructuring following the start-up of rail operations; (iv) study of commercial development around rail stations and updating and revision of the METROPLAN's land use master plan; (v) feasibility study of the new line's extension to Novo Hamburgo and, if adopted, the necessary reorganization of TREN-SURB; and (vi) study of the levels and structure of all transport fares in the Porto Alegre metropolitan region, including charges for satellite and other automobile parking.

Policy components:

- (a) Introduction of an automobile restriction program, including but not limited to parking restriction, based on a study to be carried out, in the entire metropolitan area but in particular in the north-south corridor; and
- (b) TREN-SURB to cover its direct operating costs from fare revenue.

Institutional components:

- (a) Creation of TREN-SURB, initially as a subsidiary of the Federal Railway Company (RFFSA), to become an independent (nonsubsidiary) company by 1983, with RFFSA and the EBTU holding 39 percent of shares each, and run as a commercial enterprise; the remaining shareholder will be the Municipality of Porto Alegre, possibly BNDE and other municipalities in the metropolitan area; and
- (b) Development of the NMTU into a full-scale agency for transport matters in the metropolitan region (implicit in project documents).

Additional project features:

Economic evaluation involved an alternatives analysis, with a range of options, including a base case, a bus expressway in the rail right-of-way, an improved diesel train service, a light rail, a new road with an exclusive bus expressway.

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Legal covenants:

- The Borrower shall ensure that no construction of any new highway between Porto Alegre and Scharlau is begun before a feasibility study, satisfactory to the Bank, is completed and reviewed by the Borrower and the Bank (Loan Agreement, Section 4.02).
- TRENSURB is to review its passenger traffic and revenue not less than once every 6 months (or whenever fares of its competitors were changed) and the Borrower to authorize adjustments in TRENSURB fares as to permit the company to cover at least its operating expenses through fare revenue (Loan Agreement, Section 4.03, and Project Agreement, Section 3.10).
- Unless the Bank would agree otherwise, TRENSURB is not to borrow funds other than the loan proceeds unless 3 years have elapsed from the commencement of operations, and unless such borrowing would not result in debt service amounting to more than TRENSURB's average annual net operating income plus depreciation for the immediately preceding 2 fiscal years or a later 24-month period ending before the incurrence of that debt service (whichever is greater) (Project Agreement, Section 3.07).
- The Borrower (through the EBTU) is to inform the Bank at least once per year of its National Urban Transport Investment Plan (Loan Agreement, Section 4.04, and Project Agreement, Section 4.06).
- The State of Rio Grande do Sul is to ensure that (i) a study of automobile restrictions is carried out; (ii) the proposed program is reviewed with the Bank; (iii) the program is thereafter implemented; and (iv) the results are monitored through NMTU (Project Agreement, Section 4.04).
- The EBTU is to provide to the Bank until December 31, 1988, an analysis of the likely impact on this (Porto Alegre rail) project of any proposed passenger transport project within the metropolitan area with total costs exceeding US\$10 million and consult with the Bank (Project Agreement, Section 4.05).

Status and results:

The project was completed with 2 years' delay. The investment program was implemented in full, but major objectives of the project were not achieved: (a) TRENSURB did not become a financially independent company; (b) modal shift from cars to public transport (25 percent of car users) did not take place and the shift from buses was much smaller than forecast; and (c) the line had little if any impact on urban development.

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The suburban rail line was constructed successfully and started operations in March 1985, first on a pilot basis, gradually building up to a normal service regime. TRENSURB overcame its birth pains, functioned well, and provided good-quality services. The actual construction costs were about 20 percent lower than forecast at appraisal. All other outcomes were negative. The actual passenger demand in 1986 was less than half of what was forecast at appraisal: 113,000 passengers per day versus 260,000 forecast. (It remained at that level over the next decade.) The agreed fare study was very much delayed, and the fare reform had not yet taken place in 1987. Fares actually charged were not 20 percent above those in bus services, but 20 percent lower than for buses. The revenue therefore was a fraction of what was forecast; US\$2.37 million in 1986. On the contrary, direct operating costs were much higher: US\$12.6 million actual in 1986 versus 8 million forecast. The main difference was in labor costs, the company having 1,300 staff versus 634 in the forecast. Since it was established that TRENSURB functioned in an efficient manner, and that its staffing level was not excessive, the error was entirely in the forecast.

TRENSURB's finances reflected the above outcomes. The operating ratio was 1.38 versus 0.80 expected. The operating subsidy in 1986 was about US\$16 million.

Apart from the technical quality of the ex-ante project evaluation, especially the forecast of the modal shift, the reasons for these shortfalls were multiple. Traffic in the north-south corridor was far lower than forecast, in part because of the persistent economic slump and lower population growth in the metropolitan area. The planned housing developments in the corridor did not materialize and, generally, the urban master plan was not followed. The modification of the bus network to provide feeders to the rail line was slow and incomplete, and at least some bus companies continued to provide services parallel to the rail line. Finally, the agreed measures to reduce car use (parking charges) and encourage modal shift (e.g., provision of parking at stations) did not materialize.

The exercise in ex post economic evaluation at project completion reduced the internal rate of return to 11.5 percent from 24 percent forecast at appraisal. A subsequent (1994) update of ex post analysis reduced it even further to 5 to 10 percent. The main beneficiaries were low-income residents using the rail line, who got high-quality services at fares lower than street buses. It was estimated that these passengers received benefits equivalent to 30 to 50 percent of travel costs. Other beneficiaries included the State of Rio do Sul, municipal governments in the area, and businesses in the central area, all of whom made small investments in the project. The federal government bore the costs, first as the equity investor, then as a borrower from the Bank, and finally as payer of a large annual subsidy.

Though not a formally stated project objective, the project tried to build up the NMTU as a transport investment planning and regulatory institution, taking over functions hitherto belonging to state ministries and municipalities. This initiative did not succeed because of legal lacunae concerning NMTU's prerogatives, political opposition, and technical weakness of the institution. The study of public transport fares was a victim of NMTU's problems. In 1984, NMTU was disbanded, with METROPLAN expected to take over its agenda, but facing similar problems.

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Lessons:

1. Traffic and financial costs of this type of projects are subject to large margins of error, therefore large risks. Better forecasting techniques are warranted, and a risk-focused approach should be used in project design.
2. Economic benefits from large-scale urban transport improvements cannot be translated fully into financial gains for public transport operators (especially in the presence of poverty on the demand side). This result should be anticipated and the affordability of financial consequences should be assessed.
3. This type of urban transport improvements can have benefits beyond those contained in transport cost savings (e.g., preservation or enhancement of urban capacity for providing commercial, financial, administrative, social, and other services). Ex ante evaluation should try to estimate these, even if only as a complement to standard economic evaluation.

Subsequent projects:

Brazil - Third Urban Transport Project, approved in 1981: a US\$90 million loan (Loan 1965-BR) funded transport improvements in about 150 cities and supported the strengthening of the EBTU, the federal urban transport agency responsible for urban transport policy and federal investments in urban transport projects.

Team:

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Performance audit (1994): A. Weckerle

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Slobodan Mitrić, May 20, 2015

Key Documents of the Brazil: Second Urban Transport (Porto Alegre) Project

Project Appraisal Document:

World Bank. 1980. *Brazil - Second Urban Transport (Porto Alegre) Project – Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1980/04/726414/brazil-second-urban-transport-porto-alegre-project>

Loan and Project Agreements:

World Bank. 1980. *Brazil - Second Urban Transport (Porto Alegre) Project: Loan 1839 - Loan Agreement - Conformed*. Legal ISC Files, Washington, DC. DC. <http://documents.worldbank.org/curated/en/1980/05/18210311/brazil-second-urban-transport-porto-alegre-project-loan-1839-loan-agreement-conformed>

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Project Completion Report:

World Bank. 1987. *Brazil - Second Urban Transport (Porto Alegre) Project – Project Completion Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1987/12/740317/brazil-second-urban-transport-porto-alegre-project>

Project Performance Audit Report:

World Bank. 1994. *Brazil - Second Urban Transport (Porto Alegre) Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/422391468914787873/Brazil-Second-Urban-Transport-Porto-Alegre-Project>

CALCUTTA URBAN TRANSPORT PROJECT (P009769)

Country:	India
Borrower:	Government of India
Implementing agencies and arrangements:	<p>State of West Bengal; Calcutta Metropolitan Development Authority; Calcutta State Transport Corporation; Calcutta Tramways Company, Ltd.</p> <p>Project managed by a Chief Project Officer, appointed by State of West Bengal, assuming all the powers held by the Secretary, Home (Transport), with requisite staff. A high-level (state secretaries) Project Steering Committee, chaired by the Chief Project Officer, set up to make policy decisions and ensure counterpart funding.</p>
Concept review date:	July 1978 (first mention in files)
Board approval date:	June 3, 1980
Effectiveness date:	January 1981
Closing date:	December 31, 1984 (original); December 31, 1985 (actual)
Instrument category:	Standard investment loan
Project type by sector:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	121.7 million
Financing plan (US\$):	56 million - World Bank credit (Credit 1033-IN)
Final project cost in US\$:	98.3 million
Amount disbursed in US\$:	44.6 million
Diagnostic highlights:	<p>The Calcutta Metropolitan District (CMD) is the name of a planning region given by the State Government of West Bengal to a huge conurbation with 9.9 million people in the late 1970s, the largest in India. It had grown on both banks of the Hooghly River, with what was once an identifiable city of Calcutta as its root and heart (3.7 million in the late 1970s). Annual population increase in the CMD was about 200,000. The majority of people were poor. About 61 percent of the CMD's population (6 million people) lived in households with incomes of US\$42 per month, or less.</p> <p>The area was notorious for its poor infrastructure and services, polluted environment, poverty, and slums, made worse by intermittent floods, some of them devastating.</p> <p>Transport in the area was road-based, with minor roles played by railways and river ferries. The road network accounted for only 6 percent of the total land area, among the least dense in the world. Thus, in spite of low motorization (about 20 vehicles per 1,000 population), streets were highly congested. The street scene was a traffic engineer's nightmare, clogged by a mixture of buses (standard, double-decker, and mini), trams, taxis, trucks, hand-drawn rickshaws and carts, and pedestrians spilling over from sidewalks. Sidewalks were narrow, broken down, and multi-use.</p>

CALCUTTA URBAN TRANSPORT PROJECT (P009769)

The public transport services were provided by private bus operators (about 65 percent of the public transport market) and two state-owned operators: the Calcutta State Transport Corporation (CSTC) and the Calcutta Tram Company (CTC). CSTC carried about 14 percent of the market, with 1,000 buses and 13,000 staff. CTC carried about 11 percent of the market, with a fleet of 440 tramcars and 9,100 staff. In addition, India Railways carried about 9 percent and ferries across Hooghly carried about 0.6 percent. The first metro line, funded by the Government of India, had been under construction since 1973.

The history of road-based public transport operations in the CMD had been stormy, marked by tensions between the government, state-owned operators, private operators and their bankers, unions, and passengers. Private operators were forbidden in 1960, but reauthorized in 1966 to provide the capacity that state-owned operators could not. The main tension had to do with fares, which the government kept low because of affordability to huge segments of low-income people. Fares in Calcutta were the lowest in India and the world. As this project was being prepared, private companies were managing to stay afloat financially, but the regulatory system was still hostile to them (e.g., by keeping short the period of validity of service permits). The state-owned operators were not covering their variable costs. Subsidies they received were far from sufficient to ensure normal operations and management. Over time, acting together with a particularly adverse street environment, financial problems created a negative feedback loop of inefficient production and poor services. Route planning and operations management were inadequate. Both bus and tram fleets were aged and subject to breakdowns. Many vehicles were immobilized, contributing to exceptionally high staff ratios (25.5 per bus in service, several times those in similar companies in Mumbai and Madras). Services were characterized by long waits, irregularity, severe overcrowding, bumpy rides, and frequent breakdowns. Young, old, female, and infirm passengers were de facto excluded from service or suffered inordinately.

The State Government of West Bengal was de facto government of the conurbation, with authority over all services provided by Calcutta Municipal Corporation and all other municipalities in the CMD. There was no conurbation-level government. All national roads passing through the conurbation were under the authority of the Government of India, as were the railways and the metro (see below).

The Calcutta Metropolitan Development Authority (CMDA) was set up (by the Government of West Bengal) in 1971 to plan, design, and construct infrastructure in CMD. (This is in contrast with Madras, where sector agencies were responsible for projects in their sector, with a centralized mechanism to ensure coordination.)

The Home (Transport) Department of West Bengal, specifically its Public Vehicles Department, regulated all public transport services in the state. In CMD, route permits were granted by a Regional Transport Authority, presided by the Director of Public Vehicles Department, and comprising District Magistrates, the Executive Engineer of the Highway Division, representatives of the police, and six members from nongovernmental organizations.

CALCUTTA URBAN TRANSPORT PROJECT (P009769)

Prior projects:

Calcutta Urban Development Project, funded through Credit 427-IN, US\$35 million (36 percent of project costs), was approved in 1973. It included a multisector program of urban infrastructure, such as water supply, sewerage, drainage, and road and traffic improvements.

Second Calcutta Urban Development Project, funded through Credit 756-IN, US\$87 million (50 percent of total project costs), was approved in 1977. It had an expanded scope of work, including area development schemes, slum improvements, education and health care, small-scale enterprises, solid waste, and traffic engineering. It also contained development planning and investment programming.

There were two additional large transport projects, both funded by the Government of India, whose construction overlapped with the Bank-funded project: a second bridge over the Hooghly River, and a north-south metro line for Calcutta, commenced in 1973 (the first metro in India). The latter was being constructed using a cut-and-cover technique, which meant that traffic on several major arterials was all but immobilized.

Development objectives:

From the Memorandum of the President: The purpose of the project is to improve the efficiency of transport services provided by **public and private** operators in the Calcutta Metropolitan District.⁴⁹ It would accomplish this purpose by: (a) introducing a series of policy and administrative measures designed to improve management in CSTC and CTC and to facilitate and improve private bus operations; (b) supporting a program of physical investments by CSTC, CTC, and CMDA to expand and rehabilitate the physical plant of the bus and tram undertakings, ease traffic congestion in the CMD, and improve road and traveling conditions for transport operators and passengers; and (c) providing technical assistance to CTC, CSTC, and CMDA to facilitate project implementation, transport planning, and project monitoring and evaluation.

Investment components:

CSTC components (US\$54.39 million, including contingencies):

- (a) Purchase of 530 buses and spares;
- (b) Construction of a bus workshop;
- (c) Remodeling of the existing Belghoria central workshop;
- (d) Provision of a new bus depot and remodeling and re-equipping of four existing depots;
- (e) Technical assistance to CSTC for detailed engineering, preparation of tender documents, and supervision of works; and
- (f) Training for CSTC staff and managers.

⁴⁹ A subarea of the CMD including the Calcutta (City) Corporation, the Howrah Municipality across the river, and eight contiguous municipalities was chosen by the Government of West Bengal as the inner urban zone for the purpose of transport planning generally and for this project specifically.

CALCUTTA URBAN TRANSPORT PROJECT (P009769)

CTC components (US\$52.35 million, including contingencies):

- (a) Acquisition of 75 new tram cars, rebuilding of 60 tram cars, and renovation of 105 tram cars;
- (b) Modernization of the main workshop;
- (c) Upgrading of the power supply system;
- (d) Upgrading of the track system;
- (e) Upgrading of six substations and provision of one new substation;
- (f) Modernization of seven depots and three terminals;
- (g) Upgrading of the lighting, illumination, and communication systems;
- (h) Technical assistance to CTC for detailed engineering, preparation of tender documents, and supervision of works; and
- (i) Training for CTC staff and managers.

CMDA components (US\$14.96 million, including contingencies):

- (a) Provision of four bus terminals and 15 private bus terminating points;
- (b) Provision of passenger shelters along major transit corridors;
- (c) Traffic engineering improvements along major transit corridors;
- (d) Route rationalization study for CMDA, including assessment of socio-economic impacts of changes made under the project; and
- (e) Technical assistance to CMDA for detailed engineering of traffic and terminal schemes.

Policy initiatives:

The Government of West Bengal was to

- (a) Carry out (through the Transit Planning Cell) a route rationalization study for all buses and trams; and establish a standing committee to review the results, implement them as agreed, and monitor impacts on periodic basis (Project Agreement, Section 3.08a);
- (b) Hire additional technical and supervisory personnel to enable the Public Vehicles Department to supervise private bus operations in the project area (Project Agreement, Section 3.08b);
- (c) Convert all temporary route permits for private buses in the project area to permanent permits valid for not less than 3 years (Project Agreement, Section 3.08c);
- (d) Maintain a parity in fares to be charged by public and private bus operators in the project area (Project Agreement, Section 3.09);
- (e) Pay annual subsidy of Rs105 million (about US\$13 million) to CSTC and Rs55 million (about US\$7 million) to CTC for the duration of the project and not exceed it thereafter; any surplus cash by two companies to be credited to their depreciation account and not used for fleet expansion (Project Agreement, Section 4.03);
- (f) Cause CSTC and CTC to maintain their debt to equity ratios at 67:33 or less (Project Agreement, Section 4.04);

CALCUTTA URBAN TRANSPORT PROJECT (P009769)

- (g) Ensure that CSTC will not substantially exceed these operating ratios: 1.86 in 1980/81; 1.44 in 1981/82; 1.42 in 1982/83; and 1.20 in 1983/84; and implement a 25 percent fare increase by April 1, 1981 (Project Agreement, Section 4.05a); and
- (h) Ensure that CTC will not substantially exceed these operating ratios: 1.89 in 1980/81; 1.51 in 1981/82; 1.50 in 1982/83; and 1.32 in 1983/84; and implement a 25 percent fare increase by April 1, 1981 (Project Agreement, Section 4.05b).

Institutional initiatives:

Management and productivity improvements in CSTC, CTC, and CMDA:

- (a) Introduce improved cost accounting and repair recording procedures, specifically for CSTC's body rebuilding operation (Project Agreement, Section 3.02);
- (b) Establish a Management Support Unit to oversee organizational reforms to be agreed, in both CSTC and CTC (Project Agreement, Section 3.04);
- (c) Reform the bus retirement policy - CSTC only (Project Agreement, Section 3.05); and
- (d) Strengthen the Traffic Engineering Unit in CMDA (Project Agreement, Section 3.06).

Performance indicators:

For CSTS (Project Agreement, Schedule 2):

- (a) Staffing ratios: overall – 21.6 in 1980/81; 16.3 in 1983/84; traffic staff – 13.6 in 1980/81; 10.1 in 1983/84; departmental staff – 8.0 in 1980/81; 6.2 in 1983/84;
- (b) Average out-shedding ratio: 63 percent in 1980/81; 82 percent in 1983/84; and
- (c) Average km per bus per day: 165 in 1980/81; 176 in 1983/84.

For CTC (Project Agreement, Schedule 2):

- (a) Staffing ratios: overall – 31.8 in 1980/81; 25.5 in 1983/84; traffic staff – 15.9 in 1980/81; 12.3 in 1983/84; departmental staff – 15.9 in 1980/81; 12.3 in 1983/84;
- (b) Average out-shedding ratio: 75 percent in 1980/81; 90 percent in 1983/84; and
- (c) Average km per tram per day: 136 in 1980/81; 150 in 1983/84.

Complementary and related operations:

Bombay Urban Transport Project, funded through a credit of US\$25 million (Loan 1335-IN), approved in 1976, focused on the BEST bus company and traffic improvements.

Madras Urban Development Project, funded through a credit of US\$24 million (Credit 687-IN), approved in 1977, had a large component for the Pallavan Transport Corporation, the monopoly provider of public transport services in Madras and for traffic improvements.

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Status and results:

The loan was closed with a 12-month delay. By and large, the procurement of equipment and materials and construction of works went reasonably well, albeit with difficulties with land acquisition and shortages of critical materials common to urban projects in India at that time.

However, the only bright spot on the policy and institutional front was that the status of private operators was improved, and the number of private buses on the streets of Calcutta increased by 50 percent. In spite of investments, none of the objectives related to public transport companies were met. In fact, most performance indicators at the end of the project were worse than at its beginning. The internal reorganization in CSTC and CTC did not take place, labor relations were not resolved, and fares were not increased. Newly purchased buses did not fare well under street and traffic conditions prevalent in Calcutta (200 broke down, out of 300 total). In spite of a plethora of staff, there were shortages of drivers. Many bus and tram lines experienced problems and some had to be suspended because of construction activities for the metro. Both client companies lost traffic throughout the project period, decreasing their share of the market from 28 percent in 1979 to 17 percent in 1988.

The fact that public operators did not do well in spite of a large injection of capital and assistance, while private operators managed to operate at the same level of fares, indicates that the main underlying problems of CSTC and CTC were not fares, but management and labor.

Team:

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Profile author and date:

Slobodan Mitrić, May 1, 2015

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Project Appraisal Document:

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Project Performance Audit Report (contains Project Completion Report):

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THIRD URBAN TRANSPORT PROJECT (P006316)

Country:	Brazil
Borrower:	Federal Government of Brazil, through Empresa Brasileira dos Transportes Urbanos (EBTU)
Implementing agency and arrangements:	EBTU and management units in participating urban areas
Concept review date:	1979 (first mention in files)
Board approval date:	March 31, 1981
Effectiveness date:	October 20, 1981
Closing date:	June 30, 1985 (original); July 1, 1988 (actual)
Instrument category:	Hybrid between a standard investment loan and a sector loan
Project type:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	257 million
Financing plan (US\$):	World Bank 90 million (Loan 1965-BR); EBTU 87.5 million; Local agencies 79.5 million The mode of passing the Bank loan funds to local governments (grants or loans) was not pre-agreed, but was to await the outcome of one project-funded study.
Final project cost in US\$:	200.7 million
Amount disbursed in US\$:	90 million
Diagnostic highlights:	Urban population in Brazil increased from 11 million in 1950 to 20 million in 1960, 36 million in 1970, and 80 million in 1980. Most of this increase went to nine metropolitan regions and almost 40 percent of the total urban population was in Rio de Janeiro and São Paulo (these are 1970 data). Two aspects of this unprecedented urbanization process were critical: poverty (and joblessness) of newcomers and the emergence of huge settlements on urban fringes. The proportion of families living in relative poverty, based on the 1970 census, ranged from 55 percent in large cities in the south of the country to about 80 percent in the northeastern cities. The national challenge was to create employment opportunities and provide infrastructure and services for people who had none.

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Specifically regarding urban transport, problems were twofold: place based and access related. Peripheral areas lacked all amenities; shelter, water, drainage, and paved streets. Access to jobs from increasingly distant peripheral areas depended on the supply and price of public transport services, on road and traffic conditions, and on availability of sidewalks. In the more central areas of cities and in major corridors, problems of poor travelers intersected with problems caused by increased motorization of the middle class. The car fleet grew at 11 percent per annum since 1965, twice the rate of urban population growth. Public transport in urban areas consisted of street-based bus services, provided mainly by private operators regulated by various levels of government. In the mid-1970s, buses carried 52 percent of all motorized trips in São Paulo and 81 percent in Rio. Urban rail modes, essentially suburban services provided by the Federal Railway Company, were significant only in Rio and São Paulo, though lightly used suburban lines existed in some other cities. (Note: The first metro lines opened in 1974 in São Paulo and in 1979 in Rio.)

The Brazilian political system featured three levels of autonomous government (i.e., federal, state, and municipal), but with fiscal resources heavily concentrated on the federal level. About 80 percent of federal tax revenues were spent directly by sector ministries in some form of partnership with state and municipal governments and agencies. This structural tension between governments was exacerbated in large urban areas because of the absence of the urban level of government whenever a sector involved crossing municipal boundaries.

The federal government adopted its first strategy to approach the problem of cities within its Second National Development Plan (1975–79). The initial strategy aimed first to strengthen the administrative system and consolidate the provision of basic infrastructure and services. Second, it favored urbanization in larger medium-size cities in the country's interior, away from large urban areas in the south. This strategy was retained in the Third Plan (1980–85), but complemented by a turn toward decentralization and macroeconomic aspects such as redistribution, stabilization, and reduction of demand for imported energy. All of these had a major bearing on large urban areas.

The national urban program in the late 1970s was spearheaded by an interministerial council on urban development (Conselho Nacional de Desenvolvimento Urbano, CNDU). Two special-purpose institutions were of particular importance to urban areas. The first was the National Housing Bank (Banco Nacional de Habitacao, BNH), which focused on shelter and related infrastructure. The second was the Brazilian Urban Transport Agency (Empresa Brasileira dos Transportes Urbanos, EBTU), responsible specifically for urban transport policy and investments. Both institutions managed an array of urban programs with resources coming from dedicated funds. The EBTU's resources came from an Urban Transport Development Fund (Fundo de Desenvolvimento dos Transportes Urbanos, FDTU), itself a subfund of the National Urban Development Fund, Fundo Nacional de Apoio ao Desenvolvimento Urbano (FNDU). The FNDU was nourished from fuel and vehicle taxes. As this project was being prepared, the funding authority started to move back into the national investment budget administered by the Ministry of Planning.

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The EBTU, founded in 1976, was the major partner of the Bank in the First (multicity) and Second (Porto Alegre) Urban Transport Projects, working with state and local governments of participating cities. Initially its major activity (and capacity) was to distribute its earmarked funds responding to requests by local demands. Through experience and technical assistance in Bank-funded projects, the EBTU gradually acquired the capacity to develop policies and investment programs and manage their implementation. Its investment program in the 1977–79 period was heavily focused on metros (about 40 percent) and urban roads (about 30 percent). (Note: The Federal Highway Department also invested in urban roads, specifically the urban sections of interstate roads.)

Prior projects:

Brazil – Urban Transport Project, approved in 1978: a US\$88 million loan (Loan 1563-BR) funded road infrastructure and traffic management improvements in five cities (including Porto Alegre), with the EBTU as the coordinating institution. Its objectives were to improve the mobility of residents of low-income areas and the street environment of public transport modes.

Brazil – Second Urban Transport Project, approved in 1980: a US\$159 million loan (Loan 1839-BR) to construct and equip a 26-km suburban rail line in Porto Alegre. Its objectives included setting up an urban rail company run along commercial lines, with services good enough to cause a major modal shift from cars to public transport and influence land use development around stations. Again, the EBTU was a major partner of the Bank, and a co-investor in the project.

Development objectives:

- (a) Improve transport conditions in urban areas as set out in the Third National Development Plan; and
- (b) Improve operating efficiency of the EBTU needed in the light of its increasing responsibilities regarding transport policies and investments in Brazilian cities.

In the course of the project, improving the capacity of local and state institutions to deal with transport matters was added (also see item 2 in the following box).

Project structure:

The project had three major parts:

1. Improvements to transport infrastructure and operations in 10 medium-size cities and metropolitan areas, with emphasis on low-cost improvements, those favoring low-income population, and those crossing municipal boundaries (AGLURB program); typical works included traffic signals and signs, circulation schemes, road repair and rehabilitation, road drainage, bus lanes, bus turnouts, footpaths, pedestrian bridges, bike paths, road construction to correct structural weaknesses in the road network, and a limited number of ferry terminals or bridges;
2. A program to pave about 500 km of bus routes in poor areas (PROPAV program) complemented by elements contributing to local planning and operation of transport infrastructure and services; emphasis was on locally available materials and local construction techniques; and

THIRD URBAN TRANSPORT PROJECT (P006316)

3. The EBTU's institutional improvements including (a) reorganization of the EBTU's technical and operations directorates to align with the EBTU's programs; (b) strengthening of internal audit and performance review capability; (c) creation of a program coordination unit; (d) development and use by the EBTU of improved project appraisal and supervision systems, including manuals, guidelines, management systems, and control tools; (e) review of the EBTU's staff job descriptions and reassignments accordingly; (f) carrying out of a program for operational and technical training; and (g) carrying out of six studies: (i) urban transport planning under energy constraints; (ii) design and financing programs for the maintenance of urban transport infrastructure; (iii) methodology to calculate vehicle operating costs in the Brazilian urban context; (iv) bus services planning, regulation, and control; (v) bus operating procedures; and (vi) specific modalities for funding urban transport in urban areas through loans and EBTU grants.

AGLURB was designed to test the EBTU's capacity to prepare and supervise individual investments; thus it included only medium-size urban areas. The Bank team appraised investments in three cities, and the EBTU appraised the remaining seven cities, with only a final review by the Bank. PROPAV was to test the EBTU's ability for a program approach, without formal involvement by the Bank.

Investments by city and program:

1. Distrito Federal (US\$33.2 million)
2. Baixada Santista (US\$36.2 million)
3. Sao Luis (US\$12.7 million)
4. AGLURB projects in seven cities, to be appraised by the EBTU (US\$86.6 million)
5. PROPAV program (US\$76 million)
6. Technical assistance for the EBTU and local institutions (US\$12.3 million)

Policy components:

Implementation of a new maintenance policy for transport infrastructure, following the completion of the above cited study (Loan Agreement, Section 3.14(b))

Institutional components:

- (a) The updating of the EBTU's Project Manual and PROPAV Manual, both initially adopted on February 24, 1981 (Loan Agreement, Section 3.1(c)).
- (b) The production of methodologies, design guidelines, and standards on specific topics.

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Selected legal covenants:

- EBTU to sign financing agreements (“convenios”) with executing entities in participating urban areas (terms to be specified after the completion of the study cited in item 3(f) above (Loan Agreement, Section 3.05).
- EBTU to inform the Bank of any transport investment proposed in Distrito Federal and other participating municipalities before the closing date of the project, if it would exceed the cost of US\$3 million, provide the relevant information, and allow the Bank a reasonable opportunity to comment on any such investment before making it (Loan Agreement, Section 5.03). If such an investment shall materially and adversely affect a subproject of this project, the Bank may use the remedy of suspending disbursements for the part of the loan which applies to that subproject (Loan Agreement, Section 6.01(iii)).

Status and results:

Overall, the project was completed successfully, its physical investments were effective in improving transport infrastructure and services, and institutional capacity was increased both in the EBTU and the participating cities. The project took 5 years to complete (a delay of 1.5 years), with three extensions of the closing date and significant revisions of the program agreed on at appraisal.

The delay had multiple causes. The wider context of economic and political changes in Brazil made things difficult: recession, very high inflation, several devaluations, and the consequent budgetary squeeze. Availability of counterpart funds at all government levels suffered throughout the implementation period. Within the project, delays were caused by the EBTU's transformation being concurrent with a highly demanding management of a large investment program. Initially there were problems with the EBTU lacking detailed designs for AGLURB subcomponents and having legal issues regarding the transfer of loan funds to local governments. The reorganization of the EBTU took much longer than envisaged. Problems were also encountered in the relations between state and local governments, both in the political dimension and regarding the availability of counterpart funds.

Revisions included both reductions and extensions. Subprojects in Distrito Federal, Sao Luis, and Baixada Santista were reduced or canceled because of a combination of technical reasons and financial and political problems between participating municipalities and their states. These revisions and the fact that costs were overestimated at appraisal made it possible to add four urban areas to the AGLURB program. On the positive side, there was a major increase in the PROPAV program, first to 800 km, and ultimately to 1,056 km in 146 cities. This was also made possible by the cited reductions, cancellations and cost underruns. The technical assistance component evolved a second focus, providing training and technical assistance to local transport institutions in participating urban areas.

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The program of studies was reduced because of poor performance and changing ideas, a major disappointment for the institutional and policy aspects of the project. The studies of bus planning and regulation, bus operations, and vehicle operating costs were all canceled. A study to develop an urban transport information system was added in and carried out. The study on modalities of on-lending was delayed by 2.5 years, so its results were not used for this project. The infrastructure maintenance study was not completed in the form or timing to contribute to the project (and meet one of legal covenants). This important subject was to be taken up in the subsequent, Fourth Urban Transport Project.

The judgment on the institutional component is mixed. the EBTU was reorganized, consultants were employed, and training was carried out. This said, the monitoring indicators for the project being focused mainly on outputs and not on outcomes, it was not possible to gauge how much real improvement there was, in the EBTU and in cities. The system of Brazilian institutions to deal with urban problems was in flux. Ultimately, the EBTU was extinguished, its planning and policy development functions moving to the National Transport Planning Agency (GEIPOT), while investment functions went to ministries. Overall, it is fair to say that the EBTU became an institution capable of conceiving and implementing large programs, its two manuals were of good quality and widely used, and some training activities were very successful (e.g., training of 14,000 bus operators).

Lessons:

1. When institutional changes (e.g., EBTU reorganization) are on the critical path for the implementation of project investments, the former should be a part of early conditionality (conditions of disbursement).
2. Clearly defined and measurable indicators should have been included for institutional component.
3. Standard disbursement profiles should be used in complex programs.
4. Financial capacity of municipalities should be included among acceptance criteria.
5. Detailed designs for the first year's program should be completed at appraisal.
6. The use of local materials and technologies made a large difference in actual construction costs. It is recommended to carry out sample reviews of using local approaches to improve on cost estimation and schedule planning.
7. Given the difficulty of focusing on multiple aspects of the planning, management, finance, and implementation capacity on the local level for so many smaller cities, it may be advantageous to include routine, small-scale transport improvements in urban development projects, while making urban transport projects focus on large-scale interventions in major urban areas.

THIRD URBAN TRANSPORT PROJECT (P006316)

Subsequent projects:	Brazil – Fourth Urban Transport Project , approved in 1987: a US\$200 million loan (Loan 2822-BR), with a double focus – at the federal level (EBTU) and agencies in nine metropolitan regions. Physical investments would include corridor improvements, public transport fleet replacement, and road maintenance in the participating metropolitan regions, while policy and institutional initiatives would be at both federal and local levels. A major Policy Action Plan was adopted by the government before loan negotiations, its execution a legal covenant. The project was stopped early in the implementation period, after the government of Brazil closed down the EBTU in 1989, in line with the decentralization provisions of the new Brazilian constitution.
Team:	Appraisal: P. Watson (lead), C. H. Mumme, E. Haythorne (staff), N. Boyle, J. Cracknell, J. Hicks, and W. Reilly (consultants)
Profile author and date:	Slobodan Mitrić, May 22, 2015

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SECOND URBAN DEVELOPMENT PROJECT (P001134)

Country:	Cote d'Ivoire (Ivory Coast)
Borrower:	Government of the Republic of Cote d'Ivoire
Implementing agencies and arrangements:	At appraisal: Ministry of Public Works and Transport (lead agency) Ministry of Construction and Urbanism (the secondary cities' component) Abidjan Transport Company (SOTRA) Municipalities of Daloa and Korhogo Actual lead agency: Direction Centrale des Grands Travaux (DCGTx), attached directly to the President
Concept review date:	May 1981 (first mention in files)
Board approval date:	August 25, 1981 (actual)
Effectiveness date:	May 1982
Closing date:	November 1985 (original); December 1987 (actual)
Instrument category:	Standard investment loan
Project type:	Multisector urban project
Project total cost at appraisal (in US\$):	104.0 million
Financing plan (US\$):	World Bank 51.0 million (Loan 2048-IVC); part of the loan re-lent to SOTRA
Final project cost in US\$:	88.5 million
Amount disbursed in US\$:	50.9 million
Diagnostic highlights:	<p>Spurred by a long period of sustained economic growth, Abidjan's population grew in the 1965–75 period at an average rate of about 10 percent per annum, half of it attributed to migration from rural areas and neighboring countries. By 1980, it reached 1.7 million. In spite of heavy government investment in the capital, and generally in the south of the country, it was not enough to meet the unprecedented demand for basic infrastructure and services: shelter, water, sewerage, roads, and public transport. Among the reasons contributing to this situation had been the provision of infrastructure at high standards without cost recovery.</p> <p>The government was heavily centralized, the country being essentially run by ministries. The municipal level of government was created only in 1981, just before this project was approved.</p>

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The majority of daily travel in the city was done by walking (42 percent) and conventional public transport (about 25 percent), the rest by cars and taxis. Public transport services were provided by SOTRA, a public sector company with a fleet of about 720 standard buses and 320 minibuses. SOTRA was well run, but suffered because of a difficult operating environment and an inconsistent fare policy. Except for about 10 km of reserved bus lanes, buses ran on congested city streets, with ill-equipped stops and terminals. The government controlled bus fares, but did not fully and timely compensate SOTRA when fares diverged from operating costs. SOTRA therefore was in chronic financial difficulties.

At the time this project was being prepared, Abidjan already had a reasonable road network in the central area, though congestion levels and traffic forecasts indicated the need for further improvements. The motorization rate was low (about 30 to 40 cars per 1,000 population), but government policies had tended to favor road building. This inclination persisted even after the Bank-funded (First) Urban Development Project introduced concepts and demonstrated the effectiveness of low-cost traffic management measures, including the provision of bus-only lanes. The situation in the large low-income settlements at the periphery was quite different. Generally, these lacked basic infrastructure across the board.

Prior project:

(First) Urban Development Project (Loan 1048-IVC and Loan 1348-T-IVC, 1976-1983): The project encompassed shelter (and some related infrastructure) improvements in Abidjan and San Pedro and transport improvements in Abidjan. The latter included a traffic management and public transport improvements (exclusive busway) component and the construction of an 8.6-km urban expressway linking the center of Abidjan with a national highway. Under the project, a Traffic Bureau was set up in the municipal administration.

Development objectives:

- (a) Development of public transport system throughout Abidjan and traffic improvements in low-income areas outside the downtown; and
- (b) Support of government policy of urban development outside the capital area (in secondary cities).

Investment components:

- (a) **Transport in Abidjan (US\$76.42 million with contingencies):** Reconstruction and improvement of the Western Bypass Road to link with the (National) East-West Highway (includes two lanes reserved for rapid bus services and a sewer underneath a part of the road); upgrading of 20 bus terminals and 80 bus stops; construction of two underpasses for pedestrians at the Agban interchange bus station; construction of a network of about 8 km of primary roads in the Banco area; traffic management and road maintenance program (in part a continuation of the program in central Abidjan begun under the First Urban Development Project, and its extension into Treichville, Marcory, Koumassi, and Adjame districts); and construction of a bus depot for 180 SOTRA buses.

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(b) Pilot program in Daloa and Korhogo (US\$14.08 million, with contingencies):

- (i) In Daloa: Improvement and repair of existing streets in Dioulabougou neighborhood; construction of 800 m of access roads through the Huberson neighborhood and access roads of about 3 and 5.7 km to the future Abattoir area and the northern housing area; paving of about 3 ha of the Orly and Central markets and the construction of a new paved market place of about 1 ha in the new Abattoir area; and rehabilitation and expansion of the municipal garage for maintenance vehicles.
- (ii) In Korhogo: Improvement and repair of existing streets in Korhogo's central area; paving of the central market parking, five neighborhood market areas, and the country bus station; rehabilitation of an urban clinic and primary schools; and construction of a social center and a municipal garage.

(c) Studies and monitoring (US\$13.5 million, with contingencies):

Traffic management and public transport improvement studies for Abidjan, Bouake, and other secondary cities by the Traffic Bureau; additional studies for the implementation of the proposed mass rapid transit system for Abidjan; training programs in traffic management and urbanism for civil engineers at the National School for Public Works; road safety program; preinvestment studies for secondary cities by Central Directorate of Urbanism; monitoring by Central Directorate of Urbanism of the First Urban Development Project; strengthening of municipal administration in Daloa and Korhogo; and medium-term operational and financial strategy for SOTRA.

Policy components:

Improvement of SOTRA's operational and financial management (a comprehensive program to be defined by a study financed under this project). Specifically, the following steps were agreed at negotiations:

- (a) SOTRA to reach a working ratio of 1.00 (full coverage of direct operating costs) and
- (b) SOTRA's fares to increase by 25 percent effective April 1981.

Institutional components:

Annual traffic management program and annual road maintenance programs to be set up

Subsequent projects:

Third Urban Development Project (Loan 2789-IVC)

Municipal Development Project (Loan 3128-IVC)

Status and results:

The project was completed, after some redesign, with an overall satisfactory rating. The transport component was expanded, accounting for about 90 percent of investment costs and achieved its objectives. The positive impact on low-income population was notable.

The secondary cities component did not do well, because of inexperience of the newly set-up municipal administrations, and was reduced in scope. Still, it succeeded in the sense that it was used to iron out practical implementation problems in cities new to procurement, disbursement, and financial management requirements of Bank-funded projects. This paved the way for the subsequent municipal development projects in the country.

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The project coincided with dramatic developments on the macro level, notably the collapse of coffee and cocoa prices on world markets and the downward and volatile slide of the local currency relative to the U.S. dollar. This last development made the loan more valuable, permitting an increase of the investment program (the government provided the counterpart funds, and the Bank increased its participation rate).

Among the transport components, the SOTRA component did best, with improvements in the level of service and operational efficiency of the company. SOTRA's traffic increased and there may have been some transfers of former car users. Its finances were improved, though without a full resolution of its structural financial weakness stemming from the fare and subsidy policy.

The roads improvement component was enlarged and implemented successfully, both in the central area of the city and in low-income areas. Traffic growth did not materialize as forecast, but ex post evaluation indicated that improvements were still justified in economic terms. On the whole, Abidjan emerged as the city with the best urban transport system in Africa.

In contrast with the cited successes, there were three notable weaknesses in the transport component. The new rapid (Western Bypass) busway was built to serve express traffic and therefore included barriers to prevent entry except at stations. The express traffic, however, did not meet expectations, leaving the busway underutilized. SOTRA may have wanted a more permissive design, allowing the use by ordinary lines, with more entry points and more stops. One lesson from this experience is to be more adaptable when circumstances change and the other is to broaden participation at the project design stage (repeated below in lessons).

The neglect of road maintenance was seen as critical for the sustainability of project benefits. This is a subject requiring much more attention than given in either this or the preceding urban development project. It has multiple aspects, ranging from the shortage of maintenance funds (e.g., on the Adjame busway which by the end of 1980s needed full rehabilitation) to the hypothesis that higher design standards may have to be used if the warranted maintenance is not forthcoming.

Institutional aspects showed the most disappointing results in the project as a whole and in the transport component. The decision taken at the presidential level to impose a special institution, DCGTx, as the de facto main implementing agency downgraded the institution-building effort in other agencies involved. DCGTx was quite efficient as a project executor, but the fact that it was composed mainly of expatriate professionals spoke for itself. At the sector level, the Traffic Management Unit was weakened after its parent institution (Bureau Centrale des Etudes Techniques) was dissolved, and its evolution into planning and programming of traffic and transport projects slowed down, if not stopped.

SECOND URBAN DEVELOPMENT PROJECT (P001134)

Lessons:

1. Strengthen the focus on cost recovery, not only with respect to the public transport mode, but also regarding urban roads.
2. Broaden the participation in designing and implementing projects (illustrated in the case of the design approach used for the Western Bypass busway).
3. Strengthen the project monitoring function, both as a means of better project implementation and as a tool for ex post evaluation (to avoid the danger of “doing much, but learning little”).

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Key Documents of the Cote d'Ivoire: Second Urban Development Project

Project Appraisal Document:

World Bank. 1981. *Ivory Coast - Second Urban Development Project- Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1981/07/726128/ivory-coast-second-urban-development-project>

Loan Agreement:

World Bank. 1981. *Ivory Coast - Second Urban Development Project: Loan 2048 - Loan Agreement - Conformed*. Legal ISC Files, Washington, DC. <http://documents.worldbank.org/curated/en/1981/06/18213216/ivory-coast-second-urban-development-project-loan-2048-loan-agreement-conformed>

Project Performance Audit Report (contains Project Completion Report):

World Bank. 1990. *Ivory Coast - Second Urban Development Project – Project Performance Audit Report*. Washington, DC. <http://documents.worldbank.org/curated/en/117701468914962727/Ivory-Coast-Second-Urban-Development-Project>

KINGSTON URBAN TRANSPORT PROJECT (P007438)

Country:	Jamaica
Borrower:	Government of Jamaica
Implementing agency and arrangements:	The lead agency: Ministry of Construction – Works [MOC(W)] Other implementing agencies: <ul style="list-style-type: none"> ■ Ministry of Public Utilities and Transport ■ Kingston and St. Andrew's Corporation ■ Ministry of Finance and Planning ■ Town and Country Planning Authority ■ Jamaica Constabulary Force (Police)
Concept review date:	Summer 1979 (identification mission)
Board approval date:	March 13, 1984
Effectiveness date:	September 17, 1984
Closing date:	September 30, 1991 (original); June 30, 1993 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	100 percent urban transport
Project total cost at appraisal (in US\$):	29.7 million
Financing plan (US\$):	Government of Jamaica: 11.2 million; World Bank: 16 million (Loan 2389-JM); Suppliers' credits: 2.6 million
Final project cost in US\$:	21.24 million
Amount disbursed in US\$:	11.4 million
Diagnostic highlights:	The Kingston Metropolitan Region (KMR), made of three once-separate cities (Kingston itself with 500,000 people, Portmore with 70,000, and Spanish Town with 80,000), had attracted much of the country's population growth in the 1970s. Together with housing about a half of the nation's total urban population and being the seat of the government, the area dominated the national economy, accounting for 48 percent of Jamaica's 1982 gross domestic product and for about 35 percent of its labor force. The country had gone through a decade of economic downturn, which squeezed the middle class and increased the incidence and scale of poverty. About 75,000 households in the KMR had incomes below the urban poverty level. In the early 1980s, the government initiated a process of economic restructuring, including a redefinition of the state's role in favor of the private sector and a reduction and elimination of subsidies.

KINGSTON URBAN TRANSPORT PROJECT (P007438)

The transport system in the capital region in the early 1980s reflected these wider economic and demographic processes. The automobile fleet had fallen from 53,000 in the mid-1970s to about 35,000 in 1980. Daily travel, about 1.6 million trips, was dominated by public transport (47 percent). Walking accounted for 29 percent and cars for 20 percent of all trips. Traffic congestion was high and persistent, mainly because of the poor physical state of the road infrastructure, weak traffic management, and an unruly public transport market. The road network was structurally in good shape, but its performance was marred by rough road surfaces, especially curbs and sidewalks, caused by deferred maintenance. The use of simple traffic engineering was low, as seen in the absence of channelization at intersections and traffic signal interconnection and maintenance.

The public transport market comprised the state-owned Jamaica Omnibus Services (JOS) and a variety of minibus-based operators. Services provided by the JOS were of low and decreasing quality, a combined result of the company's own problems and unruly competition from informal operators. Once a profitable and well-performing private company, the JOS became state-owned in 1974. Quickly it became a victim of the same problem that had plagued it when it was privately owned and common to public-owned operators in many countries: politically determined and low fare levels introduced and maintained without proper compensation and controls of internal performance. A spiral of falling efficiency, financial degradation, and poor services followed. Minibus operators emerged already in the 1970s to fill the service gap left by the decline of the JOS. Initially all of them were illegal, but some were later granted subfranchises by the Public Passenger Transport Board. Others ("robots") remained illegal and were notable for a predatory mode of operation. By the early 1980s, minibuses accounted for about 80 percent of all public transport passengers. "Robots" alone carried about 27 percent.

In 1981, as a part of the restructuring program, the government decided to phase out the JOS and lease its assets to the private sector. Starting in January 1984, services were provided by private operators organized into 10, 6-year franchises, a consolidated route structure to enable profitable operations, at fare levels then prevalent in the private sector. A Transport Authority to award franchises and supervise performance was being set up by the Ministry of Public Utilities and Transport, replacing the licensing board.

Jamaica had made an effort to set up and develop local governments, but this had not worked (yet). The main local institution in the KMR, the Kingston St. Andrew Corporation (KSAC), had no power to raise revenue and generally was too weak to plan, implement, and manage various infrastructure systems and services. A plethora of local and state agencies had responsibilities over various aspects of the transport sector. The traffic police, a branch of the national police force, was well staffed but short on the equipment and knowledge needed for traffic law enforcement.

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In all, the national government, through ministries, was de facto the metropolitan government. As this project was being prepared, the government was in the process of consolidating responsibilities for metropolitan transport matters at the ministerial level, taking the responsibility away from KSAC. The Ministry of Public Utilities was to take over all responsibilities for vehicle licensing and public transport regulation, while the Ministry of Construction (Works) was to be responsible for matters involving roads and traffic.

Prior studies:

A comprehensive set of policy and feasibility studies to prepare this project were carried out by Dorsch (Federal Republic of Germany) in partnership with a local firm Jentech, starting in 1980. The winding down of the JOS came as a result of these studies. Additional studies concerning the design of public transport franchises were funded under the World Bank Fourth Highway Project (Loan 1740-JM).

Development objectives:

The project's overall objective was to "provide for an adequate and efficient system of urban transport in the KMR, capable of supporting the government's overall economic strategy, including the use of the private sector where feasible." It was meant to meet these two conditions:

- (a) Minimize the foreign exchange needed for vehicle operations in the urban transport system (i.e., reduce fuel and oil import bill); and
- (b) Reduce budget expenditures by government (i.e., reduce subsidies to public transport services).

The project was designed to "achieve the above objectives within the framework of the following urban transport policy measures, already commenced before appraisal:

- (a) The closure of operations by the JOS and disposal of its assets;
- (b) Establishment of the TA [Transport Authority]; and
- (c) The reorganization of the public transport route structure and the award of franchises to private operators." (Staff Appraisal Report, para. 2.07-08)

Investment components:

- (a) **Traffic management (US\$10.8 million, without contingencies):** Improvements on three major radial corridors; improvements at 15 intersections; rehabilitation of the existing signal system; and addition of signals at 40 intersections.
- (b) **Road maintenance (US\$7.8 million, without contingencies):** A slice of the 6-year maintenance program, including (inter alia) resealing and resurfacing main roads, selected curbs and sidewalks, and drainage; construction of the central maintenance depot; and provision of maintenance equipment.
- (c) **Technical assistance (US\$4.1 million, without contingencies):** The provision of staff training, equipment, and external technical assistance for the Ministries of Construction, Utilities, and Finance and Planning; KSAC; and the Jamaica Constabulary Force (traffic police).

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Policy components:	The regulatory reform of public transport system, cited above in the Development Objectives box, was not an explicit policy objective (or component) of the project, but the project was designed to dovetail with it, mainly by directing road and traffic improvements to bus routes revised as part of the regulatory reform package.
Institutional components:	Strengthening of the Ministry of Construction (Works) was not an explicit objective, but the size of the technical assistance component to these agencies is indicative in this regard.
Monitoring indicators:	<p>A comprehensive set of indicators was devised for the project (details in Annex 1, Tables 8 to 10 of the Staff Appraisal Report). It is divided into three parts:</p> <ol style="list-style-type: none">1. Indicators to measure project effectiveness. For the public transport aspects: travel time, peak load factors, regularity of service and operating cost per passenger; for the traffic improvement component: volume and capacity ratios, traffic volumes and speeds, average waiting times, reduction of delays (at intersections), and foreign exchange cost savings; for the road maintenance component: length of access and principal roads improved and road roughness on these roads.2. Indicators to measure institutional and financial performance. Institutional: number of professional staff recruited in the Transport Authority (TA); number of employees in the TA, and person-months of technical assistance received; financial: project expenditures, loan and cofinancing disbursements, expenditures on technical assistance, franchise fees collected, and JOS liabilities satisfied.3. Indicators to measure the pace of implementation for the TA (the public transport franchising program) and KSAC (for the road maintenance program).
Results:	<p>The project had a difficult history, “long and arduous” being the terms used in the Completion Report. In that the regulatory reform did not succeed and that the traffic management (traffic signals and intersection improvements) component was implemented in a drastically reduced form, the project did not meet its major objectives. Only US\$3.8 million was spent for traffic management, much lower than US\$10.8 million (base cost) as appraised.</p> <p>The road maintenance and technical assistance components were implemented at a scope larger than envisaged at appraisal. Road maintenance accounted for US\$10.5 million, almost a half of the final costs of the project. This figure compares to the appraisal estimate of US\$7.8 million (26 percent of the total) and reflects the change in the priority of the project’s actual owner, the Ministry of Construction (Works) (MOC(W)). Investments in this component were implemented with major difficulties (see below), but the outputs were considered successful.</p>

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US\$5.25 million was spent for technical assistance, compared with US\$4.1 million as appraised. This component was marginally successful. The MOC(W) was reorganized along sound functional lines, including the creation of a Traffic Engineering Section. The key ministry staff acquired skills necessary to carry out the process of project development from design through construction, though not enough to manage an effective public works program. Even at this level, the capacity was difficult to sustain, given the mobility of the Ministry's staff and the departure of project-funded consultants. A small technical assistance to the Constabulary Force was successful in training the traffic police in accident investigation, traffic program administration, and the use of computers. Technical assistance to the Transport Authority was minimal, involving only a purchase of computers. In hindsight, a lack of technical assistance is likely to have contributed to the failure of the regulatory reform.

The monitoring program was sporadic and the resulting data did not allow firm conclusions about the impact of investments as carried out. The Completion Report suggests that the expected economic benefits did not materialize and that the project had negligible impacts on foreign exchange and the budget expenditures for public transport.

The factors underlying the fate of this project were multiple and complex. At the local level, problems with implementing the investment components included low quality of designs, contractor performance, and supervision by the MOC(W). At the macro level, Jamaica went through a period of turbulence, resulting (inter alia) in a massive devaluation. Several natural disasters took place in the late 1980s, necessitating emergency investments. The pressure on public finances became severe, which meant that ministry budgets were not available to provide the counterpart funds at both the level and the timing needed for smooth project execution. In addition, there were more than a dozen external aid organizations active in the (road) sector, each funding projects that may have been internally consistent but without arrangements for overall coordination and programming on the country level. The government tended to disregard the specifics of various aid-funded project agreements, opting to place its scarce funds on those subprojects that were deemed the current priority or where funding arrangements were the most attractive. Finally, the government's decision to eliminate the Kingston and St. Andrew's Corporation, a blow against decentralization, also meant the weakening of the project's metropolitan focus. In this situation, it is not surprising that the MOC(W) focused on road maintenance, not necessarily in the Kingston Metropolitan Area, and not on traffic management.

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The public transport regulatory reform, the soft part of the traffic management component, fared poorly. The JOS did cease to exist but the new franchise system for public transport services did not result in good services. The government put together a complex bureaucracy to administer franchises, which proved not competent enough to carry out the requisite tasks. On the supply side, the private sector was unwilling or unable to provide services at agreed quantity, quality, and prices. Most franchise winners were middlemen, who did not own buses or manage operations, and were participating only to make money by selling their new franchises to the informal sector. Ninety percent of the fleet in service was operated by one-vehicle owners. There being no monitoring and oversight by either the Transport Authority or the nominal franchise holders, the market quickly deteriorated to the state existing before the introduction of the reform. A new franchising system was tried in 1995, assisted under a follow-up Bank-funded operation (see below).

The project was restructured in 1992, the main change being that the then-residual US\$4.1 million would be used to fund the salvage operation for the bus franchise system in Kingston and wider institutional development for the road and transport sectors. This included developing bus maintenance facilities and procurement of equipment, technical assistance to the Transport Authority and generally to the Ministry of Public Utilities and Transport (inclusive of the carrying out of a Transport Sector Study for Jamaica), and technical assistance to the MOC(W) for the privatization of road construction and operation. By the time the second loan extension expired, the project had lost its relevance. Several of its initiatives, notably the revision of the bus franchise system, were picked up and completed under the Jamaica – Road Infrastructure Planning & Maintenance Project, approved in 1990 (details in the next box).

Related operations:

There were four (national) road projects for Jamaica, approved in the period 1965–79, two focusing on construction and two on maintenance. Another road sector operation implemented in parallel with the Kingston project focused on maintenance. In 1984, the Public Administration Reform Project included the first Bank-led efforts to reorganize the Ministry of Construction (Works).

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In the following decade, the Road Infrastructure Planning & Maintenance Project (1990–96) had a twin focus on road institutions and investments. Its initial objectives were to (a) strengthen the capacity of the Ministry of Construction (Works), (b) improve cost-effectiveness of investments in the road sector, and (c) improve road safety. When the Kingston Urban Transport Project closed in 1992, with an unfinished agenda, the agenda of the Road Infrastructure Project was expanded, adding the assistance for re-reform of public transport regulation, investments in traffic management, and the carrying out of two major studies: a Transport Sector Study and a Highway Upgrading Feasibility Study. The project took 6 years to complete. The loan was fully disbursed, but only a few of its objectives were reached. The traffic safety component was the most successful. Specifically regarding the urban transport activities residual from the Kingston project, traffic management activities were successful and public transport activities were not. The Traffic Management Division in the MOC(W), helped by project-funded consultants, designed and implemented seven major traffic management schemes and designed further six schemes; seven road improvements were designed, five of which were constructed; and a program of upgrading traffic signal equipment, road signs, and markings was implemented. A traffic model was developed, though not in time to be used to evaluate traffic investments.

The second attempt to reform the provision of public transport services came out as one of the recommendations of the Transport Sector Study. A new set of prequalification documents issued in 1994, but—one more time—with serious shortcomings (e.g., the removal of a fare table from bid documents). The selection of franchise bidders also was faulty. Successful bidders had not submitted evidence about having sufficient vehicles and the ability to manage operations as specified, and the submission of performance bonds was relaxed. In consequence, the franchise winners could not get loans to fund bus acquisition and the system again decayed gradually to what it had been. When several of the franchise holders fell into financial difficulties, the government moved in to help by purchasing buses and leasing them to operators, constructing and equipping bus depots then also leasing them, and providing training for drivers and mechanics. Also, the green light was given to the provision of high-quality minibus services at economic prices. None of these attempts succeeded in reversing the downward trend in performance for the majority of travelers. As the Bank-funded project approached its end, the government was leaning again toward the provision of public transport services through a public-sector company. One factor stood out as the major determinant in this 15-year long experience: the massive poverty and unemployment of the residents of Kingston Metropolitan Region. It led to the government's insistence on affordable but uneconomic fares, but without a source of funds to close the revenue gap.

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Key Documents for the Jamaica: Kingston Urban Transport Project

Project Appraisal:

World Bank. 1984. *Jamaica - Kingston Urban Transport Project- Staff Appraisal Report*. Washington, DC. <http://documents.worldbank.org/curated/en/1984/02/725156/jamaica-kingston-urban-transport-project>

Loan Agreement:

World Bank. 1984. *Jamaica - Kingston Urban Transport Project: Loan 2389 - Loan Agreement - Conformed*. Legal ISC Files. Washington, DC. <http://documents.worldbank.org/curated/en/1984/03/18217943/jamaica-kingston-urban-transport-project-loan-2389-loan-agreement-conformed>

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SECOND URBAN TRANSPORT PROJECT (P005658)

Country:	Tunisia
Borrower:	Government of the Republic of Tunisia
Implementing agency and arrangements:	The Roads Department of the Ministry of Infrastructure and Housing Regional Transport Company – Sfax (SORETRAS) Ministry of Transport and Communications The Roads Directorate of the Municipality of Tunis (added in December 1987, when the Project was restructured)
Concept review date:	April 1982 (identification mission)
Board approval date:	May 29, 1984
Effectiveness date:	June 28, 1985
Closing date:	June 30, 1992 (original); June 30, 1993 (actual)
Instrument category:	Standard investment loan
Project structure by sector:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	82.46 million
Financing plan (US\$):	Government of Tunisia: 40.8 million SORETRAS: 4.6 million World Bank: 33 million (Loan 2429-TUN) Other sources (bilateral and multilateral): 4.1 million
Final project cost in US\$:	72.1 million
Amount disbursed in US\$:	33 million
Diagnostic highlights:	<p>By 1980, more than half of the Tunisian population lived in cities. Greater Tunis had a population of 1.2 million and had been growing at 6.9 percent per annum. Sfax, the next largest city, had 0.3 million. This rate of growth, much of it settling at unserved urban fringes, overwhelmed the institutional capacity and financial resources at all levels of government, with consequent problems in the delivery of public infrastructure and services.</p> <p>In the urban transport sphere, tight street networks were not up to handling the rising motorization, 7 percent per annum in spite of stiff import duties and fuel taxes. Traffic congestion and its accompanying impacts with respect to accidents and air pollution was considerable and threatened the benefits of urbanization. The topography and inherited development patterns of Greater Tunis, in particular, were difficult: the main national highway passed through a narrow downtown corridor between the Lake of Tunis and the traditional Medina.</p>

SECOND URBAN TRANSPORT PROJECT (P005658)

In spite of the advance of motorization, public transport services still accounted for the majority of daily trips, 70 percent in Greater Tunis, but only 36 percent in Sfax, where the use of bikes was high. All public transport operators were state owned. Except for the Société Nationale des Transports (SNT), whose bus and suburban rail networks served the Greater Tunis metropolitan area, the other 12 companies were regional (and intercity) bus operators. Apart from the decay in the street traffic environment, most visible in central Tunis, structural problems of the public transport sector stemmed from fare revenue being insufficient to cover operating costs. Fares were controlled by the government and kept low as a part of social policy, but without doing this in a systematic manner (i.e., by defining and implementing an appropriate and timely compensation to transport operators, coupled with productivity conditions). Instead, the government preferred an approach of occasional actions including fare increases, debt forgiveness, and capital inputs. This led to a cycling process of crisis and recovery, without either the productivity or service quality ever reaching levels deemed necessary to ensure access to jobs and opportunities and to maintain and increase the modal share of public transport in cities. The most recent phase took place in 1983, in the framework of preparing this project. The government approved a 16.5 percent fare increase, wrote off the longer-term debts of regional transport companies and re-scheduled other debts, and injected some new capital. The government also adopted regulations that permitted the entry of private operators, but without the requisite follow-through actions necessary for this to take place.

Facing a situation where two large social groups, the low-income majority and the motorized middle class, were both poorly served by the area's transport system, the government opted for a two-prong approach. First, it was decided to improve the supply of public transport services. This was to be done by reforming the public transport enterprises and by investing in a 30-km light-rail system in Tunis. The system was initially designed to operate on city streets, but subsequently it was decided to construct a tunnel underneath the busiest part of the downtown. Second, a plan to improve the primary road network in the area was developed, ready for investment.

A complement to these regulatory and investment actions was a continuing program of traffic management measures in downtown Tunis, including a network of bus-only lanes, introduced under the first Bank-funded urban transport project (see the next box) and a parking charging and control system.

SECOND URBAN TRANSPORT PROJECT (P005658)

Prior Bank-funded projects:

Tunis District Urban Planning and Public Transport Project, 1973–81, was one of the first batch of urban projects funded by World Bank (US\$18 million, Loan 937–TUN) with a major focus on urban transport. Its investment program comprised fleet, equipment, and facilities for SNT. This program included both its bus operations and a complete overhaul of the TGM rail line. There was also a substantial traffic management program for central Tunis, involving an area traffic control system and bus-only street network. On the policy side, the project attempted to improve the organization of SNT and restructure its finances, the latter through a program of capital and operating subsidies from the national government, and a schedule of fare adjustments. In the institutional dimension, the project supported the newly created regional planning agency, the Tunis District, and also a new Traffic Management Unit in the Municipality of Tunis. The project was rated successful with best results being the overhaul of TGM, the traffic control system, and the related institution building. Less successful were efforts to place the SNT's finances on sound footing and solid prospects and to provide the Tunis District with power sufficient for oversight of urban infrastructure investments in the capital region.

The two subsequent urban development projects in Tunisia focused on shelter in Tunis and Sfax. The Second Urban Development Project (1979) included a small traffic management component in Sfax. The Third Urban Development Project (1983) funded advisory services for the Traffic Management Unit in Tunis, an update of the highway master plan for Greater Tunis, interim improvement programs for the regional bus companies in Sfax and Sousse, as well as four policy studies addressing productivity, fares, and finances of regional (bus) transport companies, the potential for entry of private operators, parking management for central Tunis, and a pilot training program for the sector. In essence, these became preparatory studies for the Second Urban Transport Project.

Prior studies:

A program of preparation studies for the urban transport sector was funded under the Third Urban Development Project (see the box above). Additional studies were carried out and funded by the Tunis District and the Ministry of Transport.

Tunisia Urban Transport Review (Report 4115-TUN) was completed in 1982 by a team of Bank staff and consultants. This was one of two first country-based urban transport studies carried out by the Bank (the other was a study of urban transport in the Philippines). The document put forward a Bank strategy for this subsector, as summarized in the following box.

Bank strategy:

- (a) Adopting a sectoral perspective, with physical components in several cities, and working with national institutions;
- (b) Emphasizing policy and institutional development;
- (c) Strengthening linkages with nonurban transport projects;
- (d) Blending expatriate technical assistance with formal training of local staff; and
- (e) Conceiving Bank assistance as a stream of projects, providing the continuity necessary to ensure that policy making becomes an effective, well-monitored process.

SECOND URBAN TRANSPORT PROJECT (P005658)

Development objectives:

- (a) Improve the level of urban transport services and increase efficiency in supplying these services;
- (b) Strengthen the capacity of sector institutions to manage and plan urban transport systems; and
- (c) Develop and implement a comprehensive urban transport policy.

Note: Not listed specifically in the above statement of objectives were two initiatives, formulated as covenants in the Loan Agreement: (a) the preparation of and implementation of a parking management plan for central Tunis (Loan Agreement, Section 3.08); and (b) the carrying out of a study to identify actions to stimulate the entry of private operators into the public transport market and implementation of these on a pilot basis in the Tunis metropolitan region (Loan Agreement, Section 3.09).

Investment components:

- (a) **Primary road improvements in Greater Tunis (base cost US\$38.87 million):**
 - (i) Provision of grade separation, widening and realignment of national road links passing between the city center and the Lake of Tunis, thus creating an effective downtown bypass;
 - (ii) Improvements on the related feeder and distributor network; and
 - (iii) Related technical assistance (detailed engineering and supervision).
- (b) **Public transport improvements in Sfax (base cost US\$6.42 million):**
 - (i) Construction and equipment of a 250-bus maintenance facility for SORETRAS;
 - (ii) Improvements of bus stops and terminals;
 - (iii) Technical assistance related to these investments;
 - (iv) Management information system for SORETRAS: computer hardware and software for the management of daily rosters and schedules, spare parts management, cost accounting, and integration of cost and financial accounts; and
 - (v) Technical assistance for new work practices in operations, maintenance, and administration.
- (c) **Institution building (base cost US\$5.03 million):**
 - (i) A pilot national training program (then being designed under the Third Urban Project): university level training in transport engineering and economics; workshops and seminars; training for bus maintenance; and public information campaigns;
 - (ii) Assistance to the Directorate-General for Ground Transport in the Ministry of Transport and Communications for the development of transport policy related to public transport operators and involvement of private operators; preparation of future projects; and management of the training program (see also the box on institutional components below);

SECOND URBAN TRANSPORT PROJECT (P005658)

- (iii) Assistance to the Municipality of Tunis for the development of a new traffic management plan and a parking management plan for the central area of Tunis;
- (iv) Transport planning study for Greater Tunis (including inter alia the development of land use and transport planning capacity in the Tunis District); and
- (v) Transport Planning Study for Greater Sfax.

Policy components:

- (a) Development of a national policy on public transport organization and regulation;
- (b) Financial rehabilitation of SORETRAS as a test case for a new national policy: a package to restructure the company's finances through retention of the sales tax (to be used for capital investments), payment of compensation for revenue losses due to social fares, and adoption of an annual fare review and action; and
- (c) Development of a parking management plan for Central Tunis (within Anneau des Boulevards) compatible with the Primary Road improvements and the light-rail project, comprising
 - (i) A location plan for parking of different type and duration;
 - (ii) A 5-year implementation schedule;
 - (iii) A schedule for raising on-street parking charges to an economic level; and
 - (iv) Arrangements for the administration and enforcement.

Institutional components:

The task of overseeing the monitoring and diagnostic work on the urban transport subsector and the development of a new urban transport policy was entrusted to a newly formed Inter-Ministerial Committee of Urban Transport (Comité de Coordination et Réflexion de Transports Urbains), supported by a new Urban Transport Technical Unit (Cellule Technique de Transports Urbains) created in the Ministry of Transport and Communications, with technical assistance funded by the project.

Results:

Overall, the project (as restructured) was rated as satisfactory, the sustainability of benefits as likely, and institutional impact as modest. The project's history varied by component. The **Primary Roads component** started and ended well. In between, the implementation process suffered major delays because of procurement issues and geotechnical problems encountered in the in-fill area close to the Lake of Tunis. Delays accumulated to 3 years, and there was a cost overrun of US\$5.3 million, largely caused by redesign required by unstable soil conditions. Ultimately, the output of this component, a limited-access expressway with an elevated section tangential to the central area, met all its functional (traffic) objectives, while creating an aesthetically positive addition to the downtown.

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The **Sfax component** was canceled in 1986, at the request of the Ministry of Transport, then under a new minister. The government declared that it wanted to reform the entire public enterprise sector, including all public transport operators, and did not want SORETRAS treated separately, as the SNT had been in the first Bank-funded project.

Following a midterm review, as the project (and the loan agreement) were being restructured to drop the SORETRAS component, the Municipality of Tunis requested to expand its participation in the project by adding a new component: street and traffic improvements in the central city, plus a study of road maintenance. It comprised (a) restoration of about 70 km in the outlying areas (pavements, drainage, sidewalks, signs, and traffic signals); (b) implementation of the second phase of the traffic circulation and management plan for central Tunis; (c) construction of priority areas for public transport vehicles and pedestrians; and (d) provision of technical assistance. This proposal was accepted by the Bank and the new works component was implemented successfully, with excellent performance by the Street Directorate of the Municipality of Tunis. (Note: a parallel and similar effort was funded by Arab Social and Economic Development Fund from a US\$8 million loan.) The restructuring also included an expansion of the institution-building component, under the oversight by the Tunis District. The latter actually became an overall coordinator of the project.

Of the three policy initiatives listed above, two failed. The cancellation of the SORETRAS component meant that the financial rehabilitation of the company was not implemented, and this approach to recovery of the sector could not be tested. On the positive side, a good illustration of the buy-in by the client, SORETRAS went ahead with as many internal reforms contained in the original action plan as lay within the limits of their managers' authority and resources.

No national policy on public transport organization and regulation was developed. The Inter-Ministerial Committee on Urban Transport met a few times in the first year of project implementation, and not at all afterwards, mainly because of a lack of interest by the Ministry of Transport and Communications under the new leadership. The Urban Transport Technical Unit in the General Directorate of Land Transport of that ministry was properly staffed and carried out a substantial amount of good-quality technical work, especially in its first 2 years. Unfortunately, that work was shelved given the attitude of its host ministry during some months. The unit was eventually reduced in size, having lost its loan-funded advisor. This said, the dialogue between the ministry and the Bank team continued throughout the implementation period. When the team doing the Project Completion Report visited the Ministry of Transport, it found an institution with a rekindled interest in the reform of public transport enterprises and a much-improved technical capacity.

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Having fallen out of this project, the reform of public transport enterprises was again approached during the preparation stage of Tunisia - Public Enterprise Reform Project (PERL). This project was ultimately approved in 1989 (Loan 3109-TUN), but the reform of regional transport enterprises was not included therein. The government was not yet ready (or had not a requisite capacity) to tackle the financial requirements and the overemployment aspects of the draft reform package. A third attempt at this reform was under Tunisia Transport Sector Investment Project funded by a second phase of an adaptable program loan (APL-II), approved in 2001. This project included investments in public transport companies in tandem with the development and adoption of a new, systemic Transport Law. A Public Transport Authority was also to be established for Greater Tunis. The systemic law was adopted within the life of this project, but did not become truly operational, since numerous (about 25) application decrees had to be updated first. The Public Transport Authority was not set up, because of resistance by the Ministry of Interior.

This particular experience has two lessons. First, it was a design flaw to have most of loan funds in the Second Urban Transport Project go for investments to be implemented by one partner institution (Ministry of Public Works) of which no reform effort is expected, while the onus of reforms was on another (Ministry of Transport) that benefited merely from technical assistance. Second, the lack of success in both subsequent attempts to reform the public transport sector in Tunisia, under the PERL and APL-II, demonstrated just how difficult this kind of reform can be, even when leveraged by large investments.

The failure of the major policy initiative under this project, reforming the regulation of public transport services in Tunisia, left room for one successful effort. An action program to open the sector to private operators was put together, and pilot contracts were awarded on two lines in the suburban zones. Also successful was the parking program for Central Tunis. This program was developed and implemented in October 1989, together with other traffic improvements in the Municipality's component, all just in time to coincide with opening of the new light-rail system and contribute to its performance.

The institution-building component overall also had its ups and downs, in addition to the above cited problems with the Urban Transport Technical Unit in the Ministry of Transport.

The delay in appointing a training coordinator, a condition of loan effectiveness, caused a 10-month delay in project implementation. The **National Training Study** was carried out, after having to rework its reports repeatedly, at the request of its review committee. Eventually, the review committee accepted the final report, only to have its recommendations rejected by beneficiary agencies. Furthermore, the expected bilateral funds for this component failed to materialize. Implementation of the training initiative moved only after it was transformed into a line of credit, funded from the project, overseen by the Tunis District, with an interagency committee to clear proposals before Bank review. In hindsight, it would have been better to focus the training component on the educational system itself, rather than the demand side (transport agencies).

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Other studies had starkly different destinies. The **study of goods traffic in Greater Tunis** and the **study of street maintenance in the Municipality of Tunis** were canceled. The first was delayed by interagency differences, while the latter had two cycles of bidding, both unsuccessful. Eventually, it became too late in the life of the project to commission and complete them.

On the contrary, **the major urban transport studies** in the institution-building component (i.e., urban transport planning and traffic management studies for the capital region and for Sfax) were carried out successfully by local consulting firms working in close cooperation with host agencies (Tunis District and municipalities of Tunis and Sfax). These studies charted out the medium-term, multimodal transport infrastructure and traffic management action plans, ready for inclusion into the next National Plan and a next development project. They also developed databases and modeling tools for further use by host agency staff and provided hands-on training for junior technical staff in both the district and the municipality. In some ways, this was the most successful training activity under the project.

One detail illustrates the “before and after” in institutional capacity. When the project was being appraised, economic evaluation was carried out by overseas consultants, who used a crude network model that required significant rework to pass simple tests of realism in the do-nothing option. At the end of the project, the Tunis District (then acting as the project coordinating agency) commissioned consultants who had the then-latest version of EMME/2 model and carried out a sophisticated re-evaluation jointly with the local staff.

In further evidence of its enhanced technical capacity, the Tunis District was redefined into an internal technical service of the Ministry of Public Works. The dark side of this was a loss of the metropolitan area’s only planning agency, leaving metropolitan transport matters even more fragmented between the national, regional, and municipal levels.

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Supervision: Slobodan Mitrić

Profile author and date: Slobodan Mitrić, September 27, 2016

Key Documents of the Tunisia: Second Urban Transport Project

Sector study:

World Bank. 1982. Tunisia Urban Transport Review. Report 4115-TUN (not currently available on-line)

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Project Completion Report:

World Bank. 1994. *Tunisia - Second Urban Transport Project – Project Completion Report*. Washington, DC. <http://documents.worldbank.org/curated/en/514091468115164359/Tunisia-Second-Urban-Transport-Project>

FOURTH URBAN TRANSPORT PROJECT (P006366)

Country:	Brazil
Borrower:	Federal Republic of Brazil
Implementing agency and arrangements:	<p>Ministry of Urban Development and the Environment (MDU), inclusive of its Urban Transport Secretariat (STU)</p> <p>Brazilian Urban Transport Agency (EBTU): overall responsibility for project implementation⁵⁰</p> <p>Brazilian Urban Rail Company (CBTU)</p> <p>Urban transport agencies (EMTUs) from the nine participating metropolitan regions</p>
Concept review date:	Not available
Board approval date:	May 26, 1987
Effectiveness date:	January 1988
Closing date:	December 31, 1992
Instrument category:	Sector investment and maintenance loan
Project type:	Freestanding urban transport project
Project total cost at appraisal (in US\$):	468.2 million
Financing plan (US\$):	<p>Federal government: 128.1 million</p> <p>Local/state governments: 119 million</p> <p>Local borrowings: 21.2 million</p> <p>World Bank: 200 million (Loan 2822-BR)</p>
Final project cost in US\$:	Not applicable
Amount disbursed in US\$:	Not available
Diagnostic highlights:	<p>The urban population of Brazil more than quadrupled between 1950 and 1980, as the country changed from an agrarian society into an industrial one. The most rapid growth took place on the fringes of large metropolitan regions in the south and central-west. The newcomers included both migrants from rural areas and from smaller cities and invariably were very poor. They settled at the outskirts of destination cities, creating large shantytowns mostly devoid of communal infrastructure and services. The challenge for state and local governments was to provide these people with acceptable living conditions with regard to housing, water and sewerage, energy, and transport, and to integrate them into urban economies. Consequently, the urban transport agenda was twofold: (a) the creation of the basic road infrastructure within fringe communities while linking them with major urban transport infrastructure and services; and (b) improving the state and the performance of the arterial road and rail network and regulating public transport services.</p>

⁵⁰ The term “agency” in this profile translates the term “empresa” in Portuguese. The project documents translate “empresa” as “company” though it is evident that organizations like EBTU are certainly not companies. Compare with Brazilian Urban Rail Company, which in Portuguese is a “companhia.”

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In the mid-1980s, the nine metropolitan regions involved in this project (names are below) had a combined total of 42 million people, amounting to about 45 percent of Brazil's urban population and accounting for 55 percent of the country's economic output. Their population growth was continuing at 3.8 percent per annum. Sixty-five percent of households were classified as poor. The pattern of urban expansion based on peripheral informal settlements meant that daily travel involved long trips for the economically most vulnerable travelers. Car ownership varied among the nine regions, from a high of 190 vehicles per 1,000 population in São Paulo to 50 per 1,000 in Belem. In all metropolitan areas, the majority of urban trips (60 to 70 percent) were carried by public transport modes. Conventional bus services were dominant, but most large urban areas had suburban rail services in federal ownership. The majority of bus operators were privately owned and received no subsidy. Where state-owned operators existed, they tended to have problems with cost recovery. The regulatory environment for bus operations tended to be weak, essentially focusing on fare levels. There was little integration of routes and schedules. Passengers had no transfer privileges, and physical infrastructure for interline and intermodal transfers was not developed.

The preceding decades saw major efforts to improve urban transport systems, both within low-income areas and along major transport corridors. Some of these were conceived and implemented in the context of World Bank-funded urban transport projects (details below). Brazil became known for its introduction of reserved bus lanes and bus rapid transit. Approaches were sought to upgrade the existing suburban railways and integrate them with urban bus networks. Construction of first metro lines commenced in Rio and São Paulo, against criticism regarding economic and financial unsuitability of this technology in the presence of massive poverty. The scale of the demand pressure, however, was such that all these advances did not add up to a satisfactory performance of urban transport systems.

If the scale of demographic growth and its low-income nature were explanatory factors on the transport demand side, less-than-sufficient capacity of the relevant institutions, especially at the state and city level, was a major weakness on the transport (and not just transport) supply side. This low capacity notwithstanding, there was pressure to enlarge local jurisdiction over local matters. Hence there was a continuing flux in the institutional arrangements for governing the Brazilian cities. Because early in the period of rapid urbanization the state and local governments did not have sufficient capacity to conceive, fund, and implement proper responses, the decades of 1960 and 1970 saw the creation of agencies at the federal level specialized for the provision of funds and the development of policies and projects for various urban infrastructure sectors. The first of these was the National Housing Bank, created in 1964. The Brazilian Urban Transport Agency, Empresa Brasileira dos Transportes Urbanos (EBTU) was created in late 1976. The Brazilian Transport Planning Agency (GEIPOT) was created at the same time to assist state and local authorities to prepare plans and investment programs for the transport sector as a whole, including urban transport. The Brazilian Urban Rail Transport Company (CBTU) was created in 1984, taking over from the EBTU all aspects of regulating and funding suburban railways. Starting in 1979, the National Urban Development Council (CNDU) had a coordinating role for all aspects of urban development both within the federal government and between the federal

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and state and local governments. In the mid-1980s, the newly established Ministry of Urban Development and Environment (MDU) took over all aspects that had to do with urban policy formulation, hence all policy making for urban transport through the EBTU (except the suburban railways which stayed with the Ministry of Transport). An Inter-Ministerial Committee was also established to coordinate urban policy making at the federal level. A complementary network of regional EBTU offices was established to facilitate coordination between the federal and local and state levels. In parallel, the National Development Bank (BNDES) was created to fund diverse urban investment programs.

By the late 1980s, the pendulum was moving rapidly in the direction of greater decentralization of political and fiscal power. The National Development Plan for the period 1986–89 specified the following strategic guidelines for the national urban transport policy: (a) getting the best out of the existing transport system; (b) the primacy of the local (state and city) governments in urban transport planning and policy making; (c) focus on benefit transfer to low-income population; (d) energy conservation and reliance on domestic sources of energy; (e) integration of urban transport and urban land development; and (f) promotion of full cost recovery of public investments and expenditures in the urban transport sector. The document also specified relative agency roles at the federal and local level.

Prior urban transport projects in Brazil:

Brazil – Urban Transport Project, approved in 1978: A US\$88 million loan (Loan 1563-BR) funded road infrastructure and traffic management improvements in five cities (including Porto Alegre), with the EBTU as the coordinating institution. Its objectives were to improve the mobility of residents of low-income areas and the street environment of public transport modes.

Brazil – Second Urban Transport Project, approved in 1980: A US\$159 million loan (Loan 1839-BR) was used to construct and equip a 26-km suburban rail line in Porto Alegre. Its objectives included setting up an urban rail company run along commercial lines, with services good enough to cause a major modal shift from cars to public transport and influence land use development around stations. Again, the EBTU was a major partner of the Bank, and a co-investor in the project.

Brazil - Third Urban Transport Project, approved in 1981: A US\$90 million loan (Loan 1965-BR) funded transport improvements in about 150 cities and supported the strengthening and reorganization of the EBTU, the federal urban transport agency responsible for urban transport policy and federal investments in urban transport projects.

Development objectives:

- (a) Improve the operating efficiency of urban transport systems in nine metropolitan regions: Belo Horizonte, Belem, Curitiba, Fortaleza, Porto Alegre, Recife, Rio de Janeiro, Salvador, and São Paulo;
- (b) Seek to pass savings from transport improvements to users in the form of lower fares and improved levels of service;
- (c) Conserve energy and encourage the substitution of diesel fuel by promoting domestic energy sources, when economically justified;

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- (d) Strengthen the role of financial considerations in urban transport policy;
- (e) Strengthen institutions for coordinated investment planning for the sector as a whole; and
- (f) Increase the responsiveness of transport planning to local needs.

Monitoring indicators:

Ongoing and ex post evaluation programs to be established by the EBTU and all nine participating metropolitan regions in three categories: physical works, complementary equipment purchases, and institutional and operational activities and studies.

Investment components:

The project would finance components selected from the EBTU's rolling investment plan (1986–90) in the cited metropolitan regions. Three categories of investments would be included:

- (a) **A corridor program (US\$383.0 million):** Design, implementation, and supervision of bus infrastructure (busways, feeder roads, and terminals); related road infrastructure; related traffic management schemes; equipment for traffic law enforcement; and vehicles for bus, trolley, and ferry public operators. Physical works would include deferred maintenance, rehabilitation, and reconstruction and would be coupled with public transport regulatory measures.
- (b) **A maintenance program (US\$33.0 million):** Mainly civil works for routine and periodic maintenance on roads and traffic control devices; provision of maintenance equipment; and maintenance-related institutional development.
- (c) **An institutional program (\$US52.2 million):** Technical assistance, studies, and training at the federal, state, and local level, comprising
 - (i) Sectoral studies for MDU/STU executed by the EBTU: bus regulation, financial policy, energy conservation, and diesel fuel substitution;
 - (ii) A training program for federal and local staff to improve transport planning and operational practices, coordinated by the EBTU;
 - (iii) A program of studies and technical assistance focused at the EBTU itself;
 - (iv) A program of studies and technical assistance focused at CBTU, on investment planning in general and urban rail investment planning specifically;
 - (v) A technical assistance program for MDU/STU to build capacity for urban transport policy development; and
 - (vi) Technical assistance programs for the local and state staff and bus operators, variable depending on the situation in the participating metropolitan regions, with a broad focus on policy development, planning, and operational matters.

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Policy Action Plan:

The Policy Action Plan was finalized in December 1986, about 6 months before board approval of the loan. It was an integral part of the project. It had the following components:

- (a) **Urban transport coordination:** Strengthening of the role of MDU/STU to formulate the national urban transport policy and of the Inter-Ministerial Committee to provide inputs into policy development and to coordinate implementation across federal institutions; promotion of the policy of decentralization (especially focused on CBTU); promotion of local urban transport agencies, EMTUs (local equivalents of the EBTU); and improved coordination in investment planning;
- (b) **Urban transport investment planning:** The EBTU to define organizational and statutory procedures for the preparation of multiyear investment plans by local authorities and their technical and economic review by the EBTU;
- (c) **Bus regulation:** The carrying out of a comprehensive bus regulation study, with the Inter-Ministerial Committee plus local representatives acting as a Steering Group; the study would comprise a diagnostic of the existing regulation practice, generate and analyze regulatory options (especially the interaction between service delivery methods and integration of routes, schedules, and fares); propose methods to increase the private sector participation; and identify alternative mechanisms to transfer benefits from improvements to travelers, in the form of fare reduction and improved levels of service;
- (d) **Energy conservation and diesel fuel substitution:** The carrying out of two studies, one to focus on fuel conservation (vehicle standards and testing, impact of control measures on traffic flow, and demand management), and the other on the use of natural gas in urban public transport operations, aiming to reduce diesel oil consumption and reduce air pollution; and
- (e) **Financial policy:** The carrying out of a comprehensive urban transport financial policy study focusing on the public transport fare policy and direct and indirect cost recovery mechanisms for the urban transport sector, including (inter alia) revenues from various fuel and vehicle taxes and their allocation by level of government.

Implementation arrangements:

The project had a complex organizational structure radiating from the federal level (MDU/EBTU) to participating MRs, their relationship defined through Participation Agreements and Sub-project Agreements.

The EBTU had the overall responsibility, including the implementation of the Policy Action Plan, initial approval of sub-projects submitted by the participating regions (subject to the final confirmation of eligibility by the World Bank), and for ex post investment evaluation on sample basis. Local executing agencies were responsible for making local transport investment plans, and for the design and implementation of sub-project components.

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The EBTU's Operations Manual was the main instrument to guide project implementation. The Manual was developed under the preceding Bank projects and revised for the Fourth Project to reflect a greater role of participating metropolitan regions, expand into new areas (e.g. investment planning, maintenance planning and management), and include financial criteria in the investment evaluation procedure.

Major covenants:

- (a) The Government shall implement the Policy Action Plan (minor amendments allowed). (Loan Agreement, Section 3.01(a))
- (b) Prior to approving federal funding or guarantee for any urban transport project estimated to cost the equivalent of US\$5 million or more, the Government shall obtain the EBTU's technical assessment, including an economic analysis carried out in accordance with the basic methodology set forth in the EBTU's Operating Manual. The US\$5 million limit to be reviewed from time to time to assess its adequacy. (Loan Agreement, Section 3.04)
- (c) The EBTU to inform the Bank of any proposed major urban transport project (defined by its cost being US\$10 million or more), to be carried out in the participating metropolitan regions, and provide the documents establishing its evaluation. (Project Agreement, Section 3.03)
- (d) If a federal or metropolitan entity were to start to implement any major urban transport investment, as defined above, which would affect adversely the execution of the current (Brazil Fourth Urban Transport) project's components or their economic and financial viability, this would be considered a violation of the General Conditions under Section 6.02(k) and may lead to loan suspension or cancellation. (Loan Agreement, Section 5.01(f))
- (e) Schedule: Eligibility criteria for executing entities from the participating metropolitan regions: (i) be in charge of urban transport in its metropolitan region; (ii) develop an urban transport maintenance program; (iii) adopt a (rolling) multiannual investment planning system; and (iv) make annual budget allocations sufficient to permit timely execution of (its) subproject components. Eligibility criteria for subproject components: (i) components consisting of self-financing infrastructure or vehicles must produce incremental revenues sufficient to cover incremental investment, operating, and maintenance costs plus a financial rate of return, calculated in constant terms, equivalent to at least 12 percent; (ii) public transport companies executing a component must demonstrate a positive real annual rate of return on net fixed revalued assets during the last fiscal year and projected over the period of execution of the subproject; and (iii) all subprojects components involving quantifiable benefits, such as savings in vehicle operating costs, and accident and environmental costs (but excluding time savings), shall have an economic rate of return equivalent to at least 12 percent. (Project Agreement)

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Status and results:	The loan became effective in the early 1988, the year of intense political developments in Brazil. A new constitution was adopted in October 1988, involving a significant transfer of responsibilities and resources from the federal level to state and local governments. This was followed by a major institutional reorganization. In January 1989, the EBTU was extinguished by a presidential decree. Since this action was in default of the Loan Agreement, the Bank suspended disbursements under the loan in March 1989. The loan was formally closed in 1992.
Team:	Appraisal: Carl-Heinz Mumme, James Hicks (staff); John Cracknell, Ian Harris and Robert Harrison (consultants) Supervision: John Flora (staff)
Profile author and date:	Slobodan Mitrić, June 30, 2016

Key Documents of the Brazil: Fourth Urban Transport Project

Project Appraisal Document:

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Project Completion Reports: None available to this study.



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