TEN YEARS OF WORLD BANK ACTION IN TRANSPORT: AN EVALUATION

P. Freeman
Study Manager, World Bank, Independent Evaluation Group

1. INTRODUCTION

1.1 Background

In 2006 the Independent Evaluation Group (IEG), of the World Bank (hereafter referred to as "the Bank"), undertook an evaluation of the previous ten years of Bank support for the transport sector in developing countries. In this paper the Bank's results from this work, led by the author, are discussed and a proposal is made for a re-focusing of activities in the sector.

Over the next 35 years 2.5 billion people will be added to the current world population of 6.3 billion. In developing countries much of this growth will be urban; the number of cities exceeding a million inhabitants is well on track to surge from 268 in 2000 to 358 by 2015 (UN Habitat, 2001). This expansion, coupled with continuing globalization and trade liberalization is expected to accelerate significantly the demand for the transportation of both people and goods.

The motor industry, for example, may have reached maturity in the fully developed markets of North America, Europe, and Japan, but globally it is poised for huge expansions led by the motorization of China and India. Within a few years China will replace Japan as the second-largest national market after the United States and over the next 20 years more cars may be built than in the 110-year history of the industry (Economist, 2005). Similar growth is expected in the aviation and maritime industries; only railway expansion is likely to be at a slower rate.

Although such vibrant growth may appear welcome, the scenario has a darker side. Today's concerns about high fuel prices will inevitably be magnified. Road transport already accounts for nearly a quarter of the man-made gases contributing to climate change. Pollution, noise, ugliness, and wasted time due to traffic congestion also impose substantial societal costs. Marine oil pollution, crowded skies, and security issues add further to an increasingly dismal global transport outlook.

In developing countries the problems of congestion and pollution are further compounded by poor road safety, which has led the World Health Organization (WHO) to declare road safety an international public health issue. Just over a century after the first motor vehicle-related traffic death in 1896, 1.2 million people are killed on the roads annually and 50 million more are injured.

Public transport offers clear advantages for reducing congestion and pollution, and for increasing safety, but progress has often been disappointing because private vehicle users rarely pay the true costs they impose on society, thus encouraging urban sprawl. At the same time, decentralized cities with lower population densities and long trip distances increase the cost of providing public transport; the urban poor, usually residing on city peripheries, tend to become marginalized by a lack of accessibility.

Meanwhile the rapid growth of mega-cities is raising concern about worsening air quality the adverse effects of which fall disproportionately on the poor.

1.2 Bank Strategy

The Bank's *World Development Report* [WDR] (World Bank, 1994) was the crucial document that encouraged the Bank toward the greater use of the private sector in infrastructure. It concluded that many developing countries would benefit through economic growth and poverty reduction if incentives to providers were clarified and strengthened. This could be achieved through giving management more autonomy and focusing accountability on service to customers; by structuring the sectors and relevant regulation in a manner to promote effective competition; and by giving users and other stakeholders more voice and responsibility in planning and regulatory arrangements.

The ideas in the WDR were further expanded in the context of the Bank's *Sustainable Transport* policy paper (World Bank, 1996), which found that the dominance of the public sector in the operation of transport services had in some cases resulted in adverse effects including high costs, lack of flexibility in service provision, and assets not being properly maintained. To redress these shortcomings it advocated that the Bank encourage substantial changes in the role of government in transport, reducing its functions as a supplier, but increasing its functions as a regulator. It recognized that governments need to create a proper institutional framework for competition, set economically efficient charges for the use of publicly owned transport infrastructure, and increase community participation in decision making. The theme of "sustainability" was comprehensive and intended to include economic, financial, environmental, and social sustainability. A few years later, a Bank urban transport strategy review entitled *Cities on the Move* (World Bank, 2002) was released. Its objectives were to develop a better understanding of urban transport problems and to articulate a strategic framework that could be applied in developing countries.

The Bank is currently updating its sector priorities for the period 2007-2015; it recognizes that the world's thinking on economic development has moved on and that initiatives such as the Millennium Development Goals are now central to the international development agenda. While the fundamental pillars of the Bank's transport strategy remain valid, the paper calls for additional emphasis to be placed on issues related to poverty reduction, international trade, the environment (especially in cities), and safety. Roads will, however, continue to play an important role in this future strategy.

1.3 Methodology

The overall study was the first comprehensive IEG evaluation of the transport sector; the period covered by the review was July 1995 to June 2006, during which time there were 642 projects with transport components in the portfolio. Of these, 335 had closed and 284 had been evaluated by IEG. Since nearly 80 percent of these projects relate to roads, representing commitments of $25 billion over the decade, the size of the database is substantial.

A number of instruments were used in the evaluation:

i. *Literature review*: This covered published documents on transport issues relating to developing countries, complemented by a review of Bank non-lending transport activities.
ii. *Portfolio review*: A total of 642 projects was examined of which about 80 percent were roads-related. This extensive customized database covering all transport modes provided the foundation for an analysis of how the projects performed, their outcomes, and what lessons have been learned. Each completed project in the database was formally rated on the outcome of its development objectives (based on measurable targets or indicators), the extent of institutional development achieved, the resilience of the project to risk and the performance of both the Bank and the borrower from appraisal through to completion. About a quarter of these projects were then selected for a more in-depth audit in the field.
iii. *Analysis of existing evaluations*: Comprised 57 Country Assistance Evaluations, 254 reviews of Implementation Completion Reports (ICRs), 74 Project Performance Assessment Reports (PPARs), covering 41 countries of which 20 were specifically selected in the study design for inclusion to ensure a balanced geographical and modal coverage. These latter assessments were usually carried out between two and four years after a project had closed and were in-depth evaluations involving a site visit and discussions with government officials, user groups and all relevant stakeholders. The idea was to ascertain whether the expectations of the project at appraisal had been met and the results sustained. ICRs are self-evaluations prepared by operational staff at project completion.
iv. *Special thematic studies*: These included studies on road maintenance and road funds; a global overview of public/private sector balance in transport and a review of a special transport program in Africa. Information was also extracted from existing impact studies in Brazil and Morocco and a multilateral study in Ghana.
v. *Stakeholder interviews and Bank staff interviews*: One-third of the Bank's transport network staff—representative of both headquarters and country offices—was interviewed. Stakeholders interviewed included government officials, providers of transport services, and interested parties such as consultants, user groups, and academics.
vi. *Country case studies*: In-depth analyses of transport activities and stakeholder opinions in Brazil, India, and Tanzania were undertaken.

2. BANK PROJECT PERFORMANCE

2.1 Project Ratings and Portfolio Performance

IEG transport project ratings have shown steady improvement since the early 1990s. These ratings show that the performance has been consistently better in comparison to non-transport projects (Table 1). In the most recent period, FY04-06, satisfactory outcomes have been achieved at a level 10 percentage points higher than for all other non-transport projects, while sustainability (defined as resilience to risks to future net benefit flows) is likely in 7 percent more projects. However, the percentage of projects

with an institutional impact of substantial or better that formerly exceeded the percentage for all Bank-supported projects is now about the same in part reflecting a trend toward less challenging transport projects.

An issue sometimes raised by clients or Bank staff is that although transport projects have been performing better than projects in other sectors, projects in the transport sector are relatively narrowly focused. In other words roads predominate in the portfolio. There is also some evidence from the Bank Quality Assurance Group (QAG), and from the results of the staff interviews that multi-facetted projects especially urban transport projects are sometimes avoided when preparation time is lengthy—due to the need to attend to a greater number of safeguard issues, multiple stakeholders and major environmental issues, which increase the risk of failure.

Table1. IEG Ratings of Overall Project Outcome, Institutional Development and Sustainability by Exit Year FY92-06 (Transport Sector Board projects versus all other [Non-Transport] Sector Boards)

IEG Rating	*Board*		*FY 92-94*	*FY 95-97*	*FY 98-00*	*FY 01-03*	*FY 04-06*
Outcome: Moderately Satisfactory or better (%)	Transport	All projects	69	78	84	86	89
		Excluding large borrowers*	71	70	82	74	88
	All other		64	67	68	72	79
Institutional Development: Substantial or better (%)	Transport	All projects	25	37	63	68	57
		Excluding large borrowers*	27	33	57	66	50
	All other		30	32	37	45	57
Sustainability#: Likely or better (%)	Transport	All projects	46	55	70	74	78
		Excluding large borrowers*	47	43	66	71	71
	All other		44	47	54	64	71

Source: World Bank data.

* Argentina, Brazil, China, and India. # Resilience to risks to future net benefit flows.

Good balanced portfolio performance has been achieved *inter alia* in large countries such as Brazil and China and several smaller countries including Latvia, Laos, Morocco, Nicaragua, Peru and Senegal. The rate of improvement overall, though, is less favorable when excluding the largest borrowers; the concentration of transport commitments in China and India alone has increased from 31 to 40 percent of all transport lending over the past decade (Table 2).

Table 2 IBRD/IDA: Commitments for Transport ($ billion): Share of Top 5 and Top 10 Countries FY1995-2000 and FY2001-2006

Country	*Commitments for FY1995-2000*	*Share of Total (%)*	*Country*	*Commitments for FY2001-2006*	*Share of Total (%)*
China	4.2	24	India	4.2	25
Brazil	1.7	10	China	2.3	14
India	1.3	7	Brazil	1.1	7
Russian Federation	1.2	7	Indonesia	0.6	5
Argentina	1.1	6	Argentina	0.5	3
Indonesia	0.6	3	Vietnam	0.5	3
Mexico	0.6	3	Mexico	0.4	3
Bangladesh	0.5	3	Colombia	0.4	2
Vietnam	0.4	2	Congo, Democratic Republic	0.3	2
Poland	0.4	2	Egypt, Arab Republic	0.3	2
TOTAL all countries	**17.9**	**100**	**TOTAL all countries**	**16.3**	**100**
Share of Top 5 countries		**54**			**54**
Share of Top 10 Countries		**67**			**66**

Source: World Bank data

While the good economic rates of return [ERR], (Table 3) and outcome ratings (Table 1) are noteworthy, the sector has lagged in developing practical performance indicators for the sector. Progress with monitoring and evaluation is frequently hampered by a lack of baseline information.

Table 3. Average Economic Rate of Return (ERR) of Transport Projects, Approval Years 1995 to 2005

Mode	*No. of projects with ERR estimates at appraisal*	*ERR at appraisal (%)*	*ERR range at appraisal*	*No. of projects with ERR estimates at completion*	*ERR at completion (%)*	*ERR range at completion*
Multiple modes	13	36	(16-91)	11	31	(14-78)
General transport (urban)	11	26	(13-40)	8	30	(13-60)
Roads & highways	59	29	(12-65)	53	29	(10-79)
Trade facilitation	1	19	19	1	27	27
Railways	7	32	(15-68)	5	22	(-14-64)
Ports & waterways	5	26	(18-37)	4	16	(11-22)
All transport	**96**	**30**	**(12-91)**	**82**	**28**	**(-14-79)**

Source: IEG data.

2.2 Performance will be Difficult to Sustain

Staff capacity has not kept pace with the increasing volume of commitments which are 40 percent higher than in 2000. Greater productivity in the financial sense has been achieved, but this is largely because of the large contingent of similar intercity highway projects (Table 4) and the availability of tools for rapid appraisal. Other factors have been the move toward programmatic lending and increased project size.

Table 4. IBRD/IDA Commitments for Transport ($ billions): Distribution by Transport Mode FY95-00 and FY01-06

Transport mode	*IBRD/IDA commitments FY96-00*	*(%)*	*IBRD/IDA commitments FY01-06*	*(%)*
Roads	13.0	73	11.9	73
Railways	1.5	9	1.3	8
Ports	1.2	6	0.5	3
Aviation	0.1	0	0.5	3
General transport	2.2	12	2.2	13
TOTAL	**17.9**	**100**	**16.3**	**100**

Source: World Bank data. "Multimodal" projects have been redistributed among the appropriate modes.

However there is evidence from staff interviews and QAG reviews that work pressure has led to a behavior of avoidance of at least some challenging projects where safeguard issues and multiple stakeholders prevail. In addition there has been a relative neglect of knowledge dissemination and sector research, the latter being significantly lower than would be expected from a sector with such a large project portfolio.

Since the Bank provides just 2 percent of total infrastructure spending in developing countries it needs to try, wherever possible, to make a difference through demonstrating new approaches; typically this will involve a significant increase in time and effort which may mean greater selectivity of new projects. While valuable analytical and advisory assistance has been carried out in several countries, the effort is spread rather thinly and awareness of this high-quality work is often not shared as widely as is warranted. More focus on such work is clearly required as an input into future country strategies.

3. PRIVATE SECTOR DEVELOPMENTS

3.1. Transport Private Sector Investment in Developing Countries

Optimism was high in the early 1990s that the private sector could assume a large part of the responsibility for funding transport infrastructure. However, market expectations turned out to be far too ambitious. After a dramatic decline during the financial

instability of the late 1990s, when private sector transport projects in developing countries were seen as too long-term and risky, confidence only returned in 2005. Nevertheless, despite a few early highly publicized failures, important progress was made internationally and successful private concessions were effected in all modes of transport.

While the outcome of such private investment in developing countries has been largely positive, transport concessions are still most common in middle-income countries, such as Argentina, Brazil, China, Mexico, South Africa, and Turkey, where the volumes of traffic, especially for toll roads, are more attractive and where there is sufficient public sector capacity to engage with the private sector. The Bank has nevertheless continued to encourage private investment even in lower income countries because it realized that one successful project can still have a huge impact on such economies.

Port concessions in developing countries have generally been successful, as in India, the Republic of Korea, Mauritius and Poland. Build Operate and Transfer road projects have also usually met their development objectives. Railway concessions, however, have sometimes been less satisfactory because governments are more likely to intervene on pricing and labor issues.

Bank projects featuring private sector concessions have not grown substantially during the past decade, but have seen modest growth in the International Finance Corporation, the private sector arm of the Bank. Clients generally turn to the Bank Group either for advice or when the investment is perceived as risky. But for the foreseeable future the public sector will continue to be the major owner and operator of basic transport infrastructure, especially as the sector is dominated by roads, which have public good characteristics. The Bank increased its commitments for public sector transport projects once it realized that insufficient private sector investment would be forthcoming. Evidence from Latin America (Calderón et al, 2004) has shown that a reduction in infrastructure investment (including transport) has negative effects on economic growth and that the gap in infrastructure expenditure relative to East Asia is widening.

3.2. The Public and Private Sectors Can Work Well Together

The Bank's most important contribution to involve the private sector has been not in outright privatization, but through the many road programs in which it has encouraged the establishment of road agencies and road funds, and contracting-out to the private sector, not only of construction and rehabilitation but also of routine maintenance, design, and general supervision. Transparently competitive tendering of works against performance-based specifications has also been a very significant step forward. In contrast with these reforms, which are largely aimed at improving the quality of public spending, toll roads have offered opportunities for attracting more private investment into the development of road networks. The growth of privately financed toll facilities has been an important phenomenon during the decade. In a few developing countries, there are now substantial numbers of such roads and many others have at least one or two. While such roads represent only small proportions of each network, they often carry significant proportions of overall traffic.

For railways, where governments are not prepared to agree to long-term concessions, such as in Morocco and Romania, the Bank has still been able to assist in improving accountability and transparency in their financing arrangements, including openness about subsidization arrangements for uneconomic services and a greater willingness to divest non-core business components.

4. GOVERNANCE AND CAPACITY BUILDING

Effective governance and capacity building are integral to ensuring sustainability. By and large, technical assistance to strengthen client capacity has had modest results in low-income countries, but better results in middle-income countries. While the road agencies have generally demonstrated continuing support and success, in many other cases capacity building has been confined to training and has been aimed at assisting the immediate project and therefore less likely to have any sustained impact. Typically, the timing of training interventions is not always synchronized with the necessary organizational changes needed to improve public sector performance. Institutional change takes time and often the life cycle of the project intervention is relatively short—about five years—and this is often insufficient to ensure lasting results. Institutional objectives need to be designed more realistically and be pursued incrementally through a continuing support program that will often extend beyond the transport sector itself.

The Bank views good governance, and therefore anticorruption activities, as central to its poverty reduction mission. Consequently, it focuses on ensuring organizational integrity, preventing corruption in Bank-funded projects, and helping countries to improve their governance and control corruption. The transport sector is certainly not immune from corrupt practices especially in large construction projects. Although the sector's adherence to Bank guidelines for procurement and competitive tendering partially constrain the scope for corruption, the sector has lacked an explicit anticorruption strategy.

Since the quality of governance and capacity building is crucial greater efforts are needed to ensure that country strategies include these issues. There appears to be a tendency for the Bank to favor more successful countries to the neglect of weaker ones that need more help and have significant numbers of desperately poor people. Weak capacity leads to poorly maintained infrastructure, lack of enforcement of traffic regulations, corruption, and poor road traffic safety records. An analysis of performance by institutional development objectives of Bank transport projects over the last 10 years shows that on average 62 percent are rated satisfactory or better. The transport sector with its strong engineering knowledge is particularly good at resolving technical issues and introducing management systems, but maintenance and training feature less strongly and, ironically, projects with monitoring and evaluation objectives fair the worst.

5. TRANSPORT AND THE ENVIRONMENT

5.1 Greater Awareness of Environmental Issues

An IEG evaluation of environmental sustainability in development (World Bank, 2003) remarked that many developing countries view international concern over environmental problems in their countries as intrusive and likely to impede development. They argue that developed countries have overexploited the environment, refused to take full responsibility for mitigation of their own impacts, and want to shift that responsibility to developing countries without adequate compensation. This perception has substantial validity, and has complicated the role of the Bank. At the same time, public tolerance for inadequate compliance by the Bank of its own policies has been low. The transport sector has had heightened awareness of environmental issues since the well-publicized Brazilian *Polonoroeste* program in the 1980s, when upgrading the BR-364 highway led to an explosion of uncontrolled deforestation speculation in the absence of effective environmental controls.

During the review period the transport sector has performed reasonably well in most of the projects with environmental objectives. But while the sector received a 94 percent score from QAG on Quality at Entry for the quality of environmental management planning and for assessment of environmental risks (based on 53 projects), the IEG outcome results for environmental objectives are less positive. Fourteen out of 22 closed Transport Sector Board projects with environmental objectives (64 percent) returned a moderately satisfactory or better outcome. Several were involved with establishing a local environmental capability including the setting up of Environmental Units, and training in diverse areas such as environmental protection activities, and the handling of resettlement and compensation issues. Special attention in some projects was on reducing negative environmental impacts such as noise and air pollution.

An example of recent progress is the Chinese Fujian Provincial Highway. In this project a full environmental assessment was carried out and the environmental management plan covenanted in the loan agreement. The provincial road authority established a new environmental unit and worked closely with Bank staff, whose supervision team (including two environmental specialists) was also diligent in following up on the implementation of the environmental mitigation actions. The monitoring program and outcome were comparable with industrial country standards.

But there is room for improvement in this area. The environmental impacts of infrastructure projects have long-term implications (often 50 to 100 years), while national plans usually look forward 20 years or so, and project appraisals typically have a 5-15 year horizon. A concern is that once projects are completed, Bank supervision (including environmental supervision) ceases. Resources available for fully incorporating environmental concerns into project design and evaluation are also constrained.

5.2 Urban Transport Pollution

Issues such as air pollution have gained importance in recent years. In Dhaka, highly polluting three-wheeled taxis with two-stroke engines were removed under the Bank's Air Quality Management Project. This made a significant difference to air pollution, but

the recommended social measures to alleviate the adverse impacts on the livelihood of affected drivers were disregarded. Special measures to cope with two-wheeled traffic are also needed in many South Asian countries such as Thailand and Vietnam. An important publication on the air pollution issue, Reducing Air Pollution from Urban Transport (World Bank, 2004), provides a practical framework of guidelines and principles on how to select appropriate policies and take mitigation measures against the worsening poor urban air quality. The WHO has estimated that 650,000 people died prematurely from urban air pollution in developing countries in 2000. But Bank involvement is still small and arguably should be greater, especially in Asian cities. The adverse effects of air pollution often fall disproportionately on the poor, compounding other environmental problems such as lack of clean water and sanitation. Energy savings are also under the spotlight; in Brazil more than a third of the country's cars run either on pure ethanol or gasoline-ethanol blends. Natural gas to power public transportation is becoming more common and many cities have programs to eliminate leaded gasoline.

Only 6 Bank projects related to the urban environment and air quality in 10 years have been completed and evaluated. One of these was the Transport Air Quality Management Project for the Mexico City Metropolitan Area. The project, which had a satisfactory outcome and was assessed by IEG in a PPAR, led to a significant decrease in ambient concentrations of pollutants and resulted in fewer respiratory illnesses and other acute syndromes of poor quality air. More of these projects are needed.

Urban planning programs that integrate public transport, land use, and air quality strategies have been promoted for many years. Curitiba, Brazil, and later Bogota, Colombia, where the mobility of people has been supported over private vehicles, have long been recognized as instructive models for urban planners, but such achievements resulted from exceptionally strong leadership. The Bank has shown that extending and modernizing commuter rail systems and bus corridors is an effective way to alleviate severe urban traffic congestion (Brazil). Attention is also increasingly being given to the installation of centralized traffic management systems (Bangladesh, Vietnam) to regulate traffic flows as efficiently as possible and parking strategies to improve traffic flow, generate revenue, and discourage car usage. In a few cities special arrangements have been made for non-motorized transport (Bangladesh, Philippines).

6. TRANSPORT AND POVERTY

6.1. Rural Transport and Poverty

The causes of rural poverty are complex and multidimensional. They include issues regarding culture, gender, climate, markets, and public policy. Rural poverty accounts for nearly 63 percent of poverty worldwide, reaching 90 percent in some countries, such as Bangladesh, and between 65 and 90 percent in Sub-Saharan Africa (Khan, 2001). The ways in which policies affect the rural poor are through markets, transfers (both public and private), and both services and infrastructure. Transport falls in this latter category; roads are normally provided through public funding and the vehicles

by both the public and private sectors. Non-motorized transport in a wide variety of forms plays an important role in many countries.

Although some of the Bank's main intercity highway projects (especially in China) also include district road and even local road components, most rural road projects involve basic access roads, many using labor-intensive construction. A labor-intensive approach is popular with donors because it generates employment, but it also requires good technical assistance support and strong client commitment, which is sometimes lacking. But such roads are in high demand by the rural population; Lesotho (World Bank, 2006), for example, has documented positive impacts. Typically, some of these roads are constructed under the district works department and in the Bank fall under the Transport Sector Board, while others are part of community-driven or social fund projects, where they may be a component of a package of infrastructure improvements ranging from water and sanitation to new community centers. Community projects within the Bank fall under boards other than transport. The works-managed projects, where more appropriate technical staff were used, were generally more successful than the community projects with 26 out of 36 (72 percent) rated as satisfactory. The main reasons given in instances where there was less satisfactory performance (in the other 28 percent of the cases) were insufficient finance, poor technical skills and capacity, and insufficient priority given by government.

While the contribution of transport operations to poverty reduction is generally indirect, most direct poverty-targeted interventions such as schools, clinics, nutrition programs, and even credit extension depend on transport in one way or another. The distributional impacts of transport projects and their effects on poverty are relatively under-researched and are often anecdotal rather than results-based, but there is evidence that village road improvements significantly affect school enrollment and attendance. According to studies by the World Health Organization between 40 and 60 percent of people living in developing countries live more than 8 kilometers from health care facilities; in rural areas this distance can be even greater and this is especially problematic in the case of accessing maternal and child care. Recent work in Bangladesh using household-level panel data confirms the importance of rural access and suggests that road investments are pro-poor, meaning the gains are proportionately higher for the poor than the non-poor (Khander et al, 2006). Bank research in Morocco (Levy et al, 1996) showed that investments in new roads had gender implications; safer roads encouraged parents to send their daughters to school, thus increasing female primary school enrolment.

6.2. Urban Transport and Poverty

Much of the growth in the world's population for the foreseeable future will take place in the cities and towns of the developing world. In 2000 the world's urban population in developing country cities was 2.1 billion and it is expected to reach at least 2.9 billion by 2015, (UN Habitat, 2001). Over the next 20 years, many countries will for the first time become more urban than rural. In part at least, urban poverty is created by the efforts of the rural poor to escape the poverty trap by moving to the cities, where they perceive that better opportunities exist. Although the benefits that urbanization brings cannot be overlooked, the speed and scale of this transformation presents many challenges.

Bank emphasis has often been on encouraging the design of urban transport projects to improve the integration between services and to increase the access of the urban poor to employment centers, health centers, and educational facilities. A new contingent of policymakers is emerging to assume the diverse responsibilities of urban governance—as many national governments decentralize and devolve their functions; and programs in poverty, health, education, and public services are increasingly being placed in the hands of hitherto untested municipal and regional governments.

Many of the Latin American urban transport projects based on railway restructuring or public transport reform have been *de facto* instruments to catalyze broader institutional reform, such as the creation of metropolitan authorities, modal coordination, resource generation for the development of activity poles and private concessions of operations. In some Brazilian cities such improvements in access to metro stations through the introduction of connecting minibus service lines with subsidized fares have proved successful, on a limited scale.

Some of the early projects that included components on bus deregulation and privatization proved unsustainable (Sri Lanka), and in recent years the Bank has resisted bus replacement, unless accompanied by significant regulatory reforms to achieve longer-term sustainability (Uzbekistan, Kyrgz); a strategy validated by project performance. Moreover, the Bank has discouraged metro and light rail construction worldwide (with a few exceptions) in favor of more cost-effective solutions such as buses, bus priority measures, and exclusive bus-ways. It has, however, supported improving the capacity (Korea) or connectivity (Brazil) of existing metros. Competitive contracting has also been actively encouraged.

Pro-poor fare pricing with targeted subsidies has been promoted successfully, such as the *val transporte* in Brazil (it is a compulsory requirement on employers to finance part of the commuting costs of their employees). The *val transporte* misses the poorest people, however, who tend to work in the informal sector and, of course, any subsidy can distort incentives on residential location, but such initiatives are much better than nothing as a safety net. Decisions on appropriate fare structures also have to be taken in the context of trading-off cheaper fares and poorer services; in Kyrgyz it was demonstrated that the poor may sometimes be willing to pay more for better service.

In an IEG evaluation summary of urban transport (World Bank, 2004) 30 Bank interventions in urban transport over the preceding 20 years were reviewed and 87 percent were found to have had satisfactory outcomes. The re-estimated average ERR was found to be 30 percent, compared to 43 percent at appraisal. These results are slightly higher than those covered by the review period of this study (1995-2006), whereby 30 out of 40 (75 percent) had a moderately satisfactory or better outcome. However, inspection of the objectives shows that later projects have had more institutional content. In terms of upgrading physical infrastructure most projects achieved or even surpassed their physical objectives, while traffic management programs were more successful in countries with the ability to enforce traffic regulations, such as Brazil and Korea. Projects which tried to bring about better integrated development often were difficult to implement and sometimes took longer than expected due to exogenous factors (Belo Horizonte and Recife). Sustainability

was considered likely, however, in over two-thirds of all urban transport projects assessed.

While a few projects have tackled the issue of integrating non-motorized traffic and pedestrians in motorized cities, this can be a difficult challenge because the incumbent professionals have often been trained in western countries or follow developed country philosophies toward the control of transport in developing cities. Sometimes a change in locally accepted notions of appropriate city planning is warranted. Non-motorized transport (NMT) projects are still comparatively rare given the huge numbers of NMT users. Current estimates show for instance that there are 1.4 billion bicycle users worldwide including 500 million in China.

Considering the current huge growth in developing cities (in East Asia they account for 70 percent of regional economic growth) the number of urban transport projects appears to be comparatively low. Over the FY96-05 period, such projects have only accounted for between 5 and 8 percent of the transport portfolio and appear to be declining slightly rather than increasing as one would expect (Table 5). However, ironically, given the successful outcome results reported the longer preparation time with more consultation does appear to produce more positive outcomes.

Table 5. Distribution of Urban Projects and Components Closed and Active (1995-2005)

	1995-2000	*2001-2006*	*1995-2006*
Total Number of Urban Projects	**41**	**37**	**78**
Components	**78**	**77**	**155**
Urban Roads	27	24	51
Traffic Management & Safety	10	9	19
Institutional, Regulatory & Planning	12	19	31
Non-motorized Transport, Urban Poor	7	7	14
Urban Environment, Air Quality	3	3	6
Public Transport	19	15	34

Source: World Bank Data.

7. Future Challenges

The Bank's existing transport strategy, with its focus on sustainability, urban transport, and encouragement of greater private sector involvement, remains broadly valid, but, clean, affordable, and safe transport are important challenges for the coming decade.

Affordability concerns not only accessibility for the rural and urban poor, but also freight economy aimed at improving competitiveness and stronger economic growth; this clearly cuts across all transport modes and services. Greater emphasis on safety also can be strongly justified. By 2020 it is predicted that road accidents will become the third-largest contributor to the global burden of mortality and injury (World Health Organization, 2004). Bank-financed projects have rarely addressed road safety holistically. A revised approach, involving comprehensive multisector projects covering education, police, health, public works, and other departments is under

development. Pedestrians and non motorized transport users have been found to be particularly vulnerable in developing urban areas.

Especially in the larger cities, air quality is assuming growing importance as the number of motor vehicles continues to grow rapidly, contributing continuously to the volume of emissions. Increased support to urban transport will provide opportunities to explore ways to reduce long-term energy demand through traffic management, traffic pricing, limits on the use of private automobiles, and greater support for mass transit systems and public transport in general. The Bank may also make increased use of funding sources such as the Global Environment Facility, the UN Environment Program, and carbon finance initiatives in future years to tackle some of these important developments.

8. CONCLUDING REMARKS

The Bank's encouragement of greater private sector involvement in the transport sector where feasible is supported by this evaluation's findings. International experience generally, and Bank experience in particular, indicates that there is ample evidence that such participation has usually led to significant improvements in transport sector performance in both industrial and developing countries. Even when countries prefer not to opt for full privatization in favor of more modest models of private sector participation, such as the creation of corporate agencies, significant progress can be made to ensure that such organizations run like businesses.

This evaluation shows, however, that past Bank experience, with its relatively narrow, albeit successful primary focus on roads provides only a limited basis for the Bank's future response to emerging challenges. There needs to be a significant redeployment of resources and a re-examination of priorities. Future challenges will require greater focus as well as more innovation and experimentation to ensure continued Bank relevance, including a systematic evaluation of the recent experience with multidonor programmatic lending initiatives once a sufficient number of them have been completed.

The paper concludes that although past performance has been well-managed and effective, especially for intercity highway construction and rehabilitation, transport must more strongly focus on key issues such as traffic congestion, air pollution, safety, and affordability. The Bank may have to reconsider its priorities to fully address these crucial social, political, and environmental issues, and focus more resources on improving basic rural access, providing better urban transport, and ensuring efficient multimodal transport. Overall, the sector is at a crossroads, but has a window of opportunity to attain a higher level of relevance and offer a better level of support to its clients.

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