Mobile Metropolises: Urban Transport Matters

An IEG Evaluation of the World Bank Group's Support for Urban Transport

IEG Independent Evaluation Group
WORLD BANK GROUP
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WHAT WORKS

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Abbreviations

AS	Advisory Services
ASA	Advisory Services and Analytics
BRT	bus rapid transit
COP21	Conference of the Parties (2015 United Nations Climate Change Conference, Paris)
CPS	country partnership strategy
DPL	development policy loan
GEF	Global Environmental Facility Trust Fund
GHG	greenhouse gas
GP	Global Practice
GPSURR	Social, Urban, Rural, and Resilience GP
IBRD	International Bank for Reconstruction and Development
IEG	Independent Evaluation Group
IFC	International Finance Corporation
IS	Investment Services
KPI	Key Performance Indicator
LUTP	Leaders in Urban Transport Program
M&E	monitoring and evaluation
MIGA	Multilateral Investment Guarantee Agency
NHSFO	nonhonoring of sovereign financial obligations
NMT	nonmotorized transportation
OECD	Organization for Economic Co-operation and Development
PAD	project appraisal document
PDO	project development objective
PHRD	Policy and Human Resource Development
PPAR	Project Performance Assessment Report
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	public-private partnerships
QBS	quality bus service
SAR	special administrative region (Hong Kong SAR, China)
SEA	Strategic Engagement Area
SIL	Specific Investment Loan
SNTA	subnational technical assistance
SSATP	Sub-Saharan Africa Transport Program
TDM	travel demand management
TOD	transit-oriented development
UNFCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UT	urban transport

All dollar amounts are U.S. dollars unless otherwise indicated.

Acknowledgments

This report was prepared by an Independent Evaluation Group (IEG) team led by Fang Xu (task manager) and Andrew Stone (co-task manager). The evaluation was conducted under the guidance and supervision of Midori Makino (manager, Sustainable Development) and José Carbajo (director, Financial, Private Sector, and Sustainable Development) under the overall direction of Caroline Heider, director-general, Evaluation.

A team of evaluators and analysts including Anna Aghumian, Victoria Alexeeva, Jacqueline Andrieu, Francesco Bolognesi, Margareth Celse-L'Hoste, Han Dong, Judith Lewetchou Efouefack, Sama Kahn, Yan Liu, Kavita Mathur, Thao Phuong Nguyen, Rebecca Ashley Riso, Zukhra Shaabdullaeva, and Fredy Mauricio Torres conducted the analysis of the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency, and World Bank portfolios. Emelda Cudilla and Richard Kraus were responsible for administrative aspects of the evaluation. Kia Penso, Barbara Rice, and Janice Tuten provided editorial support.

The country case studies were conducted by Sanjivi Rajasingham and Fredy Mauricio Torres (Brazil); Kavita Mathur, Marvin Taylor-Dormond, and Fang Xu (China); Magnus L. Quarshie and Andrew Stone (Ghana); Honey Gupta and Andrew Stone (India); and Izlem Yenice (Turkey). Han Dong and Peter Freeman contributed to the literature review.

Many IFC and World Bank managers and staff provided useful comments and support. The team wishes to thank them and express our gratitude to the IFC and World Bank country offices for their support with the IEG missions. We are also grateful to the representatives of the governments of Brazil, China, Ghana, India, and Turkey, where the field-based country studies were conducted.

Many thoughtful and thorough comments from others helped improve the report. We express our appreciation to them including Peter Nigel Freeman, José A. Gómez-Ibáñez (professor of urban planning and public policy, Harvard University), Gerhard Menckhoff (consultant), Slobodan Mitric (consultant), and Sanjivi Rajasingham. Their expertise and guidance at critical phases were invaluable.

Peer reviewers for this evaluation include Robert Cervero (emeritus professor of city and regional planning, University of California Transportation Center), Monica Kerretts-Makau (senior faculty, Strathmore University and Business School), Ajay Kumar (consultant), and Zhi Liu (director, Peking University-Lincoln Institute, Center for Urban Development and Land Policy).

Overview

Highlights

- For a rapidly urbanizing world, well-planned and well-functioning urban transport provides vital arteries for efficient urban economies, linking the poor and disadvantaged to opportunities and services, and helping address key transport-induced challenges such as congestion, pollution, safety, and sprawl, that evolve without appropriate planning, regulation, and investment.
- The evaluation exercise focuses on three themes that cut across strategies and project designs during FY07–16: mobility for all (including the poor, women, and persons with disabilities), sustainable service delivery, and institutional development.
- In spite of the pressing need arising from rapid urbanization, Africa has a declining urban transport portfolio that in the second half of the review period (FY12–06) focused increasingly on urban roads. Upper-middle-income countries represent 43 percent of the evaluation portfolio commitments.
- Overall, the World Bank Group has been effective in supporting improved service quality and increased access, but approaches based on increasing infrastructure capacity are not balanced with approaches based on demand management.
- Among disadvantaged groups (poor, women, disabled persons, elderly) the poor received the most support. Much less attention was paid to the special needs of women and disabled persons.
- Affordability of urban transport services is rarely analyzed in the World Bank Group's projects, with unknown impact on the mobility of the disadvantaged. Financial sustainability remains a challenge for the provision of public transport services. Financing gaps between revenues and operation and maintenance costs are common. The World Bank is often optimistic in appraising the costs, timing, and financial viability of mass transit projects.
- Efforts to engage the private sector to achieve operational efficiencies and improved financing seldom combine the policy and institutional strengths of the World Bank with transactional strengths of the International Finance Corporation and the Multilateral Investment Guarantee Agency.
- The World Bank Group has achieved localized environmental mitigation benefits along key urban transit corridors or systems, but broader environmental benefits could be still be achieved by using a comprehensive approach that combines upstream (policy and sector framework) and downstream (operational) measures.
- Weak institutional capacity and coordination remains a critical challenge in the urban transport sector. Institutional development support is a part of 80 percent of World Bank Group projects, yet these often focus on a single local body during a one-time project. Longer-term and more ambitious institutional reform engagements occurred in only a few cities.
- The World Bank Group's contribution to urban transport development goes beyond projects. Investments often provide a platform for the World Bank Group to offer guidance, training, technical assistance, and learning throughout the project cycle, South-South learning and exchange, and good practices for demonstration to sector stakeholders and further adoption.

More than half the people on earth now live in cities, and this share will grow to 60 percent by 2030. In developing countries, cities function as powerful engines of economic growth and poverty alleviation. At the same time, rapid urbanization is exerting pressure on all urban systems and services. The world's cities occupy just 3 percent of its landmass, but account for more than 60 percent of energy consumption and 75 percent of carbon emissions. Mobility and accessibility are deteriorating in most cities because increasing motorization overwhelms the system, with negative effects on urban structure, health, and safety, and with serious implications for the welfare of the urban poor and the effective functioning of cities.

Urban transport can provide arteries for movement of people and goods for efficient, sustainable cities. It can connect the urban poor,women, and persons with disabilities to labor markets, public services, and markets, facilitating achievement of the World Bank Group's twin goals of eliminating extreme poverty and achieving shared prosperity. With planning and investment in public transit, integrated services and ticketing can improve its affordability and convenience so that the poor and disadvantaged can manage their often more complex travel. Well-managed urban transport can also help address congestion, pollution, safety, security, unplanned growth, and other critical concerns.

The value of urban transport is affirmed in the 2015 Sustainable Development sub-goal 11.2: "By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons."

Evaluation Approach

The Independent Evaluation Group (IEG) developed a theory of change and evaluation questions focusing on how the activities and inputs of the World Bank Group contributed to government and private sector activities that could produce developmentally significant urban transport outcomes and impacts. A review of World Bank Group strategies and literaturee yielded three focus themes: (i) mobility for all (including the poor, women, and disabled persons); (ii) sustainable urban transport service delivery (from the financial and environmental perspectives); and (iii) urban transport institutional development. The evaluation assesses the World Bank Group's effectiveness in supporting the countries' efforts to achieve these three intermediate outcomes, which directly relates to the likelihood of advancing the World Bank's twin goals by 2030.

This IEG evaluation includes a portfolio review, a review of internal and external literature, five mission-based and six desk-based country case studies, nine Project Performance Assessment Reports, two partnership reviews, and dozens of interviews with World Bank Group staff, counterparts and clients, beneficiaries, other stakeholders, and

relevant sector experts. Finally, the evaluation pioneered the application of two distinct "lenses" focusing on behavioral change and service delivery. Given limited evidence on results, a challenge was to augment available data with analysis of the patterns and content of the portfolio and the other sources of evidence described above.

World Bank Group's Strategies and Portfolio Support

The World Bank Group's transport sector strategies have for decades emphasized the importance of urban transport for development and shared prosperity. In the 1990s, strategy focused on efficiency, competition, and financial viability, and evolved to address multiple dimensions of sustainability: economic, social, and environmental. Increasingly, the strategy emphasizes mobility and accessibility for the poor and disadvantaged, and associated considerations such as targeted subsidies to enhance public transit affordability. The World Bank Group has advocated policies for building local government capacity to manage increasingly decentralized sectoral responsibility, for mobilizing private participation in the supply of urban transport services, for increasing transport safety, and for protecting the environment. Most recently, the sectoral theme is "Sustainable Mobility for All." IFC and MIGA have not articulated their own urban transport strategies, but the operations they have financed, advised, or underwritten generally support the World Bank Group policy framework.

During the 10-year evaluation period(FY07–16), the World Bank Group invested $25 billion in urban transport projects. Of the 297 financing projects active at some point during the period, the World Bank was responsible for 93 percent of projects, worth $23.5 billion, with MIGA and IFC delivering the balance. 148 projects were closed during the period and 104 were evaluated. In addition, the World Bank carried out 165 Analytic and Advisory Activities, and IFC delivered 15 IFC Advisory Services products.

The World Bank Group's urban transport portfolio provided five main types of support : urban roads, conventional bus, bus rapid transit (BRT), metro or urban rail, and upstream support focusing on policy and the sectoral framework. Although urbanization increased during the evaluation period, the overall urban transport portfolio (measured by projects approved and their commitment or guarantee value) was flat except for 2010, when there was a one-year surge in the wake of the global financial crisis. Both the number and commitment values of appraised public transit metro, BRT, and conventional bus projects decreased by 23 percent between the first and second half of the evaluation period. Upstream support held steady and the value of roads projects increased by 2 percent. Regionally, both the number and value of projects in the East Asia and Pacific Region grew by a substantial 52 percent. In the Latin American and the Caribbean Region, the number of projects declined sharply by 38 percent,

while commitment values dropped by 34 percent. Yet the sharpest decline was in the Sub-Saharan Africa region, where the number of projects approved in the second half of the evaluation period declined by nearly 60 percent from the first half. Further, road-only projects grew from 53 percent to 81 percent of commitments, while support for public transport in the latter period all but disappeared. While roads can be understood as prerequisite to other transport investments, World Bank Group sectoral strategy and the literature indicate that roads alone cannot address growing transport demand and related issues. There has also been a shift of support toward upper-middle-income countries, with 44 percent of commitment value of projects appraised in the second half of the evaluation period focused on these countries, led by a focus on metro (rail) systems.

Key Findings

Mobility for All. The World Bank Group's main approach toward improving urban mobility has been through increased supply, which has generally been effective in helping countries to improve service quality and increased access, contributing to improved mobility.

However, demand management (such as reducing travel demand through integrated transport and land use planning, and explicit measures to shift transport from private cars to public transport) is yet to be broadly supported by World Bank Group operations. The mobility achievements of World Bank Group demand management interventions are generally limited to specific transport systems or areas. IEG found that projects that incorporated both demand and supply measures were able to commit more to mobility, achieve more mobility improvements, and obtain more sustained mobility outcomes than were projects that focused only on either supply or demand measures.

Mobility improvement for the disadvantaged (the poor, women, disabled and elderly persons) was pursued primarily through targeted interventions, for example, by connecting poor neighborhoods to urban transport services, improving security for women in urban transport systems, and promoting universal access for disabled and elderly persons. These targeted measures led to improved access of the disadvantaged to urban transport service, but they are not yet broadly applied. Only 36 percent of projects targeted the poor, 7 percent targeted women, and 10 percent targeted disabled and elderly persons. In addition, while affordability of urban transport service is an inescapable constraint to disadvantaged groups, support for affordability was low (9 percent of the portfolio) and primarily through studies and subsidy policy support. A few projects supported fare integration and these were effective in encouraging public transit use, especially by lower income users. Consequently, only nine projects (19 percent of the evaluated projects with targeted interventions) presented evidence on improved mobility and affordability for the poor.

Success factors included careful design of targeted interventions and strong implementation. Participatory consultations with representatives from disadvantaged groups and civil society are effective in designing and planning interventions tailored to support targeted beneficiaries. Extra resource availability (such as trust funds) and the team's relevant training and skills can strengthen performance, as exemplified by the treatment of disadvantaged groups.

Financial and Environmental Sustainability. A 2013 IEG transport evaluation found financial sustainability to be a frequent challenge in World Bank Group–financed transport projects, and recommended that the World Bank Group strengthen its focus on financial sustainability of transport infrastructure and services in project design. However, over-optimism about project financial viability is common at the design stage and the quality of financial sustainable analysis varies widely across projects. Optimism is also common in estimating the cost and time requirements of projects at the design stage. In terms of closed projects, a quarter experienced cost overruns; three quarters experienced time delays.

Private sector participation has the potential to improve financial sustainability through resource mobilization, stable contracting that secures finance, and mobilization of capabilities yielding operational efficiencies not available through a public sector delivery model. The World Bank Group has a high level of support for private sector participation (PSP) in urban transport , found in 66 percent of dedicated projects in the sector. IEG found that mass transit projects with private sector participation were more likely to achieve financial sustainability of operations than were projects utilizing only the public sector. While each of the three World Bank Group institutions support PSP in urban transport, there is scope for improved collaboration between them.

Interventions in support of environmental sustainability included both upstream (policy and regulatory framework) and downstream (operational) instruments, but downstream mitigation support was the most common feature. Overall, the World Bank Group has been successful in achieving its mitigation measure targets in the urban transport sector. More than 70 percent of closed and evaluated projects tracking environmental benefits contributed to reduced emissions of greenhouse gases or air pollutants. However, modal shifting from private vehicles to public transit or nonmotorized transport did not materialize in any significant way, which confined the environmental benefits to the vicinity of the project area or to the specific transport mode supported by the World Bank Group. Broader and sustained environmental benefits were better achieved in projects with a comprehensive approach that included both upstream and downstream measures.

Institutional Development. Eighty percent of urban transport projects included components for institutional

development. These components were adapted to regional attributes, and were relevant to their sphere of influence: dedicated urban transport projects usually focused on urban transport agencies, while nondedicated projects focused more broadly on city governments' fiscal, administrative, and service delivery capacity.

Building institutional capacity has been the main institutional development approach. Instruments included training, study tours, procedural improvements, and system upgrades. However, there were few attempts at broader redesign of urban transport institutional structures. The evaluation found that a sustained and comprehensive programmatic approach to World Bank Group engagement in urban transport is a success factor. However, a key shortcoming of sustained institutional development support through projects is the predominance of "one-time" projects in the urban transport portfolio. Of about 100 cities supported by the World Bank Group, only nine cities in six countries had such continuous engagements through dedicated urban transport projects—and these cities had successful institutional development outcomes. The evaluation found that monitoring and evaluation of institutional development outcomes is still weak. Simultaneously, however, the World Bank Group's support for urban transport institutional development had effects beyond its projects (for example, where strengthened agencies administered multiple services or endured long beyond the project life), although such effects were not systematically tracked.

Beyond the Urban Transport Portfolio, World Bank Group Value Added. World Bank Group investment is quite small compared to the overall volume of urban transport investment globally and growing need for improved policies, systems, services, and sectoral management and oversight in the face of rapid urbanization. Yet IEG case studies, stakeholder and counterpart interviews, and the literature review found indications that World Bank Group influence went beyond its investment projects. The World Bank Group contributed to client countries and to global interactions on urban transport through (i) advanced knowledge and knowledge sharing, (ii) convening and mobilizing power and policy influence, and (iii) international operational expertise including environmental and social practices. The World Bank Group has been a global leader in knowledge about urban transport, which it has promoted through multiple means including publications, training, study tours, and dialogue. A key example is the influence of the Leaders in Urban Transport Program (LUTP). Sector leaders emphasized the value of this program in promoting a common understanding of sectoral challenges and potential solutions. In the case study countries, IEG encountered many counterparts and stakeholders who had participated in and valued the program, which had created a global network of professionals. In addition, the World Bank Group's emphasis on a comprehensive approach involving

policies and institutions in addition to physical infrastructure, and its deep knowledge resources and global experience, often afforded it a "place at the table" with leaders in sectoral policy discussions. The case studies also suggested that clients value the World Bank's operational expertise and perspective in addition to its financing. In both China and India, the World Bank's attention to planning, safeguards, and full project cycle supervision were appreciated and accepted as models of good practice inviting replication.

Management Response

World Bank Group Management thanks the Independent Evaluation Group (IEG) for its valuable and informative evaluation report, *Mobile Metropolises: An IEG Evaluation of the World Bank Group's Support for Urban Transport*. Management acknowledges the IEG's thorough and relevant assessment of World Bank Group support to urban transport as a means to achieve the twin goals of reducing extreme poverty and achieving shared prosperity, primarily by improving the mobility of the urban poor and increasing their overall access to jobs, public services, and markets. The IEG report confirms the relevance of urban transport in the context of the twin goals while finding that its contribution to the World Bank's mission may not yet be fully realized. The report recognizes that in most cases World Bank Group's support was effective in improving service quality and increasing access, and it also identifies a number of areas where additional attention is needed. Management is committed to finding approaches that consistently capture and maximize the development benefits of urban transport operations to direct users and other stakeholders—benefits such as improved safety and resilience, reduced emissions or other environmental impacts, and increased efficiency and productivity, along with affordable urban mobility and accessibility for all.

Overall, Management concurs with the report's main findings and conclusions, which provide useful guidance on how to increase the effectiveness of the World Bank Group's urban transport operations and engagements. Management finds the report's broad thrust to be useful and timely in view of the pressing issues around urbanization and the importance of cities as drivers of growth and poverty alleviation. The findings also provide an opportunity to reflect on strategic portfolio and client engagement issues and coordination among World Bank Group institutions, as well as the specific urban transport sector issues of underinvestment, project performance, sustainability, capacity building, and barriers to longer-term reforms.

World Bank Management Response

The IEG notes that in recent years the urban transport portfolio has not followed urbanization trends in some Regions, particularly in Africa. While urban transport lending as a share of total World Bank Group transport lending has increased in the past 10 years, IEG notes that the overall urban transport portfolio has shifted toward middle-income countries. Management is committed to scaling up urban transport operations in lower-income countries, especially to promote public transport and

nonmotorized transport (NMT). First, increased allocations under IDA18 should translate into more operations in low-income countries to meet country demand. This increase will be accomplished by ensuring that the analytical work supporting the Systematic Country Diagnostic and Country Partnership Framework (SCD/CPF) process covers the relevance and importance of urban transport to the twin goals. Also, increasing country demand will require raising client awareness and using data tools (such as job accessibility analysis) to make more informed decisions about the priority of improving urban transport in the context of competing development needs. Priority will be given to countries in Sub-Saharan Africa where there is growing demand for urban transport operations. Second, the Global Practice (GP) model offers opportunities to meet increased demand if there are appropriate resources to ensure the quality of operations. For instance, the Transport & ICT GP has recently hired three additional Program Managers in Africa and Asia and is in the process of hiring a cadre of new urban transport specialists to focus on low-income and rapidly urbanizing countries. Continuing collaboration and cross-support among the GPs on urbanization, land use, and urban transport development issues will also be important. A recently completed flagship study related to the spatial development of African cities (entitled *Opening Doors to the World*) has been instrumental in drawing attention to the importance of improving urban transport and integrating it with land use planning to facilitate people's mobility and access to jobs and economic opportunities.

It is worth noting that urban transport engagements are generally more complex and resource-intensive than non-urban infrastructure projects. Urban transport projects often require longer preparation and implementation periods, especially when there are issues with land acquisition, resettlement, and institutional weaknesses. As the IEG report recognizes, urban transport projects often require a higher level of technical capacity, as well as coordination and new institutional arrangements among different levels of government. Some of these challenges are even more relevant for lower-income countries and for comprehensive operations, such as introducing mass transit systems that require a series of complementary policy actions and interventions to achieve significant and sustainable outcomes.

The IEG report notes that the World Bank Group achieves more when it engages more comprehensively and continuously with clients on upstream policy and institutional support, as well as downstream operations. Because of the World Bank's country-based model of engagement and the many competing demands on its limited resources, the scope of urban transport engagements is largely driven by client government priorities and the selectivity lens, through the SCD/CPF process. Opportunities for comprehensive engagements emerge from diagnostics and policy dialogue, and are fostered first by analytical support and advisory activities and

later on by lending operations that incorporate insights from the ongoing dialogue. Therefore, Management recognizes that expanding comprehensive urban transport engagements will require data tools and partnerships on sustainable urban transport, as well as additional resources and funding from various sources (clients' own resources, trust fund donors, and other actors).

Transport demand management (TDM) and environmental sustainability are complex, multiagency policy issues that are increasingly being introduced upstream through policy dialogue and advisory assistance. Management agrees that a comprehensive approach of addressing urban transport supply needs along with TDM policies can produce better results in terms of mobility, behavioral change, and environmental sustainability. Experience shows that the development of successful TDM strategies and citywide environmental policies requires a "building-block" approach based on pilot interventions, incremental policy changes, and financial mechanisms that correct market failures and distortions. Compared with more traditional urban transport supply enhancement projects, this approach requires not only additional Bank support, but also political leadership and other enabling conditions to build public support over time. A programmatic approach is often needed to build the national- and local-level institutions and policies for TDM, integrated land-use, and environmental sustainability. There may be a need for trade-offs—for instance, between increasing support for comprehensive engagements and expanding basic support to more clients in low-income countries.

Management understands that maintaining a focus on public transport, NMT, and integrated land use planning are also critical parts of a comprehensive and sustainable urban transport strategy. For example, the report notes the importance of public transport and NMT because poor people most often rely on walking, biking, and buses to reach their destinations. Public transport and NMT networks can be promoted not only through discrete investments, but also by improving the way cities are planned or regulated, projects and services are financed, and streets are designed. For example, urban roads with sidewalks, bike lanes, safe pedestrian crossings, and other features are part of a "complete street" concept. In a number of cities the World Bank is implementing the more comprehensive "integrated urban transport corridor" approach, which includes improved public transport infrastructure and services, NMT facilities, and traffic engineering and management focused on moving people safely and efficiently. In addition, because the way in which individual buildings interact with the public realm (the street) has a major impact on the functionality, safety, and attractiveness of streets, this approach also considers norms and regulations, including the definition of building setbacks, ground-floor elevation, and other features that go beyond what is usually referred to as urban land use. Finally, these interventions are often difficult to package in

operations when responsibilities are fragmented. Therefore, the preparation of projects needs to use analytical work and take advantage of lessons learned to address, for example, institutional issues.

The report notes that among disadvantaged groups (women and poor, disabled, and elderly people), the design of operations should give more attention to the special needs of women and the disabled. In implementing the World Bank's Gender Strategy and new Safeguards Framework, Management will use consultations, training, and monitoring of project impacts to increase the emphasis that project design and analytical work give to the needs of disadvantaged groups. Management is also taking steps in this direction by drafting guidance and mainstreaming good practices on the analysis of potential impacts, the design of gender-informed interventions, and universal accessibility features. Although more systematic analyses and better design should increase the emphasis on affordability, access, and mobility for all, it must be recognized that no single project or program will be able to address all the needs of disadvantaged groups. Therefore, gaps and barriers to promoting these important agendas, as well as broader strategies and opportunities beyond the project, should also be identified whenever possible.

Management is cognizant of the need to strengthen work quality, which the IEG report highlights, and will take further actions to address it. For example, Management has issued guidance to task teams on several topics.

- Poverty and Social Impact Assessments (PSIA) should be conducted as part of project preparation to evaluate impacts on disadvantaged groups and inform the design of measures to protect these groups.
- All urban transport projects should be informed by considerations of accessibility and road safety. During preparation, task teams work with clients to assess how the projects will improve accessibility to jobs, in particular, and if possible to other opportunities such as education. Teams also consider road safety aspects that frequently call for design audits and field inspections to be carried out before construction.
- UT projects should increasingly be gender-informed, and guidance is being prepared in this area, including how to use the results of a PSIA.
- To address weaknesses in monitoring and evaluation (M&E), task teams are receiving guidance and training on how to improve M&E frameworks by improving indicator and methodological descriptions, and the internal consistency between M&E and cost-benefit analyses.

Financial sustainability remains a challenge for urban transport, especially for the provision of public transport services. Financing gaps between revenues and

operation and maintenance costs are common. However, it is important to note that there may be a self-selection bias when comparing the performance of projects with and without IFC/MIGA participation, because the more financially viable projects are more likely to attract private investment. Large and growing client cities have massive unmet needs for infrastructure and services to achieve good levels of accessibility and mobility. Meeting these needs requires major investments in trunk capacity (mass transit), mid-distance and feeder systems (buses), and short-distance facilities (NMT). Without such continued investment in sustainable urban transport, growing cities and those with rising incomes are plagued with congestion and other costly externalities, and, in particular, the poor and other disadvantaged groups suffer from limited mobility and access to socioeconomic opportunities.

Optimism in estimating cost and time requirements at the design stage is common for infrastructure projects. The report notes that among closed urban transport projects, one-quarter experienced cost overruns and three-quarters experienced time delays. Urban transport industry averages are even higher. Urban transport projects are often difficult to prepare and implement for several reasons: (i) fragmented institutional arrangements and responsibilities among modes, jurisdictions, and levels of government; (ii) issues with land acquisition, resettlement, multiple stakeholders, and other known risks in urban environments; (iii) unforeseen risks or optimism bias, causing cost overruns and delays; and (iv) other weaknesses in clients' technical and implementation capacity. The World Bank's appraisal of world projects should consider these aspects more carefully, for example by improving the sensitivity analyses of estimated costs and benefits, and making disbursement profiles reflect a more realistic ramp-up for infrastructure works (an "S-shaped" curve).

Management agrees that more communications and coordination among WBG institutions can improve the identification of urban transport investment opportunities involving the private sector. Management is committed to fostering closer collaboration among World Bank Group entities at various stages of the project cycle, including identifying private sector investment or leveraging opportunities in urban transport as part of the "cascade" approach. Many urban transport projects already rely on the private provision of services, and the "cascade" approach calls for incorporating the lessons learned from these projects. For example, concessions arrangements and risk allocation that support project bankability and financial closure are important considerations during the preparation stage, not just during implementation.

IFC Management Response

Useful findings and associated engagement. IFC Management considers the report findings and conclusions useful and timely, especially as the IFC's urban transport support moves toward a more integrated World Bank Group approach to the sector. As a result, IFC Management will take the findings and assessment of the report into consideration as it embarks on the implementation of the IFC 3.0 Strategy and the Cascade Approach.

IFC's approach to urban transport. Because the IFC's approach to the urban transport sector is embedded in IFC's overall Infrastructure and Natural Resources (INR) Strategy and its Transport Strategy, it is important to consider IFC's urban transport support within this broader thinking rather than in isolation. This approach works well from both business effectiveness and efficiency perspectives, given the diverse demands and challenges of countries and INR subsectors. The IFC's INR Strategy focuses on enhancing impact, for example by developing transformational engagements and by strengthening profitability. Within this, in the transport sector (where urban transport falls), IFC strives to provide leadership in path-breaking transactions. In addition, urban transport support is a strategic segment in the IFC's Climate business and is one of the core components of the Cities initiative. Finally, the IFC's support in any country is aligned with the CPF.

As the report describes, the IFC's investments in urban transport consist of direct private sector investments and subnational finance, while its advisory services projects support public–private partnerships (PPPs). IFC Management is pleased with the finding that the urban transport operations that IFC financed and advised, although small in number, supported the World Bank Group policy framework overall. As IFC seeks to enhance the impact on the twin goals, it looks forward to implementing the recommendations developed by Management in response to the report's findings, especially through the WBG's deepening engagement, increased benefit for disadvantaged groups, and strengthened linkages with the upstream work of the World Bank. Furthermore, in doing so, IFC Management will seek opportunities in the International Development Association (IDA) and fragile and conflict-affected situations (FCS), deploying such additional tools as an enhanced risk envelope (IDA Private Sector Window), new pools of risk capital, and blended finance instruments.

MIGA Management Response

Useful report, but limited MIGA sample. Overall, MIGA finds the evaluation report useful and important. World Bank Group support for sustainable urban transport development in client countries has contributed to cities' efficiency and economic growth, environmental quality, the welfare of poor and vulnerable groups, and road/traffic safety. However, the evaluation is limited to a MIGA portfolio of seven guarantee projects, with only two evaluated projects.

MIGA's urban transport strategy. MIGA pursues only an overall corporate strategy, rather than strategies for specific sectors like urban transport. However, given MIGA's demand-driven business model and relatively small size within the World Bank Group, MIGA guarantee projects generally support the Bank Group policy framework for urban transport.

Private sector participation in urban transport. Regarding private sector participation, MIGA's PPP work is closely linked to relevant upstream work by the World Bank and, in some countries, by other multilateral institutions. MIGA is normally connected to this upstream work during both the business development and underwriting phases. In the Panama Metro project, for example, MIGA verified that the project was based on a comprehensive transportation plan for Panama City, which was financed and managed by the Inter-American Development Bank. As a second layer of verification, MIGA hired (as cross-support) the leading IBRD sector specialist to validate the various assumptions, feasibility, and expected development impacts of the project. This specialist's contributions were important aspect to MIGA's decision to support the Panama Metro project. Another MIGA project example, currently at the business development stage, is a mass transport system in Guatemala City. In this project, MIGA is fully engaged with the IBRD and other institutions in the upstream efforts to ascertain that the project makes sense and is properly structured, and that its design is "bankable," with a couple of potential solutions, including MIGA.

Recommendations

Management of the World Bank Group institutions appreciates the opportunity to test a new approach to drafting recommendations for the report. Management thanks the IEG for the very constructive dialogue and collaboration during this pilot process. Management has benefited from interactions with the IEG team to discuss the findings and conclusions of the report and feedback on the initial draft of Management Recommendations. The recommendations stemming from the IEG's

findings are expected to increase the effectiveness of the World Bank Group's urban transport operations and engagements. The attached Management Action Record Matrix presents Management's comments and recommendations on the IEG's four main findings and conclusions.

World Bank Group Management should:

- (i) Increase analytical work and client awareness on the relevance and importance of urban transport to the twin goals; (ii) strengthen collaboration and focus on upstream policy dialogue and institutional frameworks; and (iii) increase urban transport expertise to enable engagement opportunities conducive to building a pipeline of projects, particularly in lower-income countries that are urbanizing rapidly.
- At the project design stage, increase the emphasis on the systematic analysis of affordability, access, and mobility for disadvantaged groups, including women, and flag gaps and opportunities for improvement.
- Identify opportunities for comprehensive engagements—particularly on issues related to urban mobility management, road safety, and environmental sustainability—while still supporting less comprehensive engagements according to client demand. A more comprehensive effort requires external partnerships, internal coordination, and additional resources to support upstream policy dialogue, plans, and studies.
- Incorporate good practices from project appraisals, results frameworks, evaluations, private sector involvement, and internal coordination to strengthen work quality in urban transport operations—for example, encouraging more probabilistic assessments of costs and delay risks, and mainstreaming data tools and partnerships to improve urban transport indicators across cities.
- Undertake a systematic review of estimated vs. actual project completion costs and time for the urban transport portfolio to identify broad trends and better inform future interventions.
- Coordinate across the World Bank Group to agree on a consistent set of mobility indicators and explore arrangements for sustained monitoring of transport services to capture the longer-term impacts of interventions.
- Identify opportunities for closer collaboration across the World Bank Group at various stages of the project cycle, including identifying private sector investment opportunities in urban transport as part of the "cascade" approach and developing institutional mechanisms to encourage coordination among the World Bank, IFC, and MIGA project staff and managers.

IFC Management should also:

- Explore deepening its engagement in urban transport, especially in IDA/FCS.

Management Action Record

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
Balancing the Portfolio. The evaluation portfolio revealed some imbalances that merit careful attention. The broader imbalance between middle- and lower-income countries is most evident in Africa, where a sharply declining portfolio is compounded by the loss of expertise that could contribute to a new generation of urban transport activity. The apparent mismatch in this region lies between portfolio and external conditions, with the fastest urbanization of any region. Further, in the second half of the review period (2012–	The World Bank Group, through the Transport and ICT Global Practice, is keen to finance a new generation of urban transport projects in Africa, South Asia and other regions that are urbanizing rapidly. • World Bank Group strategic discussions are needed on the operational approach to expand urban transport lending and support to low-income countries (LICs), especially in light of IDA18. Urban transport projects are inherently more complex and resource intensive than non-	**Recommendation 1:** Particularly in rapidly urbanizing lower-income countries, World Bank Group Management should: (i) increase analytical work and client awareness on the relevance and importance of urban transport to the Twin Goals; (ii) strengthen collaboration and focus on upstream policy dialogue and institutional frameworks, and (iii) increase urban transport expertise to enable engagement opportunities conducive to building a pipeline of	While IEG appreciates the additional commitment from IFC management on deepening its engagement in Urban Transport in IDA/FCS, the language of "explore deepening engagement in Urban Transport" does not lead to a set of monitorable actions. Change the wording to "IFC should deepen its engagement in Urban Transport…" • Preface the IFC-specific recommendation with "In addition" to clarify that it is in addition to the World Bank Group commitment, which would also apply to IFC.

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
16) there was a retreat from public transport and NMT operations.	urban projects. Urban transport projects require longer preparation and implementation periods, especially where there are issues with land acquisition, resettlement, and institutional weaknesses. • Although scaling up urban transport engagements in low-income countries is the goal (for example, in about 10 to 12 rapidly growing cities in Africa, including Dakar where a new bus rapid transit project was approved by the World Bank Board on May 25, 2017), there are necessary conditions to build a good pipeline	urban transport projects. IFC Management should explore deepening engagement in urban transport, particularly opportunities in IDA/FCS.	• IEG agrees with the spirit of Recommendation 1(ii) "strengthen collaboration and focus on upstream policy dialogue and institutional frameworks", but suggests that it would be better placed under Recommendation 4 (i), after "Incorporate good practices from project appraisals….".

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
	of operations. Lending is driven by client demand, the trade-offs between competing development priorities towards the achievement of the twin goals, the availability of good projects, and the SCD/CPF process should consider this. Good projects often require new levels of technical, financial and institutional capacity, leadership or political will, and a working relationship between national and subnational levels of government. • It should be noted that the apparent decline in UT operations in 2012–16 is in part a reflection		

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
	of the near-tripling of lending from 2008 to 2010 and the cyclical nature of lending in large client countries such as Brazil, Colombia and Mexico. In China, the portfolio has undergone an evolution from larger cities to medium-sized cities that have allowed lending to continue growing and may be instructive to other countries with similar mechanisms between national and subnational governments. The IFC Investment portfolio [~30 percent in IDA/FCS] is driven primarily by project readiness, borrower		

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
	creditworthiness, and commercial viability considerations. The IFC will explore how to deepen engagement in urban transport in IDA/FCS under IFC 3.0 by leveraging access to the IDA-PS window, and piloting closer collaboration with the World Bank on country policy dialogue and upstream design support, for selective operations.		
Including the disadvantaged (poor, women, disabled and elderly). While Bank Group UT projects often discuss challenges to the disadvantaged, the portfolio does not reflect consistent attention in project design to improve the access to the	A single project or program can advance the agenda for the disadvantaged, but has inherent limitations, such as limited scope and institutional boundaries. With this reality in mind, the gaps and opportunities will be identified at the project design stage and	**Recommendation 2:** World Bank Group Management should intensify its efforts to undertake at the project design stage systematic analysis of affordability, access and mobility for disadvantaged groups and the gender agenda, and flag	Explicitly state that the effort is for Urban Transport projects so that when the recommendations are used in the MAR process in the future, it is clear when the recommendation stands by itself.

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
poor, women, and the disabled. Only about 7 percent UT projects had targeted interventions to meet the special needs of women and 10 percent for the disabled and elderly. Although the cost of UT services is a common constraint for disadvantaged groups, project-level support to address afford-ability concerns is often lacking, limiting the effects of Bank Group support for mobility of the disadvantaged. Ex ante analysis of impacts on women, and a focus on their security and amenities, were the exception rather than the norm. Where targeted interventions were provided, projects seldom	addressed whenever possible. • With some more advanced clients, particularly in Latin America and the Caribbean, the inclusion of the poor and other disadvantaged groups in project design is already being mainstreamed, and the focus is on developing institutional products and tools that can be applied more broadly. Examples of this include the Mexico City bus anti-harassment pilot, Bogotá's work on the affordability and sustainability of fare and subsidy policies, Lima's universal accessibility pilot process and	gaps and opportunities for improvement.	

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
tracked the impacts on these disadvantaged groups. The opportunity to mainstream support for the disadvantaged, to routinely utilize affordability analysis, and to learn from results are all UT project design features whose potential remains untapped.	improvements around a bus rapid transit station, and the work in more than 10 cities on job-accessibility mapping. • For example, the IDA18 policy commitments on gender state that at least half of IDA18 financing operations in urban passenger transport will address the different mobility and personal security needs of women and men. The IFC's due diligence in urban transport projects will more systematically include an affordability analysis and examine opportunities to improve access and mobility for women and disadvantaged groups, to the extent possible. It will		

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
	flag gaps, and where there is borrower interest, explore advisory support to help develop high-impact design improvements and track impacts to learn from and improve future interventions.		
Benefits of Comprehensive Engagements. The Bank Group can achieve more when it engages more comprehensively. a. Regarding Mobility, Bank Group projects that incorporate both UT travel demand management (avoiding travel and shifting modes) and supply measures were able to commit more to mobility and achieve more improvements, and were more likely to sustain		**Recommendation 3:** World Bank Group Management should identify opportunities for comprehensive engagements, in particular to include issues related to urban mobility management, road safety, and environmental sustainability, while still supporting targeted engagements in response to client demand. Management will consider potential options to	Reword "identify opportunities" to "identify opportunities and design" comprehensive engagement in UT sector, in particular… so that the recommendation lends itself to monitorable action. • Clarify that "client demand" refers to client governments rather than citizens. • Change "Management will consider potential options…" to

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
outcomes than projects that focused on supply. The lack of emphasis on demand management limited the benefit of increased supply. Key aspects of demand management include the integration of land use and transport planning and introducing incentives for modal shifting. Though demand management has proven less politically palatable, "package deals" of supply and demand improvements appear to be more effective. b. Regarding Environmental Sustainability, Bank Group support for downstream mitigation through urban transport projects generated only localized impacts. Addressing environmental		strengthen external partnerships, internal coordination, and availability of resources to support upstream policy dialogue, plans and studies.	"Management should strengthen…"

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
sustainability at a policy level, coupled with an investment operation, showed a better chance of environmental success. However, policy support can only be effective if it is enforced. Projects with a comprehensive approach, offering upstream and downstream support, were more likely to yield citywide environmental sustainability.			
Strengthening Work Quality. IEG found several indications of inconsistent work quality and practices that limited the potential impact of Bank Group urban transport interventions. (i) The analysis of project financial viability, cost		**Recommendation 4:** World Bank Group management should: (i) Incorporate good practices from project appraisals, results frameworks, evaluations, private-sector involvement, and internal coordination to	Remove point (ii) altogether, because undertaking a systematic review of estimated vs. actual completion time and costs for urban transport portfolio is an action rather than a recommendation. • In point (c), change "consider options to

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
and timing were frequently optimistic. Ex ante analysis often ignored explicit consideration of subsidy, maintenance costs and alternative options. (ii) Regarding the monitoring and evaluation of projects, IEG found that data weaknesses and indicator inconsistencies across projects limit learning and accountability. For example, while many projects have some indicators of mobility, few have the same indicators, making comparisons difficult. Missing indicators, inconsistent indicators,		strengthen work quality in urban transport operations. (ii) Undertake a systematic review of estimated vs. actual completion time and costs for urban transport portfolio to identify broad trends and better inform future interventions. (iii) Consider options to standardize mobility indicators across the World Bank Group, and explore arrangements for sustained monitoring of transport services to capture the longer-term impacts of its interventions. (iv) Identify opportunities for closer collaboration across the World Bank	standardize mobility indicators across the WBG" to "coordinate across the WBG to agree on a consistent set of mobility indicators" and change "explore arrangements to" to "put in place processes for…" • In point (iv), reword "Identify opportunities for closer collaboration…", to • "Identify opportunities and collaborate more closely across World Bank Group…".

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
absence of baseline measurement, absence of measurement over project life, and absence of sustained M&E of urban transport services beyond project life were common characteristics of the urban transport evaluation portfolio. (iii) Communication (much less coordination) between the institutions of the World Bank Group appeared weak regarding urban transport engagements. Regarding private sector participation, the PPP work of the IFC and MIGA in some cases appears to be ~~largely~~ disconnected from relevant "upstream"		Group at various stages of the project cycle, including identification of private-sector investment opportunities in urban transport as part of the "cascade" approach and institutional mechanisms to encourage coordination among World Bank, IFC, and MIGA project staff and managers	

IEG Findings & Conclusions	Management Response	Management Recommendations*	IEG Comments on Draft Management Recommendations
work of the World Bank. Consequently, there may be unrealized investment opportunities involving private service provision of urban transport services.			

***This report took a pilot approach whereby Management developed recommendations based on IEG's findings and conclusions. The draft recommendations in the matrix will be finalized upon formal endorsement by the Board.**

Report to the Board from the Committee on Development Effectiveness Subcommittee

The Subcommittee of the Committee on Development Effectiveness met to consider the IEG report *Mobile Metropolises: Urban Transport Matters – An IEG Evaluation of the World Bank Group's Support for Urban Transport* together with World Bank Group Draft Management Response and IEG Comment on Management Response.

The Subcommittee welcomed the discussion of the first report carried out under the pilot of six new ways of improving the process for IEG's evaluations. Members broadly agreed with IEG findings and Management Response. They found the evaluation timely given the relevance of urbanization including urban transport in the context of pursuing the twin goals and IDA18 implementation.

Members found that the World Bank Group has been effective in supporting improved service quality and increasing access in urban areas. However, they expressed concerns regarding the portfolio composition, particularly in relation to the low representation of interventions in Africa where the urban transport portfolio is declining. The Subcommittee urged Management to take specific measures to address this finding. Members noted that low-income countries face challenges of low institutional capacity in technical urban poverty management, urban design, and comprehensive city and land use planning.

Members underscored that due to the World Bank's country-based model of engagement and competing demands on its limited resources, many governments may not see urbanization and urban transport as a priority. They also acknowledged the complexity of designing urban transport systems which involve multiple agencies and levels of administration. Therefore, they agreed with the recommendation to increase analytical work and client awareness on the relevance of urban transport to the twin goals. One member asked for more analytical work in IDA countries while another welcomed the launch of the Mobility and Logistics Multi-Donor Trust Fund which includes an Urban Transport Window and will provide advisory and technical support to operations. There were also comments on the need to support a comprehensive approach to urban planning at the national level, to encourage engagement at all levels including medium-size cities, as well as to support capacity building in some client countries on public-private partnerships, particularly in appraising proposals and negotiating agreements.

Members stressed the importance of considering gender-specific issues in the transport sector, as well as issues related to other socially vulnerable groups to ensure that projects are equitable and inclusive. They stressed the need to give special attention to gender issues in Africa projects. They also underlined the significance of safe transit and security for women, as well as monitoring and evaluation of these projects. They raised questions about concrete steps for mainstreaming attention to gender and vulnerable groups in urban, peri-urban and rural transport projects, and increasing the attention on disabled persons. Members agreed that Environmental Sustainability in transport projects needed a more comprehensive approach.

1. Why Urban Transport Matters

Highlights

- Urban transport provides vital arteries in increasingly urbanized developing countries for efficient urban economies, connectors for the poor and disadvantaged, and a means to help address key urbanization challenges such as congestion, pollution, and transit safety that evolve without appropriate planning, regulation, and investment.
- This evaluation focuses on three themes rooted in World Bank Group strategy: mobility for all including the disadvantaged, financially and environmentally sustainable service delivery, and institutional development to strengthen sector management.

More than half the world's population live in cities, and this share will grow to 60 percent by 2030. In developing countries, cities are powerful engines of economic growth and potential poverty alleviation, but they also face challenges. Rapid urbanization exerts pressure on all urban systems and services, ranging from water and power supply to education, health, and transport. For example, while the world's cities occupy just 3 percent of its land mass, they account for more than 60 percent of energy consumption and 75 percent of carbon emissions.[1]

Most developing country cities share mobility and accessibility limitations due to increased motorization, with negative effects on urban structure and serious welfare implications for the urban poor in travel time, health, safety, expense, and access to job opportunities. These cities are often poorly planned and tend to have weak institutional capacity. Appropriate transport policies, planning, institutions, and services can bring large gains to urban economies and improve the welfare of the urban poor, as part of broader urban development activities (UN 2015).

Urban transport (UT) matters for at least three reasons:

- **Urban transport systems facilitate the movement of people and goods and provide access to economic and social opportunities**. The literature confirms that investments in transport lead to increased productivity and growth (Berg et al. 2015). In particular, UT investments facilitate employment growth (Duranton and Turner 2012).
- **Urban transport connects the urban poor to job opportunities and other services, and can facilitate safe accessibility for women and disabled and elderly persons.** With planning and investment in public transit, integrated services and ticketing can improve affordability and convenience so that the poor can manage their longer, and often more complex, journeys to their

destinations (Suzuki, Cervero, and Iuchi 2013). For women, investment in security services, lighting, and adequate bathroom facilities can make systems more accessible. For elderly and disabled persons, appropriate system design and investment would bring universal access.

- **Urban transport can help mitigate the negative consequences of congestion, pollution, safety risks, and poor security associated with unplanned city growth.** Rapid motorization puts city transportation systems and environment under pressure. Wasted time and fuel in traffic, and motor vehicle air pollution, cost billions of dollars (Litman 2015). Weak regulation and law enforcement increases urban safety risks. Africa, for example, has the highest proportion of pedestrian and cyclist deaths at 43 percent of all road traffic casualties (WHO 2015). Better planned and delivered urban transport systems and services can help address these challenges (Dittmar and Ohland 2012).

Why an Urban Transport Evaluation?

Sustainable urban transport is a recognized goal of the international community. Its value is affirmed in the 2015 Sustainable Development Goals (SDGs): SDG 11.2 sets the objective of providing access to safe, affordable, accessible, and sustainable transport systems for all by 2030.[2] In addition, the 21st meeting of the Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change set the objective of "sustainable transport" (UNEP 2015).

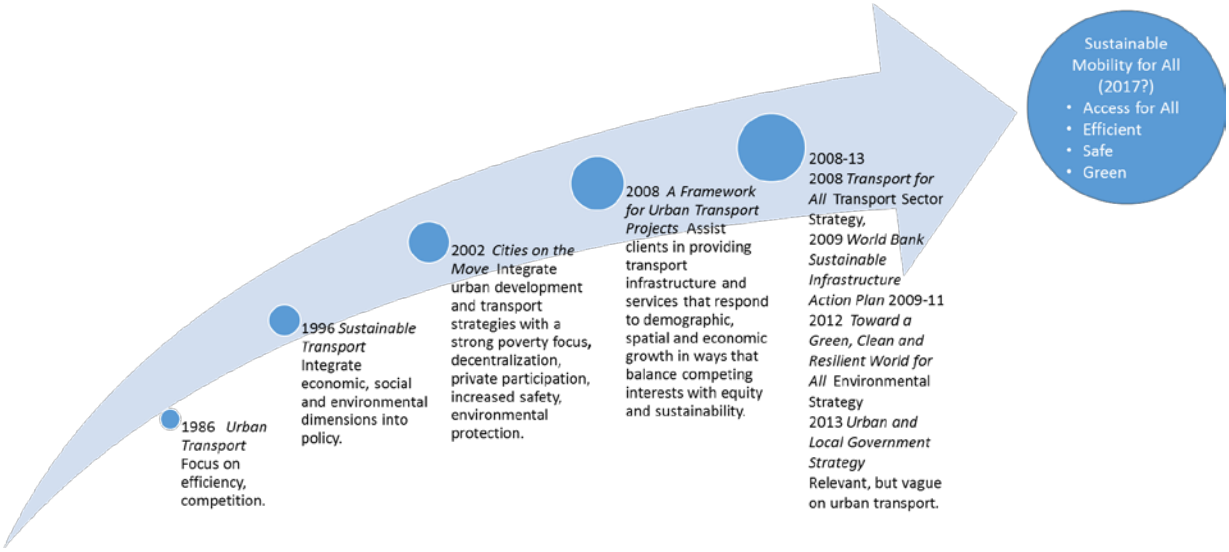
Urban mobility is a strategic objective of the World Bank Group, understood to advance its twin development goals of shared prosperity and extreme poverty eradication by contributing to efficiency and growth and access of the poor to opportunity, while addressing urbanization challenges. In the face of rapid urbanization and its challenges, recent World Bank strategies have come to embrace the objectives of mobility for all and financial and environmental sustainability (figure 1.1). At the same time attention has increasingly turned toward more comprehensive and inclusive approaches, specifically public and nonmotorized transport (NMT).

IFC and MIGA do not have an explicit urban transport strategy.[3] The number of urban transport projects among them is small but relevant to the World Bank Group's policy framework. A review of five recent IFC Roadmaps found almost no strategic discussion of urban transport.[4] However, there was a reference to IFC participation in urban infrastructure public-private partnerships (PPPs). IFC's infrastructure development strategy also refers briefly to urban transport

development. Similarly, while MIGA is involved in six guarantees in urban transport, it has no strategic objectives for this sector.

Given the importance of urban transport, therefore, this evaluation exercise aims at filling a relevant evaluative gap because no prior Independent Evaluation Group (IEG) evaluation focused on urban transport in spite of a substantial portfolio of $25 billion of commitments during the evaluation period, 2007–16. IEG carried out an evaluation in 2013 entitled *Improving Institutional Capability and Financial Viability to Sustain Transport,* but it only included a portfolio of 58 World Bank and 2 IFC and 2 MIGA projects. The current evaluation builds on the findings of that evaluation but has a broader scope and a refined focus on UT.

Figure 1.1. Progression of World Bank Group Strategies Relating to Urban Transport

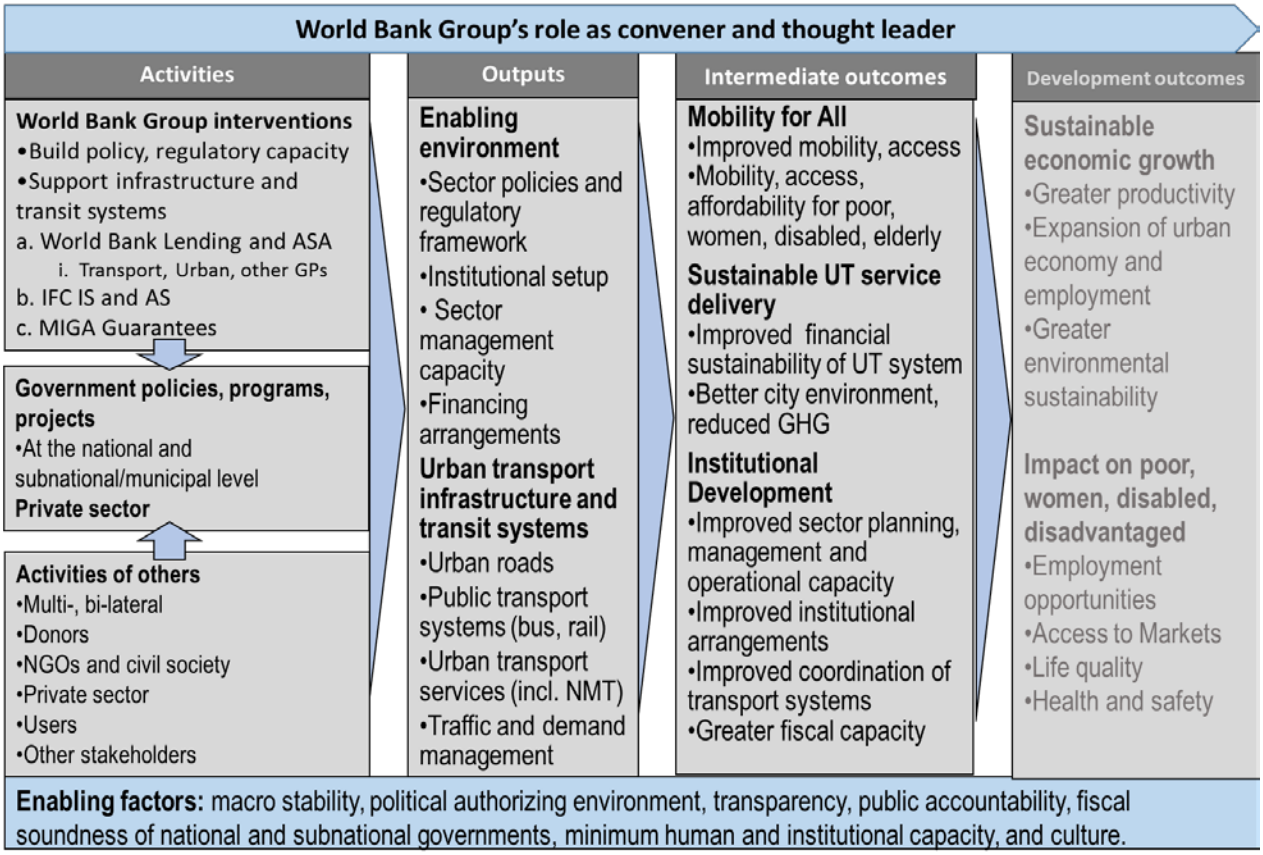


Objective, Scope, and Methodology

The overarching question this evaluation set out to answer is: "To what extent has the World Bank Group supported sustainable urban transport development in client countries that contributed to cities' efficiency and economic growth, environmental quality, the welfare of the poor and vulnerable groups, and road and traffic safety?" To answer this question, a theory of change articulates the development impact assumptions underlying the World Bank Group's activities in UT. The theory of change (figure 1.2) identifies the links between the activities of the World Bank Group in the urban transport sector and their expected outcomes, which, in turn, are necessary preconditions to achieve the World Bank Group's long-term development goals.

The scope of the evaluation focuses on the intermediate outcomes identified in the theory of change, which reflect the three themes that emerged from IEG's review of World Bank Group strategy, the World Bank Group's urban transport portfolio, and relevant literature:

Figure 1.2. Theory of Change of the World Bank Group's Urban Transport Activities



Note: ASA = Advisory Services and Analytics; AS = IFC Advisory Services; GP= Global Practice, IS = Investment Services; GHG = greenhouse gases; NGO= nongovernmental organization; NMT = nonmotorized transport, UT = urban transport.

Mobility for all—including the disadvantaged: the poor, women, and disabled and elderly persons. Key parameters to assess the mobility impact of World Bank Group's urban transport activities include:

- Enhanced capacity and improved quality;
- Improved demand management (traffic management measures, integrated transport and land use planning, shift demand from private vehicles to public transport);
- Inclusive services with targeted interventions for the disadvantaged;
- Affordable service (to reduce transport cost to the disadvantaged)
- Improved mobility for all as a result of the support listed above. [5]

Financially and environmentally sustainable service delivery. Sustainable transport systems are people-oriented, financially sustainable, and protective of the environment. Parameters to assess **financial and environmental sustainability** of the World Bank Group's urban transport activities include:

- Quality of financial analysis and economic analysis;
- Involvement of private sector and its impact on financial sustainability;
- Reduction of greenhouse gas (GHG) and pollutant emissions;
- Issuance and enforcement of related environmental regulation.

Institutional development to strengthen sector and city management. Key parameters to assess the impact of urban transport activities include:

- Institutional capacity building for urban sector management and operation; capacity building for human resources;
- Fiscal capacity enhancement;
- Strategic, policy, and regulatory framework;
- Structural reform or alignment of relevant institution.

Evaluative tools: The evaluation applied five instruments. As elaborated in appendix A, these include (i) a portfolio review and analysis of relevant World Bank Group financing and advisory and analytic products; (ii) nine in-depth relevant Project Performance Assessment Reports (PPARs); (iii) five country case studies and six desk reviews; (iv) partnership reviews of the Public Private Infrastructure Advisory Facility (PPIAF) and the Sub-Saharan Africa Transport Program (SSATP); and (v) interviews with relevant World Bank Group staff, counterparts, clients, beneficiaries, other stakeholders, and experts. In addition, IEG piloted two "lenses" highlighting the attributes of behavior change and service delivery (appendix F).

The portfolio under evaluation posed certain challenges given its diversity and the relative youth of the long-gestating infrastructure projects. For the 10-year evaluation period (including all projects closed 2007–16), IEG found 104 evaluated and validated UT lending projects. Most of these were road projects, leaving very few evaluated bus rapid transit (BRT) and Metro projects. Three IFC and two MIGA projects were evaluated. There is no validated evaluative system for the World Bank's Advisory Services and Analytics (ASA) projects. In addition, the team found a lack of uniformity in the nature and quality of indicators of mobility, institutional development, and financial and environmental sustainability applied across projects, as well as numerous instances of missing targets and measures, whether at baseline, project closure, or both. Thus the evaluative challenge was to find results

data to accompany analysis of the patterns and content of the portfolio and the other sources of evidence described above.

References

Berg, C. N., U. Deichmann, Y. Liu, and H. Selod. 2015. "Transport Policies and Development." Policy Research Working Paper WPS7366. World Bank, Washington, DC.

Dittmar, O. H., and G. Ohland, eds. 2012. The New Transit Town: Best Practices in Transit-oriented Development. Washington, DC: Island Press.

Duranton, G., and M. A. Turner. 2012. "Urban Growth and Transportation." *Review of Economic Studies* (2012) 1 1–36.

Lall, S. V., J. V. Henderson, and A. J. Venables. 2017. *Africa's Cities: Opening Doors to the World*. Washington, DC: World Bank.

Litman, T. 2015. *Smart Congestion Relief: Comprehensive Evaluation of Traffic Congestion Costs and Congestion Reduction Strategies*. Victoria Transport Policy Institute.

Suzuki, H., R. Cervero, and K. Iuchi. 2013. Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development. Urban Development Series. Washington, DC: World Bank.

UN (United Nations). 2015. *United Nations Sustainable Development Goals*. New York.

UNEP (United Nations Environmental Programme). 2015. "Climate Action Programme Action on Sustainable Transport Launched at Paris Climate Summit. (press release, December 4). Nairobi.

WHO (World Health Organization). 2015. *Global Status Report on Road Safety*. Geneva: UN WHO.

[1] United Nations Sustainable Development Goals, www.un.org/sustainabledevelopment/cities/.

[2] SDG 11.2 sets the objective to "by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons."

[3] IFC's approach to transport is elaborated in its transport strategy and Management has indicated plans to further develop its UT approach. MIGA management notes that it does "incentivize" staff to identify mass transit projects to meet its climate change mitigation objectives.

[4] An FY17–19 Roadmap, after the review period, does make brief but explicit reference to urban transport.

[5] For congestion data, see the Tom Tom Travel Index http://global-traffic-congestion-index.silk.co/expore. On commute times, see Lall et al. (2017).

2. The World Bank Group's Portfolio Support for Urban Transport

Highlights

- The World Bank Group has a portfolio of $24.5 billion in urban transport during the review period 2007–16. IFC and MIGA emphasized private sector participation.
- Regionally, in spite of the pressing need arising from rapid urbanization, Africa had a sharply declining portfolio that in the past five years of the review period focused on urban roads.
- The portfolio since 2012 has concentrated more on upper middle income countries, raising questions of whether poorer countries were underemphasized.

The World Bank Group's engagement in urban transport involves a portfolio of nearly $25 billion over the past decade. Of 297 financing projects, the World Bank was responsible for 93 percent of projects, worth $23.5 billion, with IFC delivering over half a billion dollars in financing and MIGA guarantees totaling $1.1 billion. During the period under review, 140 projects were closed and 104 were evaluated.

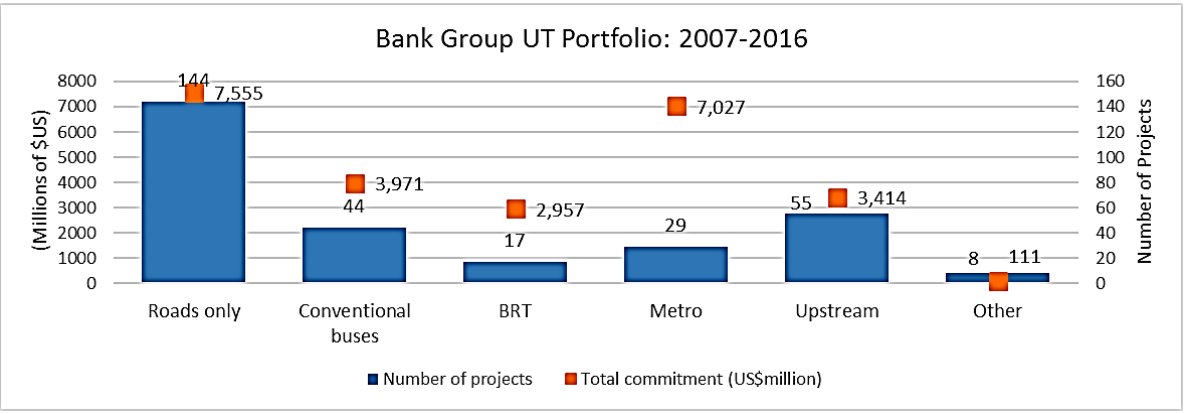
IEG found a high degree of relevance of overall World Bank support for urban transport development to the priorities of client countries. IEG reviewed 383 country strategy documents, 33 percent of which mention urban transport. Among these, 59 percent had at least one urban transportproject approved during the relevant period. Country strategies for 12 countries (evenly distributed in Africa, Europe and Central Asia, and Latin America and the Caribbean) mention urban transport in the country strategies without having project-level support for it.

IEG's portfolio analysis suggests five basic types of projects: four associated with distinctive modes (i.e., roads, conventional buses, BRT, and metro or rail), and one focused on upstream activities intended to build policies and sectoral oversight capacity (figure 2.1).

- **Roads:** 144 "roads-only" projects financed construction and improvement of urban roads without accompanying support for public transport. Of these, 21 percent were dedicated road projects[1] under the Transport and Information and Communications Technology Global Practice (Transport GP) while others were nondedicated[2] road projects under other GPs; 66 percent of these were under the Social, Urban, Rural, and Resilience GP (GPSURR). Road projects tend to be smaller than other urban transport projects; although they comprise 49 percent of projects, they involve just 29 percent of commitments.

- **Conventional buses:** 44 projects support conventional bus systems, including bus terminals/depots/stations, bus dispatching systems, priority lanes, and/or new or upgraded buses, as opposed to rapid mass transit options such as BRT or metro systems. Fifty-seven percent of the conventional bus projects are dedicated under the Transport GP and the rest were nondedicated mainly under the GPSURR.
- **BRT:** 17 projects supported BRT systems involving dedicated and prioritized BRT lanes, specialized infrastructure, and acquisition of a BRT fleet. Compared to conventional bus systems, BRT systems require substantial construction, so although they comprised less than 7 percent of projects, they represented 13 percent of commitments.
- **Metro and urban rail**: 29 projects supported metros or urban or suburban rail. These capital-intensive investments comprise only 10 percent of UT projects but 29 percent of commitments (figure 2.1). This included 24 projects in 16 cities in eight countries which financed main system infrastructure such as tracks, cars, and signaling. Another five projects financed infrastructure connected to metro systems such as terminals and infrastructure for integration with other public transport modes. Twenty-one are dedicated projects under the Transport GP, five under MIGA, and three under IFC.
- **Other modes:** Eight projects invest in transport modes other than the four main modes, for example, a MIGA guarantee for ferries in Turkey and an IFC investment in an Indonesian taxi company.
- **Upstream activities:** Finally, 55 projects include only upstream activities intended to facilitate the enabling environment, focusing on policy reform and institutional design issues. The main instruments applied included development policy loans, technical assistance loans, and 13 investment project financing.

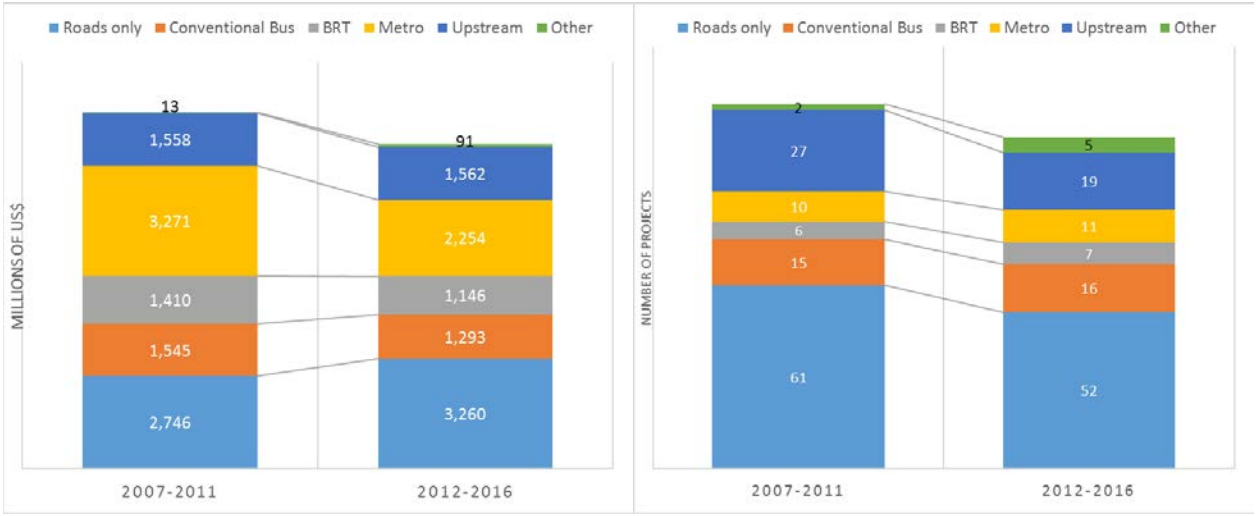
Figure 2.1. World Bank Group Urban Transport Portfolio FY07–16



Some projects support more than one mode. Projects that support conventional buses and BRT also construct and upgrade roads for private car users, for example; and projects that support integration of different systems across modes sometimes support multiple systems. Moreover, close to 50 percent of the BRT and conventional bus projects, 24 percent of metro, and 17 percent of roads projects include support for NMT users (pedestrians, cyclists). While Transport GP projects were generally dedicated to transport and often financed public transit, GP SURR projects often had multiple urban development goals and only a minority of finance went to urban transport, usually for roads.

Although urbanization increased during the evaluation period, the overall portfolio trend (measured by projects appraised and their commitment/guarantee value) was flat (figure 2.2) except for 2010, when there was a one-year surge in the wake of the global financial crisis.[3] Upstream support held steady and the value of roads projects edged upward. The number of public transit projects—metro, BRT, and conventional bus—increased slightly, but average project size was smaller.

Figure 2.2. Urban Transport Projects and Commitments, by Mode and Period of Appraisal

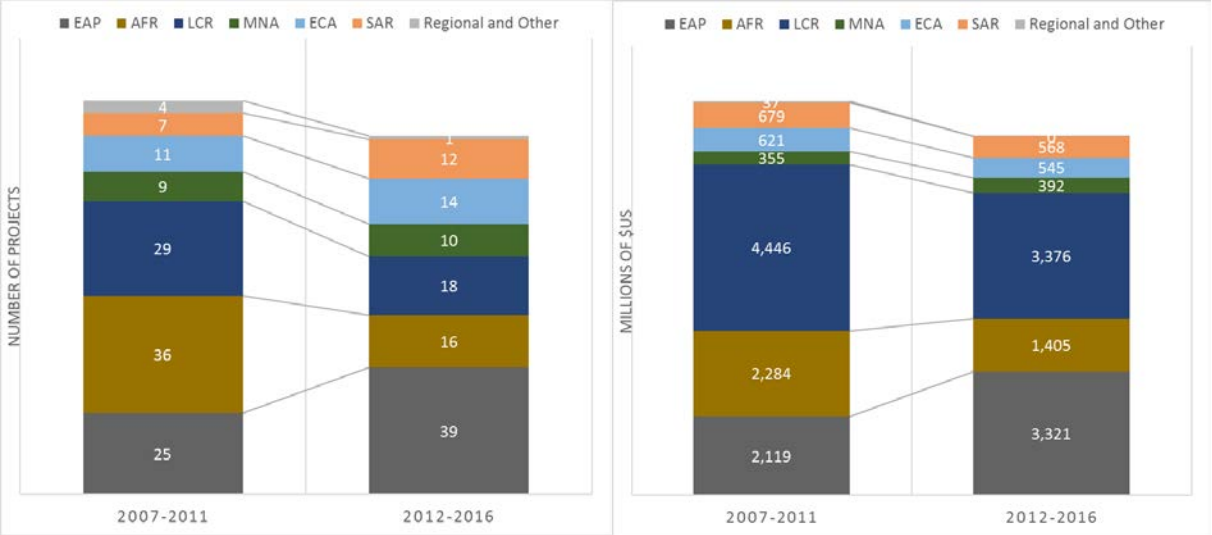


Note: BRT = bus rapid transit.

Regional Distribution and the African Exception

Regionally, both the number and value of projects in the East Asia and Pacific Region grew dramatically. In the Latin America and the Caribbean Region, the number of projects declined sharply, as did commitment values. Yet the sharpest decline was in the Sub-Saharan Africa Region. Not only did commitments decline by 35 percent in the second half of the evaluation period, but the number of projects approved in the second half of the period

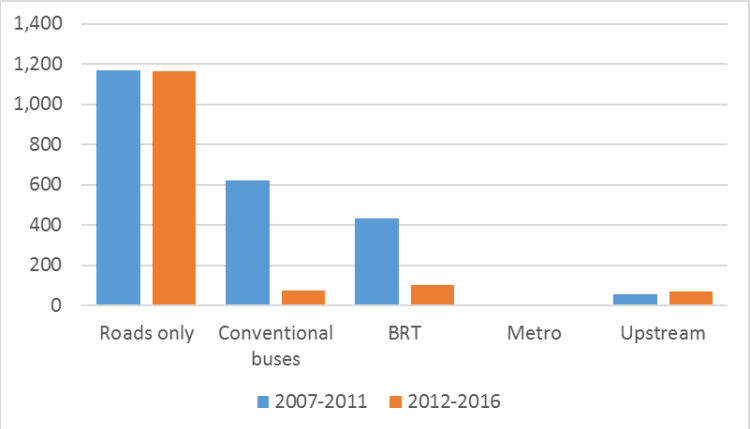
Figure 2.3. Urban Transport Projects and Commitments, by Region and Period of Appraisal



Note: AFR = Africa; EAP= East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia.

declined by nearly 60 percent (figure 2.3). Further, road only projects grew from 53 percent to 81 percent of commitments, while support for public transport in the latter period all but disappeared (figure 2.4), in spite of rapid urbanization and the World Bank's sectoral strategy favoring public transit and NMT. There was a concommitant reduction in staffing. Earlier World Bank Group efforts in Africa experienced delays and cost overruns (Ghana, Tanzania) and difficulties with sustainability (Nigeria). Roads can be seen as a precursor to other transport investments, and African urban road infrastructure is far less developed than that of other regions. Yet World Bank Group sectoral strategy and the literature indicate that roads alone cannot address growing urban transport challenges, especially for the poor.

Figure 2.4. Africa Region UT Commitments, by Period



By income level, the emphasis has shifted somewhat from lower middle-income to upper middle-income countries, led by a focus on metro (rail) systems (figure 2.5). By commitment value, the refocus is more stark—in the most recent period, 44 percent of commitment value was in upper middle-income countries, up from 28 percent in the first period. Informants offered a variety of explanations for why the

portfolio focuses on the most financially capable countries, ranging from economies of scale to the priority placed by clients on UT to institutional and policy capacity and readiness for private sector participation.

Figure 2.6. Urban Transport Portfolio, by Country Income Level and Period

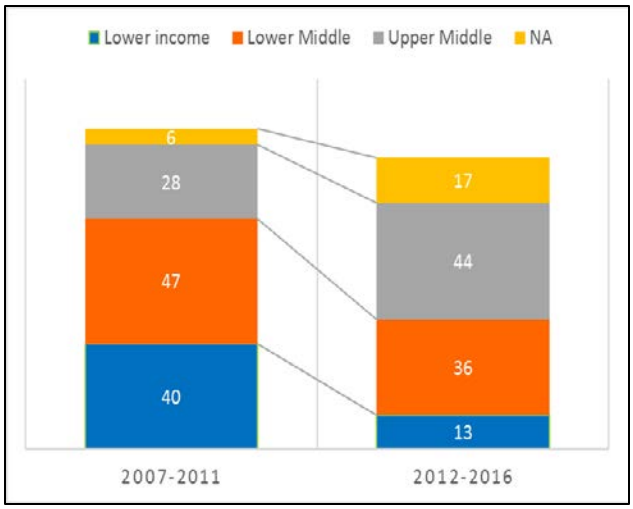
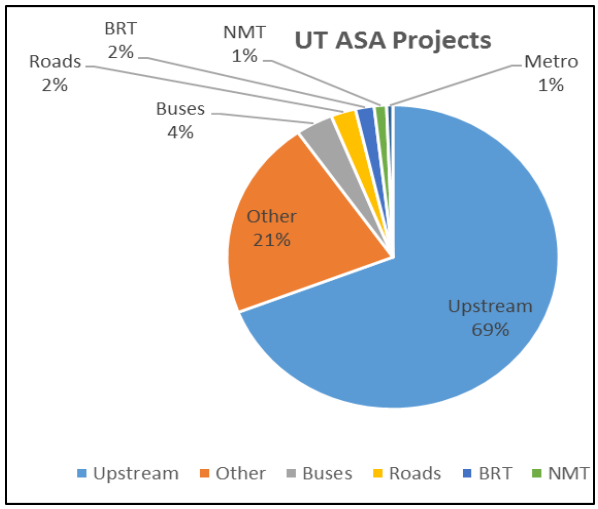


Figure 2.5. UT ASA Portfolio by Topic (*n* =165)



Advisory Services and Analytics

During the evaluation period, the World Bank delivered 165 pieces of Advisory Services and Analytics (ASA) in urban transport. ASA focused on lower middle-income countries (38 percent), followed by upper middle-income countries (24 percent) and low-income countries (12 percent). ASA tended to cover multiple modes of transportation or the entire urban transport sector, or multiple urban services. Regionally, East Asia saw nearly a quarter of all ASA, while Africa saw only 6 percent.

IEG's review of ASA documents found that the World Bank's advisory work supported the view that urban transport interventions can be planned and implemented to support sustainable economic development and mobility improvements, and other benefits to the environment, social integration, and safety. The documents highlighted numerous cross-cutting topics related to UT; with most ASAs reviewing a large array of sub-sectoral interventions (for example, in land use and planning). Sixty-nine percent concerned upstream policy and institutional design issues, another major theme concerned environmental sustainability (21 percent of ASAs), while only 16 percent focused on a single mode of transport (figure 2.6).

Nonetheless, some key topics were covered only rarely, including:

- Factors promoting inclusion and options for pro-poor transport policies.
- Access or use by women and disabled persons.
- Subsidies and financing schemes to support financial viability.
- PPPs, and within those, financial viability and assessment mechanisms.
- Technical aspects: physical standards, intelligent transport systems, and traffic management measures (especially regarding road safety).
- NMT.

Because the World Bank did not track it, IEG found no systematic evidence of ASA influence, only individual examples. For example, in Ghana, background studies on transport demand, use, challenges and potential options and routes laid a clear base for its urban transport project, through a series of trust-funded (PPIAF and Global Environmental Fund [GEF]) technical studies. More broadly, in all country cases, partnerships and trust funds financed a major part of ASA delivery, often complementing financing projects.

IFC and MIGA Portfolios

IFC's Investment Services (IS) project engagements are concentrated in a small number of countries, with 80 percent of commitment value in four countries (Colombia, the Russian Federation, Senegal, and Turkey). Its investments are split between direct investments in private providers of services and subnational finance projects specifically supporting urban transport investments. IFC provided subnational financing to Izmir (Turkey) for its metro, while in Senegal, IFC lent directly to the owner of the concession company (SENAC) selected to design, build, operate, and maintain a toll road connecting downtown Dakar to the city's airport.

IFC also approved 15 Advisory Services (AS) projects with an expenditure of $20.8 million. Of these, 80 percent were in lower middle-income countries, none in low-income countries. IFC AS supported clients in mobilizing private sector investments in UT sectors, mostly in public transport, 27 percent supporting metro and urban rail, and 33 percent supporting BRT.

MIGA's portfolio is small: five of six guarantees were in Turkey (three in the city of Izmir, two in Istanbul) and five of six were for metro projects. MIGA's newest product, a guarantee against nonhonoring of sovereign financial obligations (NHSFO), is suited to lumpy infrastructure investments where a stream of public payments is critical to profitability. For example, MIGA issued an NHSFO guarantee worth more than $400 million for a loan to the Metropolitan Municipality of Istanbul, relating to early phases of construction of an underground metro system.

[1] Urban transport projects mapped to the Transport and Information Communication Technology GP (Transport GP) are dedicated UT projects.

[2] Those projects with UT components or activities but not mapped to the Transport GP are nondedicated UT projects.

[3] These tables cover only those projects appraised during the evaluation period, but do not include a cohort of projects appraised prior to the evaluation period but closed during the evaluation period, and which hence were included in the overall portfolio analysis.

3. Mobility for All

Highlights

- The World Bank Group has been generally effective in helping countries to improve urban transport service quality and access.
- The World Bank Group effectively improved mobility on the transport systems or in the areas with its interventions.
- City-wide mobility was not achieved because demand management (shifting and avoiding travel demand) measures are yet to be broadly supported and successfully implemented.
- The mobility improvement for disadvantaged groups is limited, largely because the targeted interventions were limited and affordability was hardly addressed.

Poor urban mobility is a common issue in both developing and developed countries, but the situation in developing countries is far worse. The average congestion level for 72 large cities in Western Europe and the United States is 22 percent. Comparable data are available for 14 large cities in three countries with World Bank Group urban transport projects (Brazil, China, and Turkey), whose average congestion level is 36 percent.[1] Mobility for all relies on effective urban transport service delivery, which is multidimensional and requires:

- Increased supply of service, hence enhanced capacity of systems and better service quality. A shortage of infrastructure is one reason for poor mobility. Cities require continuous investment both to address gaps and to accommodate fast-growing demand. For example, in Vietnam, the road network in Hanoi covers less than 7 percent of the land area (Fang 2011), in contrast to almost 25 percent road network coverage in many U.S. cities, 15 percent in most European cities, and 11 percent in China's large cities. Users, particularly the poor who have no alternative means of transport, experience low-quality and even dangerous transport service;
- Improved travel demand management (TDM). Globally, it has become abundantly clear that although increased supply can meet travel demand to some degree, no city can build its way out of congestion (World Bank 2002).[2] TDM includes integrated transport and land-use planning, adequate regulations and pricing of private vehicle and motorbike usage, and on-road traffic management measures. Such approaches help to balance travel needs with the capacity of available facilities by containing urban sprawl, creating compact and pedestrian-friendly neighborhoods, and reducing per capita

vehicle-kilometers travelled, and are a part of any comprehensive urban transport solution;

- Inclusive services. In developing countries, increasing urban population combined with unplanned urban development leads to decentralized urban sprawl and piecemeal development patterns. The urban poor often gravitate to the fringes of the cities, where public transport is inadequate and the travel distances to work and many services are longer. The spatial disconnection of the urban poor excludes the poor from accessing job opportunities and services, and is thus an important contributor to poverty;
- Affordable service: Unaffordable urban transport service is a hard constraint for the poor. A recent study in Africa noted that the poorest households in 11 African cities (Abidjan, Addis Ababa, Dakar, Dar-es-Salaam, Douala, Kampala, Kigali, Kinshasa, Lagos, Nairobi, and Ouagadougou,) would need to spend around 19 percent of their household budget to afford a round-trip motorized commute. For the poorest quintile, the figure is 53 percent in Dar es Salaam, and more than 100 percent in Lagos. Such high costs relative to household budgets in African cities have led to travel patterns dominated by walking, which greatly limits access to economic opportunities (Lall et al. 2017).

Enhanced Capacity and Improved Service Quality

The World Bank Group has been successful in increasing the supply of urban transport infrastructure and services in client countries with its support for urban transport. In the past 10 years, the World Bank Group approved 245 urban transport projects (about 82 percent of the portfolio) with components designed to increase the supply of infrastructure and services, and delivered 104 of them, with a total commitment amount of $11.4 billion (table 3.1).

Table 3.1. Closed Urban Transport Projects by Country Income Group and Transport Mode

Country Income Group	Roads	Conventional Buses	Bus Rapid Transit	Metro/Urban Rail
Upper middle	12	2	0	8
Lower middle	23	12	4	1
Low income	34	4	1	2
Middle East North Africa regional investment	0	1	0	0
Total	69	19	5	11

Note: MNA = Middle East and North Africa.

In some countries, the World Bank Group's support for increasing the supply represented only a small contribution to system capacity. For example, during the evaluation period, the World Bank Group approved three metro/urban rail projects to support three metro systems in three Chinese cities, while between 2009 and 2015, the Chinese government built 87 metro/urban rail systems in 25 cities.

In other countries, however, the World Bank Group pioneered urban transport services. For example, the "BRT-lite" concept was first introduced by the World Bank Group to African cities, and the first system opened in Lagos, Nigeria in 2008.[3] In Tanzania, the World Bank introduced the country's first BRT, which became fully operational in 2016 (World Bank 2017). In Ecuador, the World Bank, in conjunction with the Inter-American Development Bank, the Corporación Andina de Fomento, and the European Investment Bank, introduced mass transit with construction of the first line of the Quito Metro (World Bank 2013).

The increased supply of urban transport services facilitated by World Bank Group projects translates into improved service quality, as evidenced by improved service reliability and user satisfaction. Forty-eight evaluated projects measured quality outcomes; 63 percent of these achieved quality improvement targets. In Brazil, increased availability of rolling stock (Rio de Janeiro) and additional trains and signaling capacity (São Paolo) contributed to increased train frequency and reduced peak wait times. In the Mumbai Urban Transport Project, the capacity of the train fleet was increased (through the addition of 285 nine-car trains), as was the peak hour average frequency of train service. Improvements in quality were reflected by higher levels of user satisfaction. The Colombia Integrated Mass Transit Systems project reported that between 74 percent and 83 percent of people surveyed (2012) rated the BRT system as better than the traditional bus system. In the Lima Transport Project, the percentage of users satisfied with the metro system exceeded the target. Reasons cited by users included reduced waiting times, shorter trip times, new and modern cars, and enhancement of train stations, all of which contributed to better service delivery.

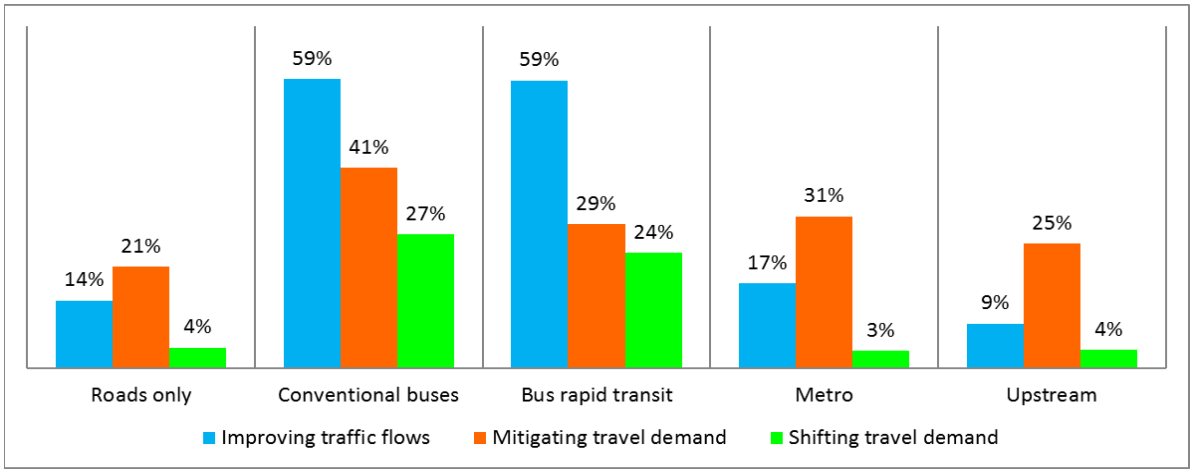
Improved Demand Management

Relatively few World Bank Group urban transport projects supported TDM. About 123 projects (40 percent) of the World Bank Group's urban transport portfolio included one or more type of TDM activity. This is in contrast to the high share of projects supporting an increased supply of service (82 percent). Within a broadly defined concept of TDM, the World Bank Group employs three different approaches:

- improving traffic flows, given the existing levels of on-road travel demand, through traffic management interventions;
- mitigating travel demand, to avoid future demand increases or adverse consequences thereof, through integrated transport and land-use planning; and
- shifting travel demand from private vehicles to public transit systems through policies to discourage private vehicle usage.

Projects which invest in improved/increased supply of on-road public transport systems (conventional buses and BRTs) are the most active in applying TDM measures (figure 3.1).

Figure 3.1. Traffic Demand Management Measures in World Bank Group Urban Transport Activities, by Mode



The most commonly used TDM approach was traffic management interventions such as installation of area or central traffic control systems, capacity building of traffic management units, and enhancement of information technology (IT) systems. In WuHan, China, the World Bank supported three urban transport projects during the evaluation period, all three of which supported traffic management measures in the city. Some projects also included improved urban road engineering design. About 60 percent of bus-based public transport projects (conventional buses and/or BRTs) incorporated traffic management measures, as compared with only 18 percent of metro projects and 13 percent of roads-only projects. Traffic management activities have increased in frequency over time, but this type of support was often limited to a specific transport corridor or a certain area of a city.

Eleven evaluated projects sought to reduce travel time and improve mobility of users through improved traffic management; 82 percent of these were successful. In Wuhan, traffic management measures had a significant, positive impact on traffic

congestion overall. The implementation of Area Traffic Control (ATC) resulted in improvement of traffic speed on average by 11 percent, delays at intersections were reduced by 28 percent, and vehicles made 19 percent fewer stops before they passed an intersection (Zhan 2015). In India's Mumbai Urban Transport Project, an ATC system was implemented, resulting in smoother and faster flows of traffic at intersections.

Support for mitigating travel demand was provided in 80 projects (27 percent) through integration of urban transport and city development plans. Compact city development, which enables people to travel less distance to get to jobs, markets, and services, is one solution to sprawl, and begins with integrating transport plans with land use. Public transit projects (BRT, conventional buses, and metro/urban rails) included more of such support than the road-only projects. Large cities are the main recipients of integrated urban planning support, while medium and small cities, despite being among the fastest-growing, rarely received support.

Twenty-eight projects (80 percent of the closed projects with activities on integrated plans) produced and delivered integrated land-use plans, transport-oriented development strategies, or, in a few cases, a general or urban transport master plan. However, information regarding the adoption and application of integrated plans was rarely reported. This could be partly explained by the typically "one-time" nature of World Bank Group urban transport engagements in any city; that is, only nine cities out of about 100 received more than one dedicated project during the evaluation period. After the project closes, the World Bank Group loses leverage (and lacks budget) to track the impacts of policy reforms. At the same time, changing land use patterns takes time, local government may have limited authority and capacity to coordinate integration of land and transport planning agencies, and actions taken in recent years may take decades to achieve results.

Public transport uses less road space than private vehicles to move the same number of users. Consequently, shifting people from private vehicles to public transport would increase overall mobility for urban residents. The World Bank Group has delivered results on quality and capacity through the supply of public transport, which does encourage its use. Yet, such "pull" factors are not sufficient to achieve large modal shifts. "Push" measures—such as rationing or charging for private vehicles to limit or discourage usage—are important complements.[4] These include, but are not limited to, vehicle quota systems, license number–based restrictions in central business districts, highly occupied vehicle, peak-hour usage and parking limits, and congestion pricing. The level of technical sophistication and political sensitivity of these measures varies, and few of these TDM approaches were found in the World Bank Group's urban transport portfolio. Overall, only about 28

projects, or 10 percent of urban transport projects, included push measures, either through limiting parking or congestion pricing. A higher proportion of bus-based transport projects support this type of TDM approach (29 percent for conventional buses, 20 percent for BRT) than either metro or roads-only projects (4 percent each).

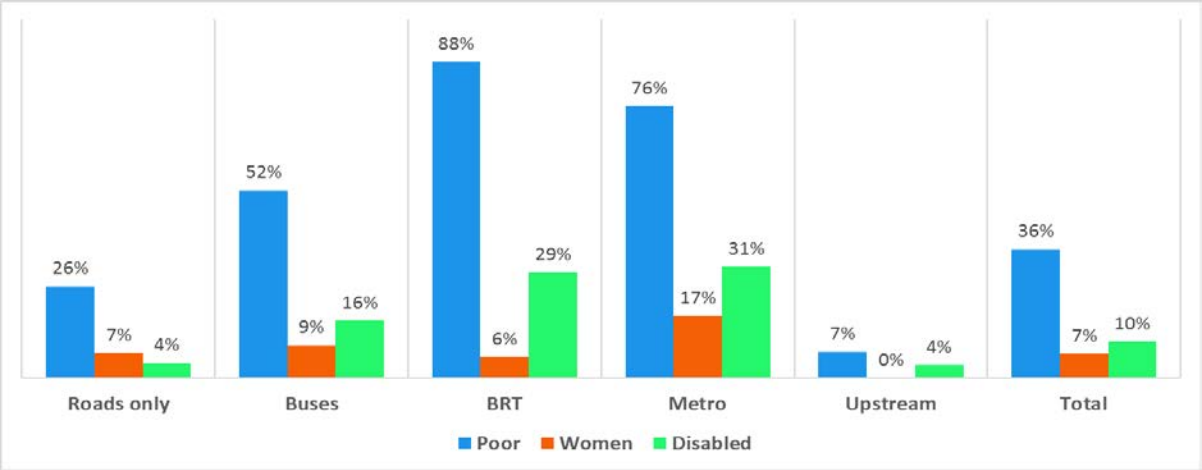
Efforts to shift demand, however, did not appear to have been effective, mainly owing to lack of implementation or, when implemented, weak enforcement. During the evaluation period, 15 closed and evaluated projects (15 percent) aimed at achieving the modal shift from private to public transport. Within this subset of projects, while the support led to increased ridership in 67 percent of the cases, the public transit modal share increase happened in 53 percent of the cases. Also, it was not clear whether the increased ridership was a shift from private cars. In some projects, the share of public transport even decreased. In Senegal's Urban Mobility Improvement adaptable policy loan, for example, the targeted public transport modal share was not met despite a significant (12 percent) increase in public transport ridership from 2007–08; in fact, the modal share had remained stable at about 62 percent since end-2005. In Tunisia's Second Transport Project, the project targeted modal retention of the bus system at 50 percent, and yet the modal share actually declined to 32.8 percent of total motorized trips at project closing.

There remains an urgent need to strengthen enforcement of parking restrictions on sidewalks and in lanes intended for bicycles. So far, no congestion pricing plans supported by the World Bank Group have been implemented because their application is often not supported by the public, particularly private car owners. In addition, they require advanced traffic management and monitoring, and sound law enforcement. Under Colombia's Second Programmatic Productive and Sustainable Cities development policy loan (DPL), for example, regulations were approved to enable municipalities with populations greater than 300,000 inhabitants to introduce congestion and pollution charges, but no schemes were implemented.

Inclusive Services

IEG assessed social inclusion of three disadvantaged groups in the urban transport context: the poor, women, and disabled and elderly persons. Across these groups, the poor received the largest share of targeted support while less attention was paid to the needs of women and the disabled and elderly persons (figure 3.2). Interviews with task team leaders suggest that a lack of resources and team knowledge, and different client priorities on social issues, explain the limited engagement.

Figure 3.2. Targeted Interventions for the Disadvantaged, by Group and Mode



The World Bank Group was most successful in providing easier access for the poor. Within the set of 20 evaluated projects with targeted interventions aimed at improving the access for the poor, 88 percent reported satisfactory outcomes. In particular, these projects provided the poor with easier access to roads and to public transport services. Rwanda's Urban Infrastructure and City Development Project opened up new areas to development and benefited the poor in Kigali and Butare. The Cameroon Urban and Water Development project increased access to urban roads in low-income settlements. The average distance to reach a public transportation facility decreased from more than 700m to less than 500m. Under São Paulo Metro Line 4 Phase 1, the integration of bus lines with the metro system was achieved in all six stations, and has increased the low-income population's access to public transport and to employment centers and service facilities**.**

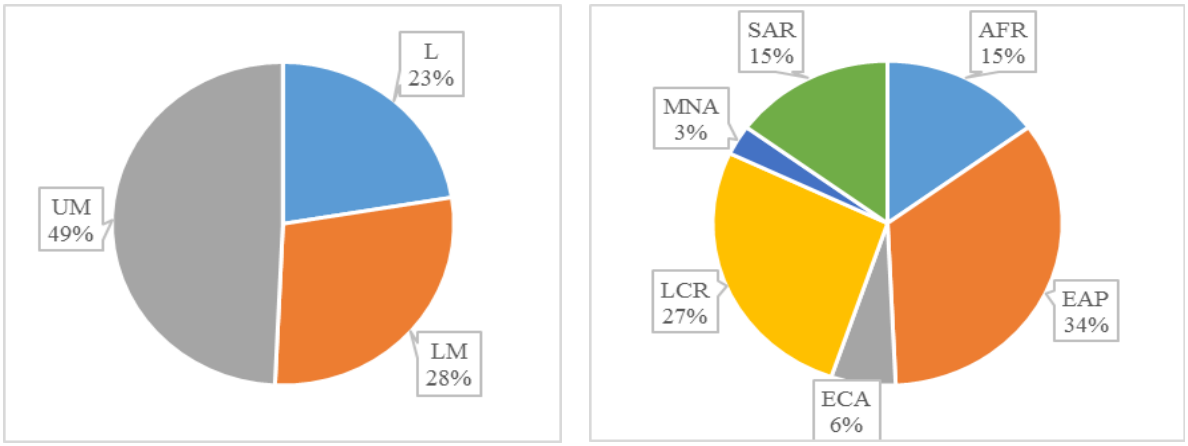
Inclusive access was achieved primarily through i) extending public transit infrastructure and services to poor neighborhoods; ii) integrating multiple transit modes; and, iii) provision of NMT facilities. Thirty-one projects (10 percent) had interventions connecting poor communities to infrastructure and services. Peru's Lima Metro Line 2 project supports construction of a 35-km system, which will provide access to and from Ate-Vitarte, one of the poorest districts in the Lima region with some 576,000 inhabitants. About 35 percent of BRT projects had similar interventions. The Tanzania Second Central Transport Corridor Project integrated six feeder stations with the Dar Rapid Transit (DART). About 17 percent of urban road projects included connections to low-income communities. The Democratic Republic of Congo Emergency Urban and Social Rehabilitation Project focused its interventions in road construction on access for poor neighborhoods that lacked all-season access to the center of the city.

Mode integration is another way that the World Bank Group enhances access for those inhabitants of poor communities located on the periphery of a city's main transport system. Twenty-seven mass transit projects (nine BRT and 18 metro/urban rail) incorporated support for modal integration. The Argentina Metropolitan Areas Urban Transport project included a component to finance detailed designs for the construction of the *Mitre* Intermodal transport terminal in areas of Córdoba. Nigeria's Lagos Urban Transport Project II supported the development of a bus feeder system to improve poor communities' access to BRT and urban rail services.

NMT infrastructure disproportionately benefits the poor because they rely more heavily on walking and biking to reach their destinations. Along with increased supply of NMT infrastructure, norms and regulations accommodating NMT are also important. NMT activities were included in 22 percent of World Bank Group UT operations. Nine projects with NMT components (12 percent) received financing from the GEF. More support has also been given for pedestrians in signal settings, better designs at street crossings, and enforcement to prevent parked vehicles on sidewalks. The World Bank Group's support has helped cities create more bicycle-friendly environments, including road designs that include a "safe corridor" for NMT users. However, despite its importance for the poor, World Bank Group support for NMT was skewed toward middle-income countries. Nineteen projects—or a third of urban transport projects with NMT activities—are in China; 10 middle-income countries, including China, account for 66 percent of NMT support in terms of the number of projects. In African cities, walking accounts for 30–35 percent of all trips taken (UN Habitat 2013); however, the Africa Region received only 9 percent of World Bank Group NMT support (figures 3.3, 3.4).

The World Bank Group has fewer cases of improved access for women, albeit with an effort to address the security of women and meet their special needs when they use urban transport services. Targeted support for women's security was found in 20 projects (7 percent). Metro projects most frequently incorporated support for women. In Brazil, several of the World Bank–financed projects supported female passenger security: in Rio de Janeiro, the suburban rail and metro systems include cars which are reserved exclusively for women during peak hours to reduce harassment. However, this type of segregation has received mixed reviews, and was not adopted in mass transit systems in São Paolo and Salvador. Ecuador's Quito Metro Line One includes a gender-sensitive design, including adequate lighting on platforms, stations, and the surrounding areas. For roads-only projects, providing street lighting is the main approach to improving security for women.

Figure 3.3. Projects with Nonmotorized Transportation, by Country Income Level, and Region



Note: AFR = Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LCR = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; UM = upper middle income; L = low income; LM = lower middle income.

A smaller number of projects worked to address the social norms and beliefs that affect access to opportunities. In Mexico, the World Bank Group developed a project called "Hazme el Paro," that encourages community participation to address sexual harassment against women in Mexico City's urban public transport. A pilot project to involve drivers and bystanders in cases of sexual harassment against women in the bus system was designed, and its implementation is under evaluation.

The limited results on improved access for women could be attributed to fewer targeted interventions for women; and even where there was such targeting, results monitoring was weak. Out of seven projects with (sparse) information on improved access for women, three were roads projects which did not have targeted interventions, but applied a corporate core indicator—beneficiary (percentage as women)— and were reported as successful. The rest had targeted interventions such as improved in-vehicle services, bus stops, and information communication. A pilot scheme using photovoltaic lighting at bus stops was included in the Chile Santiago Urban Transport Project. Users (especially women) gave this pilot a high rating. A Senegal project supported NMT facilities and street lighting. All these increased women users' sense of security, which contributed to improved access.

Generally, targeted interventions to enhance access for the disabled and elderly were yet to be broadly applied, and their achievement was limited to a few cases. IEG noted that about 30 projects (about 11 percent) supported universal access for the disabled and elderly persons. Overall, the share of public transit projects (metro, BRT, and buses) that include support for universal access was higher than the share of roads-only projects. However, only one project, the Universal Mobility Project in Lima, had a specific project development objective of mainstreaming the needs of

persons with disability in the planning and implementation of urban walking and public transport facilities. Case studies and interviews suggest that many clients have not yet adopted universal access features in their transport system design. Projects in the East Asia and Pacific and Latin America and the Caribbean Regions stood out as most frequently incorporating universal access design features.

Altogether, only four closed and evaluated projects measured improved access for the disabled and elderly, and three of them (75 percent) were successful. Chile's Santiago Urban Transport Project implemented specific measures for people with reduced mobility, such as audio signaling for blind people, ramps to access stations, and reserved seats in buses. Eighty percent of the Transantiago fleet is now accessible to disabled people. In Colombia's Integrated Mass Transit System, the project constructed pedestrian overpasses, and access ramps at stations and trunk buses that are completely accessible for disabled persons. On the other hand, Peru's Lima Transport Project showed poor results in improving accessibility for disabled persons. Several obstacles limiting autonomous and safe access to buses and bus stations were reported, in spite of the installation of elevators and in spite of equipping buses with a boarding mechanism to match floor height to platform height (Vasquez and Pena Herrera 2015).

Affordable Services

Affordability of transport services has yet to be sufficiently considered and addressed by the World Bank Group's urban transport portfolio. Though affordability of UT services can seriously limit the mobility of the poor, it is seldom a clear priority in World Bank Group support. Only 25 (8 percent) project appraisal documents (PADs) discussed affordability as a sectoral issue. Further, 26 projects (9 percent) included activities to address affordability. Mass transit projects supported affordability the most: nearly a quarter of BRT and metro/urban rail projects provided measures to ensure affordability. By contrast, less than 5 percent of conventional bus and road projects supported affordability. About 6 percent or three projects of upstream engagement had activities to improve UT affordability.

The primary approach through which the World Bank Group has supported affordability is through policies for fare integration or subsidies, or through preparation of affordability studies. Integrated fares can reduce the total cost of using public transport networks, encouraging use by lower-income users who cannot afford multiple tickets for transiting between modes. Support for integrated fares was provided in 18 projects (13 metro projects, four BRT, and one upstream). World Bank Group projects in Rio de Janeiro and São Paolo supported creation of

the Bilhete Unico, a single ticket with free transfers between buses and trains. The country case study found that the decline in transport costs in these two cities has been partly attributed to the Bilhete Unico system.

Eight urban transport projects (3 percent) supported the design of subsidy schemes, policies, or studies to improve affordability. Many developing country governments consider public transport to be a public good; hence, they choose to keep general user costs low, which requires budgetary subsidies from local governments. Literature and empirical experience suggest that pricing urban transport services at a level which ensures cost recovery with targeted subsidies for specific groups to ensure affordability is a better approach (Mehdniratta, Rodriguez, and Ochoa 2014). The challenge, however, is to identify accurately the beneficiaries of the targeted subsidies (the poor) and how to deliver the subsidy. Income can be difficult to determine, especially when a large proportion of the poor are informally employed. The World Bank Group could provide more technical support to design a subsidy scheme that would improve affordability without imposing an unsustainable burden on the local government budget. So far, the World Bank Group has provided such support in only a few instances. In 2014, Bogotá rolled out a "pro-poor" transport subsidy program, based on World Bank technical support. Smart cards were issued with stored users' personal information and programmed with different subsidies when issued to eligible users. As of April, 2015, 250,000 people had obtained a subsidy via the smartcard, and almost 150,000 had actually used it (Rodriguez et al 2016).

Available evidence on the World Bank Group's contribution to improved affordability of the urban poor is restricted to five projects. In Nigeria's Lagos Urban Transport Project, for example, the amount spent by poor households on bus travel along the project-improved corridors fell from 20 percent of income to 12 percent between 2005 and 2010 (the target was 15 percent). In Colombia's Integrated Mass Transit Systems Project, the share of total public transport users from the lowest income strata increased by 30–50 percentage points in Bogotá and Barranquilla. In Brazil's São Paolo Trains and Signaling Project, the share of low-income rail users rose to 35 percent from less than 5 percent after the fare integration.

Mobility Results

Overall, the World Bank Group has been effective in achieving mobility results in urban transit systems or areas. The increased supply and improved demand management contributed to improved mobility. Altogether, 30 percent of evaluated projects were targeting mobility improvement; 69 percent of these were successful.

Achievements included improvement in trip speeds of pedestrians, public transport users and private vehicles by enhancing capacity, smoothing traffic flows, reducing bus stops, improving road user discipline, and rationalizing parking. Projects in China and Peru, for example, reported success in achieving mobility improvements of public transport users. In China, all five of the evaluated projects tracking mobility were successful. IEG's PPAR mission found that for Peru's Lima Transport Project, the number of passengers using Metropolitano BRT had grown to 525,000 per weekday, compared to 340,000 passengers per weekday recorded at the time of project closing four years earlier.

Limited evidence is available on improved mobility of disadvantaged groups. Altogether, only four closed and evaluated projects (two in Brazil, one in Nigeria, and one in Colombia) presented evidence on improvement in mobility of the poor. The reason for the limited evidence could that targeted interventions to improve access for disadvantaged groups are yet to be more broadly applied, and support for affordability improvement is still quite limited. The weak monitoring of the social benefits is also a reason. While the percentage of dedicated urban transport projects that include indicators on disadvantaged groups increased from 28 percent in FY06–10 percent to 40 percent in FY11–16, in line with the evolving corporate mandate, very few tracked results from the project interventions pertinent to specific disadvantaged groups, such as improved women's security or improved affordability, or access and mobility for the disadvantaged. Nonetheless, IEG found that all four projects which managed to improve the affordability of urban transport services also reported results on improved mobility of the poor, thus reinforcing the importance of affordability as a precursor to urban mobility for low-income users.

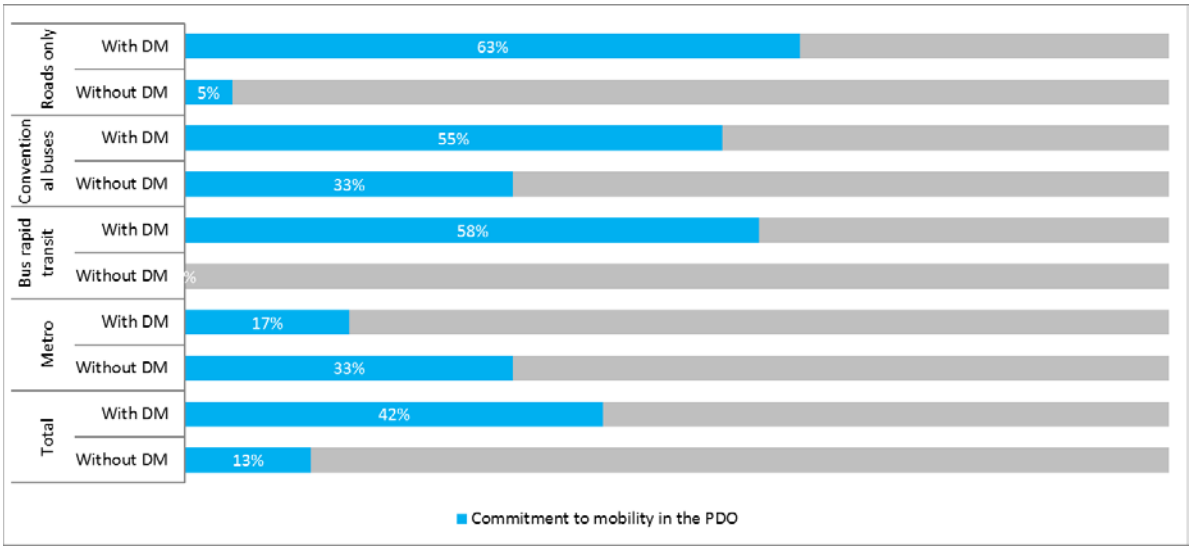
The World Bank Group did not manage to improve city-wide mobility, in large part because demand management (shifting and avoiding travel demand) measures are yet to be broadly supported and successfully implemented. Of the closed and evaluated projects with mobility objectives, 75 percent were intended to achieve city-wide mobility improvements. Nonetheless, 78 percent in fact measured mobility within specific systems or geographic areas with the interventions. Similarly, at completion, those projects were successful in improving local mobility, yet no projects managed to improve city-wide mobility. The BRT projects observed increased ridership or reduced travel times (by 20–34 percent) along the supported BRT corridors. For conventional bus projects, bus speed in project areas and bus priority corridors increased. For metro projects, although mobility improved for users of a specific metro system supported by the World Bank Group was improved, there is no evidence of mobility achievement outside of the system. Because the World Bank Group has yet to broadly apply city-wide demand management activities such as integrated planning or modal shifting policies within the urban

transport portfolio, it will be unlikely to see mobility improvements beyond the areas treated with improved public transport supply or traffic management.

Drivers of Success and Failure

IEG found that projects which used a comprehensive approach to improve mobility were more likely to be successful. For those projects that included demand management measures, IEG found that 42 percent committed to mobility improvement in the project development objective (PDO). On the other hand, only 13 percent of those projects without demand management had improved mobility in the PDO. This discrepancy exists for projects in all modes of transport, except metro projects, where mobility within the system is not affected by road congestion (figure 3.5). Moreover, IEG found that when projects incorporated and implemented demand management activities, 77 percent were successful in improving mobility. By contrast, only 60 percent of projects which either did not incorporate or did not implement demand management activities were able to improve mobility.

Figure 3.5. Urban Transport On-Road Projects with Demand Management Measures Committed More to Mobility Improvement



Note: BRT=bus rapid transit; DM=demand management; PDO = project development objective.

IEG also found that the projects with a comprehensive approach achieved more sustained outcomes. Two-thirds of projects with both supply and demand management measures had low risk to outcome sustainability. Indeed, the main risks to the sustainability of improvements in mobility were related to either incomplete implementation of demand management measures, or to financial unsustainability of the transport system, underscoring the importance of having both supply and demand support to ensure a sustained outcome. Field evidence

from IEG PPAR missions suggests that lack of measures to avoid and shift travel demand did pose a risk to sustained mobility benefits. In Mumbai, the Municipal Corporation has invested about $28 million to expand area traffic control, with the goal of complete city coverage by 2017. However, Mumbai has yet to adopt an enforceable policy to restrict traffic through parking fees, user charges, and other restraint measures. This means that the additional capacity created by new and rehabilitated roads and the ATC system will be relatively short-lived because demand is much greater than supply. In Senegal, the uncontrolled vehicle traffic growth cancelled out the small gains from World Bank support for urban transport. As rapid growth continues, support for both supply and demand becomes ever more important to ensuring positive and sustained outcomes in urban mobility.

Participatory consultations with representatives from disadvantaged groups and civil society are effective in designing and planning adequate interventions to support targeted beneficiaries. Participatory consultations can inform social analysis in a way that translates the needs and concerns of groups consulted into remedial actions, measurable objectives, and relevant activities. In China's Liaoning Medium Cities Infrastructure Project, active participation of people with limited mobility in the design and testing of universal design features generated positive feedback on its inclusiveness from World Bank teams and national stakeholders. In Vietnam's Hanoi Urban Transport Project, the World Bank team consulted with representatives from groups advocating on behalf of disabled persons. As a result, various features and improvements were incorporated into the project. Tactile guideways, widely used in Asia to guide the visually impaired, are also included in design, as well as Braille maps of the BRT stations.

Resource availability and the team's urban transport skills can influence project performance, as illustrated by the treatment of disadvantaged groups. Two main constraints reported by social development specialists and task team leaders to mainstreaming gender are insufficient human resource capacity and budgets. Projects that did particularly well in mainstreaming and reporting on gender either benefited from a dedicated trust fund, such as the Umbrella Facility for Gender Equality (UFGE), or from additional financing. Typically, these projects went the extra mile in providing gender-sensitive diagnostics and gender action plans. For example, the Morocco Urban Transport Sector DPL mobilized a $3 million Policy and Human Resource Development (PHRD) grant to finance a pilot accessibility project for persons with limited mobility. Gender training of social development specialists and task team leaders improves the quality of gender programming and reporting, as can be observed in the clustering of "good examples" around projects that had social development staff in the project teams.

References

Dayo, M. 2009. "Africa's First Rapid Transit Scheme: The Lagos BRT-Lite System." Sub-Saharan Africa Transport Policy Program, Discussion Paper 9, World Bank, Washington, DC.

Fang; Ke. 2011. "Vietnam - Hanoi Urban Transport Development Project." Implementation Status and Results Report P083581. Washington, DC: World Bank Group.

Mehndiratta, Shomik, Camilla Rodriguez, and Catalina Ochoa. 2014. "Targeted Subsidies in Public Transport: Combining Affordability with Financial Sustainability." Washington, DC: World Bank.

Rodriguez, Camilla, J.M. Gallego, D.M. Martinez, S. Montoya, and T. Peralta-Quiros. 2016. "Examining Implementation and Labor Market Outcomes of Targeted Tarnsit Subsidies." *Transportation Research Record: Journal of the Transportation Research Board* 2581: 9–17.

UN Habitat. 2013. *Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements.* Nairobi: UN Habitat.

Vasquez, A., and L. Peñaherrera. 2015. *A Case Study on Lima's "Metropolitano": Five Years Fighting for Accessibility.* Washington, DC, and Lima: World Bank, Inter-American Development Bank, and Metropolitcan Municipality of Lima.

World Bank. 2002. *Cities on the Move: A World Bank Urban Transport Review.* Washington, DC: World Bank.

———. 2007. "Vietnam - Hanoi Urban Transport Development Project." Project Appraisal Document 49565, World Bank, Washington, DC.

———. 2013. "The Public Work that Will Improve the Face of the Ecuadorean Capital." http://www.worldbank.org/en/news/feature/2013/12/06/metro-de-quito

———. 2017. "Tanzania City Residents Embrace New Rapid Transit Service." https://www.worldbank.org/en/news/feature/2017/01/25/tanzania-city-residents-embrace-new-rapid-transit-service.

Zhan, Guo. 2015. Solving Complex Technical and Institutional Problems to Improve Urban Traffic Flow in Wuhan, China. Case Study. Global Delivery Initiative. http://gdi.extcc.com/sites/default/files/case-studies/k8262_traffic_management_in_wuhan_china_cs.pdf.

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[1] Per TomTom Traffic Index using 2014 data. Congestion level is measured as percent of additional travel time compared to normal. https://global-traffic-congestion-index.silk.co/explore.

[2] "New road construction in the absence of a balanced development program that includes demand management, public transport provision, and supporting land-use policies may not improve traffic or environmental conditions" (World Bank 2002).

[3]http://documents.worldbank.org/curated/en/874551467990345646/pdf/534970NWP0DP0910Box345611B01PUBLIC1.pdf.

[4] A push measure used in many cities (e.g., Beijing, Bogotá, Mexico City, New Delhi, and Santiago) restricts access into a high-traffic area based on the license number or on certain days or peak periods of the day. A scheme in Shanghai limits private vehicle ownership by auctioning license plates.

4. Sustainable Urban Transport

Highlights

- The World Bank Group appeared to be over-optimistic about projects' financial sustainability and economic viability at the design stage.
- The mass transit projects directly involving the private sector were more successful in achieving financial sustainability of operations than projects utilizing only the public sector.
- Overall, the World Bank Group has been successful in achieving its downstream environmental mitigation efforts, but these successes have often confined to the specific project area.
- City-wide environmental sustainability is more often achieved when the World Bank Group takes a holistic approach with both upstream and downstream support measures.

Financial Sustainability

Financial sustainability is critical to urban transport, because it guarantees that systems can be operated while continuous investment in maintenance and expansion (or in new systems) can be made. Financing depends on a limited set of instruments, ranging from public budgetary allocations to user fees, tolls, parking fees, property taxation, land value capture, and various forms of private sector participation, including public-private partnerships (PPPs). Most cities in the world face a financing gap in their urban transport systems, where revenues are inadequate to cover recurrent expenditures and new investment (Ardila and Ortegon 2015). Public transit tends to be particularly underfunded and faces competition from car travel implicitly subsidized by untolled or underpriced roads and parking (Ardila and Ortegon-Sanchez 2016).

The IEG study *Improving Institutional Capability and Financial Viability to Sustain Transport* (2013) found financial sustainability to be a frequent challenge in World Bank Group–financed transport projects. In particular, project analyses rarely took into account the effect of underfunding maintenance on the flow of benefits. Without comprehensive up-front analysis, clients may be ill-equipped to mobilize sufficient recurrent finance for system sustainability. The study recommended that the World Bank Group increase its focus on sustaining transport infrastructure and services in project design. The study recommends that support for urban transport include a comprehensive financial analysis of the overall urban transport system, including fare integration, tariffs and subsidies, and the net impact on the poor.

QUALITY OF FINANCIAL ANALYSIS

The quality and comprehensiveness of financial analysis are critical to understanding projects' financial sustainability, and require a full analysis of different revenues ranging from budgetary to direct beneficiary payments. Without a clear understanding of the costs and revenues and a strategy to avoid financing gaps, new or improved systems may well have difficulty meeting their operational, maintenance, and investment needs. Yet of 46 World Bank mass transit project assessment documents reviewed, less than 40 percent presented a financial analysis (table 4.1).[1]

Where a financial analysis was presented, the methodological approaches varied widely, especially regarding costs and revenue assessment.[2] More than half failed to take into account full operation and maintenance costs. Many projects with private sector engagement did not examine the financial sustainability of publicly financed aspects of the systems, which may include construction and maintenance.

Table 4.1. Financial Analysis at Appraisal: World Bank Urban Mass Transit Projects

Type of Project	Percentage Presenting Financial Analysis at Appraisal	Percentage of Financial Analyses Taking Account of Maintenance	Percentage with Private Sector Involvement at Design Stage	Percentage with Private Involvement that Analyzed Financial Sustainability of Public Sector Elements
Bus rapid transit (n = 17)	35.3 (n = 6)	50.0 (n = 3)	76.5 (n = 13)	15.4 (n = 2)
Metro (n = 29)	41.4 (n = 12)	75.0 (n = 9)	55.2 (n = 8)	62.5 (n = 5)

Looking at 16 closed mass transit projects, none presented a financial analysis at closing. Nonetheless, the majority did discuss financial viability (table 4.2). Of projects that involved the private sector, none analyzed the financial sustainability of systems, and none discussed public sector elements of UT systems.

IEG also found that time and cost projections made at the design stage were optimistic. IEG found that about a quarter of closed dedicated urban transport projects experienced cost overruns, averaging about 61 percent (figure 4.1).[3] Within this set of projects, 57 percent sought additional financing, and the remaining projects had increased costs covered either by the government or by other development partners. Weak technical appraisal, design changes, increased resettlement costs, exchange rate increases, and the emergence of other risks (for example, political changes) all contributed to unplanned cost and time increases. The Sub-Saharan Africa Region accounts for 35 percent of projects that experienced

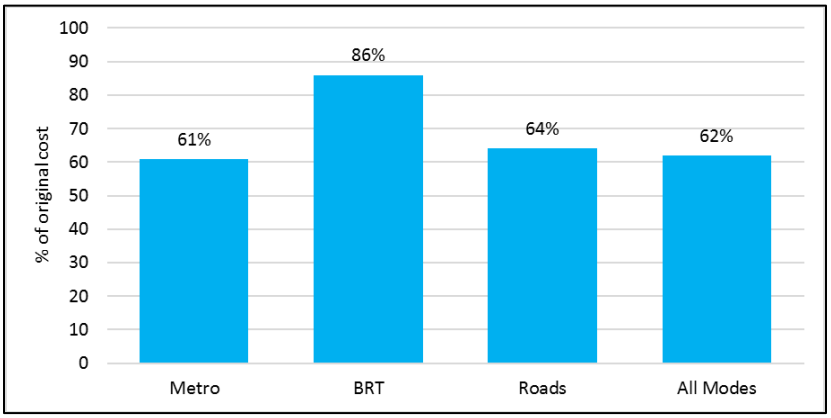
cost overruns, followed by Latin America and the Caribbean and the East Asia and Pacific Regions. Projects in the East Asia and Pacific Region (mainly in China) usually did not seek additional financing from the World Bank Group. By mode, 70 percent of cost overruns occurred in road projects, followed by metro and BRT projects. Proportionally, BRT projects had the highest average cost overruns at 86 percent.

Table 4.2. Financial Analysis at Closing: World Bank Urban Mass Transit Projects

Type of Project	Percentage Presenting Financial Analysis at Closing	Percentage Discussing Financial Viability at Closing	Percentage with Private Sector Involvement at Closing Stage	Percentage with Private Involvement that Analyzed Financial Sustainability of Public Sector Elements at Closing Stage
Bus rapid transit (n = 5)	0 (n = 0)	60.0 (n = 3)	100 (n = 5)	0
Metro (n = 11)	0 (n = 0)	54.5 (n = 6)	36.4 (4)	0

Time overruns were more common than cost overruns. About three-quarters of closed dedicated urban transport projects experienced longer-than-planned implementation periods. Additional time was on average 2.5 years—and was most frequent in projects with capital-intensive transport modes. The main reasons for these delays were the complexity of project design and implementation, and internal pressures to commit projects to an unrealistic timeframe.

Figure 4.1. Average Cost Overrun



Time delays and cost overruns were the main constraints to projects' efficiency. IEG's review of all closed and evaluated projects with an Implementation Completion and Results Report Review efficiency rating (73 such cases) found that 60 percent of projects had a negligible or modest efficiency rating. Of the 33 projects presenting reasons for a low efficiency rating, 75 percent attributed them to delays, and 36 percent were because of cost overruns.

At the same time, the social benefits were often not quantified and included in the economic analysis either at the design stage or at the completion stage. Usually, three types of benefits were discussed by the economic analysis:

- Type-I benefits are those affecting users of the system supported by the World Bank Group, such as reduction of transport costs and travel time.
- Type II benefits include increased road safety and reduced pollution, which affect not only direct users, but also other stakeholders.
- Type-III are those potential effects resulting from improved accessibility, such as access to health and education services, and employment opportunities.

IEG found that 75 percent of dedicated urban transport projects quantified type-I benefits, 22 percent quantified type-II benefits, but none quantified type-III benefits at the design stage. At the completion stage, the shares were lower. Thirty percent of closed projects did not present an economic analysis, often because of lack of availability of information at the time of the Implementation Completion and Results Report or because of inability to find the original economic analysis model in order to rerun it.

PRIVATE SECTOR PARTICIPATION IN THE URBAN TRANSPORT SECTOR

There is a wide spectrum of private sector participation (PSP) in urban transport service provision, ranging from service management contract to "Turnkey."[4] Often, the PSP is described as an attractive alternative to public provision that improves financial sustainability for at least one of several reasons:

- The private sector may mobilize private financial resources to provide needed investments in urban transport services and infrastructure.
- The participation allows the government to contract for services, committing it to stable financing over an extended period, from project construction through service provision and operation and maintenance.
- The private sector could mobilize capabilities yielding operating efficiencies not available through a public delivery model.

However, success in engaging the private sector depends on governments having in place appropriate conditions including clear and stable market rules; sound and predictable legal and regulatory environments; and well-designed projects, including fair risk allocation.[5] The World Bank Group has a high level of support for PSP in the sector: 38 percent of country strategy reviewed identified PSP as an issue. At project level, PSP is found in 66 percent of dedicated projects.

The World Bank Group facilitates PSP in urban transport, both "upstream" in creating an enabling framework and "downstream" at the operational level. Upstream support was provided primarily through dedicated projects. Such upstream support included assistance in creating policy, regulation, or an enabling environment for private sector involvement. Two main types of downstream advisory support are provided: technical assistance from the World Bank, often with support from the Public-Private Infrastructure Advisory Facility (box 4.1), and transaction advisory services provided by IFC AS. IFC AS is intended to help clients develop and implement PPP schemes for urban transport systems including major arterial highways or corridors (Amman, La Ceiba), BRT (Cebu, Dakar, Manila), or metro/light rail (Chennai, Manila). The World Bank Group also promotes direct PSP in the urban transport projects that it co-finances. The private sector is often involved in the operation and management of the system (and sometimes in the ownership and operation of rolling stock) rather than the construction. By mode, BRT and metro projects involve the private sector most actively (figure 4.2).

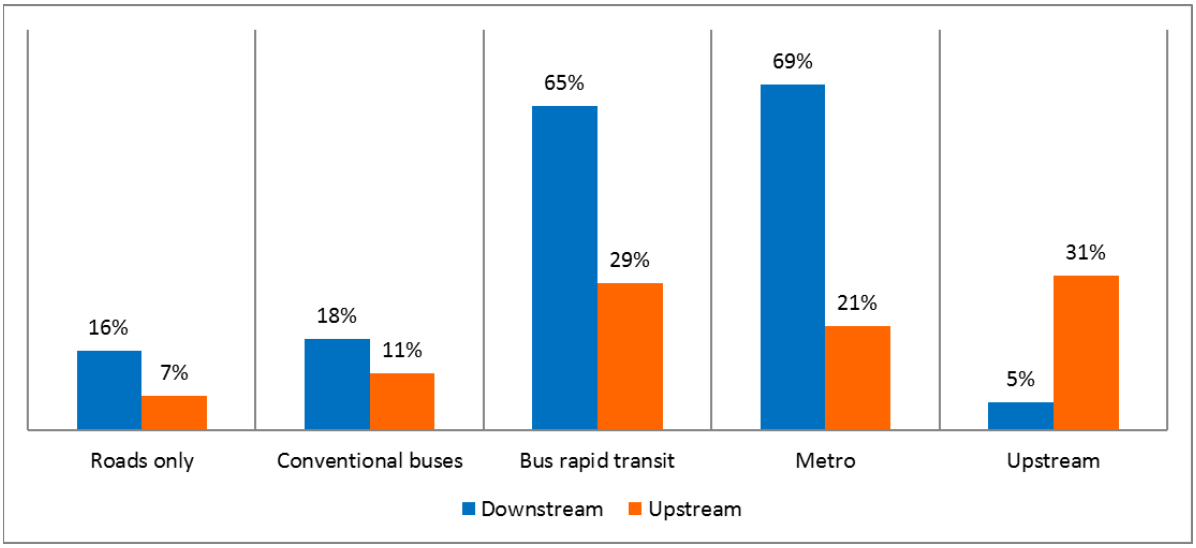
Box 4.1. Partnership: The Public-Private Infrastructure Advisory Facility

The Public-Private Infrastructure Advisory Facility (PPIAF) has enhanced the capacity and knowledge of World Bank Group clients and World Bank staff on public-private partnership (PPP) management and regulation. PPIAF was created in 1999, building on the 1997 World Bank Group Infrastructure Action Program which aimed to improve the environment for private sector participation in infrastructure in developing countries. During the 10-year period spanning FY2007–16, PPIAF approved 47 urban transport activities worth $9.7 million, usually in the form of capacity-building programs and knowledge products.

Urban railways were the main mode supported (28 percent), followed by conventional buses (19 percent) and BRT (15 percent). Other modes included urban roads and nonmotorized transport. The support was usually in the form of transaction advisory, capacity-building programs, and knowledge products. The top three Regions receiving PPIAF for the urban transport portfolio are East Asia and Pacific, Latin America and the Caribbean, and Africa. Colombia, the Philippines, and Vietnam are the countries that received the most regular PPIAF support. For example, In Vietnam, PPIAF contributed to the Ho Chi Minh City metro project financed by the Asian Development Bank, while the World Bank Group supported the city's bus rapid transit. Still, although the World Bank Group's investments in Brazil, China, and India constituted a third of the portfolio, PPIAF barely worked in those countries.

IEG found that about 85 percent of the PPIAF's capacity-building and knowledge activities in urban transport were effective in strengthening the technical capacity of World Bank staff and country decision makers, and likely extended those skills to their relevant institutions. IEG also found that only a third of PPIAF activities that were intended to inform lending actually did. For many activities, the result is unclear because of a lack of tracking and data.

Figure 4.2. Share of World Bank Group Urban Transport Projects Supporting Private Sector Involvement



Over the past 10 years, about 40 percent of World Bank metro/urban rail projects involved the private sector in operation of the mass transit systems co-financed by the World Bank. Additionally, IFC and MIGA supported Istanbul's and Izmir's metros in Turkey. Concessionaires usually took existing roads or railway assets rehabilitated or upgraded by the public sector with funds borrowed from the World Bank or IFC or guaranteed by MIGA. The World Bank Group was instrumental in bringing in the private sector. Before the World Bank Group's support, metro systems in some of these cities were run by the public sector and often suffered from weak efficiency and funding, and insufficient maintenance, renewal, and expansion (box 4.2).

Box 4.2. World Bank Support for Metro PPP in Brazil

The World Bank supported the concession of three metro projects in Brazil: the Metro line 4 project in São Paulo, Metro line 1 in Salvador, and the suburban rail in Rio de Janeiro. The first two projects were greenfield, designed as public-private partnerships (PPPs), and envisaged a turnkey civil works contract and, in parallel, securing a concessionaire for operations. The World Bank catalyzed and supported private sector involvement in all three cities. The World Bank's involvement has been instrumental in bringing PPPs into metro projects, increasing access to finance, improving efficiency and accountability, reducing the public sector's financial and operational management costs, and thereby making services more sustainable. The implementation of these projects was not always smooth. For example, in 2007 there was a fatal construction accident on Line 4. While the São Paolo Metro Line 4 and Rio de Janeiro suburban rail system cover operating costs with passenger fares and other revenue such as station concessions, the large up-front capital investment was financed by the public sector with the support of the World Bank. The transport system as a whole relies on substantial subsidies, with potential financial

imbalances in both metropolitan areas. States have to amortize their up-front investment, and also provide other urban transport services.

IEG found that direct PSP in mass transit projects was more successful in achieving financial sustainability of operations than projects utilizing only the public sector (table 4.3). Though the evidence base is slim, the operational sustainability success rate of mass transit projects with PSP was 44 percent compared to only 14 percent of projects without PSP. In many cases, successful PSP in the operation and management of the system, together with the World Bank Group's support to increase the capacity and quality of service, led to an expected increase in ridership and usage. For example, all the closed BRT projects with PSP witnessed improved quality of service. Successfully franchised BRT operations exist in Bogotá, Colombia and Curitiba, Brazil, and this model was partially replicated in Lagos, Nigeria.

Table 4.3. Financial Sustainability of Mass Transit Projects

Financial Sustainability	Percentage of Projects Estimated To Be Financially Sustainable in Operation Only (at design)	Number of Closed Projects	Percentage of Projects Financially Sustainable in Operation Only (at closing)	Percentage of Projects Financially Sustainable in O&M (at closing)
With PSP (n = 20)	55.0 (n =11)	9	44.4 (n = 4)	0
Metro only (n = 8)	75.0 (n = 6)	4	50.0 (n = 2)	0
BRT only (n = 12)	41.7 (n = 5)	5	40.0 (n = 2)	0
Without PSP (n = 25)	24.0 (n = 6)	7	14.3 (n = 2)	0
Metro only* (n = 21)	23.8 (n = 5)	7	14.3 (n = 1)	0
BRT only (n = 4)	25.0 (n = 1)	0	NA	NA

Note: BRT = bus rapid transit, NA = not available; O&M = operation and maintenance, PSP = private sector provision.

The urban road sector, by contrast, seldom involved the private sector, and sustainable road maintenance has not been achieved. Though 64 percent of World Bank urban transport projects had activities in urban road development, nearly 90 percent of road activities did not have PSP and only about 26 percent had explicit support for sustainable road maintenance. At the same time, though programmed road maintenance activities were generally completed, the sustainability of outcomes was not necessarily assured. Projects achieved 92 percent of output targets related to road maintenance, as measured by improved road conditions, establishing road funds, and other indicators. In Senegal, despite project-level success in improving road conditions, the sustainability of road maintenance funding and capacity remains an issue. In 2016, eight years after project completion, the road network had deteriorated as a result of inadequate funding for maintenance,

eliminating the project's earlier road rehabilitation and construction achievements. In Nigeria, the Lagos Urban Transport Project was successful in establishing a Transport Fund for road maintenance. Yet the money allocated to the fund was insufficient for sustained maintenance. The follow-on project, Lagos Urban Transport 2, seeks to ensure that more resources are allocated to the fund.

Although each institution supports PSP in UT service delivery, collaboration between the World Bank and IFC, and the World Bank and MIGA on engaging the private sector in the UT sector is infrequent. Collaboration did occur between IFC and MIGA: five MIGA operations are related to IFC Investment Services operations, mostly in Turkey. Occasionally, (in Jordan, the Philippines, and Senegal) it appears that IFC PPP advisory services complemented World Bank UT project activities. In general, however, it appears that IFC and MIGA target different market segments, both at the country level and within countries. World Bank work with the private sector was concentrated in countries in Latin America and the Caribbean, while IFC investments and MIGA guarantees focused on Turkey. Turkey also exemplifies World Bank Group market segmentation: IFC worked with creditworthy larger cities, while the World Bank targeted smaller cities. Although project evaluations suggest that the current model works, interviews with task team leaders indicate that there are opportunities for a more synergistic approach. For example, the World Bank could provide upstream support while IFC and MIGA provide financing and guarantees. Indeed, upstream reforms provide the enabling environment for private sector participation, and are a necessary precursor for downstream engagement.[6]

Environmental Sustainability

Environmentally sustainable urban transportation can encourage use of public transit and NMT, green vehicles, and fuel-efficient transport systems. An environmentally sustainable UT system is essential to the quality of life and welfare of urban populations.

At the same time, transport is a major source of pollution, accounting for half of global oil consumption and nearly 20 percent of world energy use, of which about 40 percent is used in urban transport (IEA 2013). By 2025, under a business-as-usual scenario, urban transport emissions are estimated to increase two-fold to nearly 1 billion annual tons of carbon dioxide equivalent, and 90 percent of growth in urban transport emissions will come from private motorized travel. According to the World Health Organization, about half of the urban population monitored in 1,600 cities across 91 countries is exposed to air pollution that is at least 2.5 times higher than the recommended level (WHO 2014). Exposure to vehicle emissions, particularly in urban areas with high traffic volumes and high concentration of air

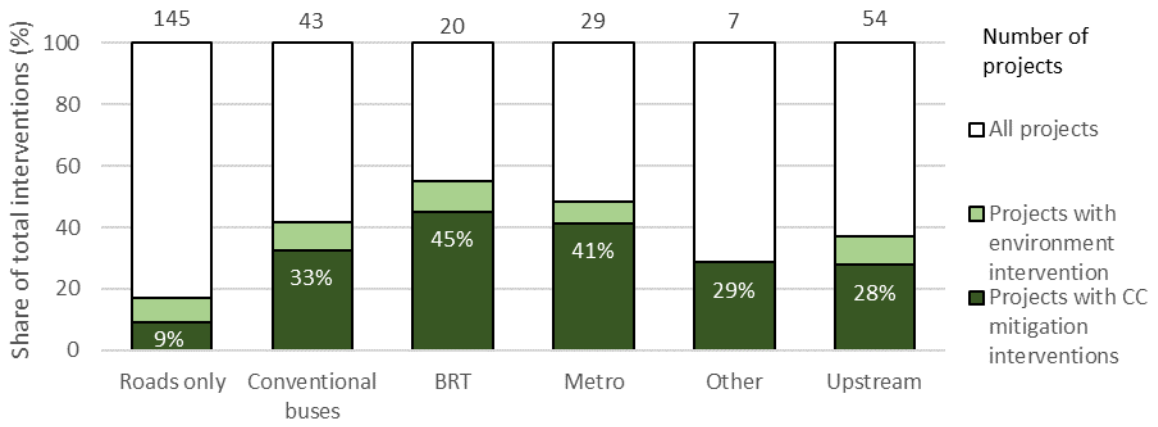
pollutants, is associated with various adverse health conditions, including heart disease, stroke, chronic lung diseases, obesity, and lower respiratory infections (Bhalla et al 2014). Increasingly, the resilience of urban transport systems to the impact of climate change, including flooding, heat and extreme weather events, is also being questioned.[7] The international community has scaled up its efforts to tackle the global climate change challenges, the most recent effort being COP21, which led to the Paris Agreement of 195 countries on GHG emissions mitigation and adaptation.

The World Bank Group has moved quickly to translate the COP21 into concrete actions, anticipating an increase in its climate financing to as much as 28 percent by 2020 in response to client demand. Correspondingly, the Transport and ICT GP has committed to increasing to 35 percent the share of its own portfolio that supports climate mitigation and adaptation. In particular, adaptation will be addressed through investments in climate-resilient infrastructure to reduce the vulnerability of transport services to natural disasters and other climate-related depreciation. Mitigation activities will include provision of more accessible and efficient transport services to reduce GHG emissions.

Public transport and NMT development have inherent environmental benefits. Yet explicit mitigation and adaption measures beyond these investments bring additional positive and important benefits to the environment. Accepting that environmental sustainability will not be achieved solely through interventions in the urban transport sector, this evaluation will focus on the extent to which the World Bank Group contributes to environmental sustainability through its support of this sector.

Environmental sustainability interventions include both measures to mitigate and to adapt to climate change. In urban transport projects, the main focus of environmental interventions has been mitigation of the deleterious effects of transport (especially motorization) on the environment, rather than helping clients to adapt to the consequences of climate change (figure 4.3). Typical mitigation activities included upstream support for environmental policies and regulations and capacity building of relevant institutions, and downstream support to establish air quality management and monitoring systems or centers, implement conversions to cleaner fuels, technologies and vehicles, and establish vehicle emissions inspection facilities. Support for climate resilience through adaptation efforts has been mostly provided through road construction and rehabilitation activities in roads-only and conventional bus projects. Capital-intensive mass transit systems remain vulnerable to climate events, but adaptation activities are included in these projects less often.

Figure 4.3. Distribution of Explicit Environment Interventions, by Mode



Note: BRT = bus rapid transit, CC = climate change.

World Bank Group support, including mobilization of the GEF (box 4.3) and other trust funds, allowed the successful preparation of environmental policies, regulations, and strategies in 70 percent of the urban transport evaluation portfolio. Positive instances of enhanced environmental regulation and capacity were reported in Brazil, China, and Mexico. The China Wuhan Urban Transport project supported the preparation of a Motor Vehicle Emission Control Strategy for Wuhan in 2007. Following this work, new management regulations on motor vehicle emission control were issued by Wuhan in July 2008. In Brazil, with the support of the GEF, institutional capacity in sustainable transport at the national and local levels was enhanced across the country. Moreover, various organizations cooperated through GEF project activities to provide support for drafting Brazil's 2012 National Urban Mobility Law. In Mexico, the GEF project supported Mexico City in preparing the first city-wide Climate Change Action Strategy in Latin America, including goals, timetables, programs, and budget requirements, reflecting city governments' commitment to reducing GHGs and pollution. However, within the overall urban transport portfolio, there was no systematic measurement and reporting of the impact of this upstream environmental support.

Box 4.3. Partnership. Global Environmental Facility Trust Fund

The Global Environmental Facility (GEF) Trust Fund provides support to help developing and transitional countries tackle the world's most pressing environmental problems. With financing from 39 donor countries, GEF has helped finance project preparation, sector studies related to environment, and components of urban transport projects relating to institutional capacity building and nonmotorized transport (NMT). Projects proposed for GEF support must be country-driven, must follow GEF's policy on public involvement, and should be consistent with both national priorities related to sustainable development

and GEF priorities. GEF funds cover the incremental project costs of measures to achieve global environmental benefits.

GEF-funded projects mainly supported nonmotorized transport (NMT) modes (nine projects), conventional buses (seven projects), and BRTs (five projects). There was only one metro project and no urban roads projects. About 70 percent of the projects had explicit environmental objectives. Those projects with environmental objectives achieved 86 percent of their objectives, inducing policy changes favoring sustainable transport investments, improved environmental management capacity of cities, and reduced greenhouse gases (GHGs) and air pollutant emissions through the development of public transit and NMT.

Similarly, with GEF support, pilot cities implemented more than 20 programs promoting environmental sustainability. A few documented cases presented catalytic effects. For instance, the China GEF–World Bank Urban Transport Partnership supported 14 cities on sustainable transport solutions, with activities including development of BRT and bus priority corridors, improvement of public transport services and NMT trips, developing transit demand management schemes, and designing transport-oriented development (TOD) plans. After completion of the pilot project, more than 60 nonpilot cities (the original target was 25) showed interest in implementing UT investment plans that promote public transport and NMT. Furthermore, carbon dioxide emissions over 10 years in pilot cities were lower than previous forecasts by 3.93 megatons.

The World Bank Group's contribution to environmental sustainability through the urban transport sector support is, overall, effective in local systems or areas with the interventions. More than 70 percent of closed and evaluated projects tracking environmental benefits contributed to reduced emission of GHGs or air pollutants. Successful cases were found in Argentina, China, Mexico, Nigeria, and Peru. The remaining projects considered the environmental benefits from the installation and/or utilization of air quality monitoring systems or vehicle emissions inspection facilities. Although roads-only projects seldom pursued GHG emissions or air pollution reduction activities, public transit projects—particularly conventional bus and BRT projects—were effective in achieving 92 percent of such targets. In 21 projects (70 percent) the reduction in GHG emissions or air pollution was limited to specific project areas or systems directly affected by project interventions. In Peru, for example, GHG transport emissions in the "El Metropolitano" Corridor (supported by the Lima Transport Project and the GEF-Lima Transport Project) were reduced by 33 percent. The carbon-dioxide-equivalent emission reduction[8] under the Mexico–GEF Sustainable Transport and Air Quality project was also achieved along project corridors.

Comprehensive support that includes both upstream and downstream environmental activities increases the likelihood of achieving city-wide results. IEG found that 70 percent of the cities receiving such comprehensive World Bank Group

support were successful in realizing environmental benefits to the city. Upstream support has a low design cost, but reforms can only be effective if they are adequately enforced. Under the China–GEF–World Bank Urban Transport Partnership, for example, it was estimated that carbon dioxide emissions in the city of Guangzhou were reduced by 2.1 megatons per year after the city increased parking fees and applied car purchase and usage restrictions. These schemes only cost $10 million to implement and had a marginal abatement cost[9] of $5 per ton. By comparison, a typical BRT system has a marginal abatement cost of $489 per ton. Santiago (Chile) benefitted from multiple World Bank Group operations during the evaluation period, and a comprehensive reform program was implemented that included traffic management, bus service contracting, incentives for operators to acquire high-standard buses, and establishment of a coordinated transport and infrastructure planning mechanism. These measures contributed to the reduction of GHGs by 10.5 percent in 2006–09 with the intervention of TranSantiago ,[10] and the reduction of air pollutants by 48 percent, compared with the 2005 emissions inventory for the metropolitan region.

By contrast, cities where the World Bank Group did not provide a comprehensive approach did not achieve reductions in air pollution and GHG emissions. In the absence of comprehensive and effective support, the realization of air quality improvement and reduction in absolute emission levels in urban areas is quickly offset by rapid motorization. For example, in Dakar, Senegal, actual 2008 levels of air pollution were almost twice as high as 1998 levels, because of a higher-than-expected influx in the number of private vehicles. The share of public transport also fell by 13.5 percentage points in the same period. In the Philippines, potential gains from NMT were offset by the lack of enforcement of travel demand management measures. The combined modal share of NMT and public transport for trips originating in Marikina actually decreased with the increased share of private vehicle use.

References

Arturo Ardila and Adriana Ortegon. 2015. “Sustainable Urban Transport Finance from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing.” Washington, DC: World Bank.

Ardila, Arturo, and Adriana Ortegon-Sanchez. 2015. “From Sidewalk to Subway: Achieving Sustainable Financing for Urban Transport.” Connections, Note 2016, 9 June 2016). Washington, DC: World Bank.

Bhalla, K.; M. Shotten, A. Cohen, M. Brauer, S. Shahraz, R. Burnett, K. Leach-Kemon, G. Freedman, and C. J. L. Murray. 2014. *Transport for Health : the Global Burden of Disease from Motorized Road Transport*. Washington, DC: World Bank.

http://documents.worldbank.org/curated/en/984261468327002120/Transport-for-health-the-global-burden-of-disease-from-motorized-road-transport.

Cantarelli, C. C., B. Flyvbjerg, E. J. E. Molin, and B. van Wee. 2010. "Cost Overruns in Large-Scale Transportation Infrastructure Projects: Explanations and Their Theoretical Embeddedness." *European Journal of Transport and Infrastructure Research* 10 (1): 5–18.

Flyvbjerg, Brent. 2007. "Cost Overruns and Demand Shortfalls in Urban Rail and Other Infrastructure." *Transportation Planning and Technology* 30 (1): 9–30.

IEA (International Energy Agency). 2013. *A Tale of Renewed Cities.* Paris: International Energy Agency.

Rozenzweig, C., D. Solecki, S. A. Hammer, and S. Mehrotra, eds. 2011. *Climate Change and Cities: First Assessment Report of the Urban Climate Change Research Network*. Cambridge, UK: Cambridge University Press.

World Bank. 2014. *Support to Public-Private Partnerships: Lessons from Experience in Client Countries.* Washington, DC: World Bank.

———. 2015. *World Bank Group Support to Public-Private Partnerships: Lessons from Experience in Client Coutnries (FY02–12)*. Washington, DC: World Bank.

WHO (World Health Organization). 2014. "Air quality deteriorating in many of the world's cities." Press Release.

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[1] This has improved recently. For example, of eight dedicated urban transport projects approved in FY2016, six provided financial sustainability analysis in the PADs.

[2] For instance, in publicly financed BRT projects, only some took full account of the maintenance cost of the entire BRT system including BRT corridors (roads, stations, buses), while others did take maintenance into account.

[3] Cost overruns are quite common in large infrastructure projects. There is a substantial literature discussing the magnitude and causes, including Flyvbjerg (2007, 9–30) and Cantarelli et al. (2010). IEG's PPP evaluation observes: "World Bank PPP projects are more cumbersome: they are flagged more frequently for slow disbursement and delays, being at risk, subject to project restructuring, procurement, and safeguard issues….Leading factors for delays and failure include overly complex project design, unrealistic timeframes and, at times, the implementation of safeguards" (World Bank 2015, 107).

[4] The private sector is responsible for providing a complete UT system or service ready for immediate use(i.e., system design, build, and operation).

[5] For a complete treatment of PPPs (in all sectors) see IEG's 2014 PPP evaluation, *Support to Public-Private Partnerships: Lessons from Experience in Client Countries (FY02–12).*

[6] This observation is consistent with the findings of IEG's 2014 PPP evaluation, *Support to Public-Private Partnerships: Lessons from Experience in Client Countries (FY02–12).*

[7] "Adaptation and mitigation of urban transportation systems to climate change can be defined as a form of risk management. …There are two fundamental options for risk management in the transportation sector. One is by mitigation measures in cities around the world that reduce *globally* the climate hazard factor that city and thereby reduce climate risk…. The second option in reducing risk is adaptation" (Rozenzweig et al. 2011).

[8] Carbon dioxide is a colorless and odorless gas. It is a common and naturally occurring gas required for all plant and animal life. At high concentrations, it can be deadly.

[9] Marginal abatement cost is the cost of one additional unit or ton of emission that is abated or not emitted.

[10] According to the ICR, the estimation of carbon dioxide reductions was obtained from applying the UNEP Clean Fleet Management toolkit.

5. Urban Transport Institutional Development

Highlights

- The World Bank Group supported institutional development in urban transport primarily through capacity building; more than 90 percent of the activities were successfully delivered, but fewer than half of these projects have shown evidence of their effectiveness.
- The urban transport portfolio is predominantly comprised of "one-time" projects rather than programmatic engagements over time. Institutional structural change in urban transport institutions is more likely when the World Bank Group engages continuously with the sector over a longer time period.

Urban transport management is complex and multidimensional, encompassing several modes that are often administered by different agencies. Effective delivery of urban transport services therefore requires that management and fiscal capacity be adequate, decision making and implementation lines of accountability be clear, and mechanisms for coordination and cooperation be in place. However, in developing countries, many local governments lack the administrative and fiscal capacity to deliver adequate services. In Ghana, for example, where urban challenges include "slums, lack of basic services, underdeveloped manufacturing and insufficient transport infrastructure," the World Bank identified weak implementation and fiscal capacity of local assemblies as key constraints to addressing these challenges. In addition, urban transport management is often fragmented among several jurisdictions. Exacerbating this situation in most client countries is a lack of coordinating structures for planning, implementation, and oversight.

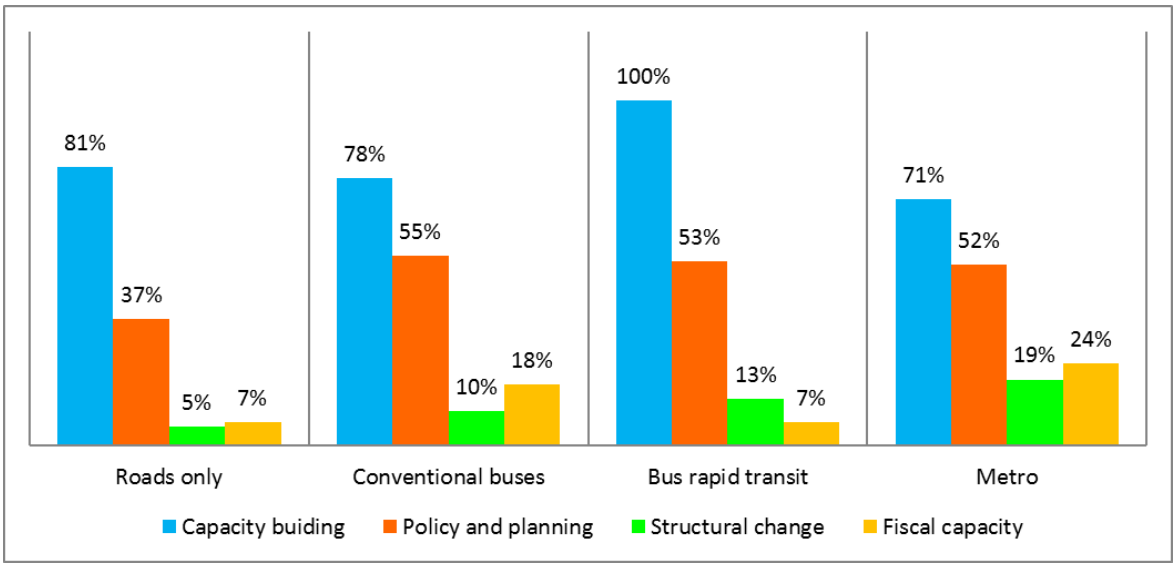
The World Bank Group supports urban transport institutional development primarily through IBRD/IDA lending. During the evaluation period, the World Bank provided four types of institutional development support for urban transport:

- general institutional capacity building within the existing institutional structure where support included management and human resources;
- fiscal capacity enhancement of urban transport agencies or municipalities responsible for urban service, including urban transport service delivery;
- strategy, regulation, and policy design (discussed in chapters 3 and 4); and
- structural change of UT institutions, including support for the setting up of a new leading urban transport agency.

The importance of institutional design is consistently recognized and supported by urban transport operations. Institutional development activities that were generally relevant to regional contexts and priorities were included in 235 World Bank urban

transport projects (87 percent). An exception was the Europe and Central Asia region, where the World Bank did not provide any support for fiscal capacity to countries, even though fiscal capacity was the most frequently identified constraint to urban transport in project documents and country strategy documents. Support for institutional development also varied across dedicated and nondedicated urban transport projects; that is, dedicated projects tended to focus on transport-specific agencies, while nondedicated projects focused on general municipal government agencies. There the distribution of institutional development interventions between transport modes was relatively even, with slightly higher support for planning, fiscal capacity, and structural change from public transit projects (conventional bus, BRT, and metro and urban rail) (figure 5.1)

Figure 5.1. Distribution of Institutional Development Interventions, by Mode



World Bank Group Support for Institutional Capacity Building

The World Bank Group's primary approach for institutional development in the urban transport sector during the evaluation period has been through general capacity building within the existing institutional setup. In particular, the World Bank focused on enhancing human resources and management capacity in procurement, contract management, data collection and information management, and engineering design. This was done through training, study tours, improvements to procedures, and upgrading of systems. General capacity-building activities were included in the design of 207 urban transport projects (77 percent). The urban transport projects in the Africa Region included support for institutional capacity building (80 percent), but using the Sub-Saharan Africa Transport Program (SSATP) to support policy development was insufficient (box 5. 1).

Box 5.1. Partnership: Sub-Saharan Africa Transport Program

The Sub-Saharan Africa Transport Program (SSATP) is a multidonor partnership hosted by the World Bank Group's Transport Global Practice. It is governed by a Board with members from international financial organizations, beneficiary governments, the private sector, users and civil society, and the donor community. It has a unique position from which to help African governments develop and implement transport policies. The core team is small, comprised of a program manager based in Washington, DC and three thematic coordinators based in Nairobi, Kenya.

SSATP's current strategic plan is narrowly focused. Urban transport and mobility is one of only three thematic areas of focus. Roughly one-third of SSATP's 2015–18 budget is earmarked for urban mobility. Nine urban transport activities were undertaken by SSATP in the period 2008–15. However, annual reports and project completion documents did not provide any qualitative or quantitative evidence as to how the World Bank used these products. The review of the World Bank Group's urban transport portfolio also noted a low level of reference to SSATP's support. In general, the visibility of SSATP's outputs has been low, and dissemination and uptake have been slow.

A key reason for the underutilization has been the changing direction of the World Bank's own work in the Africa region, and the resulting inability of the SSATP to more directly link outputs to the World Bank's urban transport projects and strategies. For the World Bank, there has been a missed opportunity to use the SSATP to help governments develop and formulate policies encouraged through World Bank projects. The World Bank also ceased allocating staff time to SSATP because of budget limitations, which also contributed to the diminishing synergies between World Bank urban transport operations and SSATP activities for urban mobility.

Dedicated urban transport projects provide institutional capacity-building support specifically for urban transport–related agencies. Sixty-seven of the dedicated projects (77 percent) directed capacity-building activities to transport agencies at the local level, while 15 projects (17 percent) included capacity building to central government urban transport agencies (typically the ministry of transport or a similar agency). Projects in Africa most often included capacity building to the central government (35 percent of projects compared to 12 percent for all other regions). In Kenya, for example, both the Transport Sector Support and National Urban Transport Improvement Projects provided support to the Urban Roads Authority through training, provision of goods and services, and technical assistance. An additional four projects (5 percent) provided capacity-building activities to both central and local urban transport institutions.

Most capacity-building activities (90 percent) included in the design of urban transport projects were delivered. A few countries with low institutional capacity benefited from the support. For example, in the Democratic Republic of Congo, a

post-conflict country, the World Bank helped to improve institutional capacity to lay the foundation for future development initiatives. In Bangladesh, all key infrastructure investments, including urban transport for municipalities, were carried out by central agencies before the support of a Municipal Services Project. Subsequently, for the first time in the country's history, all participating municipalities were able to independently implement subproject investments.

Unfortunately, 20 closed and evaluated projects (51 percent) failed to present evidence on improved institutional capacity. This could largely be attributed to the weak monitoring and evaluation (M&E) framework of institutional capacity building applied at the project level. IEG found 334 key performance indicators (KPIs) used by World Bank projects. These KPIs did not present consistent measurement of capacity-building outcomes, and heavily focused on outputs. The weakness of M&E was also evident in other types of institutional development support. For example, 63 dedicated projects (56 percent) contained activities on urban transport policies, planning, and strategies, but only 41 projects (36 percent) tracked outputs. Far fewer projects provided evidence as to whether plans, policies, or strategies were actually adopted. Another reason for the low level of success of capacity-building support was that not all the planned capacity-building activities were implemented. Inter-agency coordination was lacking (25 percent of the failed cases) or clients did not prioritize the designed activities (25 percent of the failed cases); these were the main reasons that project activities were not implemented and why, consequently, effective capacity building did not occur.

World Bank Group Support for Fiscal Capacity Enhancement

Few dedicated projects address the fiscal capacity of urban transport–related institutions in their design. Only five projects (4 percent) address the fiscal capacity of a specific urban transport agency; two of these projects are still active. Two projects in China illustrated the effect on fiscal capacity development. The Guiyang Transport Project reported significant strengthening of public debt management. After project completion, the establishment of a debt management system enhanced government debt planning and management in and coordination with district/county governments. The China-GEF-World Bank Urban Transport Partnership project focused on the transfer of financial resources from central to local governments. With the project's support, a national public transport strategy was prepared that requires all national agencies and local governments to give priority to the development of public transport, integrate land use and public transport development, and explore innovative financing mechanisms for public transport.

Fourteen nondedicated projects (10 percent) address the financing capacity of local government to provide local services. These projects were successful in enhancing the fiscal capacity of local governments. For example, the India Urban III project helped local government to raise funds through nonbudgetary sources (including bonds, PPPs, and beneficiary capital contributions). In Lebanon's First Municipal Infrastructure project, the ratio of municipal revenues to government transfers decreased, reflecting improved financial sustainability at the municipal level. Urban transport projects also successfully supported local government infrastructure management and planning in Indonesia. A series of infrastructure DPLs resulted in an increase in the number of Board of Community Trustees with completed financial audits.

World Bank Group Support for Urban Transport Institution Structural Change

Only 15 dedicated urban transport operations (13 percent) supported establishment or capacity building of a new lead urban transport agency; the nondedicated projects do not provide such support. This is a relatively low level of support, given the many challenges to service delivery stemming from institutional fragmentation and lack of coordination. Governance of the sector is typically fragmented, covered by several agencies, often at multiple levels of government, with overlapping responsibilities and jurisdictions. A lead agency can coordinate the various transport institutions and local governments and resolve jurisdictional issues. This approach to structural change is often recommended as a way to streamline urban transport services. At the same time, establishing a new agency is typically beyond the timeline of an individual project, hence requires continuous and sequential support to enable clients to weather changing political conditions and foster stability in program implementation. However, the portfolio consists mainly of "one-time" engagements with any given city. The World Bank has only provided such continuous support through its dedicated operations for urban transport institutional development to nine cities: Buenos Aires, Ho Chi Minh City, Lagos, Lima, Mumbai, Rio de Janeiro, São Paolo, Urumqi, and Wuhan.

Out of eight closed and evaluated operations supporting structural change in the urban transport sector, four were successful. IEG found all the successful cases were in the cities receiving continuous support from the World Bank. In Nigeria, the Lagos Urban Transport Project (LUTP) supported the Lagos Metropolitan Area Transport Agency (LAMATA). The project was implemented over eight years (with an extension and additional financing) and followed up by LUTP 2. In Buenos Aires, the World Bank supported the creation of a metropolitan transport coordination agency through the Argentina Buenos Aires Urban Transport Project, approved in

1997. This project was followed by three additional dedicated urban transport projects, and, with this continuous engagement, the agency was finally established in 2014 and became operational in 2016.

On the other hand, the structural change outcomes were usually weak when the World Bank only provided one-time support, when the strong government commitment was absent, and when implementation capacity was lacking. Tunisia's Second Transport Project failed to create the intended formal coordination, management, and regulatory setup for Greater Tunis because the Minister of the Interior did not support the Governors in their efforts to establish Transport Authorities. In Ghana, Urban Public Transport Units were created within multiple municipalities in greater Accra and later converted into local Departments of Transport. Unfortunately, these nascent bodies were poorly funded and understaffed.

IEG found that World Bank Group urban transport projects that usually involve multiple implementing agencies provided a platform for interagency coordination, but sustainability of efforts was assured only when coordination was institutionalized, which is difficult to achieve within a project's timeframe. For example, the Bogotá Urban Services Project failed to establish planned formal multisector coordination mechanisms within the implementation period. In the Guangzhou city transport project, several urban transport agencies managed to work together during preparation and implementation to set up traffic management and safety systems, but the sustainability of the coordination was not assured.

Drivers of Success and Failure

Support for institutional development is more likely to succeed when the World Bank Group is continuously engaged with the sector over a longer time. Among evaluated projects, institutional development components were 100 percent successful in projects with continuous engagement. It is also clear, based on evaluative evidence over time, that successive projects benefitted from and built on previous institutional development achievements (box 5.2).

Box 5.2. Continuous World Bank Group Support Catalyzed Effective Institutions

An example of World Bank programmatic support to a municipality is in Mumbai, India. The Mumbai Railway Vikas Corporation (MRVC), jointly owned by Indian Railways and the Government of Maharashtra State, had been established during the preparation of the Mumbai Urban Transport project (MUTP) to implement the suburban rail improvement component in the metropolitan region. The project design supported initiatives to bring

decision making for the suburban rail system closer to the users and local authorities, and to get Mumbai's suburban railway system to be seen as a distinct business, with adequate funding. During implementation of the project, MRVC's operations were strengthened with separate accounting and financial management systems. MRVC supported a large increase in suburban rail system capacity and upgrading of service. The project also led to the positioning of Mumbai Metropolitan Region Development Authority as the key agency responsible for major transport and land developments in Mumbai and an ongoing dialogue, often involving MRVC, between central, state, and municipal officials.

IEG also found that support for institutional development was more likely to be successful when it met the client's priorities and when the client showed strong commitment and leadership. In Lagos, for example, the Commissioner for Transport in Lagos State was highly committed to the project, and commitment was sustained through two successive governors from different political parties. In Brazil, decentralization of service provision to the states was part of an overall government strategy (and in fact mandated in the new constitution). The World Bank's urban transport projects were in line with this strategy—providing support to the states throughout the decentralization process—and proved to be relatively successful.

Systematic reporting and monitoring of institutional development activities and their results are critical to understanding what works and what does not. Insufficient evidence on the effectiveness of institutional development support partly explains why its success rate is low even when activities have mostly been completed. Of the urban transport projects that contained institutional development objectives, almost all with low efficacy ratings for these objectives also had low ratings for M&E quality. Without a strong M&E framework for institutional development support, it will be difficult to reap the benefits of organizational learning on this crucial condition for effective urban transport service delivery.

6. Beyond Projects: Knowledge and Convening Power

Highlights

- The World Bank Group adds important value beyond project financing, through multiple instruments ranging from training and study tours to international conferences to informal dialogue.
- The activities build on the World Bank's knowledge and convening power to promote sectoral reform.
- Conferences, workshops, peer consultations, and study tours often promote South-South learning.
- The innovative Leaders in Urban Transport Program has trained more than 1,000 national and local officials, encouraging new projects and improved sector management while strengthening global professional networking among practitioners.

Sources of World Bank Group Value Added

World Bank Group investment in urban transport is quite small compared to the overall volume of urban transport investment globally, not to mention the vision laid out in its strategy for improved policies, systems, services, and oversight in the sector. Yet in IEG case studies, stakeholder and counterpart interviews, and literature reviews, indications were found that the World Bank Group's influence was disproportionate to its resource investment. These sources made clear there was a strong noninvestment element that the World Bank Group brought to client countries and to global interactions on urban transport. This element can be slotted into three categories: (i) advanced knowledge and knowledge sharing; (ii) convening and mobilizing power and policy influence; and (iii) international operational expertise, including environmental and social practices. These elements of added value were not systematically recorded or publicized, thus understating World Bank Group influence, but were quite apparent in each case study country (table 6.1).

Advanced Knowledge and Knowledge Sharing

The World Bank's influence, through its knowledge activities, on institutional development, sectoral policy and oversight, and technical practice goes beyond projects (box 6.1). Through much of the period, the World Bank Group has been a global leader in urban transport knowledge, which it has promoted through multiple means including publications, training, study tours, and dialogue. The literature review and discussions with stakeholders yielded numerous references to publications and research carried out by World Bank Group staff and retirees.

Knowledge products range from the 2009 *World Development Report* on Economic Geography, which focused on transport costs, to sector reviews (such as *Cities on the Move*), to policy research working papers.[1]

Table 6.1. Incidence of Nonproject World Bank Group Influence in IEG Case Study Countries

Key Official Counterparts and Stakeholders	Received Training and Knowledge Materials	Participated in WBG-Convened Consultation or Event	Participated in WBG Study Tour	Used Common Core Concepts and Examples Popularized by WBG	Recognized WBG as Policy or Knowledge Leader in Sector	Solicited Informal Advice or Consultation from WBG	Utilized Projects to Demonstrate or Replicate WBG Approach
Brazil	X	X	X	X	—	—	—
China	X	X	X	X	X	X	X
Ghana	X	X	X	X	X	X	—
India	X	X	X	X	X	X	X
Turkey	X	X	—	X	—	X	—

Note: WBG = World Bank Group; — = not applicable.

Box 6.1. Promoting South-South Learning

IEG's evaluation encountered several instances where the World Bank Group facilitated South-South learning to strengthen its impact, leveraging extra resources and global connections. In India, the task team leader of the Sustainable Urban Transport project mobilized a grant to facilitate peer-to-peer learning centered on a 10-day study tour for Indian officials. Indian participants were able to witness positive examples of transport planning and design in Bogotá, Mexico City, and London.

The World Bank worked with the government of Brazil, which was committed to South-South cooperation, and leveraged resources from a multidonor trust fund, the South-South Experience Exchange Facility, to organize a number of urban transport study tours and conferences. A report from the Brazil country management unit notes 17 transport activities and 18 urban activities from FY10–18 under a South-South Knowledge Exchange collaboration. Often trust-funded and involving expert visits, peer consultations, workshops, and study tours in Brazilian cities, the knowledge exchanges included the following:

2. Peru–São Paolo on urban rail and PPP metro project development
3. Vietnam–Brazil on sustainable urban transport planning
4. Brazil, China, Colombia, India, and Vietnam on urban transport and environmental management.
5. Russia–Brazil major events on urban transport
6. Mexico–Brazil on a Metropolitan Area Development project.

Sources: World Bank Press Release (2013), World Bank (2015).

IEG observed cases where the World Bank Group's knowledge and training activities were formally incorporated into projects, and other cases where they provided part of the World Bank Group's overall value-added package. A key example is the reach and credibility of the LUTP, which is an innovative training program, pioneered by the World Bank, aimed at building capacity among urban transport practitioners(box 6.2). The program's influence was evident through favorable references in case study interviews with many counterparts and stakeholders. LUTP created a global network of professionals who exchanged experience and ideas about good practice, enhancing South-South learning while also augmenting the World Bank's reputation as a source of knowledge and advice. For example, IEG met officials in city and national agencies in China, Ghana, and India who had attended the LUTP training and acquired detailed knowledge of the experience of metro and BRT systems in Brazil and Colombia.

Box 6.2. Leaders in Urban Transport

In 2007, the World Bank launched the Leaders in Urban Transport Planning (LUTP) program, "to develop a more comprehensive understanding of urban transport planning among senior policy makers and planners in cities, provincial governments, and national governments." Supported by the Public-Private Infrastructure Advisory Facility (PPIAF), the Energy Sector Management Assistance Program (ESMAP), Korean Green Growth Trust Fund, and other donors and external partners, LUTP evolved into a series of interactive and case study–based workshops delivered in four languages. It involves a self-study phase as well as the face-to-face workshop. By early 2016, more than 1,000 participants had participated in sessions in four languages in 50 countries.

IEG's team found very enthusiastic views in field missions among officials who had attended. Case study and staff interviews indicated that several BRT projects were initiated in countries following workshops, including Nigeria, the Philippines, Tanzania, and Vietnam. One interviewee credited the success of Lima's BRT launch to staff participation in the course.

Source: Interviews with LUTP leaders and participants, case study interviews, World Bank Group documents, IEG desk review.

In interviews, clients indicated that they valued the integrated approach applied by some of the World Bank Group's urban transport projects. In China, the World Bank introduced an "integrated corridor management" approach; issues including traffic, safety, accessibility, and NMT became integrated parts of World Bank Group projects, with strong demonstration effects. For example, Beijing, Shenzhen, and Fuzhou municipal governments all applied this approach when developing their urban transport systems. In Brazil, the World Bank's engagement through ASA, training, and project preparation promoted transit-oriented development, encouraging high-density development near key transport arteries.

International operational expertise, including environmental and social practices. The case studies suggested that clients value the World Bank's operational expertise and perspective in addition to its financing. In both China and India, the World Bank's attention to planning, safeguards, and supervision was appreciated. Clients clearly valued the World Bank Group's attention to environmental and social (E&S) standards, even if some officials also found it taxing. In India, some observers saw an inspection panel case on resettlement arising from the Mumbai Urban Transport Project as a boon, because it "taught us how to deal with resettlement and rehabilitation professionally."[2] In China, the practice of installing noise barriers along the inner ring roads under the World Bank Guangzhou Inner City Project was adopted by the municipality. In Izmir, Turkey, IFC's environmental assessment brought agreement for a rerouting to "cut fewer trees."

Further, the World Bank's approach to M&E was more comprehensive than case study clients' practices, introducing new indicators, including indicators of social and economic outcomes. For example, in India's Sustainable Urban Transport Project, the monitoring system under the project provided quantitative and qualitative indicators for a BRT subproject presenting a comprehensive, multidimensional view of project status and performance by route (with controls for untreated routes), with full information on mobility (including mobility for women, the disabled, and the elderly), emissions, safety, revenues, and property values.[3]

Convening and Mobilizing Power and Policy Influence

In countries where the World Bank Group is engaged in projects, it is often also engaged with government on sector strategy and policy, whether formally or as a participant in internal government discussions. In the China, Ghana, and India case studies, Ministry officials and members of the development community confirmed that World Bank staff had engaged both formally and informally in discussions of policy and strategy. The World Bank's emphasis on a comprehensive approach, involving policies and institutions and physical infrastructure, and its unique knowledge resources and global experience, often afforded it a "place at the table" anda role as leader in sectoral policy discussions. In China, the World Bank Group is responsible for flagship knowledge products such as "Urban China" and "China 2030," the recommendations of which were adopted by the Chinese government and reflected in the National "13th Five-Year Plan." The World Bank was also seen as a valued link to knowledge and a convener of South-South exchanges. The World Bank convened many international, regional, and national conferences on urban transport during the period, bringing together multiple stakeholders and donors to address common challenges. The World Bank cohosts an annual "Transforming

Transportation" event with strong coverage of urban transport. The World Bank's reputation also helps in mobilizing financing from government, donors, and private financiers.

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[1] In addition to *Cities on the Move,* a sampling of key knowledge products include:

- World Bank. 2014. *Formulating an Urban Transport Policy: Choosing between Options.* Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/20950.
- World Bank and SSATP. *Toolkit on Fare Collection Systems for Urban Passenger Transport*. http://www.ssatp.org/sites/ssatp/files/publications/Toolkits/ITS%20Toolkit%20content/index.html.
- World Bank and SSATP. *Toolkit on Intelligent Transport Systems for Urban Transport.* http://www.ssatp.org/sites/ssatp/files/publications/Toolkits/ITS%20Toolkit%20content/index.html.
- World Bank and PPIAF. *Urban Bus Toolkit.* http://www.ppiaf.org/documents/toolkits/UrbanBusToolkit/assets/home.html.
- World Bank. Urban Transport Data Analysis Tool (UT-DAT), World Bank Washington, DC. http://pubdocs.worldbank.org/en/643061485462691416/Urban-Transport-Data-Analysis-Tool.xlsm.
- Kumar, Ajay, and O.P. Agarwal. 2008. *Institutional Labyrinth – Designing a Way Out for Improving Urban Transport Services: Lessons from Current Practice*. Washington, DC: Australian Aid and World Bank. http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/Institutional-Labyrinth.pdf.
- Ardila-Gomez, Arturo, and Adriana Ortegon-Sanchez. 2016. *Sustainable Urban Transport Financing from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/23521.
- Mitric, Slobodan. 2008. *Urban Transport for Development: Towards an Operationally-Oriented Strategy.* Washington, DC: World Bank. http://siteresources.worldbank.org/EXTURBANTRANSPORT/ Resources/341448-1269891107889/development.pdf.
- Mitirc, Slobodan. 2013. "Urban Transport Lending by the World Bank: The Last Decade." *Research in Transportation Economics* 40 (1): 19–33. http://www.sciencedirect.com/science/article/pii/S0739885912001084.
- Carruthers, Robin, and Malise Dick. 2005. *Affordability of Public Transport in Developing Countries.* Washington, DC: World Bank.
- Engel, E., and A. Galetovic. 2014. "Urban Transport: Can Public-Private Partnerships Work?" Policy Research Working Paper 687, World Bank, Washington, DC.

http://documents.worldbank.org/curated/en/566251468153289708/pdf/WPS6873.pdf.

- Menzies, Iain, and Cledan Mandri-Perrott. 2010. *Private Sector Participation in Urban Rail : Getting the Structure Right.* Gridlines 54, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/10499.
- Henning, Theuns, Mohammed Dalil Essakali, and Jung Eun Oh. 2011. *A Framework for Urban Transport Benchmarking.* Washington, DC: World Bank. http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1239112757744/5997693-1294344242332/BenchmarkingUrbanTransport.pdf.
- Reilly, Jack, and Herbert Levinson. 2011. *Public Transport Capacity Analysis Procedures for Developing Cities.* Washington, DC: World Bank. http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1239112757744/5997693-1294344242332/Public-Transport-Capacity-Analysis-Procedures.pdf.
- Energy Sector Management Assistance Program. 2014. *Toward Sustainable and Energy Efficient Urban Transport*. Mayoral Guidance Note 4. Energy efficient cities. Energy Sector Management Assistance Program (ESMAP); Knowledge series 020/14. World Bank, Washington, DC. https://openknowledge.worldbank.org/bitstream/handle/10986/21305/936760NWP0Box30oralNote0Transport04.pdf?sequence=1&isAllowed=y.
- Salat, Serge, and Gerald Ollivier. 2017. *Transforming the Urban Space through Transit-Oriented Development*: *The 3V Approach*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/26405.

[2] However, one official directly involved regarded the World Bank's approach to resettlement as unnecessarily burdensome on taxpayers and creating incentives for false claims.

[3] India Case Study, Pimpri-Chinchwad Sub-Project, Consultant's Monitoring Report.

7. Conclusions

The World Bank Group has played a strong role in supporting urban transport development in client countries. Continuous support has effectively enhanced the capacity and quality of service delivery. The World Bank Group has promoted private sector provision of services in ways that have strengthened their financial sustainability. It has used its interventions to help clients mitigate environmental harm from urban transport systems. World Bank Group interventions have also enhanced institutional capacity to administer urban transport service provision. The achievement of these intermediate outcomes should contribute to economic development and the welfare of the disadvantaged. Further, though the World Bank Group's finance is small compared to the unmet need, it has proven its ability to use its knowledge and convening power to spread good practices and promote South-South learning.

Nonetheless, there are important gaps. There is a broad imbalance with regard to low-income countries and, in particular, the Africa region, where the portfolio and the focus on public transport have sharply declined. The World Bank Group has paid insufficient and inconsistent attention to mobility of the disadvantaged. There are missed opportunities for more comprehensive engagements that may yield stronger benefits in mobility and environmental sustainability. And there are opportunities to strengthen work quality in ex ante analysis, M&E, and communications and collaboration between different parts of the World Bank Group. Overall, the findings of this evaluation focused on four areas.

Balancing the Portfolio

The evaluation portfolio revealed some imbalances that merit careful attention. The broader imbalance between middle- and lower-income countries is most evident in Africa, where a sharply declining portfolio is compounded by the loss of expertise that could contribute to a new generation of activity. The apparent mismatch in this Region lies between portfolio and external conditions, with the fastest urbanization of any region. Further, the second half of the review period (2012–16) saw a retreat from public transport and NMT operations.

Including the Disadvantaged

Although World Bank Group urban transport projects often discuss challenges to the disadvantaged, the portfolio does not reflect consistent attention in project

design to improve access for the poor, women, disabled persons, and elderly. Only about 7 percent of urban transport projects had targeted interventions to meet the special needs of women and only 10 percent had targeted interventions for disabled persons and elderly. Although the cost of services is a common constraint for disadvantaged groups, the project-level support to address affordability concerns is often lacking, limiting the effects of the World Bank Group's support of mobility improvement for the disadvantaged. Ex ante analysis of impacts on women, and a focus on security and amenities for women, were the exception rather than the norm. Where targeted interventions were provided, projects seldom tracked the impacts on these disadvantaged groups. The opportunity to mainstream support for the disadvantaged, to routinely utilize affordability analysis, and to learn from results are all project design features whose potential remains untapped.

Benefits of Comprehensive Engagements

Experience in mobility and environment suggest that the World Bank Group can achieve more impact when it engages more comprehensively, working both upstream (on policy and institutions) and downstream (on operations), and working on both enhancing the supply of, and managing the demand for, urban transport.

- **Mobility.** World Bank Group projects that incorporate both travel demand management (avoiding travel and shifting modes) and supply measures were able to commit more to mobility and achieve more improvements, and were more likely to sustain outcomes than projects that focused only on supply. The lack of emphasis on demand management limited the benefit of increased supply. Key aspects of demand management include the integration of land use and transport planning and introducing incentives for modal shifting. Though demand management has proven less politically palatable, "package deals" of supply and demand improvements appear to be more effective.
- **Environmental Sustainability.** World Bank Group support for downstream mitigation through urban transport projects generated only localized impacts. Addressing environmental sustainability at a policy level, coupled with an investment operation, showed a better chance of environmental success. However, policy support can only be effective if it is enforced. Projects with a comprehensive approach, offering upstream and downstream support, were more likely to yield citywide environmental sustainability.

Strengthening Work Quality

IEG found several indications of inconsistent work quality and practices that limited the potential impact of World Bank Group urban transport interventions.

- The analysis of project financial viability, cost, and timing appeared frequently optimistic. Ex ante analysis often ignored an explicit consideration of subsidy, maintenance costs, and alternative options.
- Regarding project M&E, IEG found that data weaknesses and indicator inconsistencies across projects limit learning and accountability. For example, though many projects have some indicators of mobility, few have the same indicators, making comparisons difficult. Missing indicators, inconsistent indicators, absence of baseline measurement, absence of measurement over project life, and absence of sustained M&E of urban transport services beyond project life were common characteristics of the urban transport evaluation portfolio.

Communication (and coordination) between the institutions of the World Bank Group appeared weak in urban transport engagements. Regarding private sector participation, the PPP work of the IFC and MIGA in some cases appears to be disconnected from relevant "upstream" work of the World Bank. Consequently, there may be unrealized investment opportunities involving private service provision of urban transport services. This finding is especially relevant to the recent formal embrace of the "cascade approach" which gives priority to private sector participation in infrastructure investments.

Appendix A. Methodology

Evaluation Questions

As established in the approach paper,[1] the overarching evaluation question was "To what extent has the World Bank Group supported sustainable urban transport development in client countries that contributed to city's efficiency and economic growth; environmental quality; the welfare of the poor and vulnerable groups; and road/traffic safety?" The subordinate questions asked:

- Relevance: To what extent has the World Bank Group's support for urban transport been relevant to client countries (and cities) and their poor, female and other vulnerable populations' priority needs, as well as to local priority? This question focuses attention on the economic and development rationale for World Bank Group's engagement in urban transport, its strategic objectives, its allocation of its resources and instruments in the context of country and city conditions, its tailoring of interventions to local physical, institutional and policy conditions, adapting them to the needs of disadvantaged groups, allocation of resources across cities, and its use of collaboration and partnerships where conditions merited.
- Effectiveness (Efficacy): To what extent has the World Bank Group been effective in achieving its objectives (improved accessibility and mobility; environmental sustainability; the welfare of the poor, women, and vulnerable groups; and road/traffic safety) with regard to urban transport development?
- Efficiency: To what extent are World Bank Group interventions in urban transport efficient from both program and institutional perspectives? This question aims to elicit the extent to which World Bank Group interventions (or the systems they supported) reached beneficiaries at a reasonable cost and were well-utilized and financially viable.
- Work Quality: To what extent has the World Bank Group achieved high standards in managing factors within its control and coordinating its work internally and externally? This question focuses on how well the World Bank Group designed and supported the implementation, executed the safeguard policies and tracked the results of its urban transport portfolio, and how well it used collaboration, coordination, or complementarities across the World Bank Group and with other players and partners.

As elaborated in Attachment 2 of the approach paper,[2] each of these questions has subordinate questions that must be answered for a full a full and detailed response.

Overarching Principles

Four central principles guided the evaluation design: (i) multilevel analysis, (ii) theory-based approach, (iii) mixed-methods, and (iv) multiple "lenses" (figure 1). First, the evaluation adopted a multilevel perspective as the assessments covered the global, national, and city (or municipal) level of World Bank Group support to urban transport. Second, the evaluation was grounded in a theory of change. The team carefully constructed a theory of change reflecting how the World Bank Group's strategy and sectoral leadership posited that its interventions would contribute to desired outcomes and impact. The emergent elements became focal points of the evaluation, reflected in its chapter organization. The theory of change was constructed iteratively and validated with key informants and counterparts, as well as through the approach paper process. Third, the evaluation followed a mixed-methods approach combining a range of methods for data collection and analysis and applied triangulation to ensure the robustness of the findings. Finally, in addition to the standard evaluative perspective, the team pioneered the application of two "lenses" aimed to yield new, cross-cutting insights in delivery of public services to the poor. In parallel, two teams from the Sustainable Services for the Poor Strategic Engagement Area (SEA) prepared short reports applying their lens.

Overview of Methodological Design

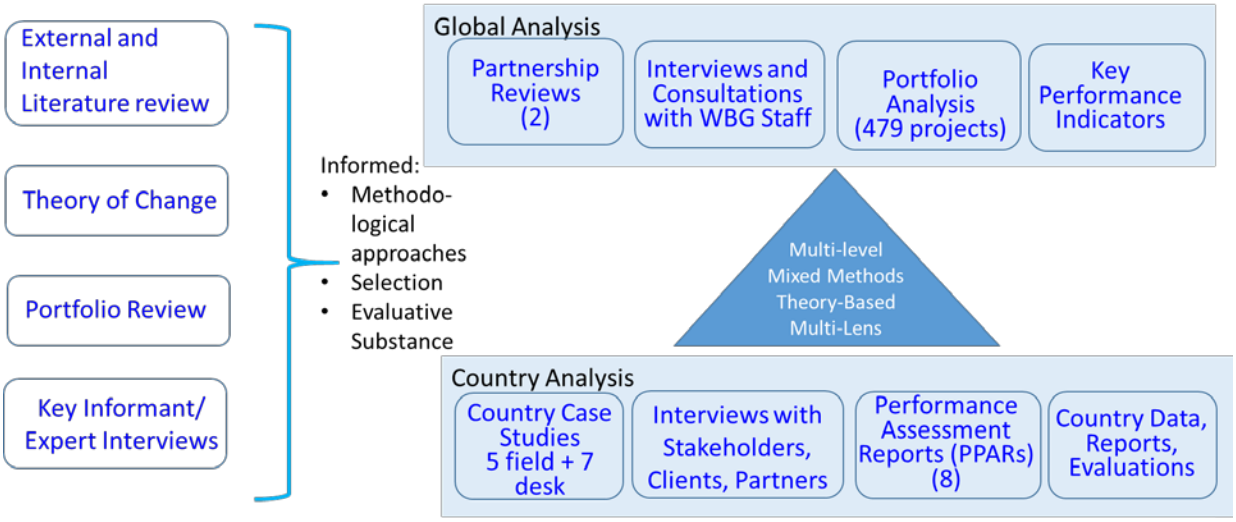
The evaluation used nine methodological building blocks to generate evidence to assess the development impact of World Bank Group's support to urban transport over the period 2007–16. These include:

Table A1. Evaluation Components

Theory of Change	
1. Literature review	A focused review of the academic and professional literature (external and internal) on UT was conducted by a consultant and augmented by the team.
2. Theory of Change	The team carefully constructed a theory of change reflecting how the World Bank Group's strategy and sectoral leadership posited that its interventions would contribute to desired outcomes and impact. The emergent elements became focal points of the evaluation, reflected in its chapter organization.
3. Portfolio review	A portfolio review and analysis of 278 relevant World Bank lending projects, 165 World Bank Analytic and Advisory Projects (now called ASA), 20 IFC Investment Service projects, 15 IFC Advisory Service projects and 7

	MIGA guarantees. The team used micro-evaluation data in the case of IEG-validated, evaluated closed projects.
4. Key Performance Indicators (KPIs)	The team collected and analyzed level key performance indicators (KPIs) to assess UT interventions at the output, intermediate outcome, and outcome levels.
5. Performance Assessment Reports (PPARs)	Eight relevant Project Performance Assessment Reports (PPARs), involving independent field-based IEG project evaluations of UT projects, were carried out in Argentina,China, India, Morocco, Nigeria, Peru, and Senegal .
6. Country Case Studies	Five field-based country case studies were undertaken to understand World Bank Group urban transport activities in country context over the full evaluation period in Brazil, China, Ghana, India, and Turkey, . In addition, desk reviews were conducted of six countries: Argentina, Columbia, Morocco,Nigeria, Senegal, andVietnam .
7. Interviews of World Bank staff, counterparts, client beneficiaries, other expert informants and stakeholders.	The evaluation team conducted dozens of interviews with World Bank Group staff. During the field visits for country case studies and PPARs, a large number of counterparts, clients, beneficiaries, other stakeholders, and relevant experts were consulted.
8. Partnership Review	The team carried out Partnership reviews of two major World Bank Group partnerships – the Public Private Infrastructure Advisory Facility (PPIAF) and the Sub-Saharan Africa Transport Program (SSATP) – to understand how effectively the World Bank Group is utilizing them. (The Global Environmental Fund's role was regarded as integrated with that of the World Bank Group, and is examined as part of the main evaluation.)
9. Evaluative Lenses **a. Behavioral Change** **b. Service Delivery**	The evaluation pioneered the application of two "lenses" aimed to yield new, cross-cutting insights in delivery of public services to the poor. In parallel, two teams from the Sustainable Services for the Poor Strategic Engagement Area (SEA) prepared short annexes applying their lens, attached to the evaluation. • The first focused on **behavioral change** and, specifically, modal shifting as a desired behavioral outcome of UT interventions. • The second focused on **service delivery**, a lens that was integrated into the evaluation framework.

Figure A1. How the Evaluative Components fit together

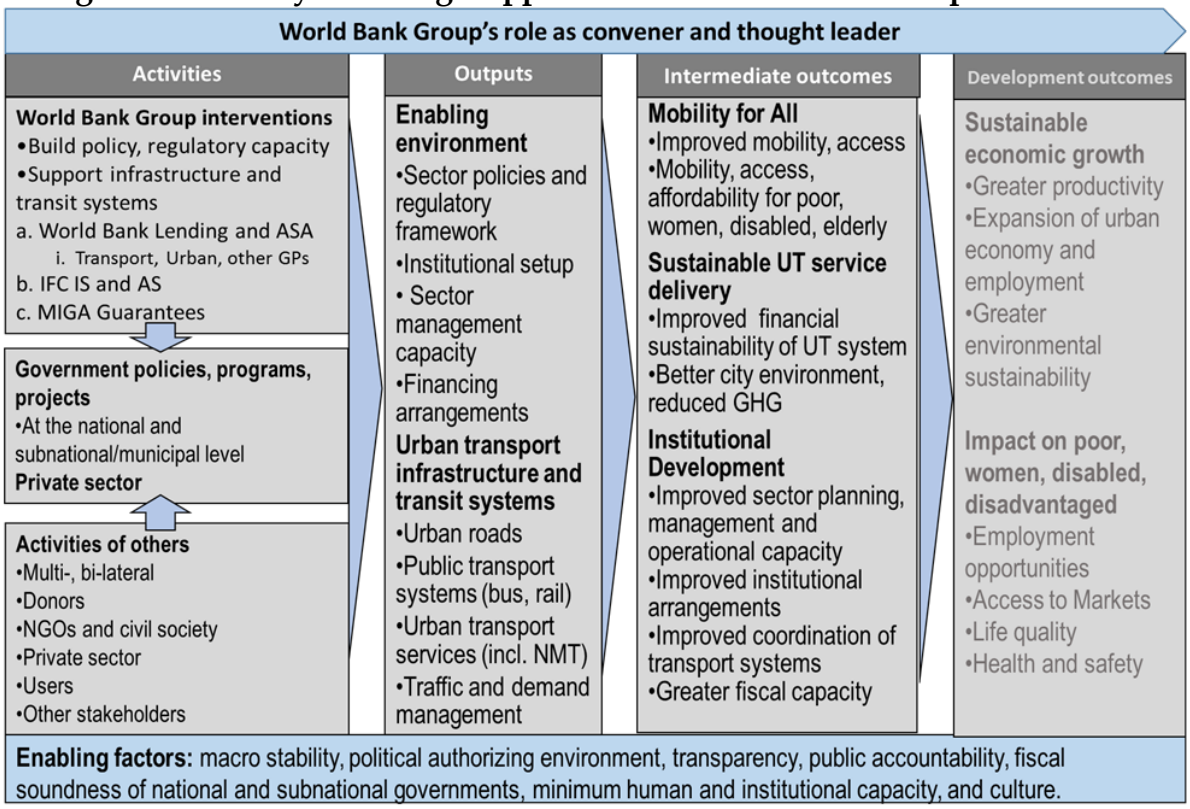


Description of Methods

THEORY OF CHANGE

Figure A2 summarizes the theory of change developed for this evaluation. It reflects the relationship posited in World Bank Group strategies: how the activities and inputs of the World Bank Group contribute to government and private sector activities whose outputs could lead to developmentally significant outcomes and impacts. Three themes emerged from IEG's review of World Bank Group strategy (as well as related literature and the portfolio), which form the basis of the three chapters: Mobility for All and, specifically, for the poor, women, and disabled persons; UT institutional development for better sector management; and sustainable UT service delivery, covering both financial and environmental dimensions.

1. **Figure A2. Theory of Change Applied in the IEG Urban Transport Evaluation**



PORTFOLIO REVIEW

This evaluation covers the entire World Bank Group portfolio (lending, AAA, investment, advisory, and guarantees) either approved or closed/matured over a 10-year period from FY2007 to FY2016, which means those urban transport projects approved prior to FY2007 but closed within the evaluation period were assessed as well. Projects mapped to the sector and theme codes covering urban transport were screened. For the World Bank projects, the codes are TC (urban transport), TZ (General Transportation), BV (Public Administration-transportation) and theme code 102 (City-Wide infrastructure and Service Delivery). For IFC, this included activities with an Urban Transport code; however the list was modified after consultation with key counterparts. For MIGA a keyword search yielded an initial portfolio identification which was finalized in consultation with counterparts. Those projects, with either objectives or activities in urban transport development, were included in the scope of the evaluation. Objectives usually included improving the efficiency and effectiveness of urban transport system, improving the institutional capacity of planning, managing, and operating the urban transport system, and improving the accessibility and mobility of the targeted beneficiaries including the urban poor and the vulnerable groups. The activities include providing urban transport infrastructure and multiple modes of urban transport services, as well as

travel demand management measures including traffic management and institutional capacity-building and strengthening activities. It covers the portfolio relating to public and private provision as well as public-private partnerships. It also covers urban transport for both people and goods (freight), although the World Bank Group does little regarding urban freight.

However, the portfolio selection excluded a number of related topics: intercity and nonurban (for example,. rural) transport; urban planning and development activities not involving a UT component; environmental and safety regulations and policies not concerning UT; and efforts to extend nonurban transport services to disadvantaged groups.

The portfolio review is based on the Project Appraisal Documents (PADs), IFC Board Papers, MIGA President's Reports, Implementation Completion and Results Reports (ICRs), IEG's ICR Reviews (ICRRs), Expanded Project Supervision Reports (XPSRs), Project Completion Reports (PCRs), Project Evaluation Reports (PERs), and Project Performance Assessment Report (PPARs). The broad evaluative categories were:

- mobility-related outputs and outcomes arising from physical asset creation;
- regulatory and policy improvements;
- institutional capacity building;
- improving financial viability and improved city environment through project level climate mitigation and adaptation measures;
- benefits to the poor and vulnerable groups through project design targeting this group of beneficiaries.

The following portfolio coding template was used to classify projects.

BASIC PROJECT DATA	
Project ID	
Project Name	
Country	
City	
Project Status (Closed/Active)	
Core/Noncore Project	
Approval Fiscal Year	
Closing Fiscal Year	
Region	
Global Practice	
Income Category (Low, Lower-middle, Upper-middle, High)	

Commitment (Amount)	
PROJECT ACTIVITIES	
Physical Infrastructure	
BRT System	BRT trunk road
	BRT feeder services (buses, roads, bicycles)
Metro/ Subway	Metro/ Subway
	Metro feeder services (buses, roads, bicycles)
Buses (conventional)	
Rails (light rail and commuter rail)	
Nonmotorized transport (walking, bicycle)	
Roads: Arterial/Main city highway	
Roads: Secondary/ Neighborhood/ Community roads	
Urban Freight	
ITS Technology	
Institutional/Capacity building	
Planning, all (e.g. integrated land management, etc.)	
Financing	
Policies/Regulations	
Studies	Technical and feasibility studies
	Other studies
Others	
Private sector	
Environment/Climate/Emissions	
Safety	
Travel Demand Management (including traffic management)	
Modal shifting	
Social Dimension	
Poor	
Gender	
Disabled Persons	

KEY PERFORMANCE INDICATORS (KPI) ANALYSIS METHODOLOGY

Since all the World Bank Group's investment projects have indicators (at the outcome, intermediate outcome, and output levels) to measure the project's performance, the evaluation reviewed project-level key performance indicators

(KPIs) to assess the performance of UT interventions at the output, intermediate outcome, and longer-term outcome levels..

KPIs were classified under the following categories:

Access: Availability of urban transport services

- Number of beneficiaries
- Share of the population that has access to a bus station/transit stop within 400m (400m is generally considered as a best practice) or within an *x*-minute walk
- Amount of public transportation infrastructure in the city/person: such as km of BRT or metro/person
- For disabled persons: presence of special ramps or other physical infrastructure facilities
- Information systems to ease access to the system (for the deaf, blind…) and real-time user information and applications
- Share of the population that has a smart card
- Percent of intermodal connectivity or integration of all transport systems

Accessibility: People's overall ability to reach services and activities (reaching destination). Improved access to urban transport (especially public transport) service will lead to improved accessibility for transport service users which could be measured by:

- Number of jobs or services or educational centers or other places reachable within *x* minutes
- Reduced average time (or cost)/trip of reaching certain jobs or services
- Reduction in travel time (include in accessibility if the indicator specifies to and from)

Mobility:

- Ridership
- Passengers/direction/day or hour or during peak time to compare ridership levels
- Reduction in travel time (include in accessibility if the indicator specifies "on" the corridor or road)
- IPK: Index of passenger per kilometer (also related to the productivity of the system)
- Average time/trip on the system
- Service speed

Reliability/Quality/Improved capacity of the system:

- Public transport frequency
- In terms of outputs: doubling of lanes, road extension, acquisition of additional buses (this will be a repetition from the Infrastructure output section)
- IPK: Index of passenger per kilometer (also related to the productivity of the system)– also in mobility
- Passengers/direction/day or hour or during peak time to compare ridership levels– also in mobility

Modal shifting:

- Possibly: Modal split change (before project 30 percent of the population used public transport, after project: 40 percent)

Affordability:

- Cost/trip
- Percent of household income spent on public transport

The following ratings scale was used:

Quantitative indicators			
Ratings Scale	**Range**	**Achievement**	**Comments**
1	0 to 24	0	
2	25 to 49	0	
3	50 to 74	0	
4	75 to 99	1	
5	100	1	Target achieved
6	More than 100	1	Target exceeded
NE	Non Evaluable	--	
NA	Not Applicable	--	
PMI	Project Monitoring Indicator	--	
NCA	Noncore Active	--	
CA	Core Active	--	
Qualitative indicators (policy)			
1	Not done	0	
2	Completed	0	
3	Adopted	1	
4	Implemented	1	

For cancelled operations, KPI analysis was not conducted. For closed projects the team applied a coding and rating of the achievement of indicators. For active projects only coding was applied to see trends in indicators

LITERATURE REVIEW

The evaluation team conducted a review of academic papers, reports, and publications (including impact evaluations and systematic reviews) from academic journals, multilateral banks, World Bank Group and other sources. The literature covered different urban transport modes (for example, bus rapid transit (BRT), conventional bus, nonmotorized transport or metro) or a single policy objective (for example, modal shifting, pollution abatement, public-private partnerships, or pricing). Recent World Bank reports on urban transport (for example *Cities on the Move* and *Cities on the Move – Ten Years After*) were included in the review. Topics for review, derived from the review of World Bank Group strategies, the theory of change, the evaluative questions, and the approach, as well as initial informant interviews and the Approach Paper literature review included:

For background

2. Urbanization; motorization; developing country

Major issues in expanding cities

- Urban transport and land use
    - Urban transport; land use; spatial mismatches; developing countries;
- Urban transport and poverty, social inclusion group
    - Urban accessibility; affordability; urban poor; social inclusion
- Urban environmental sustainability and health
    - Urban sustainability; pollution; vehicle usage; health impact
- Urban transport safety and security
    - Urban safety; nonmotorized transport; road injuries
- Financing problem in developing cities
    - Financial; urban transport; developing country
- Institutional limitation and fragmentations
    - institution limitation; fragmentations

Strategies and policy interventions

- Land use planning and development
    - Decentralization; land use; governance
    - Transit-oriented development (TOD); behavior change; land development
- Development of infrastructure and public service
    - Mass rapid transit system; accessibility; behavior change; environmental sustainability; social equity; road safety
    - Nonmotorized facilities; behavior change; bike sharing
    - road quality; road design; urban transport; road congestion; road safety
    - Universal accessibility design (UD); social inequality
- Traffic management
    - Road pricing; congestion pricing
- Governance and policies
    - Subsidies; behavior change; distributional problem
    - Fare integration; behavior change
    - Institutional reform
    - Prevention; awareness-raising campaigns; road safety; urban transport
    - Branding; communication on mass transit system
- Financing
    - Car taxation; vehicle tax; fuel tax; congestion; environmental sustainability
    - Public-private partnership (PPP); financial viability; urban transport
    - Land use capture;
    - CDM; urban transport; financial viability
- Others
    - Car sharing; behavior change; emission reduction
    - Fuel switching; motor technology improvement

Based on these keywords, searches were done to supplement researcher knowledge, using:

- Google Scholar (https://scholar.google.com) for related external journal papers, conference papers, and academic reports; and

- Google (https://www.google.com) for related reports from research institutes;
- Select databases that mainly provide real data, examples of interventions in study cities, and empirical results from field experiments.

Once the articles were identified and located, the following steps were undertaken:

- **Overview:** A quick review of articles was conducted via reading of abstract, introduction, the first few paragraphs, and the conclusion of each article.
- **Categorization**: Articles were categorized into topics and subtopics and chronologically within each subtopic.
- **In-depth review and summarization**: Identified relationships among studies: such as which studies were landmark ones that led to subsequent studies in the same area. Critiqued the research methodologies used in the studies, and distinguished between assertions (the author's opinion) and actual research findings (derived from empirical evidence). Summarized the findings and research results.
- **A paper on the literature review was prepared**. The topics were re-structured to inform specific chapters. A summary of the literature review and the bibliography used is provided in appendix D.

KEY INFORMANT INTERVIEWS

The team interviewed a range of informants, beginning with senior managers and specialists (both current and retired) from the World Bank Group, extending to academics, country experts, donors, and a variety of other stakeholders (government officials, civil societies, beneficiaries etc.) conducted in the context of country case studies and PPARs. Interviews with the World Bank staff in charge of the portfolio of interventions in each country were also conducted (about 30 interviews were conducted.) All interviews followed the template (attached below) and were guided by the theory of change and evaluation questions. For each interview, detailed written notes were taken and analyzed.

PROJECT PERFORMANCE ASSESSMENT REPORTS (PPARS)

Project Performance Assessment Reports (PPARs) serve both accountability and learning functions, and may be conducted at any point after a self-evaluation (ICR) has been completed. Though they formally follow the same rating criteria as the ICRR, PPARs are evaluations rather than a validation exercise, and they rely on a broader set of evidence. For World Bank operations, the instrument stretches back over 40 years, though its scope and function has evolved over time; IEG began to conduct PPARs for IFC operations in FY16. Each PPAR conducts an independent

field-based evaluation of one or more lending operations. PPARs rely on a mixed methods approach which usually includes (but is not limited to) a literature review, portfolio analysis, and a country mission involving site visits and semi-structured interviews with different stakeholders.

In addition to country case studies, nine PPARs involving independent field-based IEG project evaluations of UT projects were carried out in following seven countries: Argentina, China, India, Morocco, Nigeria, Peru, and Senegal. The selected projects covered urban transport modes including urban roads, BRTs, and metro projects as well as private sector participation and GEF support.

CASE STUDIES

The five field-based country case studies for this evaluation sought to provide evidence of World Bank Group performance in the country context, and to lend insights on complementarities, synergies, coordination, and sequencing of work by the institutions of the World Bank Group and its partnerships with other donors. Country cases were also used to yield insights from field-level staff, clients at the national and subnational levels, beneficiaries, other donors and other stakeholders, and local experts.

In each case study, IEG first carried out desk work and interviews to establish an initial understanding of the World Bank Group's activities and contribution, and how it fit into the government's and the World Bank's country strategy for the sector. The field missions were used to further elaborate and validate this story, filling in missing information required to understand how a variety of explanatory factors (both positive and negative) contributed to observed outcomes. In the end, the aim for each country was to have a highly credible and well-evidenced account of the contribution of World Bank Group activities to urban transport outcomes.

The World Bank Group's urban transport portfolio is spread among 88 countries. In selecting countries for case studies, IEG applied criteria that included the intensity and nature of the World Bank Group's support to urban transport development in the country; the mature status of at least part of the portfolio (to ensure a meaningful assessment); and representation of different regions, income levels, sectoral institutional and regulatory development, and degrees of urbanization. Based on these criteria, 11 countries were selected for country case studies. Five of them (Brazil, China, Ghana, India, and Turkey) were selected for field missions and the remaining six (Argentina, Columbia, Morocco, Nigeria, Senegal, and Vietnam,) were selected for desk review. Together, the 11 countries' portfolios encompass

about 60 percent of the World Bank Group's total urban transport commitment value and 40 percent of the projects.

A detailed template was prepared for conducting case studies. The template is attached below.

Country Case Study Template: Users Guide for Conducting Case Studies

Please provide a narrative account of what the WBG identified as the priorities/binding constraints of a country/city in terms of urban transport development, how it chose to address these, how effectively and efficiently it carried out its interventions/response and what impact the World Bank Group program has had.

Country level information (country profile): prepared by the data analyst

Urban Transport Development in the country

1. Economic development, urbanization and related urban transport issues

2. National strategy on urban transport development (if there is any, if no, then we also need to point it out). The national strategy could be standalone strategy, or the one embedded in the National development plan, like the five-year plan in China.

- Any strategy on public transport?
- Any strategy on environment including vehicle emissions standards? Any strategy on PPP?
- Any regulatory framework for urban transport?

3. The urban transport development status

- Public transport development, if possible, list the development of BRT, metro, conventional bus (this part focuses more on the system/infrastructure development)
- Urban transport institutional set up
- Urban transport service provision: who is providing what service?
- The role of private sector in Urban transport sector

Information and issues in the urban transport in a specific city

City transport service:

1. Supply of urban transport services and its evolution over the evaluation period:

- the basic information of this project city including its population, GDP, its main industry, urbanization level, etc. Type of urban transport services (modes and mode shares)
- Major trends and development over time

2. Governance and strategy of urban transport services development

- The urban transport institutional set up in the project cities what are the agencies responsible for providing the transport infrastructure and the service and the service

regulation? Main challenges and constraints in sector management (e.g., coordination issues and overlapping responsibilities).

- What has been the strategy and program for the city transport development, to what extent is it integrated with the overall urban development? Here we should touch upon the urban development master plan, land use plans and urban transport development plans, and how these are integrated? How has it evolved over the evaluation period? Main trends and gaps in policy and regulatory environment (including climate change/pollution; safety; gender/vulnerable groups; poverty orientation and private sector participation).
- City's own urban transport initiatives.

3. Financial management of the city's transport?

- Regulatory and tariff regime in the sector, including trends and related policies;
- What are the financing mechanism (central government's support, city-self generated revenue, commercial loans, other donors, IFC, etc.) for the city's transport? Trends?
- How much was invested on the city's transport development annually for the last five years and during the project period?
- Indicators related to PSP for the city; (concessions; service operations; etc); Main challenges and constraints.

4. Demand:

- The affordability of transport service at different quintile of income groups
- Road safety

5. Challenges and issues:

- What are the key challenges facing urban transport development /service provision (e.g., lacking of funding, coordination issues and overlapping responsibilities, congestion, etc.) in this city? Have they changed over the evaluation period?
- Relevance: WBG Strategy and Activities on UT
- The evolution of WBG support to UT development to the case country, is there any clear trend of WBG support in the last 10 years, 15 years or 20 years?
- What are the national strategy for UT development, environmental protection (any specific mention of UT?), PPP?
- Usually, what is the process of forming a World Bank Group project? Was the process mainly driven by the client or by the World Bank's team?
- Was WBG support to UT systematic? Did World Bank Group support meet the strategic development priority in UT, both at the national level and at the project city level? Please ask this question to both the national government agency and municipal government and request for specific examples on either Yes or No response.
- Who are the other main development partners in Argentina on UT development? Is there a clear division of responsibility among the development partners? If there is, who

decides the division of responsibility? The government or the development partners? Did WBG coordinate with the other development partners?

- From the client's perspective, what is the value add of WBG support? Financing, knowledge, good practice on project management, innovation, others? Please request specific examples.
- What did the client learn from the WBG? Did they apply what they learned from the WBG to their own projects?
- Which are the areas in UT development that the government would like get further WBG support?
- Which are the areas the World Bank Group need to improve? For example, be more efficient, more innovative?
- Did the Country CPS/CPF/CAS focus on UT development or transport or urban development with implications for UT?
- The coordination between transport team and urban team? What are IFC's, MIGA's and World Bank's targeted UT and how do they relate to each institution's development assistance strategy? How do they differ from each other, and do they represent consistent (and complementary) or competing views of UT development and how to support them?
- How are UT strategy and products evolving with market needs and lessons of experience?
- What do the CAS review and the CAS CR-R find regarding relevance?
- Does World Bank Group have well-defined goals for behavioral change (modal shifting) linked to outcomes?
- Did the World Bank Group have specific goals for the poor, women, and disabled persons and other disadvantaged groups?
- Which areas that the World Bank Group need to improve, be more efficient, more innovative, other?
- Which UT areas that the client would like to have further WBG support?

6. Portfolio analysis

Portfolio summary (both lending and nonlending): Number of projects, portfolio status (active and closed), commitment amount trend, modal composition, summary of objectives and activities.

7. **Effectiveness:** Have World Bank Group's targeted support programs for UT development in the country and cities met achieved their stated objectives and intended outcomes?

1. Portfolio performance: Overall IEG outcome ratings. Efficacy ratings by sub-objective.

2. Have interventions in one or more services improved overall urban transport system performance? What do key indicators suggest regarding output/intermediate

outcome/outcomes (KPI analysis)? Where are the data limitations? (Note any data gaps and discernable reasons for the gaps).

3. Specifically assess these five evaluation parameters:

    a. Accessibility/mobility;

    b. Environmental impact (both mitigation and adaptation for resilience);

    c. Safety (road safety, pedestrian/user safety, etc.); and

    d. Benefit to disadvantaged groups (e.g. the poor, women and disabled persons).

    e. Affordability and financial/fiscal sustainability

4. To what extent have strategies, projects and project components built city or country-level capability and enabling conditions for urban transport?

5. Did the interventions effectively improve the performance of transport regulatory and operational agencies?

6. What evidence is there on impact on economic growth; and improvement of quality of life, generally and of the poor, women, and other disadvantaged groups? What were the main obstacles to achieving impact? Keys to successes?

7. In addition to the service users as project beneficiaries, the clients (the borrowers and implementing agencies) are also the beneficiaries, what did they benefit from the WBG intervention?

8. To what extent were improved outcomes achieved through behavior change: modal shifting away from private cars?

- In the client's view, what are the main impacts that the WBG made in UT development area in the last 10 or 15 years?

9. What impact was expected and achieved and what were the drivers of success or failure? Where did the World Bank Group do well as supported by measurable outcomes? WHY successful? Where did the World Bank Group do modestly or negligible in achievement of its intended outcomes? And why?

10. What are the unintended outcomes?

11. Value Added of the World Bank

- Funding support
- Building capacity
- Advanced project management procedures
- Leveraging internal and external coordination
- Innovation - Design standards and sectoral knowledge; bringing best practice concepts and international staff
- Other

Efficiency: Are targeted UT development in the country efficient instruments, from both a program and institutional perspective?

1. To what extent has support to urban transport reached beneficiaries at a reasonable cost? Do some approaches exhibit greater cost-efficiency than others? (Information acquired through portfolio review on costs and benefits, complete analysis is part of country case study). Compare ERRs for different modes.

2. Report efficiency ratings and discuss the causes for low efficiency:

- Administrative inefficiencies including procurement delays and extension of closing dates
- Procurement inefficiencies
- Cost overruns
- Technical issues (poor design)
- Lower benefits due to inadequate assessment of demand

3. For IFC projects, what is the profitability of IFC and mainstream MIGA activities?

4. If there is PPP arrangement, was there an appropriate distribution of risk and return between the public sector and the private sector?

5. To what extent were impacts leveraged through demonstration effects, multiplier effects or synergies with other simultaneous or sequenced activities?

Sustainability

1. To what extent were UT outcomes sustainable, based on PPARs and other evidence? Discuss institutional, financial, and technical sustainability of the urban transport activities supported by the project as well as the overall sustainability of the urban transport sector.

2. For activities which are subsidized, are they meeting target rates of return? Are the subsidies sustainable?

Work Quality: To what extent has the World Bank achieved high standards in managing factors within its control and coordinating its work internally and externally?

1) Is the World Bank Group meeting its established work quality standards in preparation, implementation, and supervision?

i. Did preparation incorporate service delivery lessons of prior work in the sector?

ii. Were lessons of previous behavior change interventions incorporated?

iii. Were appropriate risks identified during appraisal?

iv. Were the poor, women, disabled persons and other disadvantaged groups consulted during the design phase/and or during implementation?

v. Were appropriate outcome indicators included at appraisal?

2) Are World Bank Group monitoring and reporting standards related to urban transport interventions adequate for accountability and learning? Is the Management of the World Bank Group institutions using the resulting data to improve performance and outcomes? Are measures of outputs, outcomes and impact estimates (e.g. based on a formula or rule of thumb) or actual observations?

i. Was monitoring sufficiently timely and relevant for projects to adapt to information collected?

ii. Did supervision use real time feedback to adapt project elements as required? Did evaluative information inform strategy, activities and project design of future projects in UT?

3) To what extent were environment and social (E&S) standards and safeguards applied and monitored?

4) How well did the World Bank Group take into consideration the governance, political economy into its project's design and implementation?

5) To what extent was modal shifting (behavior change) measured through M&E?

6) To what extent are the different parts of the WBG collaborating or coordinating to achieve positive synergies, both internally and with external partners (through portfolio review (if there are joint projects), TTL and client interview and field visits)?

7) To what extent were the World Bank's Urban Transport team and GPSUR team in the country office collaborating with each other?

8) Is the WBG using partnerships effectively to leverage its capabilities and resources and exploit comparative advantages?

9) Work Quality Ratings: M&E Quality, World Bank quality at Entry, World Bank quality of supervision, Overall World Bank performance, Government performance, implementing agency performance, and Overall Borrower performance.

PARTNERSHIP REVIEWS

As established in the approach paper, the team conducted partnership reviews of the two largest World Bank Group partnerships—the Public-Private Infrastructure Advisory Facility (PPIAF) and the Sub-Saharan Africa Transport Program (SSATP)—to understand how effectively these partnerships had contributed to the World Bank Group's support for urban transport. . Over the course of the evaluation, the team also conducted dozens of interviews with World Bank Group staff, counterparts, clients, beneficiaries, other stakeholders, and relevant experts.

Selection The SSATP and the PPIAF were selected as longstanding providers of technical assistance, capacity building and knowledge work in the transport sector. While the SSATP focuses on facilitating policy development and related capacity-building in the transport sector of Africa, the PPIAF provides catalytic support to promote public-private partnerships (PPPs) in infrastructure, including the transport sector.

Scope The partnership reviews assessed the SSATP's support to urban transport and the PPIAF-supported activities in urban transport approved and implemented in FY2007–FY2016.

Methodology The in-depth analyses of these two global and regional partnership programs followed IEG's framework for assessing global and regional partnership programs (2007) and IEG guidance on mainstreaming partnership assessments (2016). The framework is based on the OECD DAC criteria of evaluating development effectiveness adapted to evaluating Global and Regional Partnership Programs. The assessment uses two broad sets of criteria: a) the development outputs, outcomes, and results of the program itself; b) the organizational effectiveness of the program and how well the partnership is functioning. Being tailored to the questions of the main evaluation, the focus of the assessment was primarily be on the first, while the effectiveness of the partnerships was touched upon to the extent that it was critical for the achievement of the program results.

In addition, to assess the effectiveness and utilization of PPIAF- supported activities in urban transport, a desk review of a sample (20 out of 47 UT activities) was carried out as well. A standardized assessment template/tool was developed and applied for that purpose.

These partnership reviews were based on the desk review of programs' key documents: annual reports, flagship knowledge reports, tools and methodologies, policy papers, and external evaluations. This was supplemented by interviews with the program's thematic team leaders, the World Bank Group task team leads, donors, and partners.

WORLD BANK PROJECT PERFORMANCE ASSESSMENT REPORTS (PPARS)

Project Performance Assessment Reports (PPARs) are independent field-based project evaluations that serve both accountability and learning functions, and may be conducted at any point after a self-evaluation (ICR) has been completed. Though they formally follow the same rating criteria as the ICRR, PPARs are evaluations rather than a validation exercise, and they rely on a broader set of evidence. PPARs rely on a mixed-methods approach which usually includes (but is not limited to) a literature review, portfolio analysis, and a country mission involving site visits and semi-structured interviews with different stakeholders. PPARs are selected to achieve sector and thematic representation of the entire World Bank portfolio. PPARs provide feedback on what worked and what didn't at a project level, drawing on an independent perspective and sometimes broader stakeholder

consultations. PPARs are often undertaken some years after project closure, providing evidence on sustainability and longer-term outcomes.

IEG selects projects to be evaluated by PPARs purposively on a number of criteria, including the quality of the self-evaluation and its evidence base, the potential for learning from an innovative operation, a rating dispute arising from validation of self-evaluation, a very large operation, a potential safeguards violation, the ability to contribute to other IEG products, or other opportunity for adding value. For Urban Transport, three PPARs (two nondedicated project PPARs in China and one dedicated project PPAR in Peru) used were part of IEG's planned program for the portfolio and six PPARs were selected to fill a gap in coverage of modes and geography.

Ensuring Validity of Findings

Several principles were used to ensure rigor and consistency in evaluation design as well as data collection and analysis. The theory of change was used as a basis for understanding causal relationships between variables. For the portfolio, coding consistency was checked across analyses. A case study template was developed and provided to all case study leaders to ensure a common framework and evaluative consistency across case studies. The case studies were internally reviewed to enhance consistency. Furthermore, the team applied triangulation at multiple levels. Evidence and conclusions from interviews were checked against information arising from documents, ICRRs, PPPARs, and quantitative data from external sources, and vice versa.

The evaluation team also used external validation at various stages of the evaluation process. In particular, the team consulted its advisors both early and late in the evaluation process. The team maintained a dialogue with key Management counterparts of the World Bank Group institutions at points throughout the evaluation to validate hypotheses, approaches, impressions, and preliminary conclusions. Four peer-reviewers provided feedback at the approach paper and one-stop stages. Finally, a variant on a "REACT" workshop was piloted under an agreed plan where management drafted recommendations based on IEG findings.

Limitations

The portfolio posed certain distinct evaluability challenges given its diversity and, for long-gestating infrastructure projects, relative youth. For the 10-year evaluation period (including all projects closed 2007–16), IEG found only 44 evaluated and validated projects mapped to the Transport GP or IFC, and 63 projects mapped to

GP SURR or other GPs. Of the overall portfolio, 64 percent were road projects and 16 percent traditional bus projects, leaving a population of only six evaluated BRT projects and 12 metro projects, distributed across multiple countries and regions. Only five IFC advisory service projects and three IFC investment projects in UT had been evaluated. Two relevant MIGA projects were evaluated; nor were any World Bank Advisory Services and Analytics (ASA) projects, for which there is no validated evaluative system. Thus the evaluative challenge was to augment meager results data with analysis of the patterns and content of the portfolio and the other sources of evidence.

Clearly other challenges come from the a) the mixed nature of many noncore urban projects where urban transport comprised only a minority of activities; b) the poor conduct of M&E in many projects, with nonstandard indicators, lack of baseline, intermediate or final data, and lack of follow-up monitoring after a project closed; and c) the mixed nature of other, broader infrastructure projects that may have included some element of urban transport in their activities, such as intercity, regional or national roads projects. A final challenge was determining the outcomes attributable to World Bank Group interventions in the context of government, private sector, and other donor activities for large cities and larger clients.

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[1] IEG (2016) Approach Paper—Mobile Metropolises: An IEG Evaluation of the World Bank's Group Support for Urban Transport. http://documents.worldbank.org/curated/en/517261468197984184/pdf/106308-WP-IEG-PUBLIC-ap-metropolises.pdf.

[2] IEG (2016) *Approach Paper* Ibid.

Appendix B. Summary of Country Case Studies

Brazil Country Case Study

3. Country Context

With a population of more than 200 million people and a Gross Domestic Product (GDP) of $1,775 billion in 2015, Brazil is the world's fifth most populous and seventh largest economy. Brazil has been rapidly urbanizing since the 1970s, with the share of people living in cities increasing from 56 percent in 1970 to 86 percent in 2015. Currently more than 90 percent of the country's GDP is generated from cities. These trends, accompanied by the preference of the rising middle class for private vehicles—also encouraged by the government—propelled Brazil to become the fifth largest automotive market in the world. The rapid urbanization process, accompanied by insufficient planning, has resulted in road congestion, increased greenhouse gas (GHG) emissions, and concentration of poverty in peripheral areas. These areas typically have little access to basic infrastructure and services, mobility, job opportunities, affordable land, and housing.

Yet, the importance of urban mobility has been recognized by the Brazilian government. High-flow bus priority schemes and busways, and urban and suburban rail, were introduced in several cities under the coordination of the Empresa Brasileira dos Transportes Urbanos (EBTU) since the 1970s. In 1984, the train systems in São Paolo, Rio de janeiro, Salvador, and five other cities were transferred to the newly formed Companhia Brasileira de Trens Urbanos (CBTU). After the constitutional reform of 1988, which emphasized decentralization, the units of São Paulo, Rio de Janeiro, Salvador,) and Fortaleza were gradually transferred to their respective local governments. However, the new Constitution did not clearly redefine the distribution of functions between levels of government. In 2015, the country moved to address the fragmentation of governance in metropolitan areas by introducing the Statute of the Metropolis, which obliges states to develop integrated plans for metropolitan development, coordinated with cities' own plans.

The current institutional setting of urban transportation in Brazil involves collaborations between federal, state, and city governments, within transportation and related areas such as finance, urban planning, and environment. At the federal level, the Ministry of Transport is responsible for the National Transport Policy, but has no mandate regarding urban transport. The Ministry of Cities is responsible for the National Policy of Urban Mobility. At the state level, State Secretariats for

Transport are in charge of state transport policy. Railway assets are owned and supervised by one or more different state companies. In Rio, São Paulo, and Salvador, Secretariats have granted rail transport operation and maintenance in the metropolitan regions to private concessionaires. Regulatory agencies, when in place, regulate fares and control and enforce compliance with concession agreements.

4. World Bank Group's Support

Three World Bank Country Strategies were developed during the review period. The 2003–07 Country Assistance Strategy (CAS) noted that providing ongoing support to metro systems in the large cities would contribute to poverty reduction by increasing access for the poor. The approach was in line with the government's own multiyear plan (2004–07). The subsequent Country Partnership Strategy (CPS 2008–11) included improving public transport services in large and fast-growing medium-sized cities, emphasizing the need to improve air quality. The CPS also called for IBRD-IFC partnerships in structuring of public-private partnerships (PPPs) in the urban sector. The 2012–15 CPS for the first time explicitly recognized the importance of integrating transport into the broader context of city planning, called for efforts to develop and implement strategies for promoting low-carbon growth and climate change adaptation at the city level.

The country case study is based on a desk review and field mission of a sample of the World Bank Group's portfolio approved or closed during the period of FY2007–FY2016 in Brazil. The study covered 12 projects and five additional financing (AF) projects in three metropolitan regions—Rio de Janeiro (RJ), Salvador (SA), and Sao Paulo (SP)—totaling slightly more than $4 billion: six in RJ, nine in SP, and two in SA.

The World Bank's operational support to the urban transport sector in Brazil has evolvedwith the country's needs. in the 1970s support came through three national urban transport projects, implemented through EBTU for traffic management, BRTs, and rail. In the 1990s, two projects supported the decentralization of urban rail services in the States of SP and RJ. Thereafter, support has been primarily at the state and municipal levels, and primarily for rail. By 2007, projects supporting urban rail were well under way in RJ, SP and SA, but the World Bank's support continued to be substantial. In Brazil, urban transport has been one of the largest single components in the country program (in which 75 percent has been devoted to urban rail), if not the largest. Broader urban development support is minimal (about 4 percent).

The rail projects primarily supported the purchase of trains and signaling systems, as well as rehabilitation and new construction of track and stations. This was in line with the request of the Brazilian government, which had gained experience in BRTs and sought the World Bank's technical support for rail projects that were needed to meet the rapidly growing demand for transport. The projects also included components to make the investments sustainable, such as fostering metropolitan transport coordination committees; helping develop strategies for urban transport, land use, and air quality; access and affordability components such as integrating bus routes with train stations and support for the integrated ticket, Bilhete Unico; and seeking private sector involvement in operations and investment.

5. Effectiveness

Implementation was not straightforward. Decentralization of metro services took place partially and in stages. The major construction projects suffered from stop-and-go institutional and financial arrangements. The projects themselves, especially those involving civil works, were ambitious and faced delays, and in some cases had to be scaled back or phased as a result of reduced funding from the state. The timeframe for installing new signaling and control systems on lines already in operation proved overly optimistic, and had to be slowed significantly to deal with logistical difficulties and contractual issues with the supplier. The Salvador project closed with a concessionaire lined up, but the arrangement fell through and the metro project was restarted, after a hiatus, with a different company. Two rail projects (Metro line 4 in SP, and Mass transit II in RJ) were extended, and received additional financing for more equipment and components. The four closed rail projects received ICR ratings of moderately satisfactory (MS), at least. In urban development, the transport component of the SA project—a ring road and some secondary/tertiary roads—remained unfinished at project closing but was completed a year later. The restructured Rio de Janeiro project drops technical assistance for Bilhete Unico and instead supports urban mobility plans for nine municipalities in the metropolitan region.

Notwithstanding these challenges, there have been significant achievements, particularly in delivering additional capacity in mass transit. Line 4 in Sao Paolo is transporting 700,000 passengers/day (10 percent of the metro system's traffic). It is the first privately operated urban rail line supported by the World Bank, and the first Brazilian PPP after the PPP law was enacted. Line 4's extension to Villa Sonia is under implementation and is projected to be completed in 2018 with a traffic of 1 million passengers/day. Similarly, Rio de Janeiro's suburban rail transported more than 659,000 passengers per working day in 2015 (up from 156,000 when the concession took over in 1998) thanks to the efficiency of operations by the

concessionaire and the increased capacity brought in parallel. In Salvador, the design of the World Bank's project was aimed at creating access to the center from poor areas in the North at Piraja. The line was eventually extended to Piraja in December 2015, although this was done after the project had closed. In both São Paulo and Rio de Janeiro, the World Bank's support was helpful in mobilizing the needed financing from the federal and state governments, and, for the São Paulo projects, co-financing support from the Japan Bank for International Cooperation. The Inter-American Development Bank is a parallel co-financier in the São Paulo Metro Line 5 project. The World Bank's support catalyzed the private sector's involvement in all three cities and was helpful in resolving technical issues and disputes with the contractors. Moreover, the drafting of Brazil's 2012 National Urban Mobility Law was supported by organizations cooperating on Global Environment Fund (GEF) project activities. The law covered topics aligned to the GEF's thematic windows (nonmotorized transport (NMT), public transport, integrated land-use planning, demand management, and freight). The World Bank also promoted transit-oriented development (TOD) in Brazil to improve land use planning around transit facilities.

The projects were successful in significantly raising capacity, but causing modal shifts—to decrease congestion—proved much more difficult and beyond the scope of these projects. The projects were successful in raising capacity significantly, but there was no appreciable increase in modal share of mass transit. The increase in rail capacity was, in the first place, addressing longstanding unmet demand, and moreover was matched by rapidly growing urban populations. Although recent World Bank projects have included pilots for multimodal/NMT options and designs for complementary BRTs, World Bank staff questioned whether a modal shift can be achieved without instituting both politically difficult policy options (reducing incentives for automobile purchases, increasing fuel prices, rationalizing bus services, and aggressively rationing private vehicle traffic in congested areas) and a substantial further increase in mass transit capacity.

Affordability was a goal championed by the World Bank, but its implementation may affect financial sustainability, while accessibility has room for improvement. Only the Salvador Metro is 100 percent accessible, with elevators, and contour tracking for those with visual impairment. São Paulo also has provision for accessibility at several stations, but it is not 100 percent across the full system. In Rio de Janeiro passengers on the suburban rail are predominantly from the lowest income groups, and their comfort has also been vastly increased with less overcrowding and gradual upgrade of the cars. The rail projects also supported linking the train lines with feeder bus routes, and reflected targets to integrate stations with bus routes, which were met. However, the State Secretariats have

enjoyed less success in rationalizing bus routes to reduce duplication with the train lines. Supported by the development policy loan (DPL), the Rio de Janeiro government is seeking to end permission-based awards, eliminate superfluous routes, competitively tender for new routes, and publish bus operator performance. A key feature of all three systems is the Bilhete Unico. Although the details vary among the systems, passengers with a single ticket for a journey may freely transfer from buses to trains and vice versa. Instituting the arrangement, which was consistently championed by the World Bank, was challenging because of the fragmented governance across metropolitan regions. However, the adopted scheme is different from the approach recommended by the World Bank and is costly, has created perverse incentives, and could exacerbate the financial sustainability issues. Taking the transport system as a whole, there are substantial subsidies and potential financial imbalances in the São Paulo and Rio de Janeiro metropolitan areas. States have to amortize their up-front investment, and also provide other transport services.

Broader initiatives integrating transport with land use are increasing but results will take time. The early projects in Rio de Janeiro and Salvador did include subcomponents for studies on integrated land-use planning but there does not seem to have been any explicit use of the studies or follow-up. Also, the fragmented municipal governance in metropolitan areas complicated coordination efforts, and broadening projects may have been seen as a wasted effort. In more recent World Bank operations, including additional finance projects, the Rio de Janeiro Integrated development project, the GEF STAQ, and the Rio de Janeiro DPL, there has been a more concerted push to support the development of land-use plans, complementary multimodal transport projects, and TOD initiatives in line with the World Bank's evolving strategic approach. These efforts have long gestation periods; demonstrable results will take time to emerge.

China Country Case Study

6. Country Context

The Chinese government set up a clear, sustainable urban transport agenda as one of the national policies governing its urban development master plans. In April 2004, Premier Wen Jiabao made it clear that "to give priority to urban public transport development" was the correct approach for the country's reality. In 2005, the State Council issued a document endorsing the Ministry of Construction's opinion on the priority of urban public transport. In 2006, the Ministry of Construction, the National Development Reform Committee (NDRC), the Ministry of Finance and the Ministry of Labor and Social Security issued their Advice on Economic Policy for

Priority Development of Urban Public Transport, which clearly stated that public transport is fundamental for a city. Like education and health care, public transport was understood to be a basic public service provided by government. City government and bus companies thus had the responsibility to provide inexpensive, convenient, comfortable, and efficient urban transport (UT) services for people. The Twelfth Five-Year Plan (2011–15) mandated increasing the public transport modal share to 40 percent for cities with a population over 10 million and aimed at creating integrated transport systems.

7. World Bank Group's UT Support

Evolution. The World Bank Group and the government of China have been increasingly collaborating through UT projects. During the period FY 2007–16, the World Bank approved or closed 40 urban transport projects in China (USD 5.61 billion in World Bank Group commitments), of which 65 percent were projects under the Transport GP ($3.48 billion in World Bank Group commitments). Of the 40 projects, 12 were closed and 28 are still active. There were seven nonlending projects in China, four core and three noncore. There were no IFC and MIGA projects in China. While UT historically represented only 8 percent of World Bank lending in the transport sector for China, it is now (2016) 36 percent of the portfolio. World Bank support has given priority to large cities in the central and eastern regions. The geographical evolution of the projects has been from the hinterland to the coastal areas.

The World Bank's UT engagement in China can be distinctly divided into three generations. During the early 1090s the World Bank mainly supported construction of city ring roads, which could be considered as the first-generation model of engagement in China. Second-generation projects usually involved comprehensive UT activities including conventional buses, traffic management, traffic police, and road maintenance. The second generation then evolved to a corridor approach, in which interventions are concentrated along a transport corridor to enhance visibility and create a demonstration effect. The third generation is urban rail projects. The World Bank is currently involved in three of these.

8. Effectiveness

World Bank projects helped improve mobility in Chinese cities, mainly through increased urban transport infrastructure or services. Improved access was among the project development objectives in only one project, while six projects had a sub-objective of improved mobility. The sub-objectives were substantially achieved. For example, in Wuhan Urban Transport Project (P069852), daily bus ridership increased

from a baseline of 2.59 million person trips in 2002 to 4.54 million in 2009, exceeding the target of 3.9 million by 46 percent. The YouXiao road financed by Guiyang Transport Project (P093963) provided a high-speed corridor to urban residents in the Longdongbao area, which was separated from the core urban area by mountains prior to the project. In Panzhihua [Sichuan Urban Development Project (P083322)], the construction of 6.7km of Bing-Ren Road helped to link the residential area of Renhe to the central business district and the recently completed Airport Access Road to Duren Road (West) in Renhe. The rear section of the road thus opened up a passage connecting Shizong District and Renhe District and constituted the first road to the new Huacheng District, which will house 250,000 people. The road is the main artery to the newly planned Ganbatang.

Various demand management measures contributed to improved mobility and modal shifting. Quite a few projects introduced traffic management measures, for example, area traffic control (ATC) systems in a number of cities. A study shows that the implementation of ATC in Wuhan city area resulted in improvement of traffic speed by an average of 11 percent, delays at intersections were reduced by 28 percent, and vehicles made 19 percent fewer stops before they passed an intersection. Overall, the ATC system performed better in newly developed areas at the urban edge, where vehicular traffic dominates, and less well in the urban center where there are more pedestrians. ATC systems are performing better in a few Chinese cities, such as Chongqing, Dalian, Qingdao, and Xiamen. These cities are mountainous and do not have much bicycle traffic on their streets. Travel demand management, such as parking management coupled with increased supply of better UT service, prompted modal shifting from private vehicles to public transport. For example, in the Uumqi Urban Transport project, public transport mode share as a percentage of motorized trips increased from 65 percent to 70 percent by project closure. In the Second Tainjin Urban Development Project, traffic mode sharing for the bus system increased from 6 percent to 21 percent, exceeding the target of 12 percent. For Fuzhou Nantai Island Peri-Urban Development Project, modal share for public transport, cycles, and electric cycles increased. However, private auto usage also increased and walking decreased significantly.

The World Bank rarely got involved in the pricing of urban transport service, and the affordability issue was taken care of by the government at all levels. In China, public transport service is viewed as a public good and the price of bus and metro service is set very low. The low price requires subsidy. Kunming municipal government currently provides about 400 million RMB (US $58 million) to the metro management company that manages two metro lines. Guangzhou municipal government provides about 4.6 billion RMB (US $665 million) subsidy to the public transport industry in 2015, a 35 percent increase from 2015. This includes a subsidy

to bus and metro for cost recovery, a subsidy for discounted fares, and a subsidy for the replacement of conventional buses with electric buses. In China, while affordability of public UT service is being taken care of, two issues are of specific concern: the sustainability and the efficiency of the subsidy schemes.

In terms of sustainability, in Kunming, the subsidy is about 0.9 percent of the current municipal budget and in Guangzhou, the subsidy is about 3 percent of the current municipal budget. The current subsidy level does not seem to be a heavy municipal budgetary burden; however, it is projected to will increase along with a projected ridership increase and when more metro lines are open for operation. Beijing, the capital city, once implemented a 2 RMB flat rate for the metro service, and eventually had to increase the metro fare because the subsidy required turned out to be too expensive for the municipal government.

A second question is whether the subsidy is efficient, that is,targeting the right people. Although the elderly and disabled persons are covered by discounted or even free urban transport services, the poor in China are not usually included in discount schemes because of the difficulty of tracking individual incomes. One result is that the poor lose access to job opportunities because they cannot afford transport service.

Consultation and citizen engagement led to a more inclusive design of UT projects. A 2010 review of gender mainstreaming in the IBRD-financed portfolio found that consultations with both men and women during project preparation strengthened project design and improved outcomes. In the Liaoning Medium Cities Infrastructure Project, the cities consulted socially disadvantaged groups, including disabled persons who were given the opportunity to test the design of the accessibility features of bus stops, intersections, and sidewalks. Consequently, the project has significantly improved traffic convenience for disabled persons and elderly, through such measures as dedicated seating and disability facilities such as introduction of tactile strips on sidewalks for the blind.

There is little information on the contribution of UT activities to economic growth and welfare improvement. Altogether, three projects provided information on this, however, the achievement could not be solely attributed to World Bank Group support. In Mianyang, the World Bank was involved in the construction of only a small section of the connecting road in the economic zone. The project reported a land value increase in the project area from 230,000 yuan to 3 million yuan per mu (1 hectare = 15 mu). The increased land value did not directly benefit area farmers. But resettlement (when a rural area is converted to an urban area) helped farmers by providing better homes and access to schools, hospitals, and job opportunities,

thereby improving their living conditions. The Fuzhou Nantai Island Peri-Urban Development project had a significant impact on economic growth. The "product value" of secondary industry in Nantai Island increased from CNY 21 billion to 56 billion.

9. World Bank Group's Added Value Beyond UT Projects

The World Bank Group is perceived as the leader in the urban transport development area. Many development partners, for example, the Asian Development Bank (ADB), the European Bank for Reconstruction and Development, and the European Investment Bank, among others, are working in UT development in China. Because the market is huge, there is no competition. At the same time, there is no formal coordination mechanism and no clear division of labor in the UT sector in the donor community. The Ministry of Finance has had an annual seminar with the World Bank, ADB, and other development partners. The World Bank plays a leadership role in these discussions.

Mobilizing additional resources: The World Bank portfolio has an important leveraging effect in China. Every US$1 from IBRD mobilized, on average, an additional US$5 from government and other sources. The leveraging ratio for operations addressing climate change is even higher at almost US$7 for every US$1 of IBRD financing.

Knowledge and learning: In 2012, the World Bank, in collaboration with the Ministry of Finance, created a knowledge platform—the Transport Transformation and Innovation Knowledge Platform (TransFORM)—to improve knowledge sharing among local governments and transport practitioners. TransFORM's aim is to help make transport safer, cleaner, and more affordable in China and to share China's experiences with other countries. Under TransFORM, a network of practitioners has been formed that is promoting innovative transport solutions and disseminating lessons through media and online tools, workshops, city-to-city exchanges, and distance learning training programs. The World Bank has had a positive impact both through individual projects and upstream policy dialogue, contributing to the UT policymaking agenda. Flagship studies such as "China 2030" and "Urban China," jointly authored by the World Bank and the State Council, were highly acknowledged and appreciated by decision makers, and several recommendations of the studies were reflected in the nation's 13th Five-Year Plan. IEG's mission was informed that the World Bank "has a seat at the table," is included in debate and discussion, is well-respected, and has its views received enthusiastically. The Chinese government values the World Bank's contribution. Upstream, the World

Bank helps with policy. With continued dialogue, new regulations for design of city blocks were introduced recently.

Learning/replication. Chinese cities are competing with each other to provide the best urban transport options to their residents. In each city visited by the IEG mission, IEG learned of peer-to-peer learning experiences. Officials from Shanxi, Kunming, and Wuhan came to Guangzhou to learn about the noise barriers and the double-glazed windows used in residential buildings along the ring road. Xi'an, Nanjing, Shijiazhuang, Yichang, Huangshi, Dalian, and Qingdao came to Wuhan to learn about its traffic management. The Chinese counterparts also appreciate the technical innovation and hands-on learning from working with World Bank teams during project design and implementation. Small and medium-sized cities, which do not have much international exposure, particularly benefit from good project management practices—procurement, financial management, and social and environmental safeguard standards supported by World Bank–financed projects. The good practice of Resettlement Action Plan (RAP) was also replicated in other Chinese cities.

Ghana Country Case Study

10. Country Context

Ghana experienced a tripling of urban population between 1984 and 2014, to 14 million. Leading challenges include "slums, lack of basic services, underdeveloped manufacturing and insufficient transport infrastructure." (World Bank Urbanization Review 2014) Productivity is constrained by unbalanced development, weak land markets, lack of urban planning, and weak urban transportation planning and traffic management. Poor urban infrastructure also poses a key challenge for exclusion and service delivery. Cutting across these challenges is weak institutional capacity at all levels of government but especially locally, where weak capacity and financing of Metropolitan, Municipal, and District Assemblies (MMDAs) is a key gap. Provision of transport infrastructure has generally been undertaken in response to development, not in anticipation, resulting in piecemeal and inadequate provision. Traffic management and planning are absent, and data that could guide transport planning is rare. Nationally, "the road sector" is the destination of 99 percent of total transport sector investment.

11. World Bank Group's Support

The World Bank's only major investment in urban transport during the evaluation period was the Ghana Urban Transport Project (GUTP), which focused on the two

largest cities, Accra and Kumasi. Parts of the Kumasi engagement were later dropped in the restructuring. Accra has experienced rapid, unplanned, extensive growth and virtually no formal public transit. Instead commuters relied primarily on minibuses ("trotros") and taxis. Congestion, poor safety, and long wait and travel times were among commuting woes.

At the time of appraisal, urban mobility was not a World Bank country priority (the 2004–07 country assistance strategy does not mention urban transport). Indeed, much of the project preparation was done at the periphery of missions for other projects or with trust funding. In addition to GEF funding, PPIAF was mobilized to finance preparatory studies and a stakeholder workshop.

As conceived, the project had five main components, some with sub-components:

- Institutional Development ($13.6 million). This component sought to strengthen the capacity of national ministries (including Transport, Local Government, and, later, Roads and Highways) and agencies concerned with UT, transport operators, and local assemblies (MMDAs).
- Traffic Engineering, Management and Safety ($26.9 million), including subcomponents on traffic management, area-wide traffic signal control, enforcement of traffic rules and education; and related design and supervision work. This component was led by l'Agence Française de Développement (AFD).
- Development of a Bus Rapid Transit (BRT) System ($46 million), including infrastructure implementation in two phases, a program of stakeholder engagement and public relations, and overall management and operationalization of the BRT.
- Integration of Urban Development and Transport Planning for Better Environment Management ($2 million) including support to the Ministry of Local Government and MMDAs to update development plans for Greater Accra integrating urban and transport planning, and support to a Strategic Environmental Assessment with emphasis on nonmotirized transport (NMT) and public transport.
- Project Outcome Monitoring ($1.5 million) through evaluation of transport and social impact indicators, environmental indicators, and capacity development indicators.

12. A first restructuring in 2012 maintained the development objectives but shifted financing between components, added the Ministry of Local Government as an implementing agency along with the Department of Urban Roads, and extended the

project by almost two years. A second restructuring in 2015 extended the project to the end of 2015 and reallocated some uncommitted funds to repairing flood damage.

13. Effectiveness

The Ghana Urban Transport Project (GUTP) sought to create a basis for better delivery of transport services in Ghana's two largest cities, Accra and Kumasi, establishing a pilot BRT in Accra. Although the project achieved important progress in establishing a regulatory and institutional framework for public transport, and a model for private delivery of bus services, its identified objectives were largely unachieved more than a year after closing.

Urban Transport Capacity Building. Key ministries (especially Roads and Highways, but also Local Government) were paying more attention to urban transport challenges. A coordinating council (UTAC) appeared to have been functional throughout the project, and was used to resolve territorial issues between ministries and agencies and to enhance coordination. Local government capacity to plan and regulate public transport had a framework and some capacity through the project through the initial establishment of Urban Public Transport Units within multiple municipalities in greater Accra and later through their conversion into local Departments of Transport. By agreement with the unions, these units (later departments) were able to register trotros. Unfortunately, these nascent "departments" were poorly funded and understaffed at the time of IEG's visit, consisting of one to three professional staff. In addition, the project appeared to have involved a much higher level of stakeholder consultation than did other public transport and infrastructure activities.

The establishment of GAPTE—the Greater Accra Public Transit Executive—created a platform for harmonized regulation of new, formal bus service and a potential base for future BRT service. GAPTE emerged as an intermediary between individual MMDAs and the newly formed bus companies, owned by drivers' unions. It too was understaffed and underfunded.

Drivers' unions dropped their initial opposition to BRT and formed companies that were running buses along a "Quality Bus Service" route and were keenly interested in expanding.

A solid base of analytic work existed that had identified eight candidate routes for BRT in Accra and a sustainable business model for private provision of bus services along future routes. However, there was no clear source of financing to capitalize on the work.

Donor coordination worked smoothly, according to accounts from officials of AFD and the World Bank. Overall, although a smaller player, AFD appeared to have greater flexibility in timing and funding than did the World Bank.

At the same time, during the prolonged project life of GUTP, the project's development objectives were not achieved:

No BRT. The originally planned BRT line was abandoned after cost overruns in the initial phase of construction. After the restructuring in 2012, it was decided to fall back to a "type B" system of Quality Bus Service (QBS) following a route from the Central Business District to Amasaman, taking advantage of the capacity of a new roadway. The QBS did not offer segregated lanes, elevated platforms, or traffic priority to buses, and therefore could not offer the time savings, safety, and regularity that are key incentives for passengers to use BRT.

Different Ownership and Business Model for Buses. The project's original business model for bus ownership was not realized. In that model, existing operators and owners of buses (or taxis) would form bus companies, buy buses, and contract with government to operate those buses along designated routes. Unexpectedly, the Government in 2015 agreed with the Swedish government for the Transport Ministry to procure 242 Scania buses with concessional finance. Further, it was the politically powerful unions that became the owners of bus companies. This made the unions and their members supportive of BRT. However, it left out owners of trotros and taxis, creating a situation where new buses compete with trotros on the same corridor.

Institutional Arrangements: In the original project appraisal document (PAD), it was envisioned that a Center for Urban Transport would serve as a knowledge generation and advisory body, providing an institutional platform for monitoring, evaluation and learning. although parliamentary legislation was passed authorizing this, government funding never materialized. Under the project, the Center for Urban Transport was created and staffed with consultants, but no government funding was ever provided it, and it collapsed in early 2015.

Monitoring and Evaluation of Service Delivery: There was little evident ongoing data collection. Government had budgeted M&E. Most baseline data were for the abandoned BRT.

Traffic Management: Traffic management objectives were not achieved. Some improvements had been made in signaling at key intersections. AFD support was continuing.

World Bank Work Quality: Design, Oversight and M&E. World Bank staff were entrepreneurial in a difficult situation. Supervisory staff had to deal with inconsistent political support and a changing ministry, the failure of the government to provide the full measure of promised support, and a difficult institutional environment.

IEG's case study posed three questions about work quality:

- Was the original project design too complex and ambitious?
- Given that BRT costs were clearly underestimated, were these costs foreseeable?
- Should the World Bank have cancelled the project or more radically restructured it rather than continuing to finance it and twice restructuring it without changing the original development objectives (that includes introduction of a BRT)?
- Regarding supervision, in spite of evident problems related to a number of its identified objectives, since July 2013, progress towards achieving the project development objective (PDO) has always been rated "above the line."

India Country Case Study

14. Country Context

Traditionally a rural country, India has undergone rapid urban growth with a dramatic rise in urban congestion and pollution. The urban population is expected to grow from 377 million in 2014 (about 32 percent of population) to 600 million (or 40 percent of its overall population) in 2031.[1] Nearly 100 million urban poor live in slums without access to basic infrastructure and services.[2] With rapid urbanization came rapid motorization. The growth of two-wheel vehicle motorization has been one of the world's fastest. Although Indian cities have far lower vehicle ownership rates than their Western peers, in the past 10 years the number of motor vehicles has more than doubled, contributing to congestion, pollution, more accidents, and increased fuel consumption.

Indian cities are extremely dense, when compared to Western metropolises, and urban road length has not caught up with motorization (vehicles have increased by 219 percent in the last decade, roads by only 124 percent). There were an estimated 196 million motorized vehicles in 2016. Nonmotorized means still comprise more than a third of trips. Public transit has a substantial modal share of motorized transit in megacities, led by Mumbai. However, only a minority of cities had public transport systems in 2011.[3] Public transit is generally run by public entities, often

parastatal organizations, and fares are generally heavily subsidized to encourage affordability. In many cities, a large informal sector provides motorized services as well. To make matters worse, most of the major roads and junctions are heavily encroached and an uncontrolled variety of vehicles ranging carts to trucks clog limited road space. Urban roads are characterized by poor traffic management, no lane separation for motorized and nonmotorized transport, and many accidents. Cities lack formal parking facilities, further contributing to encroachment. Only a minority of cities had public transport systems in 2011. Public transport accounted for just 18.1 percent of total trips to work, although its modal share is considerably higher in megacities of more than five million.[4] The average speed of traffic fell while the time of the average commute grew. With motorization and congestion, road accidents grew to more than half a million per year by 2015 (most commonly pedestrians and bicyclists) and air pollution became a top health risk, contributing to elevated morbidity and mortality.[5] Meantime, driven partly by motorized transport, petroleum consumption rose dramatically, from 7 million tons in 1981 to 56 in 2011, with a negative effect on the balance of payments.

National Strategies. The government's engagement with UT has been somewhat limited by the Constitution's categorization of urban development as a state responsibility. The 10th five-year (200207) plan emphasized the need for clear responsibilities and financing for urban transport. The 11th five-year plan "laid stress on the need to upgrade the quality of urban infrastructure," with a substantial gap between plan and implementation.[6] UT is prominent in the 12th Plan (2012–17), with an emphasis on increased investment in metro rail and bus rapid transit, stronger urban governance, capacity building, building capacity for long-term strategic planning, addressing the needs of the urban poor, and raising environmental sustainability," *[T]he Government's goal is to increase the share of public transport to at least 50 percent of all motorized trips….*[7]

UT came into much sharper strategic focus with the enactment of the National Urban Transport Plan (NUTP) in 2006.[8] The NUTP aimed to achieve safe, affordable, quick, comfortable, reliable, and sustainable access to jobs, education, shopping, and recreation for urban residents, while addressing the twin menaces of congestion and pollution. It reflected a desire to refocus urban transport on the mobility needs of people rather than of private motor vehicles. NUTP works through the states, providing them with financial and technical support. The 12th five-year plan formally embraces the goals of NUTP. By 2014, when NUTP was revised, it recognized UT's contribution as both a cause and solution of "an urgent need to conserve energy and land, control pollution and 'greenhouse gas emissions', and to alleviate poverty."[9] It introduces a "paradigm shift" it calls "avoid, shift and improve" where avoid means limiting growth in demand, shift means modal

shifting from personal vehicles to other motorized and nonmotorized modes, and improve refers to use of clean fuels and vehicle technology. It formally embraces modern practices including: integrating land use and transport planning; comprehensive mobility planning; Transit-oriented development; and transportation demand management.[10]

There are a number of other strategic and policy documents with elements of Urban Transport strategy in them. The dominant program for much of the evaluation period was the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), described by the World Bank as "the main vehicle for the Government's urban development and reform."[11] Although JNNURM had urban transport within its scope, it was focused on modernizing urban capacity rather than on any explicit transport objectives. Urban transportation investments including roads, highways, expressways, MRTS, and metro projects were eligible for funding under the mission. The JNNURM identified 63 cities as eligible for its financing, including seven megacities.

15. World Bank Group's Support

World Bank Group Strategy. The World Bank Group has had three country strategies during the evaluation period. The 2005–08 Country Assistance Strategy (World Bank 2004) discusses urban transport as a "high risk sub-sector with fragmented responsibilities, weak fiscal and implementation capacities of local bodies, and complex safeguard issues." The World Bank notes that "it is also potentially high return, especially if an emphasis on management improvements and traffic engineering helps defer high cost investments in mass transit and flyovers. Bank lending support will be through pilots incorporated into operations to support broader municipal reforms."

The Country Strategy for the Republic of India FY2009–12, established "rules of engagement" for UT in an annex that included support for a) the implementation of the NUTP, with priority on NMT and public transport; b) cities developing mobility plans with stakeholder consultation and interagency coordination for planning, programming, and regulating or managing urban mobility; and c) projects and components where fiscal sustainability is ensured.

The Country Partnership Strategy for India for 201317 includes "improved urban transport services" under an inclusion pillar. Its specific indicator is increasing the modal share of public transport "in targeted cities" from 4 percent in 2010 to 8percent in 2017. Although the CPS discussion of IFC activity is rather vague as to specific projects, it is clearly supportive of "building infrastructure and assisting

public-private partnerships."[12] IFC's only identified UT activity in India during the period was a PPP advisory in Chennai that was to provide operation and maintenance of two lines of the Metro system. In the end, Chennai Metro abandoned the PPP in favor of a more traditional arrangement, using the pricing information from the bids as guidance for its budgeting.

Major UT Projects. Over the evaluation period, IEG identified a core World Bank Group UT portfolio of one IFC advisory project, three core World Bank lending projects, and two GEF grants, accounting for US$ 1.11 billion in financing and expenditure (table 1). In addition, there were four noncore AAA projects with significant UT components and six noncore UT lending projects, accounting overall for $1.6 billion in financing and expenditure (most of it not on UT). Though the core UT projects had a heavy focus on public transit rail and bus systems and traffic management, the noncore projects mostly financed urban road construction and rehabilitation as part of broader programs to build urban infrastructure and institutional capacity.

Core projects were of two types:

- Multicomponent UT projects involving a large investment and complex issues. Such projects involve a major capital investment in a single large city and an effort to coordinate and integrate planning and management for a variety of transport services for a city.
- Institution building and demonstration projects, seeking to build national, state and local capacity and fund projects in secondary cities that demonstrate innovative UT approaches.

Noncore projects were more likely to support road or road-related infrastructure construction or buses, mainly in support of broader urban capacity-building objectives.

16. Effectiveness

Mumbai Urban Transport Project. The first MUTP project, valued at $542 million, ultimately mobilized more than $70 million in government co-financing. It had a large component to improve the suburban rail system, which formed the most important transport artery of India's largest city. It has a smaller component for road improvement, traffic management, and conventional buses, and a separate resettlement and rehabilitation component. It achieved vital capital and quality improvements to the urban rail system that expanded its capacity in the face of rapid demand growth. It also helped establish and build capacity of a dedicated agency, Mumbai Railway Vikas Corporation (MRVC), to plan, develop, and

coordinate rail transport infrastructure and services, and promoted institutional strengthening at the state and metropolitan levels. It also contributed to the capacity of the paramount municipal planning agency, the Mumbai Metropolitan Regional Development Agency (MMRDA). There were no specific/direct demand management measures initiated, but it maintained the modal share of public transport at about 80 percent of motorized trips. The project helped to induce needed focus and the direction to the progress of urban transport in Mumbai. In addition to identification of prioritized transport infrastructure gaps to fill, the project brought in modern insights, expert domain knowledge, and necessary perspective on institution strengthening. It also introduced an effective organization, MRVC, into urban rail transit. The project was overly optimistic about both time and cost, and underestimated the complexity of resettlement, resulting in an Inspection Panel intervention. Efforts to better interconnect bus and rail services failed, as did intentions to improve bus travel time. The client greatly valued the knowledge capital created through the World Bank's assistance and the discipline and transparency it brought to the various institutional processes such as procurement, financial management and resettlement and rehabilitation (R&R).

MUTP 2A, a follow-up project in 2010, focused a $344 million loan on the suburban rail system for further quality, safety, and capacity improvements, improved maintenance capacity, and a dramatic improvement in energy efficiency. The project also sought to improve oversight capacity of MRVC and Indian Railways, the relevant national body. Although it achieved most of its objectives, it both underestimated demand growth and the time and resource requirements. With a third MUTP envisioned, overall the engagement shows an effective programmatic approach.

Sustainable Urban Transport Project (SUTP). To support the new UT Policy, the World Bank in 2010 launched the $105 million SUTP, "to promote environmentally sustainable urban transport in India and to improve the usage of environment-friendly transport modes through demonstration projects in selected cities." The project sought to encourage public transport in Indian cities (especially BRT), demonstrate use of advanced IT applications; encourage smarter, safer, and better-coordinated transport networks, and encourage and improve the safety of nonmotorized transport, while building the capacity of government to support and implement the national UT policy. SUTP has two components:

With co-financing from GEF and United Nations Development Program, the first component provides technical assistance to the Ministry of Urban Development to improve the national, state, and local capacity to implement the capacity-building

elements and the public and nonmotorized transport–related aspects of National Urban Transport Policy (GEF funded and World Bank–managed.

- The second component (also co-financed) supports the design and implementation of demonstration projects in six selected cities (in five participating states), to create models of sustainable transport solutions for other Indian cities to replicate. This included three BRT systems, two Intelligent Transport Systems, and one public bike-sharing scheme.

IEG met officials of four subcomponents and made three site visits, concluding that the overall design of the project was highly consistent with the NUTP and the project was achieving many of its objectives (including demonstration effect and capacity building), but it was also quite complex, with inadequate resources for supervision, and had been overly optimistic in its estimated completion time.

Karnataka Municipal Reform is a 2006 $216 million project exemplifying a statewide urban project with a $34 million road component for the city of Bangalore. Although the project was modestly successful overall, it was overly complex and the road component was weakly coordinated with the Transport GP. In fact, the road component related neither to the NUTP nor to the other project objectives of building fiscal management and service delivery capacity among local municipal agencies and governments.

17. **World Bank Group's Contribution**

World Bank Group has contributed substantially to India's UT through major improvement of its largest UT system (Mumbai suburban rail), through the strengthening of national institutional capacity, and through important demonstration projects. As a financially small player in the face of an immense program of capital investment, the World Bank has had to be selective and has not been engaged in most of the investments in the country. Nevertheless, it has had a disproportionate influence, especially in promoting public transit, awareness, and capacity building, and, to some extent, more integrated UT planning. Subprojects in secondary cities appear to be having a significant demonstration effect for BRT and intelligent transport (integrated public transit information) systems. Major program vulnerabilities have included:

Excessive complexity of project design (in MUTP and SUTP) led to difficult supervision, coordination problems, and lagging components.

- Underestimation of project time, resulting in restructuring and late implementation. Specific issues include optimism regarding the pace of land acquisition, resettlement, and procurement.
- Inconsistent attention and approach to issues of access for disadvantaged groups, including women, the extremely poor, and, especially, disabled persons; as part of broader inconsistencies and weakness in M&E of system service delivery and benefits.
- Lack of, or limited, political assessment, often leading to endorsement of project elements with weak or absent political support, such as the SATIS component of MUTP and the Pune subproject in SUTP.
- Inadequate attention to fare and subsidy structure, with weak implementation of fare structure and system reforms.
- Weak coordination of the Urban (SURR) GP with the Transport GP in the domain of UT, evidenced by urban projects with UT investments only in roads.
- Other issues concerned lack of consistent attention to demand management (particularly to constrain rapid growth of personal motorized transport) and, in the case of MUTP, underestimation of demand.

IFC has had little apparent impact on UT in India, in spite of a well-executed but ultimately unsuccessful transaction advisory project for Chennai Metro on an operations and maintenance (O&M) PPP. The advisory was judged beneficial to Chennai, but did not achieve a PPP transaction and thus had no market-building benefit for future PPPs.

Because a major share of India's urban transport budget is focusing on heavy rail systems (Metro), the World Bank Group must ask itself where its comparative advantage will beand how it can have the greatest impact on overall sectoral policy, institutional capacity, and delivery of services. Pipeline projects in metro systems raise questions as to whether there will be sufficient future resources for support of other types of UT and integrating sectoral policy, regulation, investment and O&M.

Turkey Country Case Study

18. Country Context

Turkey is an upper middle-income country and the 16th largest economy in the world. It has a population of more than 75 million people. Turkey experienced the world's second-fastest pace of urban growth between the 1950s and the 1980s. With the rapid rise of income level, Turkey experienced a dramatic increase in car ownership. Today, road traffic volumes have reached a level where traffic

congestion is a serious problem in many cities. There is strong public support for investing in mass transport systems in Turkey. There has been heavy reliance on market forces in urban transport services -- dolmus (minibus) and taxi have been two common UT mechanisms. The emphasis of the latest urban transport policies of metropolitan municipalities has been to transfer from private vehicles to public transit systems and to NMT modes like walking and cycling.

Metropolitan municipalities are responsible for UT provision and planning. During the past two decades, Turkey has rapidly decentralized and devolved authority from national to local administrations. Many central government responsibilities were moved to municipalities beginning in the 1980s and further advanced in 2012. Most of the municipalities have had difficulty coping with the increased responsibilities and rapid urbanization.

In Turkey, multiple agencies are involved in UT development. Different plans are produced, each with their own prioritized investments. Plans are often not costed, and planned investments are also rarely linked to an assessment of the municipal finances. Spatial plans often do not integrate transport planning principles and environmental dimensions except in a couple of municipalities such as Istanbul metropolitan municipality. Another common issue raised by public officials is that, in reality, proposed transport systems (for example, light rail) may not be justified by a realistic assessment of ridership, or that proposed UT is not cost effective. Many secondary cities apply to build light rail systems cities because mayors find this type of system appealing. There is an increasing demand for light rail without regard to its cost effectiveness.

At the national level, in theory, the institutional setting for UT involves collaboration between national and municipal governments. However, IEG interviews indicate that different government agencies tackle different aspects of urbanization and transportation without sufficient integration of responsibilities or coordinated oversight. Interviews indicated that the government has the necessary laws and rules to monitor plans but implementation is ineffective. As discussed in a recent World Bank report, the link between national policies and local practices is weak, creating challenges in UT planning, financing, and sustainable provision.

The central government is less likely to get involved in UT projects if the project does not require government or international financing. If a municipality requests financing for its transport projects, the evaluation and approval process are classified into two types by project financing method: foreign credit or national budget. In the case of foreign credit, Ministry of Transport, Ministry of Development, and, finally, Treasury needs to approve the project. If the project is

financed by the national budget, the Ministry of Transportation drives the approval process. For municipalities, Iller Bank (Bank of Municipalities) is the main source of financing. However, the Iller Bank has not provided many urban transport loans to municipalities so far. The World Bank has traditionally focused on providing loans for projects mainly for drinking water, waste water, solid waste, etc.

19. World Bank Group's Support

Overall, the World Bank Group country partnership strategies focused on sustainable cities, specifically municipality reform, municipality financing, and improved local service delivery. Among these topics, UT was not a specific focus. During the period under review, there was only one formal World Bank activity relevant to UT: the Turkey Urbanization Review: Rise of the Anatolian Tigers presents Turkey's urbanization experience and provides guidance on priority policy issues, including city competitiveness, housing markets, urban transport, municipal finance, and interagency cooperation. Although the World Bank did not have any UT projects during the period, World Bank staff were in touch with municipalities. The financing was mainly provided by IFC and MIGA. IFC's and MIGA's investment in the Istanbul Metro was the first World Bank Group financing in Turkey at a sub-national level without a sovereign guarantee. In Istanbul, the projects aim to improve urban mobility and reduced travel times and traffic, thereby contributing to urban productivity and private sector–led growth. Furthermore, the ultimate objective is to reduce dependence on roads and motorways, thereby reducing pollution and helping make Istanbul a more attractive location for residents and business. Besides Istanbul Metro, MIGA supported Izmir's marine transport project and tramway and IFC complemented this with a traffic management project and a rail car and tramway project. In Istanbul, IFC and MIGA projects are under implementation. Financial and operational performance of the Metro in Istanbul is generally good, comparable with advanced UT markets in the world. In Izmir, IFC and MIGA projects are under implementation as well.

IFC and the World Bank established an understanding on how to support UT in Turkey based on a market segmentation: IFC would focus on first-tier cities (big and creditworthy cities) and the World Bank would focus on second-tier cities. Beyond this, coordination among the two institutions seems to be formal. During the review period this arrangement worked, however, the World Bank Group needs to have a more comprehensive strategy and have better internal communication going forward. Other IFIs who have also invested in the metro or light rail projects indicated that they collaborate with IFC, and the relationship has been generally good.

20. Effectiveness/Work Quality

IFC and MIGA contributed mostly through financing. IFC used its subnational finance product. During the review period, IFC and MIGA supported UT in two of the biggest cities, Istanbul and Izmir, focusing on metro and light rail. IFC was not involved in the feasibility studies of the projects, given that the projects are put out for international tender only after the government approves their technical and financial feasibility. From an economic and social (E&S) perspective, IFC followed its usual requirements, and other commercial lenders, including MIGA, relied on IFC's E&S work. Lenders acknowledged and appreciated IFC's E&S standards, whereas the municipalities did not consider this aspect as IFC's special contribution to the projects. The World Bank struggled to support UT through a lending project during the period. The World Bank team consistently kept in touch with Iller Bank and secondary cities in Turkey, but was not able to produce a UT lending project. Interviews indicate that the World Bank struggled to support urban transport in Turkey mainly because of its business model. The World Bank cannot directly support municipalities (requiring a sovereign guarantee). Its projects require a central government approval and the Treasury had higher priorities.

The World Bank Group will need to have a more comprehensive strategy and better internal communication. First, the World Bank has just approved the Sustainable Cities project, which includes Urban GP and Transport GP staff. This requires effective communication and coordination arrangements among the GP staff, given that the project is led by Urban GP but has a transport component. Second, IEG's interviews indicate that IFC recently has also been looking for opportunities in secondary cities. To avoid stepping on each other's toes, the teams should work in close coordination. Lastly, there is a high appetite by IFIs to invest in UT in Turkey. Close coordination and a common strategy will likely increase the World Bank Group's comparative advantage.

21. Enhancing World Bank Group's Contribution

The World Bank Group can improve its additionality in the country, if it can support central and municipal capacities, capacities related to urban transport planning, provision, policy and guidance, especially in secondary cities. There is a strong need to increase urban transport in Turkey, not only in the big cities but also in secondary cities. However, a majority of cities struggle to produce urban master plans and their capacity to decide on suitable modes of public transport is weak. At the national level, the World Bank Group can support ministries (Environment and Urbanization). For example, it is important that land use and master transport plans be integrated, but there is no guidance from Central Government.

[1] Center for Sustainable Transport INDIA. 12 Indian Cities: Transport Indicators (EMBARQ The WRI Center for Sustainable Transport, 2008).

[2] United Nations. Millennium Development Goals Indicators (2015: UN Statistics Division) http://unstats.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=711. Sangeeta Nandi, Shama Gamkhar Urban challenges in India: A review of recent policy measures Habitat International Volume 39, July 2013, Pages 55–61.

[3] In Mumbai, public transport accounts for around 75% of motorized trips, in Delhi 69%, in Hyderabad 66%, and in Chennai 51%. Source: National Transport Development Policy Committee Urban Transport (NTDC Vol. 3, Part 2, Chapter 5) 2013.

[4] In Mumbai, public transport accounts for around 75% of motorized trips, in Delhi 69%, in Hyderabad 66%, and in Chennai 51%. Source: National Transport Development Policy Committee Urban Transport (NTDC Vol. 3, Part 2, Chapter 5) 2013.

[5] Jaspal Singh, City Public Transportation Developments in India, Eurotransport 14 December 2016.

[6] Planning Commission of India. (2011) Ibid.

[7] World Bank Country Partnership Strategy for India for the Period 2013-2017.

[8] Indian Institute for Human Settlements Urban Transport in India: Challenges and Recommendations (2015). http://iihs.co.in/knowledge-gateway/wp-content/uploads/2015/07/RF-Working-Paper-Transport_edited_09062015_Final_reduced-size.pdf.

[9] Ministry of Urban Development, Government of India, National Urban Transport Policy, 2014.

[10] Ibid.

[11] World Bank, Country Partnership Strategy for India for the Period 2013-2017.

[12]http://www.ifc.org/wps/wcm/connect/region__ext_content/regions/south+asia/countries/southasia_india.

Appendix C. Project Performance Assessment Reports Related to Urban Transport

Argentina Buenos Aires Urban Transport Project

The project was approved in 1997 and included an IBRD Loan of US$200 million and additional financing for a further US$100 million which were fully disbursed. The project was extended from 2003 to 2011 because of the 2001 economic and financial crisis in Argentina, delays in implementation, and project restructuring with a scale-up of investments.

When the project was appraised, Argentina was embarking on a large-scale privatization of infrastructure. The poor state of infrastructure, large operating deficits, and significant investment needs motivated the privatization of the Argentinian railway system, including the Buenos Aires subway and suburban rail. The project's objectives were to support joint private sector-public sector initiatives to improve the service quality and coverage of mass transit in metropolitan Buenos Aires; support the implementation of the infrastructure improvement obligations assumed by private concessionaires regarding the metropolitan Buenos Aires passenger rail system; assist in improving traffic safety and urban transport(UT)–related environmental quality in metropolitan Buenos Aires; contribute toward the development of an integrated UT (road and rail) system for metropolitan Buenos Aires, and assist in developing integrated urban transport strategies in the metropolitan areas in Argentina, including Cordoba, Mendoza, Posadas, Rosario, Tucuman.

Implementation was affected by the Argentina's economic crisis in 2001. In 2002, the Government imposed a freeze on public transport fares to keep them affordable. Public transport subsidies increased steadily, making it politically difficult to increase fares. Despite these large subsidies, the railway system deteriorated, the result of many years of low investment and poor maintenance. In 2012, a suburban rail line train crash, known as the Once tragedy, killed 51 people and injured more than 700 in Buenos Aires. A decade of underinvestment and poor maintenance were blamed, and allegations of corrupt practices in transport surfaced in the Argentine media, including World Bank–financed contracts under the project. The government took action prioritizing fleet renewal and maintenance of urban rail services, reorganizing the transport sector, and dismantling the transport subsidy system. Subway fares doubled from 2012 to 2014, but a social tariff was maintained for certain categories of users (retirees and disabled persons). A new administration in

2015 moved the metropolitan coordination agenda forward. The Metropolitan Transport Agency (MTA) is an interjurisdictional body which coordinates and plans transport policies and infrastructure in metropolitan Buenos Aires; it comprises the national government, the provincial government, and the City of Buenos Aires.

IEG found the project objectives to be substantially relevant to the Government's development priorities and to the World Bank's country strategies. Project design reflected a comprehensive approach and was substantially consistent with the stated objectives. The project provided financial support for the implementation, through private sector participation, of the rehabilitation of the Buenos Aires subway and suburban rail with the objective of improving the service quality and coverage. Results were mixed, however; this objective is only modestly achieved. Substantial results were achieved in improving traffic safety after construction of grade-separated crossings at the suburban rail and road intersections. The project also substantially contributed to improving the integrated UT system for Greater Buenos Aires, through physical investments and institutional strengthening activities. Results were substantially achieved in supporting the development of integrated UT strategies in other metropolitan areas: Cordoba, Mendoza, Posadas, Rosario, Tucuman. In the absence of evidence to the contrary, the achievement of the objective to improve urban transport-related environmental quality in metropolitan Buenos Aires is assessed as negligible. Efficiency is rated "modest," given the significant time and cost overruns, which were partially to the effect of administrative and operational inefficiencies. The overall outcome rating assigned to the project is Moderately Satisfactory. The risk to development outcome is significant: despite repeated increases in subway fares, additional funding is still required to ensure the maintenance and operations of the Buenos Aires subway system, and to finance capital investments. The institutional coordination for transport planning has advanced at the metropolitan level of Buenos Aires; however, its future sustainability is uncertain and needs to be addressed.

China Second Tianjin Urban Development and Environment Project

The China Second Tianjin Urban Development and Environment Project (Tianjin-II), approved in 2003 in the amount of US$150 millionwas one of 65 urban development projects approved by the World Bank during 2003–13 with commitments of US$7.3 billion in China.

The objective of Tianjin-II was to assist Tianjin in sustainably enhancing the efficiency and equity of wastewater management and transportation systemsThe project tackled the wastewater and transport sectors, focusing on improving efficiency, expanding the service coverage, and benefiting low-income groups.

However, some activities turned out to be infeasible or less relevant at implementation because of the changing local environment; these ended up being either cancelled or replaced with lower-cost activities.

Project implementation was challenging. The effective date was delayed, disbursements were slow, and two restructurings were required. Two one-year extensions were needed to fully disburse the loan. That said, the project delivered soundly built and well-finished components. The infrastructures built under the project are also well-maintained. Project activities increased the wastewater service area and supported the Yingcheng Wastewater Treatment Plant, the first plant in China using the design-build-operate method. The Dagu Canal cleanup increased hydraulic capacity of the canal to carry increased discharges of treated effluent and storm water, which also improved the environment and prompted development along the canal. Urban road works on Tianjin Middle Ring Road improved the function of the ring road and improved the efficiency of the transport system by helping alleviate congestion along the western, southern, and northeastern sections.

The technical assistance component supported under the project targeted improvements in institutions, policy, and financing of the wastewater and transport sectors, with potential for making larger impact at the city level. The project carried out a study on the wastewater sector, and recommendations were implemented by the Tianjin Municipal Government. Another study for the transport sector helped establish a model to evaluate trip demand by route and a system to allocate and manage bus routes on that basis. This contributed to an improved bus deployment system and helped promote public transport.

The objective did not define the concepts of efficiency and equity. Nevertheless, IEG found the project development objective to be relevant to China's national goals and to the World Bank's partnership strategy. The design and implementation M&E were defective. It led, for example, to the unconvincing claim that the increased modal use of buses in the megacity from a 6 percent baseline of all trips to 21 percent at completion was the result of a project that invested US$7.1 million in the bus system. The equity aspect of wastewater management was not included in the results framework, and it is unclear why more indicators were not measured.

It is evident that the project's physical investments contributed to the enhanced efficiency of wastewater and transport systems in the project areas in downtown Tianjin and Binhai New District. The project's contribution to the equity of these two systems, however, was quite limited because most of its investments were in the wealthier downtown, and there was limited investment in bus transport. It is also difficult to make a direct linkage between the project investments and the

improvements in the entire wastewater and transport sectors in Tianjin, because the scale of the physical investments supported under the project was "supplemental" and "corrective" when compared with the massive wastewater and transport network in the city.

The economic analysis of the project roads investment shows that the investments were worthwhile. The risk to development outcome is rated Low. Works in Tianjin were completed to a high standard with ongoing operations and maintenance. However, the residential and commercial development prompted by the Dagu Canal cleanup will generate new sources of pollution, and extensive mitigation and control measures are being implemented to sustain the successful environmental cleanup of the canal.

World Bank Performance is rated Moderately Satisfactory. The unclear objective and weak M&E and results framework reflect initial weaknesses. World Bank performance during implementation was stronger and benefited from the timely oversight of the World Bank's Beijing Office. The World Bank's teamwork was viewed by the Borrower as "responsive" and "supportive." Overall Borrower Performance is rated Moderately Satisfactory. Support by the central government in Beijing was strong and consistent, but project preparation by the Tianjin Municipal Government could have been more thorough. The municipal government did a good job during implementation, using its own funds to finance a few activities cancelled from the project and putting in place maintenance schemes for infrastructure. As implementing agencies, the project management office (PMO) and local departments completed assigned tasks knowledgeably and effectively.

In spite of a high return on project investment in urban roads, the overall outcome of the project is rated Moderately Unsatisfactory, because of the limited evidence of enhanced equity and affordability of sewerage, limited evidence of contribution on modal shifting to buses, lack of economic analysis for the project investment on wastewater management; and lack of evidence on project efficiency.

China Chongqing Small Cities Infrastructure Improvement Project

The China Chongqing Small Cities Infrastructure Improvement Project (Chongqing Small Cities) in the amount of US$180 million approved in 2005. Its objective is to help emerging small cities to improve the efficiency and effectiveness of infrastructure service delivery, so that they can accommodate rapid urban growth.

As in the case of the Tianjin-II project, there was no clear definition of "efficiency" and "effectiveness" in the Project Appraisal Document; However, by focusing on

infrastructure improvements in the secondary cities in Chongqing, the project objectives were relevant to the World Bank's Partnership Strategy and the priorities of the Chinese government. Both called for an environmentally sustainable development process and for addressing the needs (infrastructure services being one of them) of the poorer and disadvantaged people and regions. Project design was aligned with the development objectives. The project focused on water supply, flood protection, road improvement, and environmental sanitation. The 10 secondary cities involved in the project were all fast-urbanizing areas.

Project implementation started well. Up to the project midterm review in 2010, actual disbursements lagged only about three months behind those planned, a notable achievement for local implementing agencies with no previous World Bank experience. Disbursements slowed somewhat after the midterm review, but picked up later so that the loan was almost 100 percent disbursed by the original closing date of June 2012.

The project provided needed infrastructure services in the project areas, increased the infrastructure service coverage to accommodate the growing population in the cities and, in some cases, prompted local economic development. An impressive example is the flood protection activity in RongChang County, which was completed with high standard, was well-maintained, and has transformed the area into a more developed commercial and residential center. Similar flood protection works in other secondary cities in Chongqing are under preparation.

Though completed as planned, some of the project investments did not produce high standard infrastructure pieces. In contrast to the Tianjin-II project, where the infrastructure is well-maintained, under the Chongqing Small Cities project, insufficient maintenance of the project infrastructure seems to be common, thus posing risks to the sustainability of the project development outcome. The risk to development outcome is rated Significant.

World Bank Performance is rated Moderately Satisfactory. The World Bank team worked closely with Chongqing secondary cities in delivering the planned activities on time, but it could have done a better job in defining a clearer project development objective. Borrower Performance is rated Moderately Satisfactory. The Borrower could have improved the sustainability of the project development outcome by setting up a better maintenance arrangement. The overall outcome of the project is rated Moderately Satisfactory.

Indonesia Second Urban Poverty Project and Third Urban Poverty Project

IEG prepared a PPAR for the Second and Third Urban Poverty Projects (UPP2 and UPP3) in Indonesia. These community-driven development (CDD) projects were included in the noncore Urban Transport portfolio because the "improved services for the urban poor" objective included, inter alia, investments in village roads and bridges.

UPP2 was an expansion of the first Urban Poverty Project (UPP1), focused on alleviating urban poverty and fostering greater involvement of the urban poor in decision making. UPP2 had three development objectives. First, to establish (or further support) representative and accountable community organizations to provide services for the urban poor and increase their voice in public decision making. Second, to make local government more responsive to the needs of the poor through increased cooperation with community organizations. Third, to improve financial and social services, especially infrastructure, for the urban poor. Co-financing from the local governments' own budgets enabled considerable leverage of the World Bank's contribution. UPP3 was implemented in parallel to UPP2 and was a further geographical expansion to the remainder of the country, with similar objectives. The project was to cover additional urban neighborhoods in 15 provinces and, in addition, provided institutional assistance and grants to further strengthen community organizations supported in the UPP1 and UPP2 areas.

Together, these three UPP operations, using combined IBRD/IDA financing of US$473 million and government financing of US$ 345 million, resulted in a significant investment in Indonesia's urban community development. Since the project closed, IBRD has committed another US$708 million to further strengthen the program, and this work-in-progress will bring the World Bank's cumulative investment to more than US$1 billion, $ making the program one of the largest poverty reduction initiatives in the world.

Virtually all supported districts completed community development plans with projects prioritized by the communities. Boards of Trustees were democratically elected and over a fifth of those elected were women. Links between communities and local government were strengthened, resulting in additional and sustainable local funding. A strong and transparent management information system (MIS) was established. There were some shortcomings: insufficient evidence of project efficiency, inadequate maintenance arrangements, and sketchy evidence of improvements to the voice of the poor. Some areas where improvements can still be made are in the role of women in civic affairs, better ways to create jobs, and microlending and small business opportunities. The overall development outcome

of both projects was rated moderately satisfactory. Risk to development outcome was negligible to low. World Bank and Borrower performance were rated moderately satisfactory.

The M&E system, of necessity, had to be extensive to cover the widespread geographical locations of the beneficiaries and the large volume of data to be collected. Because of this complexity, the system only became functional in mid-2005, and did not start to generate values for most performance indicators until more than three years after project effectiveness. Nevertheless, by closure the MIS website was fully operational and provided ready access to program information. In the end the system helped to identify and remedy issues of service quality, incorporate better controls, fine-tune and target resources where they were most needed, and improve transparency and strengthen public confidence in the program.

India Mumbai Urban Transport Project

An IBRD loan of US$463 million and an IDA credit of US$79 million were approved in 2002, with a borrower's contribution of US$482 million. At appraisal, the total project cost was estimated at US$945 million, while the final cost was US$1.128 billion. The project was extended from 2008 to 2011. US$92.7 million was cancelled from the loan for activities not completed by closure and US$9.5 million from the credit because of savings that accrued.

The Mumbai Metropolitan Region is one of the world's largest urban areas and is the major commercial center in India. At project appraisal, suburban rail services were carrying more passengers than capacity, resulting in extremely overloaded trains. The project development objectives were to facilitate urban economic growth and improve the quality of life by fostering the development of an efficient and sustainable transport system, including effective institutions, to meet users' needs in the Mumbai Metropolitan Region. There were three components: first, to improve capacity and performance of the suburban rail system through service efficiency improvements, procurement of rolling stock, and expansion of network capacity. Second, to optimize the functioning of traffic signals, pedestrian facilities, traffic improvement schemes, and parking controls, and to increase road network functionality by improving two east-west link roads and eliminating the main road-level railway track crossings. The bus system was to be improved through support for organizational reforms, efficiency measures, and procurement of environment- and user-friendly buses. The third component involved the relocation of more than 100,000 people affected by the project. At the time, this was the largest World Bank urban resettlement project.

The resettlement process encountered difficulties following complaints by project-affected persons to the World Bank Inspection Panel in 2004; management suspended disbursements of the road and resettlement and rehabilitation components in March 2006. Disbursements were resumed in June 2006 after the Board of Executive Directors accepted a 10-point action plan. By project closure, virtually all households and 98 percent of the affected shopkeepers were successfully relocated and a grievance redress mechanism handled more than 4,600 cases. This resulted in the end in a better project after management intervention and considerable learning. World Bank procedures for resettlement and rehabilitation are now being used in the Mumbai region for all subsequent infrastructure projects involving relocations, whether funded by the World Bank or not.

Regarding the transport improvements, the average peak-hour rail passenger load per train was reduced but fell short of the target because better services increased demand mATC systems, thus reducing delays and improving traffic flows. In addition, 644 low-emission, user-friendly buses were purchased. Only one of two east-west roads was completed, because of protracted negotiations with project-affected people, and was completed six years after the original completion date using borrower funds. Some contracts were cancelled, including most pedestrian crossings, because of reduced funding availability due to exchange rate fluctuations, while the supply of 108 bogie assemblies for electric multiple-unit coaches had to be deferred to the follow-on project. A significant achievement was development of a Resettlement Division within the Mumbai Metropolitan Region Development Authority for management of resettlement implementation. The authority, on the other hand, did not succeed in persuading other stakeholders to establish a Road User Charging Policy, but the government and stakeholders continue to discuss a draft policy. This said, both the suburban rail and bus fares have been revised upwards to levels agreed with the World Bank, but there does not yet appear to be significant political support for radical reforms, such as congestion pricing, land use reform, and parking restrictions. Meanwhile, air quality is deteriorating, in part because of the rapidly increasing number of vehicles.

The outcome is rated moderately satisfactory. Objectives were mostly achieved, albeit with moderate shortcomings. The risk-to-development outcome is rated moderate because although a World Bank follow-on project is ensuring continuity on the rail side and institutional capacity continues to be strengthened, the authorities still need to agree on a comprehensive plan to restrain traffic in the central area through policy reforms. Adequate attention continues to be given to maintenance issues. Both World Bank and borrower performance are moderately satisfactory. Shortcomings in achievements were largely the result of an underestimation of the complexity of the project and of the time it would take for

the resettlement component and the procurement function. The Mumbai Metropolitan Region Development Authority initially had limited capacity, but was strengthened considerably during the course of the project. There was no question as to the level of commitment of all parties to the project.

Morocco Urban Transport Sector Development Policy Loan

This loan for €100 million ($136.7 million equivalent) was originally expected to be the first of two loans in a DPL series. It was appraised in 2010 and closed in 2011. The loan was fully disbursed in a single tranche upon effectiveness, thus giving it a 5-month implementation period. The second DPL did not proceed. Instead, a Program-for-Results operation for an Urban Transport Program in the amount of US$200 million was approved in 2015.

Rapid urbanization has imposed considerable pressure on Morocco's urban transport systems. Public urban transport remains inadequate, deficient in quality, and functionally disorganized, particularly in terms of bus-tramway integration in Rabat and Casablanca. Intermodal transport is inefficient, because operators see themselves in competitive rather than complementary roles. Traffic accidents and inadequate access to public transport have disproportionately affected the poor, women, and persons with limited mobility. Morocco's urban mobility issues are partly the result of significant underinvestment in the sector. The lack of financial sustainability has hindered the participation of new private operators, while current ones have been unable to renew their fleet or expand services to meet rapidly growing demand. Despite significant improvements, the capacity to manage the urban transport sector still requires further strengthening, particularly at the level of municipal authorities and their agglomerations.

The Morocco-Urban Transport Sector DPL had three specific objectives: (i) to improve the governance of the urban transport sector, (ii) to increase the efficiency and supply of services and infrastructure, and (iii) to improve environmental and social sustainability of the sector. The government agreed to implement 10 Prior Actions whose outcomes would contribute to the long-term goal of improving the efficiency of urban transport in large cities, ultimately promoting economic growth, social development, and quality of life in a sustainable way for urban citizens.

The relevance of the DPL's objectives was substantial. The selection of its objectives was based on a thorough analysis of the macroeconomic context and necessary sector reforms, which helped to define the highest priority interventions for the DPL. The three policy reform areas addressed were also well aligned with the country strategy and the main sector priorities of the government. The relevance of

the DPL's design was modest. The DPL benefitted significantly from several years of prior analytical and advisory work by the World Bank. Prior Actions built directly upon the government's own priorities and were causally well-linked to the targeted outcomes, and were also critically needed to accelerate policy and institutional strengthening measures, raise the profile of key issues, coalesce stakeholders, set timelines, and monitor results. However, the additionality of the Prior Actions, and the attribution of outcomes to the World Bank's intervention, are not fully clear. Many had already been identified and initiated by the government before the DPL's approval, which leads to questions related to the counterfactual. In the absence of the DPL, would the reforms have proceeded anyway? If so, how significant is the value-added of the DPL, apart from budget financing? Finally, the choice of using solely the DPL instrument, without much-needed investment project financing or technical assistance, detracted from the full achievement of a number of outcomes.

Achievement of the first and third objectives—to improve the governance of the sector, and to improve environmental and social sector sustainability—was substantial. However, achievement of the second objective—to increase the performance and supply of urban transport services and infrastructure—was only modest, mainly owing to the slow progress in addressing operational inefficiencies and lack of financial sustainability of public transport in the urban agglomerations of Greater Casablanca and Rabat-Salé-Témara. Taking into account the high relevance of objectives and the modest relevance of design, the DPL's overall outcome is moderately satisfactory. Risks to development outcome are moderate. Although the Ministry of Interior and its Division for Urban Mobility and Transport have been playing a sector coordinating role and are supporting local entities with increasing effectiveness, financial sustainability remains an important issue.

World Bank performance was moderately satisfactory. Although there were weaknesses in project design, the World Bank has played a high-value role in helping to formulate a strategy and improve the policy framework for Morocco's urban transport sector. Borrower Performance was moderately satisfactory. The Government was highly committed to the DPL's objectives throughout project preparation and implementation. As the implementing agency, the Ministry of Interior's performance was strong; however, inter-ministerial coordination was only partially achieved.

Nigeria Lagos Urban Transport Project

This project included an IDA-approved credit of US$100 million in 2002 and additional financing of US$50 million in 2007, which expanded the project scope. The project closed in 2010.

Lagos is the largest city in Sub-Saharan Africa, and is the commercial hub and main port of Nigeria. For many years, public transportation in Lagos has been fragmented and unreliable, with multiple private operators, small, poor-quality vehicles, and an unregulated environment. Chronic traffic congestion is a major problem.

The project supported the state government program which aimed to improve transport services in the Lagos Metropolitan Area, particularly for public transport users, especially the poor. The program was based on five sub-objectives: improvements to the management of the Lagos metropolitan transport sector; enhancement of the road network; more efficient public transport services; the promotion of water transport, and the preparation for future phases of the urban transport program. A key factor was support for the newly established Lagos Metropolitan Transport Authority (LAMATA), which was empowered to plan an integrated transport system for the Lagos State Government with a specific focus on implementing and regulating mass transit systems. A transport fund was to be established to eventually be able to cover transport infrastructure maintenance costs.

The credit financed road rehabilitation and maintenance to restore the main routes over which the public transport operated. The transport fund was set up and by 2009 LAMATA was able to meet 60 percent of its operational funding requirements, which is being further pursued in the follow-on project. The project implemented a pilot bus franchise scheme which included consultancy support for a conceptual framework and attracting commercial funds for the purchase or leasing of new and high-capacity buses. There was no government subsidy for operating the scheme, and it has been financially successful. Members of the National Union of Road Transport Workers operated the buses supported by LAMATA and paid back the loan in only two years. Select stakeholders, including union representatives, were taken on a study tour to see bus and mass transit operations in Brazil and Colombia. Later, this concept was expanded in a pilot bus rapid transit line (known as BRT-Lite), the first in Africa. The infrastructure was funded by the State of Lagos, with the World Bank helping to adapt the concept to African conditions and financing the design of the BRT line at a relatively low cost. Public support is evident and ridership has exceeded expectations. Overall, the project was pro-poor. Time and money spent by poor households on bus travel was reduced, as was travel time and waiting time per trip along project corridors, and passengers experienced fewer transfers per journeys.

Relevance of the objectives is rated substantial, as is relevance of design, although it was hampered by the failure to implement a results framework in the first few years of the project. The quality of monitoring and evaluation was modest. The objective, to improve the transport services in the Lagos Metropolitan Area in particular for

public transport users and for the poor, was substantially achieved, althouth the ferry services had some shortcomings related to safety, and the lack of progress in attracting private sector investment to the Lagos Ferry Services Company. Efficiency is assessed as modest despite the likely high economic rate of return (ERR), primarily because of the project's operational inefficiency. The overall project outcome is assessed as **moderately satisfactory**.

Risk to development outcome is considered moderate. The setting up of the transport fund has been an important step in the right direction, and adequate provision for maintenance of the BRT service has been provided. The follow-on project is expected to close existing gaps toward achieving 100 percent cost recovery. In comparison, the water transport services are cash-starved and insufficiently attractive to the private sector. In general, there is still a degree of dependency on World Bank funds in the follow-on project to maintain a stable situation. The current economic situation in Nigeria is deteriorating with the lower international oil prices.

The project was subject to a review by the World Bank's Quality Assurance Group in 2003 regarding whether the physical components might sidetrack the Lagos authorities and the World Bank from the main objectives of promoting the institutional and cost recovery improvements. Complexity did contribute to limited progress in the initial years of implementation. However, the borrower, with WB support, managed to improve the public transport service to the satisfaction of the users, strengthen institutional capacity, and establish a cost recovery mechanism.

The World Bank's performance is rated moderately satisfactory. During supervision the World Bank sought ways to resolve various issues in a collaborative manner, and provided technical assistance commensurate with project needs (though there were perhaps too many separate studies). Procurement and financial management procedures set the project on a sound footing and gave credibility to LAMATA. Windfall savings were used opportunistically to finance the design costs of the BRT. Borrower performance is rated satisfactory. The state government ensured approval of the LAMATA legislation; provided support to empower, resource, and establish it; and streamlined responsibilities within the government to better define its role and mandate. Although there was insufficient counterpart funding early in implementation, there was willingness to restructure the project and by closure the state government had financed over US$100 million from the state budget and transport fund. LAMATA made steady progress despite the challenging circumstances, and demonstrated competence in complying with World Bank procurement and safeguard requirements.

Lima Urban Transport Project

Lima was the first city in Latin America to pioneer a Bus Rapid Transit (BRT) system in the early 1970s, and this experience was fed into the first modern BRT system in Curitiba (Brazil). After Transmilenio in Bogota (Colombia) became a showcase to spread the BRT system, a modern BRT system in Lima known as Metropolitano was developed under the project.

The project was approved on December 9, 2003 with an IBRD Loan and GEF Grant of US$45 million and US$7.93 million respectively. At completion, all of the IBRD loan and 93 percent of the GEF grant was disbursed. The final project cost was US$261.9 million, about 95 percent higher than appraisal (US$134.43 million). The difference (US$171.90 million) was entirely financed by the Borrower, a substantial increase over US$44.40 million at design. The project closed on April 30, 2011, 22 months after the planned completion date of June 30, 2009.

The overall project development outcome is rated satisfactory. Efficacy of the first sub-objective "the establishment of an efficient, reliable, cleaner and safer mass transit system" is rated substantial for tangible achievements in providing such UT services through the BRT system. The second sub-objective, comprising "improving mobility" and "accessibility for its population, especially in the peri-urban poor neighborhoods," is also rated substantial because of increasing traffic volume and usage for commuting to the workplace and higher education. Although the benefit for the poor might be less than for the nonpoor, and the very poor appear to have benefited hardly at all, the project improved connections between the poor residential areas in the northern and southern parts of Lima Metropolitan Region. The overarching objective of "enhancing the economic productivity and the quality of life in the Borrower's municipal territory" has difficulties in measurement and attribution, but substantial achievements for the other two sub-objectives are likely to have contributed favorably to the overarching objective. Efficiency is rated substantial, taking into consideration cost-effectiveness in comparison to similar projects across different countries, through there were operational and administrative inefficiencies, reflected in large cost and time overruns. World Bank and Borrower Performance were both rated moderately satisfactory.

Metropolitano BRT's fleet of high-capacity buses use compressed natural gas (CNG) for fuel, which is unique among BRT systems around the world. The use of low-polluting CNG and the modal shift from higher-polluting motor vehicles is seen to have contributed to the overall decline in pollutants (such as PM10, PM2.5, SO2 and NO2) in Lima during the past few years. According to the verified carbon standard monitoring report (2015), it is estimated that more than 200,000 tons of carbon

dioxide emission reductions were achieved under the project for the past three years between July 2011 and June 2014. Direct observation by the IEG mission also found that an articulated bus and feeder bus have more carrying capacity than a traditional minibus. They were also cleaner than other traditional modes of public transport. Figure 2 shows a typical articulated bus and traditional minibus used in Lima Metropolitan Region. In addition, from 2012, approximately 2,000 old and relatively higher polluting micro and mini buses were scrapped by Protransporte. The project planned to use GEF funds initially, but this task was taken over by Protransporte, which committed more than $12 million to the effort.

An Inspection Panel investigation was carried out in response to a Request for Inspection submitted by residents of the District Barranco within Lima Metropolitan Region. The requesters claimed health and safety concerns from increased traffic volume through re-routing, as well as inadequate consultations on an environmental management plan or mitigation measures. The Inspection Panel's investigation report (2011) concluded that the project was not solely responsible for the adverse impacts because of the general increase in traffic volume from economic causes, and that the safeguards Category B was appropriate. However, the investigation report also pointed to shortcomings in the analysis of impacts on pedestrian and vehicle traffic flows beyond the BRT corridor; insufficient information provided to affected residents in Barranco; nonimplementation of the appropriate re-routing traffic pattern recommended in a 2005 traffic study; inadequate traffic impact analysis for the Barranco area; and a lack of sound analysis on historic and monumental aspects of this district.

In response to the Inspection Panel's findings, the World Bank provided technical assistance for traffic management through the consultations with residents in Barranco. A traffic management expert proposed traffic detours so that pedestrian rights were respected in the historic quarters. Protransporte officials informed the IEG mission that no major complaints have been received following these developments.

Senegal Urban Mobility Improvement Project

The project was the first of a two-phase Adaptable Program Loan (APL), but trigger conditions were not met and the second APL did not proceed. IDA financed US$75.71 million of the actual project cost of US$156.92 million, with a cost overrun of 152 percent from the original US$103 million. The project was appraised in 2000 and closed in 2008 after a delay of two years and nine months.1

Senegal's transport sector is of high strategic importance to the Senegalese economy, yet the government has had difficulty meeting the demands for service, particularly for the poor, who are most dependent on public provision of urban transport services. The dual challenges of providing adequate access to transport and reversing the growing crisis in urban mobility have increased in the absence of integrated land use policies and with the worsening of urban sprawl. Financing of transport infrastructure is overdependent on public funds, and private financing remains limited. When public funds do get allocated they focus on construction and neglect maintenance of deteriorating infrastructure. The project development objective was to improve the safety, efficiency, and the quality of urban mobility in the metropolitan area of Dakar and road safety in Thiès and Kaolack. This was to be achieved through activities involving road rehabilitation and construction, railway upgrading, minibus replacement, air quality improvement, and institutional strengthening.

The relevance of the objectives of the Urban Mobility Improvement Project (UMIP) was substantial. The goal of improving urban transport mobility was aligned with both World Bank and government strategies. The relevance of project design was modest. The choice of an APL was questionable, because it was predicated on the lack of implementation readiness for some of the project's key components. A highly complex design was assigned to a very weak implementing agency that had just been created. The results framework was based on overoptimistic assumptions and did not take into account the continuing rapid growth of vehicular traffic, which cancelled out the project's benefits.

Achievement of the project's objectives of safety, efficiency, and quality of urban mobility were substantial, modest, and modest, respectively. Road safety improved and the minibus leasing component was successful, but the deterioration of the road network accumulated rapidly, owing to lack of road maintenance, scarcity of required funding, and use by overloaded trucks. Outcomes related to the railway upgrading were not achieved; suburban railway operations were in a worse state when the project closed. Environmental outcomes were only partially achieved.

The project's efficiency was modest. Cost overruns were high. The economic internal rate of return at completion was probably improperly calculated because it was based mainly on significant time and cost savings from traffic improvements, yet the Implementation Completion and Results Review states that the cost of congestion increased by 32 percent between 1998 and 2008, when the project closed. Procedural and procurement inefficiencies, government indecision, and the lack of counterpart funds led to major implementation delays. Institutional strengthening achievements were modest. The Executive Council of Urban Transport in Dakar (CETUD) remains

insufficiently equipped for sector planning, management, and regulatory tasks. The government decided to reorganize CETUD in 2000, even before UMIP became effective in 2001; after much study, CETUD's restructuring was still being implemented in 2015—15 years after the initial decision.

Overall, the project's development outcome is rated unsatisfactory. Risks to development outcome are high. The lack of road maintenance funds could only be expected to cancel out the project's achievements related to road rehabilitation and construction; however, renewed support is being provided under the ongoing Senegal Transport and Urban Mobility Project. The World Bank's performance is unsatisfactory. The project was neither adequately appraised nor ready for implementation when it was presented to the Board of Executive Directors. Supervision was ineffective, despite some improvements after the midterm review. The borrower's performance is unsatisfactory. Many parts of the project were incomplete, despite three closing extensions. The government's wavering commitment, ill-timed decisions, periodic inaction, and lack of counterpart funding severely weakened prospects for achieving the project objectives. CETUD, the project executing agency, was weak and still needs significant strengthening and resources before it can adequately perform the important planning, management, and regulatory roles that it has been assigned.

[1] This description is based on a 2015 IEG PPAR of the Senegal Urban Mobility Improvement Project which closed in 2008. Since then other project activities and sectoral reforms have taken place which are not described in this section.

Appendix D. Issues Identified by Literature Review on UT Challenges and Bibliography

Background, Chapter 1

URBAN MOBILITY FOR ALL

- Global Objective, SDG
- Transport development and planning is important to development, poverty alleviation, urban congestion, climate change and pollution mitigation, public health and safety
- Rapid urbanization increases urgency.
- New methods and technologies can improve traffic and demand management and make transport greener.

URBANIZATION TRENDS IN DEVELOPING COUNTRIES

- Urbanization is a critical global trend and challenge. Rapid urbanization is led by developing countries. Urban population will double by 2030 and urban area will triple.
- There is a positive link between urbanization and economic development and poverty reduction.
- Higher productivity in urban areas stems from agglomeration economies.
- Agglomeration diseconomies include traffic congestion, air pollution, pressure on natural resources, as well as higher labor, property, policing, and other costs. With urbanization these problems grow, and can retard growth and attenuate benefits of urbanization.
- Poverty is now growing faster in urban than in rural areas, and over a billion people live in urban slums.
- Efficient urban transport, supported by strong institutions, is a cogent development objective.

URBAN PLANNING AND TRANSPORT PLANNING

- A bias toward personal motorization in planning and infrastructure investments increases congestion and time lost to delays, reduces accessibility, and negatively affects productivity.
- Urban form is heavily influenced by transport systems. Arterial roads are often managed in a fragmented and uneconomic way.
- Proper planning can contribute to a balance between various modes of urban transport. Modal coordination at stations is essential, and the poorer areas need to have good accessibility.
- Land use and planning policies should integrate transport planning, including freight transport.
- A compact city form enables people, particularly the poor, to access jobs as well as educational and health services more easily.
- Sprawl and piecemeal development disproportionately disadvantage the poor. Spatial disconnection of the urban poor from opportunities is an important contributor to poverty.
- Transit-orientated demand (TOD) encourages residential and commercial centers designed to provide a relatively high density, compact and mixed-form, and to provide access to transit in a pedestrian-friendly environment. This leads to a sustainable urban form.
- TOD requires strong institutions, political will, and planning capacity to pursue.

- City form can be limited by geography. Population density is highest in Asian cities.
- Though there will be continued growth in the megacities, it is becoming clear that the greatest growth will be in smaller and medium-sized cities.
- National transport strategy reviews have shifted focus from megacities to general issues affecting cities of all sizes.

URBAN TRANSPORT CHARACTERISTICS IN DEVELOPING COUNTRY CITIES: MODES

Informal Sector Road Passenger Transport

- The informal private sector predominates in the provision of urban road passenger transport. Most informal operators are fragmented and opportunistic, operating chaotically and dangerously. In many developing cities the sector is subject to minimal regulation
- Vehicle and operator size are generally small, as operators face difficulties obtaining finance.
- These operations tend to be poorly integrated into the wider UT systems.
- Taxi routes offer greater flexibility to users than formal bus lines. Dangerous motorcycle taxis are also common in many countries in Africa and Asia.
- Private operations are characterized by a multiplicity of vehicle ownership arrangements. The driver typically has the operational responsibility, paying a daily rental to the owner.
- Attempts to recapitalize the industry have had mixed success. S. Africa ran out of funds.
- Informal unions and organizations can become politically influential, flouting government regulations, avoiding taxation, and neglecting safety.
- In Asia, informal transport is characterized by diverse modes including buses, minibuses, taxis, tuktuks, songtaews, and motorcycle taxis, but also ride-sharing on converted trucks and jeeps.
- In India there are 10 million rickshaw drivers, in Bangladesh 2 million.
- Rio de Janeiro has witnessed an explosion of minibus/van services over the past few years, connected to declining public bus service quality and coverage. A study comparing policy alternatives found that users benefited most from improved formal mass transit. Policies to foster a competitive environment for delivery of both informal and formal services were also shown to benefit users. Legalizing the informal sector was found to benefit users only slightly.

Public Sector Road Passenger Transport

- In most developing country cities, public passenger road transport services cannot cover operating expenses with fares. Companies often receive insufficient public financing to maintain a satisfactory level of service.
- A more liberal approach to private sector entry has increased supply by means of competitively tendered franchises. Successful franchised operations are evident in Bogotá and Curitiba.

Bus Rapid Transit

- Bus Rapid Transit (BRT) has since taken off as an alternative form of mass transit in developing-country cities. It is a bus-based system where the buses have dedicated lanes with terminals, stops and shelters, as well as traffic management preference measures.
- The more expensive “gold-standard” systems feature off-board fare collection, same-level boarding, and passing lanes at bus stations.
- Less expensive systems do not meet these criteria and cater to lower volumes of passengers.

- Global best practices may not work in all circumstances, and customization is often desirable.
- A phased approach, focusing on early service delivery, can build support. It is important to develop a BRT network as opposed to single corridors, but the first phase is to ensure delivery of a pilot scheme demonstrating the advantages of the mode.

Rail Transport and Metro Systems

- Beyond an arguable threshold traffic volume, rail is preferable for moving large numbers of people. Commuter services in the Mumbai Metropolitan Area convey 7.9 million passengers daily, with the world's highest-density passenger services.
- Most of the world's urban mass transit systems cannot cover operating costs, let alone capital expenses, through fare box revenues. On average, 25 percent of metros' operating expenditures are not funded by fare box income.

Chapter 3: Mobility for All

URBAN POVERTY AND SOCIAL EQUITY

- Urban poverty is a multidimensional phenomenon, manifested through the spatial segregation of the poorest areas characterized by inadequate public services and deficient infrastructure.
- Provision of mass transportation is often inappropriate in terms of affordability and availability, restricting usage by the poor. Transportation infrastructure in the name of urban renewal and economic development programs often marginalize the urban poor.
- Transport subsidies are widely used to help the poor, but they are difficult to effectively target and vulnerable to misuse and capture by wealthier users, and they are difficult to sustain.
- Rising land and property prices in city centers force people in the low-income group to make complex trade-offs between residential location, travel distance, and travel mode.
- Lower levels of transport services provided in areas with a higher density of poor people impedes their mobility, access, and earnings potential.
- Design of UT services also disadvantages other vulnerable groups, such as the elderly and disabled persons, from accessing services. Appropriate legislation can facilitate progress.

NONMOTORIZED TRANSPORT

- Nonmotorized transport (NMT) (walking, cycling, and cart) is clearly very significant for the poor. The urban poor walk much more than the nonpoor. Overall, NMT accounts for approximately 37 percent of urban trips worldwide, dominated by short walking trips.
- A high proportion of people rely on NMT, yet planning and financing of relevant services lags.
- The popularity of the bicycle varies, with low usage in Africa and Latin America and greater prominence in Asia. Cycling is dangerous in some cities' congested urban conditions.
- Some projects have promoted NMT through a more cycle- and pedestrian-friendly environment and supportive investments. The design of intermodal transfer points also brought opportunities to improve pedestrian safety. Overall, however, NMT has a long way to go.

TRANSPORT SAFETY AND SECURITY

- Data on urban road accident fatalities and injuries is rare. Most datasets are at the national level.

- High-income countries of Western Europe mostly have accident rates of between 3.5 and 6.0 per 100,000 people, and are declining. Developing country experience is much worse. Latin American fatality rates range between 13 and 21 per 100,000 people, China and India rates range between 16 and 17, and African countries rates are 28 to 35 per 100,000 people (WHO).
- Piecemeal information from individual studies shows the vulnerability of pedestrians. Children and the elderly are the most vulnerable pedestrians.
- Reasons for traffic accidents include excessive speed, failure to use protective measures such as seat belts and helmets, poor road design, lack of pedestrian crossing facilities, drinking and driving, and poor vehicle impact protection. Cities may present additional hazards including the absence of lane demarcation, informal markets and street hawkers encroaching on the road reserve, and informal taxis picking up and dropping passengers unsafely.
- The safe systems approach involves designing the entire transport system—including road engineering, user behavior, vehicle safety, policing, and accident response—to protect people from death and serious injury. WHO embraces this philosophy.
- Progress was limited where authorities did not commit to change their approach or invest resources.
- Railway safety is also a concern. Mumbai's railway system records between 10 and 12 fatal accidents daily due to people illegally crossing the tracks, falling from overcrowded carriages, or being electrocuted trying to ride on top of the carriage roofs.

ADDRESSING URBAN TRANSPORT SUPPLY AND DEMAND

- While car ownership rates in some advanced economies approach saturation, motorization continues unabated in developing countries, driven by economic growth and rising incomes. By 2050 the number of motor vehicles worldwide may reach 2.6 billion, and China alone is expected to have 800 million private automobiles. There has been also an explosion in the growth of motorcycles, scooters, and mopeds, especially in Asia and Africa. In Laos and the Philippines two-wheeled motorized traffic comprises 78 percent and 43 percent of all traffic, respectively.
- Efforts to address congestion by building more roads are soon overwhelmed by increases in the numbers of vehicles induced by the improvements. The alternative is to contain sprawl, create more compact, pedestrian friendly cities, and reduce vehicle kilometers travelled.
- Societal values in China and other countries emphasized car ownership as a "rite of passage" for the middle class. Pro-car government policies in the form of favorable tax policies and government incentives encouraged motor vehicle purchases to boost domestic vehicle manufacturing. Cheap imported secondhand vehicles from Europe boosted sales in Africa, while in Peru 80 percent of the vehicle stock was imported secondhand from the USA or Japan. In Latin America ease of credit contributed to rising rates of car ownership. Subsidized transport fuel in many oil-producing countries also distorted supply and demand relationships.
- Congestion reduces mobility for road users in cars, and even more for public transport users, because transit routes characteristically follow the highest-volume arteries. High levels of congestion and high latent demand for travel result when motorization outstrips expansion of roadways. The condition exists in nearly all developing countries.. When a new urban highway is opened it may be congested from the start because of the latent demand.
- Though the impossibility of providing enough road space for unrestricted private car use is increasingly recognized, demand management is generally weak. Conscious restrictions of the amount of road space provided is rare. Curitiba in Brazil set an example of accommodating travel demand management through its land use plans.

- An increasingly popular strategy to restrict travel demand (aimed at reducing vehicle air pollution) is restricting access into an urban cordon area based on the last digits of the license number or on pre-established days or periods of the day (usually peak hours). The main disadvantage to this system, although it works short-term, is that if it becomes permanent, residents begin buying second cars to get around the ban, often old, more polluting cars.
- Congestion pricing is a system of charging users higher peak charges. This can take the form of road tolls, and bus and metro fares. Application of congestion pricing to urban roads is currently limited to a few cities in developed economies. There are four types of systems: a cordon around a city center with charges for crossing it; areawide congestion pricing, a city-center toll ring, and corridor congestion pricing, whereby access to a lane or facility is priced.
- These schemes vary in sophistication, but require high traffic management and electronic skills as well as good law enforcement. Critics of the measures cite harm to businesses and shops in restricted areas, and impacts on neighborhoods adjacent to the area. Others argue that poorer people will be most affected financially. Public discontent in several cases (such as Manchester, England) has led to rejection of congestion pricing schemes.
- Not surprisingly, applications in the developing world have been few. Hong Kong SAR, China conducted a pilot project between 1983 and 1985 with positive results, but public opposition prevented the scheme from becoming permanent. Since 2009 officials in Beijing and the southern city of Guangzhou, China, have repeatedly aired the idea of introducing congestion charges but faced complaints about inequality. Governments afraid of appearing to stray from socialism are sensitive to accusations of favoring the wealthy. This is now changing in Beijing, where officials face traffic jams and appalling air pollution that have resulted in public outcry. Whether this outweighs public opposition to congestion charges remains to be seen.
- Demand management measures such as enforcement of parking restrictions also proved politically unattractive.

MOBILITY AND SECURITY FOR WOMEN

- Safety and accessibility are major issues for women. In Mumbai, women-only carriages and female police on trains were seen to be a step forward, but respondents complained about overcrowded carriages, poor and unclean toilet facilities, and poor lighting at intermodal transfer points. Regarding other modes, women complained about taxi drivers who were sometimes harassing. They considered buses to be relatively safe, but found that pedestrian infrastructure was either lacking or inadequate.
- Measures to improve women's security include adding lighting to improve personal security, encouraging engagement police to penalize offenders, and incentives for franchised public transport operators.
- Commitment of clients is key to substantial improvements in safety and security. Lack of commitment is exemplified in the limited resources made available for road safety, lack of helmet requirements for motorcycles, and lack of crash barriers at dangerous locations. Positive measures include the converse of the above, as well as the undertaking of road safety audits, incentive schemes to encourage local governments to finance road safety measures, and requirements that new vehicles meet appropriate safety standards.

Chapter 4: Financial and Environmental Sustainability

FINANCIAL SUSTAINABILITY

- Complexities arise from the multiplicity of objectives pursued in urban transport and by the institutional separation of road infrastructure from operations, of infrastructure pricing from costs, and of roads from other modes of urban transport.
- The literature finds that prices for all modes should reflect full social costs (including congestion and environmental externalities), and subsidies should be targeted to strategic objectives. This generates sufficient funds for asset maintenance and replacement, and avoids distortions in modal choices.
- Road maintenance financing in developing countries has improved over the past decade with the establishment of more second-generation road funds, financed by fuel levies and managed by boards representing the interests of the road users. First-generation funds relied on earmarked revenues, with no oversight board and lacking financial rules and regulations.
- However, such funds are likely only to cover national and provincial roads. The allocation of the funds collected to city roads suffers.
- A continued reliance on deficit financing leads to uncertain and uneven flows of funding. Municipal tax revenues in developing countries are typically inadequate, and have to cover a wide range of demands. In practice, property taxes—seen as the backbone of local taxation—seldom account for more than 20 percent of local revenues.
- Other revenue sources are often not used, including personal income tax surcharges, subnational value added taxes, payroll taxes, transfers from central or state governments, and PPPs.
- In principle, local borrowing could finance capital expenditures, but creditworthiness is an issue, especially for secondary cities. Several approaches have been tried to overcome this, with only a limited impact, and sometimes a crowding-out of private finance.
- Countries that subsidize fuel encourage greater car ownership, contributing to congestion and pollution. Conversely, high taxes on fuel encourage movement to more fuel-efficient vehicles and transport modes. Subsidizing car ownership (for example, through low-interest loans) may stimulate the local auto industry, but leads to high externality costs and does not benefit the poor.
- Some cities directly or indirectly subsidize public transport, but better-off inhabitants may benefit more than poorer ones.
- Fuel subsidies may be used to encourage the use of particular fuels such as propane gas or compressed natural gas. The reality in many developing country cities, however, is that the vehicle fleet is often old, with inefficient technology. Policies to offset these deficiencies include incentives to scrap old vehicles, and restrictions on the importation of secondhand vehicles.
- Poor traffic management may arise from inadequate financing mechanisms to channel funds, and too much emphasis on building new infrastructure.
- Various new fees, generically known as value capture, are being tried. For example, impact fees are designed to recover the external costs needed to pay for infrastructure provided by public authorities. The drawback is that there can be a considerable margin of uncertainty about exactly what infrastructure should be associated with a new development, so of necessity such fees are negotiated. The establishment of new town corporations allows a developer to recover the costs of infrastructure through land and property sales. Lease or sale of unused urban land can also provide a contribution. Ethiopia has introduced a law that mandates 90 percent of the proceeds of municipal land leasing combined with borrowing against land collateral. A pitfall here, as learned

in China, is that the temptation to convert rural land to urban by this mechanism can result in sprawl. Sale of development rights is another option, in whichthe municipality charges a preset fee for additional floor space beyond the normal maximum density. Such fees have been used in Sao Paulo, Brazil and Mumbai, India. All these concepts need proving.

PPP

- Expectations for large-scale private investment did not materialize. Most transport projects were seen as risky. Those projects that were pursued focused mainly on middle-income countries in Latin America and East Asia, where governments were more supportive and had the capacity to engage effectively with the private sector, so risks were perceived to be lower.
- A review of such projects in six countries concluded that apart from the physical achievements, the positive outcomes of PPPs included technical and managerial innovation and capacity building of both the countries' private and public sectors.

ENVIRONMENTAL SUSTAINABILITY

- Mobility faces critical challenges in tackling climate change.
- Over the past decade, there was a strong emphasis on environmentally sustainable urban transport: decreasing the volume of air pollutants, particularly lead in gasoline and fine particulate matter, as well as volatile organic compounds and oxides of nitrogen.
- Reducing transit-generated air pollution reduces deaths from asthma, upper respiratory illnesses and cancer, though results are difficult to measure because of the difficulty of establishing attribution.
- Considerable progress has been made in eliminating lead in vehicle fuel. Between 2005 and 2011, the number of countries selling leaded gasonline shrank from 81 to six.
- Nonetheless, as of 2010, the reported contribution of developing countries to global warming was increasing, and China had overtaken the United States as the chief greenhouse gas emitter.
- According to WHO, about half of the urban population monitored in 1,600 cities across 91 countries is exposed to air pollution that is at least 2.5 times higher than the recommended level.
- Motor vehicles are a major contributor. The United Nations estimated that 600 million people worldwide in urban areas were exposed to dangerous levels of traffic-generated air pollutants.
- Typical measures supported by development banks to reduce vehicle-related air pollution have been aimed at better traffic management (including prioritizing public transport), improved vehicle inspection and maintenance programs, encouragement of the introduction of technologies to suppress emissions and reduce fuel consumption, as well as fiscal measures.
- Pollution from motorbikes has steadily increased, especially in Asia, but lower-polluting four-stroke engine motorcycles have begun replacing two-stroke engines.
- Other environmental issues affecting cities, including noise pollution and aesthetics and visual intrusion, have garnered only limited attention.
- Regarding the use of alternative fuels, there has been progress, but as yet not a major breakthrough. Use of compressed natural gas (CNG) has increased but is confined to bus fleet operations in a few cities. A modern public bus, with conventional diesel fuel, nevertheless emits only half the carbon dioxide of a small car, per passenger km traveled.
- Appalling air quality conditions along bus corridors can be dramatically improved with investments in buses with recent technology. Since 2006 many developing countries adopted stricter standards for sulfur content in diesel. Many countries have committed to new vehicles meeting the latest (Euro 4) standards.

- Liquid biofuels can be used in existing vehicles. The IEA estimates that biofuels account for about 1.5 percent of global transportation fuel consumed. Biofuels generate about a third less greenhouse gases than gasoline, but the Food and Agriculture Organization (FAO) has suggested that they contributed to high food prices and hunger. Research is ongoing to produce biofuels from nonfood sources.
- Advocacy can be important in improving the city environment, but measuring results is difficult because of attribution problems.

Chapter 5: Institutional Strengthening in Urban Transport

- Urban transport interventions are often complex and multidimensional. Responsibility for these modes is spread across different agencies, administrative boundaries, and levels of government.
- Holistic solutions, a common strategy, and strong coordination among the various authorities involved are desirable. In many cases the root cause of urban dysfunction is a lack of coordinated structures for planning, implementation, and management and a chronic lack of capacity in these. As a result, sub-optimal projects are planned and pursued in isolation from their potential impacts on other projects.
- In cases where large urban projects have been realized or a metropolitan transport authority was established, there has been a strong political champion who was able to foster public awareness and capture public imagination. Curitiba's transport system in Brazil was promoted by a strong city mayor. Similarly, the Lagos Metropolitan Transport Authority (LMATA) was established with strong support of the Commissioner for Transport in Lagos State.
- Because so many people are affected by transport systems in a city and so many people are directly or indirectly employed in the operation of transport infrastructure and services, any change is a highly sensitive matter. Reforms need to be demonstrated as effective and the public needs to participate in the decision-making process. Change creates both winners and losers. The challenge is to ensure that the losers are well informed and that their specific concerns are communicated and addressed in the overall design. Because political leaders come and go, it is important to ensure that there is political agreement and broad stakeholder ownership This is especially important where the gestation periods of transport projects are lengthy.
- Regarding the setting up of LMATA (or any metropolitan authority), this can take some time. Delays arose in recruiting skills staff, role clarification, overcoming turf projection by local authorities, legislative strengthening, and generating greater buy-in and a common vision.
- Stakeholder participation requires transparency to minimize opportunities for corruption, improve governance, and allow for complaints, suggestions, and grievances to be heard.
- However, there is no single approach to establishing an effective lead agency. Instead, the approach must adapt to different political and administrative philosophies. To perform effectively such authorities need financial independence and clear decision-making authority over all public sector funds being spent on transport in the respective metropolitan area.
- Building capacity in urban transport is a slow process that must be tackled continuously through a spectrum of projects. It can benefit from technical assistance components of investment projects. Though these have traditionally been focused on ensuring that the financial, procurement, and safeguards aspects of the projects are adequately handled, there is often scope for more specialized knowledge-building, and for trips for key stakeholders to observe best practices in other developing countries (South-South learning).

Bibliography

Access Exchange International, 2011, www.globalride-sf.org

Asian Development Bank. 2009. Electric Two-wheeler Vehicles in India and Vietnam. Manila

Bahl, R., and J. Martinez-Vasquez. 2007. The Property Tax in Developing Countries: Current Practice and Prospects. In *Toward a Vision of Land in 2015*, edited by J. Riddell and G. Cornia, 23–46. Cambridge, MA: Lincoln Institute of Land Policy.

Balassiana, R., and R. Alexandre. 2013. "Informal Motorized Transport in Rio de Janeiro, Brazil" Case Study for UN–Habitat Global Report on Human Settlements. United Nations, Nairobi.

Cacciola, R., M. C. Sarva, and R. Polosa. 2002. "Adverse Respiratory Effects and Allergic Susceptibility in Relation to Particulate Air Pollution." *Allergy*, 2002(57): 281–6.

Carruthers, R., M. Dick, and A. Saurkar. 2005. "Affordability of Public Transport in Developing Countries." Transport Paper TP-3, World Bank, Washington, DC.

Cevero R. 2013. "Linking Urban Transport and Land Use in Developing Countries." *Journal of Transport and Land Use* 6(1):7–24.

Dablanc, L., 2009. *Freight Transport for Development Toolkit: Urban Freight*. World Bank/DFID Transport Research Support Program, Washington, DC.

Davis. L., and M. Khan., 2011, Cash for Clunkers? The Environmental Impact of Mexico's Demand for Used Vehicles Access 38, Spring 2011. http://www.accessmagazine.org/articles/spring-2011/cash-clunkers-environmental-impact-mexicos-demand-used-vehicles/

Delphi. 2011. Worldwide Emissions Standards. Delphi Worldwide. http://delphi.com/about/emissions_standards

Dittmar, H., and G. Ohland., 2012. *The New Transit Town: Best Practices in Transit-oriented Development*. Wshington, DC: Island Press.

Dobbs, R., and S. Sankhe. 2010. "Comparing Urbanization in India and China." McKinsey and Co.

Dragone, G., B. Fern, A. A. Vicente, J., and A. Teixeira. 2010. Third Generation Biofuels from Microalgae. Current Research, Technology and Education Topics in Applied Microbiology. Series No 2, Badajoz, Spain.

The Economist, June 18, 2016. "The Great Crawl: The Chinese Love their Cars, But Do Not Want to Pay More for Driving Them."

Faiz, A. 2011. Transportation and the Urban Poor. *ITE Journal*, December 2011.

Gakenheimer, R. 1999. "Urban Mobility in the Developing World." *Transportation Research Part A* 33 (1999): 671–689.

Godard, X. 2013. "Comparison of Urban Transport Sustainability: Lessons from West and North Africa." *Research in Transportation Economics* 40 (2013): 96–103.

Golub, A., R. Balassiano, A. Araújo, and E. Ferreira. 2009. "Regulation of the Informal Transport Sector in Rio de Janeiro." *Transportation Planning and Policy Research Practice*, 36(5): 601–616.

Guislain, P. 2016. "Sustainable Mobility, the New Imperative." *Transport for Development* (blog), https://blogs.worldbank.org/transport/.

Gwilliam, K. 2013. Cities on the Move – Ten Years After. *Research in Transportation Economics* 40 (2013): 3-18.

Hau, T. 1990. "Electronic Road Pricing Developments in Hong Kong, 1983-89." *Journal of Transport Economics and Policy* 24(2): 203–214.

Hidalgo, D., andA. Carrigan.2010. "Modernizing Public Transportation, Lessons Learned from Major Bus Improvements in Latin America and Asia." EMBARQ, World Resources Institute Center for Sustainable Transport, Washington, DC.

Hook, W. 2006. "Urban Transportation and the Millenium Development Goals. *Global Urban Development Magazine* 2 (1).

IEG. 2007. A Decade of Action in Transport: An Evaluation of World Bank Assistance to the Transport Sector, 1995–2005, Washington, DC

_____. 2014, Making Roads Safer: Learning from the World Bank's Experience, Washington, DC

_____. 2016. India Mumbai Urban Transport Project, Project Performance Assessment, Report 106391, World Bank. Washington, DC

_____. 2016. Lagos Urban Transport Project, Project Performance Assessment, Report 103068, Washington, DC

_____. 2016. Senegal: Urban Mobility Improvement Project, Project Performance Assessment Report, No. 108407, Washington, DC

_____. 2016, Approach Paper, Mobile Metropolises: An IEG Evaluation of the WBG's Support for Urban Transport

International Energy Association. 2009. *World Energy Outlook*. Paris.

Kumar, A., and O. P. Agarwal. 2013. "Institutional Labyrinth: Designing a Way Out for Improving Urban Transport Services: Lessons from Current Practice." World Bank and Australian Aid. Washington, DC.

Kumar, A., and C. Diou.2009. "The Dakar Bus Renewal Scheme." SSATP discussion paper No.11, World Bank, Washington, DC.

Kumar, A., and S. Zimmerman., 2015. "Lessons in Design and Implementation of World Bank Urban Transport Projects: What Makes It so Difficult? Unpublished internal document of the World Bank, Washington, DC.

Lall, S., and P. Procee, eds. 2016. *Shanghai 2050: From Made in Shanghai to Created in Shanghai*. World Bank. Washington, DC

Liu, Z., and A. Salzberg.2012. China Local Government Municipal Finance and Land Use, in Low Carbon Development in China, World Bank.

Mehndiratta, S. 2011. "Cycling and Walking: Preserving a Heritage, Regaining Lost Ground." In *Sustainable Low-Carbon City Development in China*, edited by A. Baeumler, E. Ijjasz-Vasquez, and S. Mehndiratta. Washington, DC: World Bank.

Mehta, B., and A. Dastur. 2008. Approaches to Urban Slums: A Multimedia Sourcebook on Adaptive and Proactive Strategies. World Bank Institute Learning Resources Series. Washington, DC.

Mitric, S. 2008. A Framework for Urban Transport Projects: Operational Guidance for World Bank Staff. Transport paper series TP-15. World Bank, Washington, DC.

_____. Urban Transport for Development: Towards an Operationally-Oriented Strategy. Transport paper series TP–22. World Bank, Washington, DC.

_____. 2011. Urban Transport Projects: Patterns and Trends in Lending, 1999–2009, DFID and Washington, DC: World Bank.

_____. 2013. "Urban Transport Lending by the World Bank: The Last Decade." *Research in Transportation Economics* 40 (2013): 19–33.

Morita, A., K. Takeuchi, K. Doi, R. G. Sigua, K. Honda, F. Seta, and A. Murakami. 2004. "Urban Transport and Local Governance in Asian Developing Countries." *IATSS Research* 28, 6–18.

Nataraj, G. 2007. "Infrastructure Challenges in South Asia: The Role of Public-Private Partnerships." Asian Development Bank. Manilla

National Geographic Magazine (December edition). 2011. "Cities are the Solution."

Pulido, D., and I. Portabales.2015. "Boosting Mass Transit Through Entrepreneurship: Going Beyond Subsidies to Reduce Public Transport Funding." *Transport and ICT Connections* 6, World Bank, Washington, DC.

Ruikar, M. 2013. "National Statistics of Road Traffic Accidents in India." *Journal of Orthopedics, Traumatology and Rehabilitation* 6(1): 1–6. http://www.jotr.in/text.asp?2013/6/1/1/118718.

Solagberu, B., R. I. Osuoji, N. A. Ibrahim, M. A. Oludara, R. A. Balogun, A. O. Ajani, O. E. Idowu, I. A. Mustafa, F. O. Sanni. 2014. "Child Pedestrian Injury and Fatality in a Developing Country." *Pediatric Surgery Internationa*, 30(6): 625–632.

South Africa Department of Transport. 2008. draft National Nonmotorized Transport Policy. Pretoria.

Starkey, P., and J. Hine. 2014. Poverty and Sustainable Transport. UN Habitat and UK Department of International Development.

Suzuki, H., R. Cervero, and K. Iuchi. 2013. *Transforming Cities with Transit*. Washington, DC: World Bank.

Transport for London. 2014. Public and Stakeholder Consultations on a Variation Order to Modify the Congestion Charging Scheme, Impact Assessment. London.

Bouissou, J.. 2013. "Mumbai's Rail Commuters Pay a High Price for Public Transport." *Guardian,* October 29. https://www.theguardian.com/world/2013/oct/29/india-mumbai-population-rail-accidents.

UN Food and Agriculture Organization. 2009. The Right to Food and the Impact of Biofuels, Rome

United Nations Settlement Program (UN-Habitat). 2016. World Cities Report, 2016. *Urbanization and Development Emerging Futures*. New York. www.unhabitat.org.

_____. 2013. Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements. New York.

_____.2015. "Transport and Mobility." Issue Paper 19, Habitat III Issue Papers. New York.

_____. 2016. "UN-Habitat Launches the World Cities Report 2016, Urbanization and Development: Emerging Futures," press release, May18, 2016 https://unhabitat.org/un-habitat-launches-the-world-cities-report-2016/.

_____. 2011. *The Millennium Development Goals Report*. New York.

Vasconcellos, E. 2014. *Urban Transport, Environment and Equity: The Case for Developing Countries*. New York: Routledge.

Willoughby, C. 2013. "How Much Can Public Private Partnership Really Do for Urban Transport?" *Research in Transportation Economics* 40 (2013): 34-55

World Bank. 1987. Urban transport . A World Bank policy study. Washington, DC

_____. 1996. *Sustainable Transport: Priorities for Policy Reform*. Washington, DC.

_____. Bank. 2002. *Cities on the Move: A World Bank Urban Transport Strategy Review*. Washington, DC.

_____. 2006. Vietnam—Hanoi Urban Transport Development Project, Report AB 2656, Washington, DC.

_____. 2009. "World Bank Group Sustainable Infrastructure Action Plan: Fiscal Years 2009–2011." Washington, DC.

_____. 2009. "Scale Economies and Agglomeration. Chap. 4 of *World Development Report 2009: Reshaping Economic Geography*. ,. Washington, DC.

_____. 2010. *World Development Report 2010: Development and Climate Change*. Washington, DC

_____. 2012. Toward a Green, Clean, and Resilient World for All: A World Bank Group Environment Strategy 2012–2022. Washington, DC.

_____. 2013. "Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation: The World Bank Urban and Local Government Strategy." Washington, DC.

_____. 2015. "Leaders in Urban Transport Planning" (brochure). Washington, DC.

_____. 2016. *Global Tracking Framework – Sustainable Mobility for All*, Concept Note (P161622)

_____. Safe, Clean and Affordable: Transport for Development: The World Bank's Transport Business Strategy for 2008-12, Transport Sector Board, Washington, DC

WHO (World Health Organization). 2016. Global Urban Ambient Air Pollution Database (Update). Geneva. www.who.int/phe/health_topics/outdoorair/database/cities/en/.

_____. 2013. Global Status Report on Road Safety. Geneva.

Appendix E. Summary of Partnerships Review: PPIAF and SSATP

Public-Private Infrastructure Advisory Facility's Support to Urban Transport

The scope of this review is the Public-Private Infrastructure Advisory Facility's (PPIAF's) urban transport portfolio approved between fiscal years (FY) 2007 and 2016. The objective is to assess how the World Bank Group has used its partnership with the facility to leverage its capabilities and resources in dealing with global challenges in urban transport.

PPIAF was created in 1999, building on the World Bank Group's Infrastructure Action Program (1997) with the aim of improving the environment for private sector participation (PSP) in infrastructure in developing countries. PPIAF's mission is to help eliminate poverty and achieve sustainable development by facilitating private involvement in infrastructure, including but not limited to urban transport and pursuing universal access, climate change adaptation and mitigation, and urbanization. PPIAF seeks to strengthen institutions and legal systems, and to promote high standards of governance, competition, the protection of investments, and sound dispute resolution mechanisms. Activities are financed through grants for eligible countries and sectors encompassing policy formation and support to legal and institutional reforms; advisory to select the best model for infrastructure service delivery, risk allocation, and PPP design; support to stakeholders and beneficiaries; and design and implementation of pioneering projects. A Sub-National Technical Assistance Program (SNTA) under PPIAF also helps local authorities to improve creditworthiness and develop capacities to access market-based financing.

PPIAF's support to urban transport. Between FY 2007 and FY 2016, PPIAF approved 813 activities totaling $174.8 million in commitments, mostly for multisector projects (43 percent). Transport (16 percent) was the second most important single sector after energy (21 percent). Out of the $28.2 million approved in 131 transport activities, a third ($9.7 million) was approved in 47 (eight active, two cancelled) urban transport activities (6 percent of PPIAF funding) not only to support global and regional projects, but also at least 20 single countries.

Almost half of PPIAF's funding in urban transport promoted strategies for PSP and capacity building to manage it. According to PPIAF's own classification, almost a third (11) of the 47 urban transport activities supported infrastructure development strategies, intended to guide governments on options for expanding

private sector participation in infrastructure. A fifth (8) supported Government capacity building for the design and execution of PSP arrangements and for the regulation of private service providers. A sixth (7) provided advice on the design and implementation of specific policy, regulatory and institutional reforms. Six activities supported pioneering transactions, and six focused on the identification and international promotion of emerging best practices in PSP in infrastructure. Only one activity was for consensus building. Eight activities were approved as technical assistance to subnational authorities (SNTA), mostly providing support to access financing for infrastructure improvements without relying on sovereign guarantees. As for other sectors, the World Bank Group executed most of the general PPIAF activities in transport and urban transport. In about 20 percent of SNTA activities in transport and urban transport, unlike other sectors, recipients participated in executing the projects.

Unlike support to other sectors, support to transport and urban transport was regionally diversified. While other sectors mainly focused on Africa, urban transport provided the greatest support to East Asia and Pacific (25 percent) and Latin America and the Caribbean (21 percent). Greater support stood out in Vietnam, Colombia, and the Philippines, as well as in middle-income countries. Low-income countries received less support and fragile countries did not receive any. The main mode supported in individual countries was urban railway (28 percent), followed by conventional buses (19 percent) and bus rapid transit (BRT) (15 percent).

PPIAF's achievements in urban transport. A sample of 20 activities (14 closed) totaling about $4.9 million was selected to reflect the PPIAF's urban transport portfolio in the period. Sampled projects mobilized $3.2 million more in counterpart funds from governments, transport companies, and other development banks and donors. The 20 activities (17 PPIAF, three SNTA) cover eight single countries or have global or regional scope. Most activities financed technical assistance (11), followed by capacity building (5) and knowledge dissemination (4).

Supported technical assistance and capacity-building activities responded to evident needs in the sector. The PPIAF provided greater support to less urbanized countries. It was aligned with the World Bank's strategy in urban transport for the period, but repeatedly financed activities in Colombia, Vietnam, and the Philippines, while the World Bank Group used a third of its commitments in China, Brazil, and India. However, like the World Bank Group, PPIAF mainly supported institutional and regulatory framework (75 percent) and urban transport supply increases (25 percent), leaving demand management partially unattended to. Furthermore, although the designs of knowledge activities highlighted the potential benefits —

environmental benefits, safety, security, and support to vulnerable groups—those were rarely objectives. More importantly, most activities' designs had a clear vertical logic. Still, in a few cases, objectives were not direct outcomes, but depended on associated projects or lacked the activities and funding allocation to reach them. Because PPIAF's support is demand driven and usually results from other development financing institutions' dialogue with government counterparts, PPIAF activities were usually utilized to complement other projects. About 80 percent of PPIAF's activities in urban transport either supported investment loans or co-financed greater projects.

Available information indicates that most outputs were not only delivered (93 percent), but also with good quality. The Facility used its own supported learning materials to develop capacity-building modules and workshops. About a third of the activities that intended to inform lending actually did it. A quarter of the activities did not inform other projects, and in the remainder of cases, it is unclear because of a lack of information and proper tracking. Furthermore, although 90 percent of the activities discuss their implications on affordability and accessibility for vulnerable groups or environmental protection, only 10 percent measure those results.

PPIAF's activities usually achieved short-term outcomes, but upstream technical assistance was not as successful as capacity-building and knowledge dissemination activities achieving longer-term goals. Technical assistance mostly comprised PPP pre-feasibility and option studies as well as policy, regulatory, and institutional reform support. While most TA activities informed the supported projects and authorities, only about 40 percent fully achieved their outcomes. The other 60 percent did not lead immediately to implementation because delays put its effectiveness at risk. About 85 percent of PPIAF's capacity building and knowledge activities were effective in strengthening the technical capacity of World Bank staff and country decision makers, and likely allowed to extend it to their agencies.

Challenges during the implementation of PPIAF activities were quite similar to those of World Bank–supported projects. The most persistent issues were delays, generally related to procurement processes. Activities were usually scheduled for an implementation period of just over a year, but delays extended average execution by about 6 months. Task team lead rotations hindered the pace of implementation, particularly in continued engagements. Low quality of intermediate outputs caused cost overruns in cases where task team leads needed to invest more time in quality control. In other cases, becaise PPIAF's approval process does not require a financial closing, the search for co-financing delayed the project's implementation. Clients were actively involved as participants in capacity-building programs and providing

feedback and support for the outputs of technical assistance. Successful activities in capacity building and technical assistance were able to sustain partnerships and bring new partners.

Key findings and lessons. PPIAF acted as a facility to create and spread knowledge, through sponsoring research activities and dissemination of lessons learnt from its funded projects. PPIAF's learning and knowledge products have fed a knowledge hub about all aspects of PPPs: i) rationale; ii) required legal and institutional framework for successful introduction; iii) identification, structuring, and design of projects; and iv) management of PPP contracts and transactions. PPIAF activities have granted the World Bank and the task team leads the convening power to influence decisions by participating in discussions regarding specific projects, reforms, and policies, where they have informed local authorities about similar experiences and best practices, and have brought together the public sector with potential investors.

Still, more World Bank Group task team leads might use PPIAF resources to promote the origination of and support to ongoing urban transport projects. The PPIAF focused its resources in urban transport on three countries and a few projects, spurred by the active participation of the task team leads of those countries. Still, there is an unmet demand for technical support and private sector participation in the construction, renovation, management, and maintenance of urban transport infrastructure. The financial cap to supervise projects hampers task team leads' commitment to the supervision and successful completion of the activities, and the uncompensated time investment imposed by application procedures may deter them from applying for resources. Task team leads' perception suggests that a rationalization of the application procedures, the strengthening of PPIAF's application processing capacity, and alternatives to the capped expenditure on PPIAF project supervision may encourage a more widespread use of the Facility.

Knowledge products and capacity building are likely to be more effective in achieving project objectives than targeted technical assistance, but further operational efforts and incentives for more committed supervision could improve its effectiveness. Technical assistance activities have faced all types of implementation challenges. It is necessary that PPIAF and the World Bank Group ensure that task team leads and project teams have the incentives, expertise, and time to commit to technical assistance.

Finally, an enhanced M&E framework could help to identify lessons, inform of necessary changes, and mobilize more resources. During the evaluation period, PPIAF's monitoring tools have become more informative, demonstrating an advance

in the learning curve. Nonetheless, monitoring enforcement is limited, as evidenced by a lack of detailed information about specific implementation issues, and an excessive reliance on perception. For projects reviewed by IEG, there had been no systematic and longer-term follow-up of outcomes. IEG has learned that PPIAF introduced such a system in 2015, beginning by reviewing activities closing in 2011 and progressing from there. PPIAF has definitely built on its own technical assistance work, but further efforts would help increase its contribution to the origination of new loan operations.

Sub-Saharan Africa Transport Policy Program (SSATP)'s Support to Urban Transport

This partnership review assesses the Sub-Saharan Africa Transport Policy Program's (SSATP) support to urban transport in 2008-15. It aims to inform IEG's evaluation of the World Bank Group's support to urban transport on how well SSATP has contributed to policy development and capacity building related to urban transport in the Africa region; and to what extent this regional partnership program helps the World Bank Group to advance the urban transport agenda.

The SSATP is a multi-donor partnership hosted by the World Bank Group's Transport and ICT GP. Governed by a Board that has the participation of international financial organizations, beneficiary governments, the private sector, users and civil society, and the donor community, it is in a unique position from which to help African governments develop and implement transport policies. The core team is small, with the program manager based in Washington, DC, and three thematic coordinators based in Nairobi.

The core SSATP activities in urban transport carried out in the period of 2008-15 can be categorized as: (i) tools and methodologies: developing new tools and practical approaches in addressing different aspects of urban transport; (ii) knowledge products: generating and sharing evidence-based knowledge and knowhow across SSATP member countries; and (iii) capacity building: developing the capacity of policy makers in the transport sector through workshops. Nine activities in urban transport were undertaken in the period 2008-15 by SSATP.

The program's current strategic priorities— regional integration, road safety, and urban mobility— are well-adjusted to the changing global and regional context and make the program well positioned to help its member countries. The program should be given credit for its current focus on urban mobility as a critical issue to address over the next four years in the region. As interviews with the program stakeholders revealed, initially the demand from national governments and donor

interest were not high. Local authorities mostly lacked the necessary knowledge, and had limited capacity and financial resources to deal with issues of urban mobility. However, the program's efforts to put urban mobility on the agenda paid off: increasingly urban mobility receives more attention from global and regional development partners and client countries. The partners, for example the African Development Bank, also noted the growing demand for policy advice in urban mobility that the program could fill. The program is in a good position to contribute to SDG goal 11- Make cities and human settlements inclusive, safe, resilient, and sustainable. However, there was no qualitative or quantitative evidence in annual or completion reports regarding how its products were used by the World Bank. In general, the visibility of SSATP's outputs has been low, and dissemination and uptake have been slow.

A key reason has been the increasing divergence of the World Bank's own work—that is, its declining regional portfolio and its concentration on roads—and the resulting inability of the SSATP to link its outputs more directly to the projects and strategies of the World Bank. For the World Bank, there has been a missed opportunity to use the SSATP to help governments develop and formulate policies that it was encouraging through its projects. Prior to 2005, the World Bank contributed to the SSATP through the allocation of staff time, which was welcomed by the other contributing partners and stakeholders. Used by the SSATP to engage team leaders working on Africa projects, the linkage reportedly facilitated cohesion and synergies in the work of the SSATP and the World Bank. However, after the World Bank ended this practice because of budget limitations, concordance between World Bank operations and SSATP activities have been progressively reduced.

SSATP has taken steps in recent years to rationalize its program, and to improve its monitoring and evaluation systems. Its current strategic plan is focused, with only three themes. One of these is urban transport and mobility and roughly one-third of its 2015–18 resources are earmarked for urban mobility. Richer future outcomes may be realized by taking steps to more closely link SSATP policy work with the World Bank's projects on the ground, and those of the other agency partners—the European Union, the Islamic Development Bank, and the African Development Bank, by aligning programs in target countries, and possibly by sharing personnel.

Appendix F. Two Lenses: Behavior Change and Service Delivery

Behavior Change

The Independent Evaluation Group (IEG) established three Strategic Engagement Areas (SEAs) around which it has organized part of its work program. Sustained Service Delivery for the Poor is one of these SEAs (the others are Inclusive Growth and Environmental Sustainability). As part of the work in the Sustained Service Delivery for the Poor SEA, IEG developed a protocol to evaluate behavior change activities in World Bank projects—in diagnostic work and at identification, design, and monitoring and evaluation stages in a project's life-cycle.

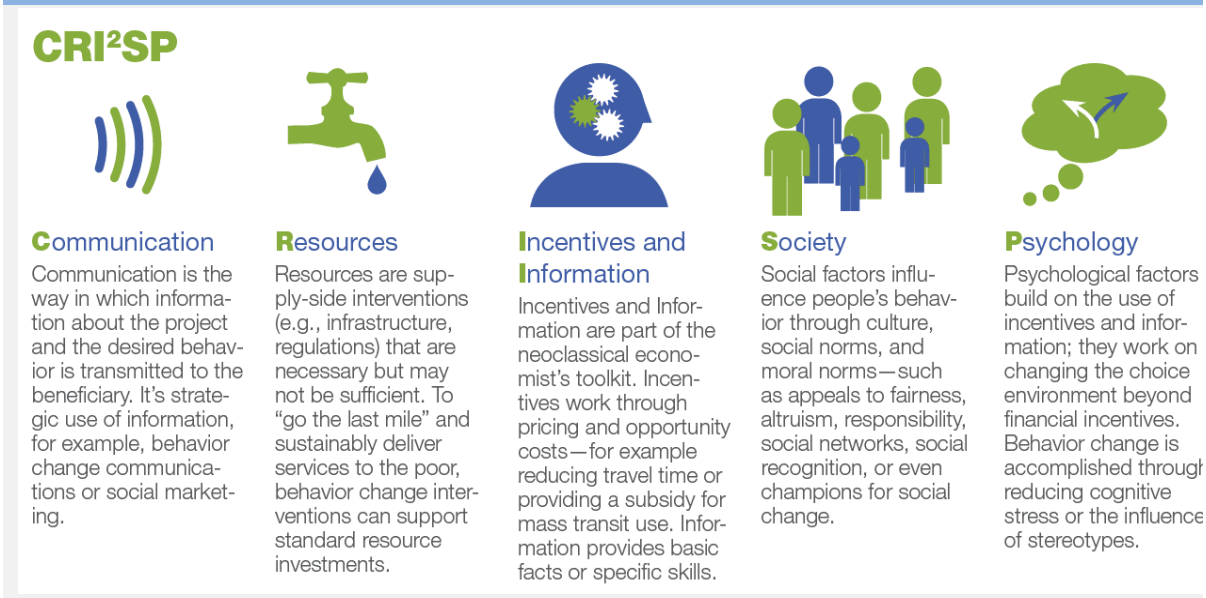
This note introduces a framework for behavior change that focuses on targeted, demand-side interventions for inducing behavior change to support achievement of development outcomes. The framework is focused on beneficiaries. It questions whether or not projects identified beneficiaries and whether or not diagnostic work was undertaken to learn what factors influence people's current behaviors (for example, service use) and to understand likely barriers to achieving a project's desired outcome. The framework categorizes interventions or activities that target individuals' behavior (demand-side interventions) and analyzes the results framework to assess the design and implementation of behavior change interventions. Finally, IEG's behavior change framework captures the reporting of outputs and outcomes associated with behavior change activities and behavior changes. Monitoring and evaluation (M&E) can help provide feedback during implementation and provide lessons learned for future project design (table F.1.).

An example of a behavioral intervention is the use of incentives for service up-take or providing needed information and awareness through education and promotional campaigns. This is not to say that supply-side interventions, such as the provision of additional resources (for example, bus rapid transit or roads) or changes in the technology of production (such as increasing efficiency of the transport system), do not change individuals' behavior. Infrastructure projects satisfy excess or latent demand for services simply by providing access. But these projects don't generally address constraints to service uptake beyond physical access. To sustainably deliver services to the poor, the beneficiary has to be front and center. Directly targeting demand-side behavior addresses these challenges by acknowledging individuals' decision-making processes and the implicit trade-offs required of individuals. For example, bus rapid transit intervention, which provides

infrastructure and targets the ease, safety, or convenience of using public transport, contains both a supply-side intervention and a demand-side behavior change intervention.

The underpinnings of the framework are rooted in research—both, standard neoclassical economics and behavioral economics—that shows behavior change is dependent on communication, resources, information and incentives, social factors, and psychological factors. Which is why we called the framework CRI²SP (figure F.1).

Figure F.1. CRI²SP Framework



Methodology

A random sample of 75 World Bank urban transportation projects was drawn from the larger urban transportation portfolio under review by an IEG sector evaluation.1 The results presented below are based on an examination of 48 project reviews.2

The main objective of this review was to (i) explore the extent to which information on behavior change is available in project documents; (ii) analyze how behavior change is described and operationalized in the documents; and (iii) assess the quality of the information provided in project documents. The review considered all information contained within project appraisal documents (PADs), implementation completion reports (ICRs), and implementation completion report reviews (ICRRs). Although the focus of the work was on the design phase, certain information was taken from the ICRs and ICRRs (for example, to compare behavior change outcomes and outputs in the results framework to those measured at project closure). No

analysis of correlation between outcomes and the presence of behavior change interventions was conducted. All data collected by the review are available in an Access database.

There are limitations to drawing inferences from a review of project documentation only. Supplemental information from interviews with task team leads and country case could provide additional evidence of behavior change interventions or the details of interventions mentioned in project documentation. It is likely that behavior change activities are not fully fleshed out in project documents, or that they are implicitly incorporated into project design but not explicitly included in project documents, or that supporting activities were provided by others in cooperation with the World Bank (and thus may not be captured in project documents).

Amount and Extent of Behavior Change in World Bank Documents

The discussion that follows provides basic summary statistics and examples of behavior change interventions in the urban transportation sector.

Identification and Diagnostics of Behavior Change in Project Documents

Diagnostics help inform project design by identifying the targeted beneficiaries and intended behavioral change. Understanding beneficiaries' needs and patterns of use and determining physical and behavioral barriers to achieving project goals are critical to sustainably delivering services.

The poor were the primary beneficiaries identified in urban transport projects -- project development objectives either explicitly targeted the poor or projects indirectly targeted the poor by focusing on public transportation. Without explicit targeting, the actual beneficiaries may not be the poorest. IEG's review of transformational engagements found that middle-class users benefitted the most in the Bogotá bus rapid transit project. The literature finds similar evidence for urban metro rail; for example, Cook et al. (2005) find that the poor are often unable to afford even subsidized metro rail fares.

Limited beneficiary-specific diagnostic work was conducted to determine factors that would contribute to successful shifts to public transportation or safer road behavior. Only six projects (of 48) conducted targeted diagnostic work. For example, the Lima Transport Project cites lessons learned from previous experience — participatory approaches and community involvement provide legitimacy and public acceptance—and was specifically designed in collaboration with civil society.

While formal diagnostic work was rarely conducted on individuals' patterns of service use, barriers to service uptake, or other aspects of demand-side determinants relevant to urban transport, the broad reasoning of a need for a shift from private to public transportation was generally present in project documents. Transport-related behaviors and barriers to achieving certain behaviors were primarily identified or discussed as part of the background information in project design documents (for example, sector issues, background section, and country context). The two most common behaviors identified as needing change were overreliance on private vehicles and unsafe road behaviors of both drivers and pedestrians.

Lack of resources was the most commonly noted sector issue—both the lack of infrastructure and the lack of enabling conditions (for example, institutional capacity, regulatory framework) necessary to operate an effective, efficient transportation system. Project documents also noted long work commutes, multiple modal transfers leading to high costs of transportation, and restricted access to bus depots and train stations as barriers to public transport use. In one project, technical assistance was provided to improve passenger convenience and information through more efficient and user-friendly ticket issuing.

Background information on both driver and pedestrian behavior identified three contributing factors to increased traffic accidents: (i) lack of infrastructure (such as protected street crossings or grade separations and barriers to physically segregate pedestrians and vehicles); (ii) rapid motorization and traffic congestion; and (iii) limited institutional capacity for traffic management.

Design and Implementation of Behavior Change in Project Documents

In the sample of urban transportation projects reviewed the projects' development objectives primary sought to achieve (i) increased efficiency and effectiveness of urban transportation systems; (ii) improved urban mobility and accessibility; or (iii) improved quality, coverage, reliability, affordability, and safety of urban transportation.

Eight of 48 projects reviewed contained a statement of behavior change in their project development objectives (table F.2). Six of these were cofinanced with grants from the Global Environment Facility (GEF). These projects were classified as "modal shift" for the purposes of the behavior change review. The behaviors noted in project development objectives were (i) shifting to environmentally friendly (less energy-intensive) modes of transportation and (ii) shifting to public transportation. Project development objectives with a statement of behavior change include:

- Increase urban mobility in targeted areas in Hanoi by: (i) increasing the use of public transport in two existing corridors and one new one, thereby increasing corridor capacity; and (ii) reducing travel times by all modes between the city center and the west and northwest sections of the city (west of West Lake). The GEF strategic objectives are to promote a shift to more environmentally sustainable transport modes and urban development plans, and to promote the replication of these approaches in the country and region.
- Improve personal mobility in cities in Ghana, through a combination of traffic engineering measures, management improvements, regulation of the public transport industry, and implementation of a BRT system; and promoting a shift to more environmentally sustainable transport modes and encouraging lower transport-related greenhouse gas (GHG) emissions in Accra.
- Assist the borrower in enhancing the economic productivity and quality of life of residents of Metro Manila by (a) improving the operational efficiency and safety of the transport system; and (b) enhancing the use of public transport and nonmotorized transport.

Table F.2. Behavior Change in Project Development Objectives

Category	Number/percent of projects
Behavior change in PDO	8 (19%)
No behavior change in PDO	40 (81%)
Total	48 (100%)

Note: A total of 50 projects of the 75 randomly selected projects have been reviewed. One project was a duplicate; one had insufficient information to analyze (no project appraisal document). Data converged by the 48th project reviewed.

Whether or not a project's objective expressly articulated a behavior change at the individual level, activities which could plausibly be linked to a modal shift or road safety were sometimes found elsewhere in project documents, primarily in the detailed project description (components and subcomponents). As noted,affordability, awareness, comfort, convenience, incentives, reliability, safety, security, and reduced travel time are all factors that could influence an individual's decision to choose one mode of transport over another. Activities supporting any of these factors, or activities supporting other types of behavior change interventions were rarely found in project documents. Those found were classified using the IEG's framework (table F.3).

The review found limited evidence of "targeted behavior change" activities in urban transport projects. The majority of projects focused on the supply-side —"pulling" passengers into the transport system with more and better resourced agencies,

roads, and integrated public transportation systems. The introduction of BRT, for example, will pull additional users into the public transportation system; however, it may not lead to a modal shift (outcome) or a reduction in carbon emissions (impact). Tackling the perception that public transportation is for the poor would require a targeted behavior change activity (World Bank 2014).

Table F.3. CRI²SP Elements in Project Design

	Communication	Resources	Information and Incentives	Social	Psychological
Modal shift	9	10	9	2	5
Transport safety	5	5	5	0	0
Modal shift and transport safety	4	5	3	0	1
Infrastructure and enabling conditions	2	26	4	0	1
Total	20	46	21	2	7

All but one project contained a resource activity. Half of all projects were resource-based only, with only supply-side interventions (that is, infrastructure or enabling conditions). Half of all projects had one CRI²SP intervention in conjunction with resources and half had multiple interventions (for example, psychological and communication) (table F.3).

Communication and information were the most prevalent CRI²SP activities (after resources) associated with urban transportation projects. Communication serves as the backdrop to activities that are intended to change behavior. Information is differentiated from communication by how information was delivered; it can be presented as fact in a formal setting (information-based) or it can be conveyed in a more relaxed manner (communication-based). Project documents cite various types of communication and information interventions with little information on the content of the activities. For example,

- public education campaign;
- promotional activities;
- public awareness campaign road user education;
- safety awareness campaigns;
- road user education program; and
- information provided in schools and by radio, billboard, traffic televisions, workshops, mobile vans with messages, advertisements, or cartoons.

Public awareness campaigns and promotional activities (communication) were the most often cited behavior change interventions in urban transportation projects. As stated previously, little to no information is provided on the content, delivery mechanism, or audience of these activities. Most often they are one of many activities listed under a component or subcomponent of a much larger project.

Promotional activities, awareness campaigns, or road user education activities were generally small components of larger infrastructure projects, such as the Urumqi Transport Improvement Project or the Senegal Urban Mobility Improvement Project. In these projects, the emphasis was on resources; that is, resources were used to reduce the number of fatal accidents or injuries on roads. Investments included enhancing road safety through physical segregation of pedestrians and motorized vehicles (such as construction of foot bridges, speed bumps, traffic signals, zebra crossings, improved sidewalks, and parking management). Project documents contained little information on the content of the communication activities.

A negligible number of projects included activities targeting social factors, such as cultural beliefs or socially accepted behaviors. Five projects identified social obstacles in the urban transport sector (three modal shift, one transport safety, and one that addressed both). In two projects, social factors were addressed in project design.

- In Peru (Lima Urban Transport Project), evidence from a focus group suggested that low bicycle uptake could be explained by a lack of personal and traffic safety, poor infrastructure, and preconceived ideas against bike use. Project design included improving the physical condition of the existing network; carrying out a promotion campaign on bike use; and restarting the microcredit program (Plan Bici) so that small bicycle-based entrepreneurs coud buy bicycles. The project's design to increase bicycle use was prepared in a participatory manner. The promotional strategy to change cultural norms was a multipronged promotional strategy. The promotion of bicycle use was designed to target a diverse group of populations and uses to help facilitate a cultural shift in the belief that bicycles are for the poor only.
- In India (Efficient and Sustainable City Bus Services), the project focused on women, promoting bus ridership by addressing barriers "currently obstructing their mobility" such as personal safety, convenience of bus schedules, depot layouts, and behavior of conductors and drivers.

Psychological factors account for ways in which a project influenced individuals' behavior through cognitive processes (and limitations) such as perception, stress, or hassle. Incentives and psychological interventions (Peru and Brazil) were generally

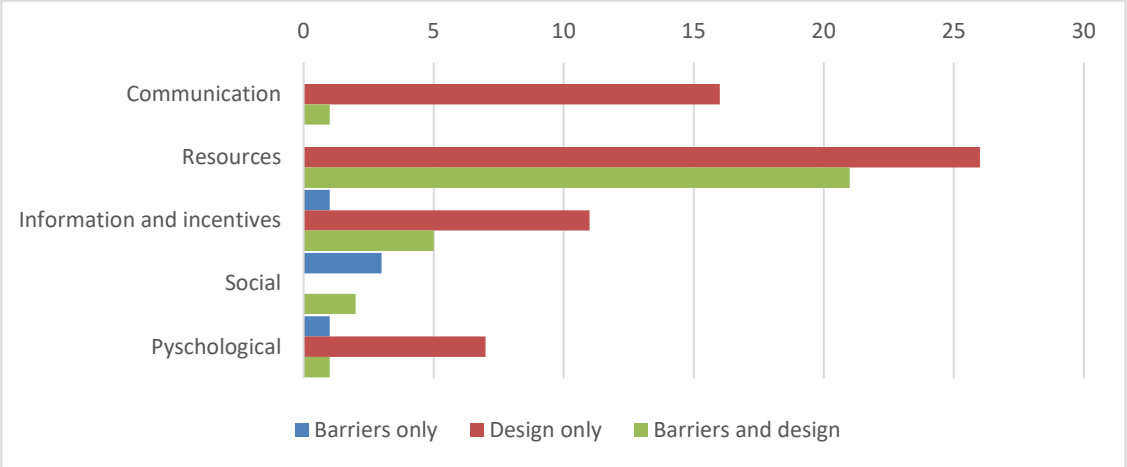
paired with resource interventions. As noted above, resources can influence behavior by making public transportation safer, more reliable and easier to use, that is, more attractive.

Although this "resource-psychological" type of intervention is not in the spirit of "low cost-high impact" nudges of individuals used to overcome cognitive biases, they do work on individuals' mental models and were coded as psychological factors in this review of project documents. For example,

- the objective of the São Paulo Trains and Signaling Project was to improve the level of service provided to urban rail tra nsport users in the São Paulo Metropolitan Region in a safe and cost-efficient manner. The project identified low-income urban households as the beneficiaries (as the main users of public transportation) and discussed the potential for modal shift from increasing the quality of the system—new passenger rail cars providing greater comfort and more frequent trains reducing wait time, thereby increasing the attractiveness of the rail system. By far, the largest impact was expected to be from increasing the mobility (access to the system) of low-income individuals.

A missing link between these interventions and possible success is the link between diagnostic work and design. The little diagnostic work done to identify behavioral barriers to, say, modal shift or transport safety rarely resulted in a targeted intervention to address said barrier (figure F.1). Twenty-eight (28 of 48) projects identified a barrier to either modal shift or transport safety and designed an activity to address the barrier. Of the 28, 20 were infrastructure projects.

Figure F.2. Targeted Interventions



Monitoring and Evaluation of Behavior Change in Project Documents

Results frameworks at approval captured behavior change outputs and outcomes to a greater extent than did monitoring and evaluation. There was little monitoring of behavior change activities during implementation (table F.4.)

Table F.4. Behavior Change Outputs and Outcomes In Design and Evaluation

	Design		Evaluation	
Behavior Change	Output	Outcome	Output	Outcome
Modal shift	• Bus stops reconstructed or upgraded • Multi modal integration - with buses, cycles • Rail stations designed with integrated bus/ bike facilities • Shared road use with cars, pedestrians, and intermediate means of transport like wheelbarrows, animal carts, animal transport • Public awareness campaigns	• Number of nonmotorized trips • Share of nonmotorized trips • Increased bicycle use • Passenger shares on buses during rush hour • Number of bus rapid transit riders whose alternative choice would have been private motorized vehicles	• Infrastructure for nonmotorized transport built including pedestrian and bikeway • Safe pedestrian access to bus rapid transit	• Number of nonmotorized trips • Public transport mode share
Transport safety	• Number of sidewalks built • Number of crossroads built • Number of bus stations and stops rehabilitated or redesigned • Number of unsignaled zebra crossings converted to signaled mid-block crossings • Public awareness campaigns	• Increased compliance with seat belt usage rate, increased compliance with speed limits • Reduction in accidents in project area	• Construction of road/rail grade separations	• Reduction in death rates and fatal road injuries • Seatbelt use • Compliance with speed limits

Note: Many projects which were infrastructure-only also included outcome indicators associated with increases in modal shift (from private to public transport). These are outcomes, which are due to behavior changes, that were not accompanied by an explicit intervention to "push" individuals to change their mode of transport.

Service Delivery Lens: Application to Urban Transport

BACKGROUND AND MOTIVATION

IEG has organized its evaluation work program (FY17–19) into three Strategic Engagement Areas (SEAs): Sustained Service Delivery for the Poor, Inclusive Growth, and Environmental Sustainability. These SEAs were introduced to generate

deeper insights across evaluations to enhance dialogue with the World Bank Group in an effort to better influence its work. The SEAs cover a large share of the World Bank Group's efforts that are directed toward achieving sustainable development outcomes.

This appendix presents the application of work undertaken by IEG to develop a Framework for the Evaluation of Service Delivery (a critical component of the Sustained Service Delivery SEA) for the Urban Transport Evaluation. The purpose of this exercise is to provide descriptive statistics and information to help identify how appraisal documents conceptualize key service delivery concepts, as reflected in the IEG Working Paper and Framework (IEG 2016) to evaluate Service Delivery in sector evaluations (see figure 1). It is important to note that IEG's Framework for the Evaluation of Service Delivery (IEG 2016) provides a comprehensive frame covering the range of variables to be addressed and taken into account with a view to designing an effective system of service delivery. The original plan and protocol (figure 2) were simplified to maintain the expected delivery timeline of the Urban Transport evaluation as well as two other sector evaluations currently underway (Water and Sanitation, and Essential Health Services).

The simplified, specific evaluation questions to which this revised approach responds, are:

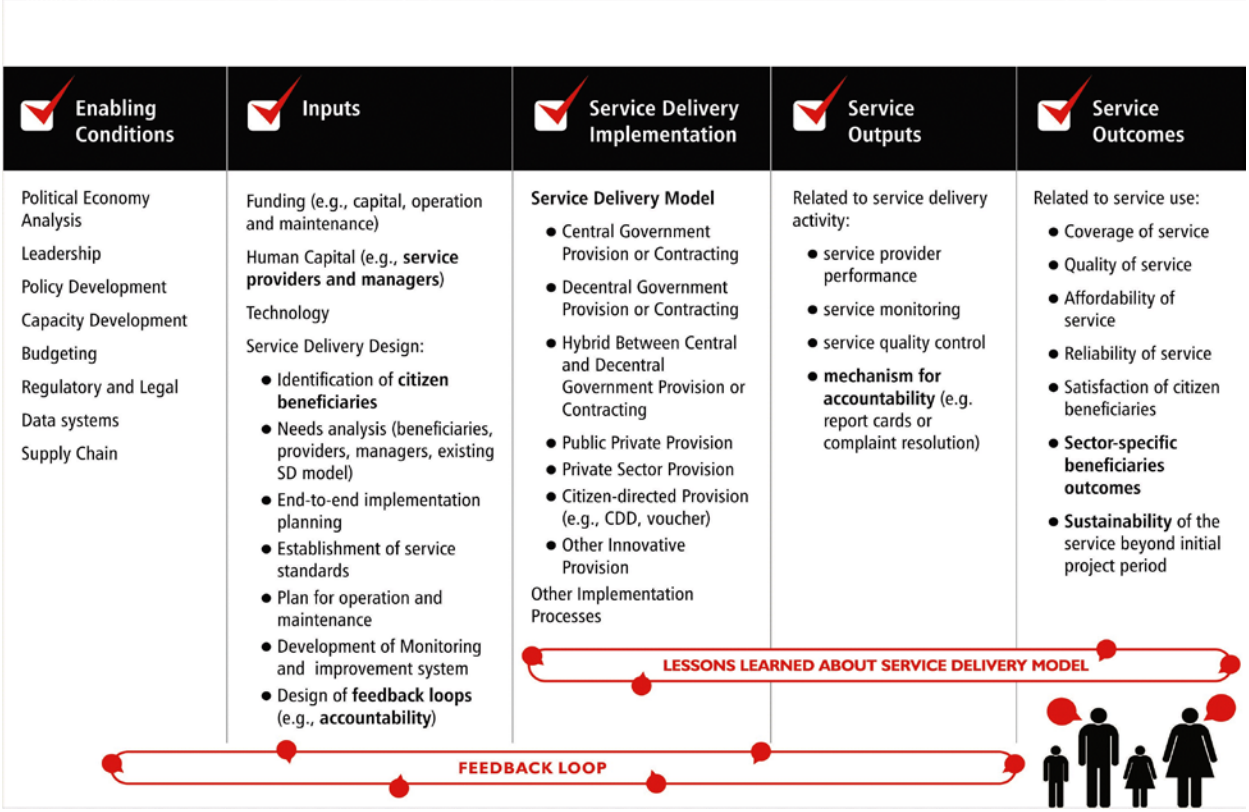
- To what extent is information on Service Delivery contained in project appraisal documents?
- How is Service Delivery described and operationalized in appraisal documents and what is the quality of this?

Methods

The simplified analytical protocol was applied[3] to a randomly selected sample of 68 World Bank investment operations[4] drawn from core World Bank operations identified by the urban transport evaluation.[5] Content from appraisal documents was compiled in an Access database to facilitate ease of handling, visualization, and analysis. One evident limitation of this method is that appraisal documents may not explicitly address or adequately discuss every aspect contained in the framework; for example, documents may not discuss elements that are already being supported or implemented by the client (government), but which form part of the service delivery 'chain.' Thus, finding that appraisal documents do not describe a service delivery concept does not mean that nothing has been done within the broader delivery effort outside the World Bank project to address it. However, where the exercise consistently notes the absence of discussion of key service delivery

concepts, it does raise questions, at a minimum, about the adequacy of the planning document.

Figure F.3. Framework for Evaluating Service Delivery



TO WHAT EXTENT IS INFORMATION ON SERVICE DELIVERY CONTAINED IN PROJECT APPRAISAL DOCUMENTS?

IEG reviewed a sample of 68 appraisal documents to determine whether key service delivery concepts (figure 1) were discussed. Analytical assessments were also made of relevant information identified through the review and appraisal process. The subsequent sections describe the information related to the key, over-arching concepts covered in the framework as follows: enabling conditions, inputs, implementation, outputs, and outcomes. In each instance descriptive statistics related to figure 1 (and revised analytical protocol—see figure 2) are provided.

HOW IS SERVICE DELIVERY DESCRIBED AND OPERATIONALIZED IN UT PADS? WHAT IS THE QUALITY OF THE INFORMATION?

Enabling Conditions

Table F.5.Frequency of Reference to Enabling Conditions in sample of UT projects

	Included in PAD number (percent)
Enabling Conditions:	
Policy Development / Regulatory Change / Legal Change	64 (94%)
Capacity Development	68 (100%)

Almost all projects in the sample refer to upstream engagement with a view to providing support for policy development, regulatory frameworks, or institutional mechanisms. However, appraisal documents provide varying levels of detail about specific capacity-building topics or activities to be supported. Consequently, it is not possible to quantify the number of operations supporting specific areas of interest such as monitoring and evaluation, budgeting, procurement, or public financial management. On the other hand, documents clearly identify the proposed recipients of capacity development, including policy makers, and other ministry and municipality officials. It is notable that those further down the chain in the provision of urban transport services, such as operators (of rail or bus) or traffic officers, are typically excluded from consideration or direct support through World Bank projects. We recognize that capacity building for these front-line service staff may be addressed in some other manner or mechanism (for example, directly by central or municipal government), or may have been deemed to be unsuitable for World Bank support for one reason or another. Regardless of the reason for their exclusion from support, the appraisal documents do not reference or otherwise explain how capacity down the line is ensured.

Service Inputs

Table F.6. Frequency of Reference to Service Delivery Inputs in sample of UT projects

	Included in PAD number (percent)
Service Delivery Inputs	
Capital	64 (94%)
Operation and maintenance	47 (70%)
Cost recovery mechanism	27 (40%)
Identification of disadvantaged beneficiary group	28 (42%)
Needs assessment of disadvantaged groups	23 (34%)
Inclusion of needs of identified disadvantaged group in project design	23 (34%)

Delivery challenges in urban transport are discussed in every appraisal document reviewed with reference, for example, to sector concerns such as financing, management, coordination, capacity, or adequacy/quality of infrastructure. More specifically, issues such as inadequate traffic management practices, lack of intermodal coordination, aging of or inadequate roads or fleet, and safety concerns were discussed. The lack of qualified human resources (that is, technical capacity) at the central ministry or service manager level (metro transit authority) is noted as a consistent constraint in nearly every document reviewed (98 percent). Lack of accountability (including the lack of accountability of front-line service staff) is also identified as a pronounced challenge for effective service delivery (63 percent). That said, and having identified such constraints, the documentation does not typically identify specific challenges experienced by front-line service staff, nor their specific capacity-building needs

Beyond the broad sector challenges, limited attention was placed upon contextual conditions that might impinge upon effective delivery of urban transportation services (i.e. bicycle, bus, rail, or roads). Only eight of the 69 appraisal documents (12%) noted contextual conditions, which were then addressed in the design of the operation as follows: political interference (one project); governance or corruption issues (one project); issues with informal transport providers (one project); and cultural attitudes or behaviors that would need to change to address either safety concerns or modal shifts (five projects). The fact that relatively few appraisal documents either discuss or engage with contextual issues can be interpreted as a shortcoming based on the observation that technical or logistical solutions are not sufficient to address delivery challenges (Kim 2012; Asis and Woolcock 2015).

IEG also reviewed whether specific beneficiary groups are targeted in the appraisal documents, and whether project design was sensitive to the needs and demands of citizen beneficiaries (and the heterogeneity of their needs) in order to be consistent with World Bank Group policies. Twenty-eight appraisal documents (41 percent) *explicitly* articulated an intention to reach disadvantaged groups as part of the Project Development Objective (PDO) or as "Project/Targeted Beneficiaries." Among these 28 projects, 'the poor' was most frequently identified (25 projects), followed by women (seven projects), disabled persons (five projects), and the elderly (three projects). Of these 28 projects, a needs analysis or social assessment was conducted in 23 instances. Based on these exercises, identified needs or demands of beneficiary groups were addressed, at least to some extent, in project design. Thus, when specific needs were identified and understood, appropriate planning occurred. However, as this was evident in only 28 of the 68 projects reviewed, this suggests a gap in the content of appraisal documents with reference to the

aspirations of the World Bank Group strategy. It also suggests a requirement for greater attention to be paid to the potentially diverse set of needs of passengers or riders (service users) as represented, for example, by disabled persons, the elderly, children, and/or women.

Almost all appraisal documents acknowledged cost issues for urban transport, with specific reference to capital/investment costs (94% of projects), and to a lesser extent, operations and maintenance costs (70%). Documents often commented on the adequacy (or inadequacy) of the budget to cover the system needs and, in many cases, documents suggest operating costs are or will be below expected revenue generation. A minority of projects clearly discussed a cost recovery mechanism (40 per cent) such as user fees, charges, license fees, or fuel levies. Considering the importance of sustainability, more extensive discussion and analysis of operations and maintenance costs, and cost recovery mechanisms, may be an area for future focus in Urban Transport.

Service Implementation

Table F.6. Frequency of Reference to Service Implementation in sample of UT projects

	Included in PAD number (percent)
Service Implementation	
Description of Model	68 (100%)
Rationale for selection of model	13 (19%)

Information was collected to quantify the type of model(s) employed in operations and whether a rationale was provided for the selection of the model. Because this exercise was restricted to the appraisal document, information was not collected with reference to how the model worked in the particular context, nor to outcomes achieved. Table 4 shows the implementation models identified in the appraisal documents that would be employed for metro, bus, road, and rail, noting that many projects supported multiple subsectors. Appraisal documents varied in the level of detail about the arrangements and in who (central government, municipal government, private sector) had responsibility for regulating, financing, operating, maintaining, and monitoring. Few documents provided an explicit rationale describing why that implementation model was selected (13 out of 68), although the rationale may have been implied in the discussion of sector context. As such, the descriptions that follow are purely illustrative.

Table F.6. Implementation Model with Sample of Urban Transport Project Reviewed

	Metro/Subway	Bus	Roads	Commuter rail
Of which, central or decentralized govt model	4	20	30	3
Of which, PPP model	8	13	12	5
Of which, private sector model	0	5	0	0
TOTAL	12	38	42	8

As per table 4, most models contain a hybrid of shared responsibility between central and municipal government. Within the sample reviewed, most projects use either government provision or public-private partnership; there is little pure private sector provision. Bus and road were more frequently delivered via government provision, while metro and rail more often employed public-private partnerships.

Illustrative examples of government provision of urban transport include:

- In roads, central government manages the national road network, and provides capital funding and some maintenance funding. Municipal governments manage the urban road network and often have significant responsibility for maintenance funding.
- In commuter rail, central government creates a public sector rail company, and provides capital funding and operating budget. The public sector rail company operates and maintains the rail service.
- In metro, central government approves the municipal government's plans for a metro/subway system, or may have provided some capital funding, with the municipal government providing the majority of funding and creating a municipal agency to operate and manage the metro/subway system.
- In bus, central and/or decentralized government provides capital funding and creates a municipal agency to operate bus services. The central and/or decentralized government may regulate the sector by determining the hours of services, the routes, and scope of responsibilities.

Illustrative examples of public-private partnership in urban transport include:

- In metro, the central and/or decentralized government provided capital funding and owned the infrastructure and rolling stock. Private sector provided metro services under concession contracts.

- In bus, the central and/or decentralized government provided capital funding and is responsible for construction of bus system infrastructure (BRT corridors, bus terminals, and depots). The private sector provided equipment (bus fleet, fare collection system, maintenance services) and delivered bus services under concession contracts. In some cases, the central/decentralized government also established a public sector entity to regulate and monitor the bus services.
- In roads, the central and/or decentralized government owned and managed the road networks but contracted out road maintenance (routine, periodic, or emergency) to the private sector. In a small number of cases, central government contracted out toll road operations to the private sector.
- In commuter rail, the role for the central and/or decentralized government was provision of capital funding for infrastructure and rolling stock. Private sector provided rail services under concession contracts.

Private provision was not used to implement roads or commuter rail, or metro/subway. In the five instances where private provision was used for bus services, there was no public transport sector in place. In these cases, there was no funding or regulation by the government, and bus services (in the form of minibuses) were operated by individual owners or operators.

Service Outputs

Table F.7. Frequency of Reference to Service Outputs in sample of UT projects

	Included in PAD (number) (percent)
Service Outputs	
Inclusion of accountability mechanism	11 (16%)
Inclusion of Service monitoring system	43 (63%)

A majority of projects (63 percent) supported the development of a monitoring system (beyond project-specific monitoring), which is another way to evaluate delivery (or to process conditions related to delivery). Most of these systems would, if they became operational, relate to: environmental monitoring (air quality, emissions), passenger information, or traffic management and road safety.

Few projects (16 percent) included reference to accountability or other mechanisms designed to allow citizens (service users) to provide feedback on services. Mechanisms that were evident include: an SMS text reporting system through which users can report service delays, cleanliness of vehicles, issues with stations or driver

behavior, and fare ticketing problems; a website and dedicated telephone line for complaints and suggestions; and creation of a permanent consulting council that included NGOs to discuss progress for public transport. Operations containing these mechanisms noted the potential for understanding whether passenger expectations were being met, facilitating communication among stakeholders, or resolving problems. Given that most appraisal documents identify lack of accountability as a constraint on delivery, it is surprising that such a limited number of operations explicitly identify the presence of mechanisms that will allow for customer or beneficiary accountability and feedback.

Service Outcomes

Table F.8. Frequency of Reference to Key Service Outcomes in Sample of UT Projects

	Included in PAD number (percent)
SERVICE OUTCOMES	
Coverage	13 (19%)
Quality	46 (68%)
Reliability	3 (4%)
Affordability	2 (3%)
Satisfaction	25 (37%)
Utilization	36 (53%)
Sustainability	25 (37%)

IEG reviewed project indicators (outputs and outcomes) to establish what, from a service delivery perspective, projects sought to track and achieve.

At a basic level, almost all project designs include indicators to track service delivery outcomes (See table 7). Indicators of utilization (53percent) and quality (68 percent) were most often tracked in the sample of urban transport operations analyzed. Satisfaction was set to be tracked in only 22 percent of cases (we note, however, that some authors—for example, Fiszbein, Ringold, and Rogers 2011—have suggested that tracking satisfaction levels may not be reliable because expectations in development contexts may be low, promoting beneficiaries to report a high level of satisfaction).). Affordability (3 percent), and reliability (4 percent) were rarely included as indicators to track service delivery in the sample reviewed. Table 7 provides examples of relevant indicators in projects, and provides detail where there is disaggregation by beneficiary group.

Projects predominantly monitor transport performance (59 projects) with reference to the number of trains running during peak and off peak hours, end-to-end travel time on bus rapid transit corridor, and road conditions. Efficiency is monitored with

reference to improved bus fuel efficiency, passengers per sq. km on rail, or volume (i.e. volume of traffic). Forty-nine projects also included intermediate outcome/outcome indicators in the results framework that measured outcomes more directly experienced by the beneficiaries, such as: increased perception of safety in walking and cycling; level of user satisfaction with transfer terminals; transport share of household expenditure. However, few projects planned to collect data disaggregated by beneficiary groups. Only one project contained a transport related output in relation to disabled persons or elderly (i.e. bus stops with enhanced accessibility).

Table F.9. Examples of Service Delivery Outcome Indicators

	General	Disaggregated
Coverage	Total number of people within 300m of public transport services	-
Affordability	Transport share of household expenditure on bus rapid transit system	Reduced money spent on personal travel by poor households
Quality	End-to-end bus travel time on selected bus priority corridors during peak hours Reduced share of roads in "poor" condition Reduced rate of road accident fatalities	Reduction in average travel time for lowest income strata
Satisfaction	Increased citizen satisfaction with public transport system	Proportion of rail users that rate service as satisfactory (including for female and bottom 40% income group)
Reliability	Average interval between trains at peak hours On time performance of Metro line	-
Sustainability	Decreased carbon dioxide emission from vehicles Maintenance is x percent funded from road user charges Reduced percentage of govt subsidy as share of total operating costs	-
Utilization	Share of urban transport trips taken by suburban rail Number of bus rapid transit riders whose alternate mode would have been private vehicle/taxi	Number of train users/day from households with less than 4 MS ("minimum salaries")

Note: - means no example of disaggregated data by that type of indicator.[6]

How is Service Delivery Conceptualized?

Capacity development in support of effective service delivery is predominantly conceptualized (within the appraisal documents reviewed) as upstream engagement involving support restricted to the higher-level public sector agency staff. Capacity development in urban transport projects supported by the World Bank does not

typically address the needs of front-line service staff (for example, operators of rail, bus, and traffic police).

Appraisal documents present sector challenges with a focus upon the ministry or municipal government, but lack detailed discussion of financial sustainability. Most documents provided technical solutions without addressing conditions that would impinge upon effective delivery of urban transportation services. Some authors have pointed out "every environment has its own distinct social and political characteristics, and solutions have to be either drawn from, or adapted to them" (Brixi, Lust, and Woolcock (2015, vi). When these aspects were described in documents, they were addressed within the project design and arrangements.

Few projects established mechanisms to solicit ongoing feedback from service users, and few projects plan to track disaggregated, beneficiary-related outputs and outcomes. We conclude that without the insights gained from beneficiaries, it is difficult to address relevant delivery-related challenges and, as a consequence, to maximize improvements in citizen well-being. Focusing more upon the users of transport aligns with the World Bank Group's broader guidance on the importance of social inclusion (World Bank 2013) and *Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation* (World Bank 2009), which envisage a more deeply integrated voice of citizen beneficiaries.

Figure F.4. Service Delivery Analytical Protocol (revised)

Guidance Questions for each item in the Framework	Response
I. Basic Project Information	
I. A. Country	Country
I. D. Project	Project ID
I. E. Project Approval	Approval Year
I. F. Project Closing	Closing Year
I. G. Financing Institution	IBRD, IDA
I. H. Sector	UT, WSS, HNP, other
II. Enabling Condition	
II. A. Was Support for Policy Development / Regulatory Change / Legal Change included?	
II.A.1. If yes, describe what was supported?	yes/no explain
II. B. Was Support for Capacity Development included?	
II.B.1. If yes, describe the capacity development supported (e.g., M&E, budgeting, data systems, procurement, public financial management....)?	
II.B.2. If yes, who receives capacity development (service managers, service providers, Ministry, policy makers, etc.)	yes/no explain

II.C. Was Supply chain (i.e. production of goods and materials to be used in service delivery) included?	
II.C1. If yes, describe what was supported / purchased to ensure effective delivery?	
	yes/no explain
II.D. Did the PAD describe contextual conditions that directly impinge on service delivery (such as inadvertent gender differences between service providers and service beneficiaries; cultural attitudes; political patronage; ethnic tensions)?	
II.D1 If yes, how was it taken account in project design?	yes/no explain
III. Service Delivery Inputs:	
III.A. Did PAD describe Funding for capital, operation, and maintenance? If yes, describe.	
	capital- yes/no operation- yes/no maintenance- yes/no
III. B. Is there cost recovery or subsidy mechanism? If yes, describe	
	yes, no, describe
III.C. Did PAD identify and discuss Service Providers and Managers and challenges they may have in effectively delivering the service envisaged (e.g., cultural barriers, geographic concentration / availability, lack of accountability, insufficient numbers, adequate supply of trained personnel etc.) IIIC1.If yes, describe who are the Service Managers and Providers, and what the key challenges are, as noted in the PAD.	yes/no explain yes/no explain
III.D. Were the direct beneficiaries of the service specified in the PAD? If yes, answer the following:	yes/no
III.D.1.a. What were the means for determining direct beneficiaries (e.g. geographic catchment, census, household survey, etc.)?	specify; yes/no; explain
III.D.1.b. Did the identification of direct beneficiaries take heterogeneity into account?	
III.D.1.c. Which groups of beneficiaries are described (e.g. gender, ethnic, relative poverty etc.)?	
IIII.E. Was there an analysis of beneficiary needs conducted? If yes, answer the following:	
III.E1a. Was the analysis done for particular groups of beneficiaries? Which ones?	yes/no
III.E1b. Did the analysis describe barriers to the service for beneficiaries?	yes/no explain
III.E1c. Which barriers were reported?	yes/no explain
III.E1d. Did planning take barriers into account? If so, how?	Yes no- which group (high income quintiles, low income quintile, gender, minority or marginalized group, age, specify other)
	yes/no
III.F. Were service standards established? If yes, describe	
	yes/no
III. G. Was a service monitoring system developed?	
III.G1. Who monitors services	yes/no central government, decentral government, beneficiary, community, third-party, front line provider, manager, other (specify)

IV. SD Implementation	
IV.A. Which of the following best describes the SD implementation model? If contracting is used, whom is contracted (public, NGO, third party) and type of contract (result or performance based, output) is it?	
Central or decentral govt provision	yes/no
Central or decentral govt w/ contracting	yes/no
Private sector	yes/no
Public-private partnership	yes/no
Community-development driven	yes/no
Other (explain)	yes/no
IV. A2 Within the selected model, what is the role (finance, maintain, operate, monitor, regulate) for each group (central, decentral, private sector, community).	
IV.A3 Did the PAD provide a rationale for the selection of this model. State rationale.	yes/no
IV. B. Is there a mechanism to hold service providers accountable (Report cards, complaint resolution, ombudsman, etc.) for their actions or service standards? IV. B1. If yes, describe.	yes/no, explain
IV.C. Is there a mechanism for beneficiaries to provide feedback about services? IV.C1 If yes, describe.	yes/no yes/no If yes, explain
V. Service Outputs	
V. A. Were outputs tracked in relation to service provider performance? If yes, specify	yes/no If yes, specify outputs
VI. Service Outcome	
VI. A. Which service outcomes were tracked? If yes, specify the outcome indicator and how disaggregated	coverage- yes/no quality Yes/no reliability yes/no affordability Yes/no satisfaction yes/no sustainability; utilization yes/no

References

Asis, M.G., and M. Woolcock. 2015. Operationalizing the Science of Delivery Agenda to Enhance Development Results. Washington, DC: World Bank.

Brixi H., Lust E, Woolcock M. 2015. Trust, Voice, and Incentives Learning from Local Success Stories in Service Delivery in the Middle East and North Africa The World Bank.

Cook, C., T. Duncan, S. Jitsuchon, A. Sharma, and W. Guobao. 2005. *Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*. Manila: Asian Development Bank.

Fiszbein, A., D. Ringold, and F. Halsey Rogers. 2011. "Making Services Work: Indicators, Assessments, and Be

nchmarking of the Quality and Governance of Public Service Delivery in the Human Development Sector." Policy Research Working Paper 5690, World Bank, Washington, DC.

Kim, J. K. 2012. "Delivering on Development: Harnessing Knowledge to Build Prosperity and End Poverty." World Bank Group President Jim Yong Kim, Keynote Speech to World Knowledge Forum, Seoul, Republic of Korea, October 9, 2012. http://www.worldbank.org/en/news/speech/2012/10/08/delivering-development-harnessing-knowledge-build-prosperity-end-poverty

IEG (Independent Evaluation Group) 2016. Working Paper Introducing a Framework for Evaluating Service Delivery in Sector Evaluations: Urban Transport, Water and Sanitation, and Nutrition. World Bank: Washington, DC.

———. 2013a. World Bank Group Strategy Improving Institutional Capability and Financial Viability to Sustain Transport. Author: Washington, DC

———. 2013b. World Bank Group Strategy. Author: Washington, DC.

———. 2009. Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation: Author: Washington, DC.

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[1] The review was limited to World Bank projects because IFC investments and MIGA guarantees often lack explicit design elements, given the nature of their business models.

[2] Fifty projects were reviewed. One project was a duplicate and dropped. Another had no documentation for review. Coding stopped when convergence was achieved, which occurred at 48 projects.

[3] A research analyst familiar with the original Service Delivery Framework completed the task in its entirety to minimize any issues of interpretative inconsistency that may arise due to the use of the new approach.

[4] AAA, policy loans, or Additional Financing were not reviewed. The random sample drawn for this exercise was 75 operations out of 104 operations contained within the UT evaluation. Sixty-eight operations were analyzed, because Project Appraisal Documents for seven operations could not be found.

[5] IFC advisory and investment services were excluded from the sample because the framework as a whole has less applicability to the IFC, focusing upon a broader system and sector, beyond the scope of the IFC. We also note that the same sample was used for this work and parallel work under the Strategic Engagement Area in relation to behavior change, with a view to promoting further synergies for a planned chapeau product that will draw upon and contrast findings across sectors and services.

[6] It is clear that system-level indicators such as reliability or sustainability are not appropriate aspects to disaggregate by beneficiaries. However, coverage could be.

Appendix G. List of Urban Transport Projects: Dedicated and Nondedicated

Table G.1. Urban Transport Projects Mapped to the Transport GP (Dedicated)

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P102368	Integrated Transport Project	AFR	Botswana	WB-Lend	2009	186	186
P123688	Pro-growth, pro-poor Transport Strategies (PGPTS)	AFR	Burkina Faso	WB-Lend	2011	0.19	0.19
P120960	Donsin Transport Infrastructure Project	AFR	Burkina Faso	WB-Lend	2013	85	85
P150929	Infrastructure Resilience Emergency Project	AFR	Burundi	WB-Lend	2015	25	25
P057296	Emergency Multisector Rehabilitation and Reconstruction Project	AFR	Congo, Dem. Rep.	WB-Lend	2003	454	454
P001177	Transport Sector Adjustment	AFR	Côte d'Ivoire	WB-Lend	1998	180	180
P124715	Emergency Infrastructure Renewal Project	AFR	Côte d'Ivoire	WB-Lend	2012	100	100
P092509	GEF Urban Transport Project	AFR	Ghana	WB-Lend	2007	7	7
P100619	Urban Transport Project	AFR	Ghana	WB-Lend	2007	45	45
P102000	Transport Sector Project	AFR	Ghana	WB-Lend	2009	225	225
P124109	Transport Sector Support Project	AFR	Kenya	WB-Lend	2011	300	300

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P126321	National Urban Transport Improvement Project	AFR	Kenya	WB-Lend	2013	300	300
P075566	Integrated Transport Project	AFR	Lesotho	WB-Lend	2007	23.5	23.5
P100160	Emergency Infrastructure Project	AFR	Liberia	WB-Lend	2006	30	30
P113099	Urban and Rural Infrastructure Rehabilitation Project	AFR	Liberia	WB-Lend	2009	44	44
P090075	Second Transport Sector Project	AFR	Mali	WB-Lend	2007	90	90
P074963	Lagos Urban Transport Project	AFR	Nigeria	WB-Lend	2003	100	100
P112956	Lagos Second Urban Transport Project	AFR	Nigeria	WB-Lend	2010	190	190
P002366	Second Transport Sector Project	AFR	Senegal	WB-Lend	1999	90	90
P055472	Urban Mobility Improvement Project	AFR	Senegal	WB-Lend	2000	70	70
P101415	Transport and Urban Mobility Project	AFR	Senegal	WB-Lend	2010	55	55
P103633	Second Central Transport Corridor Project	AFR	Tanzania	WB-Lend	2008	190	190
P092837	Transport Sector Development Project	AFR	Uganda	WB-Lend	2010	190	190
P071985	Road Rehabilitation and	AFR	Zambia	WB-Lend	2004	50	50

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Maintenance Project						
P003614	Guangzhou City Transport Project	EAP	China	WB-Lend	1998	200	200
P045915	Urumqi Urban Transport Project	EAP	China	WB-Lend	2001	100	100
P056596	Shijiazhuang Urban Transport Project	EAP	China	WB-Lend	2001	100	100
P069852	Wuhan Urban Transport Project	EAP	China	WB-Lend	2004	200	200
P070519	Fuzhou Nantai Island Peri-Urban Dev Project	EAP	China	WB-Lend	2006	100	100
P099992	Liaoning Medium Cities Infrastructure Project	EAP	China	WB-Lend	2006	218	218
P090335	GEF-World Bank Urban Transport Partnership Project	EAP	China	WB-Lend	2008	21	21
P092631	Xi'an Sustainable Urban Transport Project	EAP	China	WB-Lend	2008	150	150
P093963	Guiyang Transport Project	EAP	China	WB-Lend	2008	100	100
P081615	Taiyuan Urban Transport Project	EAP	China	WB-Lend	2010	150	150
P111421	Anhui Medium Cities Urban Transport Project	EAP	China	WB-Lend	2010	100	100

APPENDIX G
LIST OF URBAN TRANSPORT PROJECTS: DEDICATED AND NONDEDICATED

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P112838	Wuhan Second Urban Transport Project	EAP	China	WB-Lend	2010	100	100
P117656	Kunming Urban Rail Project	EAP	China	WB-Lend	2011	300	300
P119071	Hubei Xiangyang Urban Transport Project	EAP	China	WB-Lend	2012	100	100
P121263	GEF City Cluster Eco-Transport Project	EAP	China	WB-Lend	2012	4.8	4.8
P123133	Gansu Qingyang Urban Infrastructure Project	EAP	China	WB-Lend	2012	100	100
P124978	Changzhi Urban Transport Project	EAP	China	WB-Lend	2012	100	100
P126454	Xinjiang Yining Urban Transport Improvement Project	EAP	China	WB-Lend	2012	100	100
P127036	GEF Large-City Congestion Project	EAP	China	WB-Lend	2013	18.18	18.18
P132154	Nanchang Urban Rail Project	EAP	China	WB-Lend	2013	250	250
P101525	Yunnan Honghe Prefecture Urban Transport Project	EAP	China	WB-Lend	2014	150	150
P127867	Qinghai Xining Urban Transport Project	EAP	China	WB-Lend	2014	120	120

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P132277	Jiaozuo Green Transport and Safety Improvement Project	EAP	China	WB-Lend	2014	100	100
P133114	Heilongjiang Public Transport Project	EAP	China	WB-Lend	2014	200	200
P128919	Zhengzhou Urban Rail Project	EAP	China	WB-Lend	2015	250	250
P132775	Gansu Rural-Urban Integration Project	EAP	China	WB-Lend	2015	150	150
P148129	Tianjin Urban Transport Improvement Project	EAP	China	WB-Lend	2016	100	100
P148294	Wuhan Integrated Transport Development Project	EAP	China	WB-Lend	2016	120	120
P148527	Urumqi Second Urban Transport Project	EAP	China	WB-Lend	2016	140	140
P102398	Road Sector Project	EAP	Lao PDR	WB-Lend	2010	27.8	27.8
P054238	Second Gazelle Restoration Project	EAP	Papua New Guinea	WB-Lend	2000	25.26	25.26
P057731	Metro Manila Urban Transport Integration Project	EAP	Philippines	WB-Lend	2001	60	60
P066509	GEF-Metro Manila Urban Transport Integration Project -Bicycle Network	EAP	Philippines	WB-Lend	2001	1.3	1.3

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Demonstration Pilot						
P123385	Traffic and Transport Management for Philippine CDS Cities Project	EAP	Philippines	WB-Lend	2011	0.44	0.44
P119343	Cebu Bus Rapid Transit Project	EAP	Philippines	WB-Lend	2015	116	116
P120594	Samoa Post Tsunami Reconstruction Project	EAP	Samoa	WB-Lend	2011	10	10
P145545	Enhanced Road Access Project	EAP	Samoa	WB-Lend	2014	20	20
P121162	GEF-Chiang Mai Sustainable Urban Transport Project	EAP	Thailand	WB-Lend	2012	0.73	0.73
P083581	Hanoi Urban Transport Project	EAP	Vietnam	WB-Lend	2008	155.21	155.21
P085393	GEF-Hanoi Urban Transport Development Project	EAP	Vietnam	WB-Lend	2008	9.8	9.8
P109005	Ho Chi Minh City Rail Project	EAP	Vietnam	WB-Lend	2010	0.2	0.2
P111548	Haiphong Urban Transport Project	EAP	Vietnam	WB-Lend	2011	175	175
P144037	Public Transport Authority Development Project	EAP	Vietnam	WB-Lend	2013	0.28	0.28
P126507	Ho Chi Minh City Green Transport Development Project	EAP	Vietnam	WB-Lend	2015	124	124

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P098850	Infrastructure Pre-Investment Facility	ECA	Georgia	WB-Lend	2006	5	5
P039584	Buenos Aires Urban Transport Project	LCR	Argentina	WB-Lend	1997	200	200
P114008	GEF Sustainable Transport and Air Quality Project	LCR	Argentina	WB-Lend	2009	3.99	3.99
P095485	Metropolitan Areas Urban Transport Project	LCR	Argentina	WB-Lend	2010	150	150
P116989	Road Safety Project	LCR	Argentina	WB-Lend	2010	30	30
P043421	Rio de Janeiro Mass Transit Project	LCR	Brazil	WB-Lend	1998	186	186
P048869	Salvador Urban Transport Project	LCR	Brazil	WB-Lend	1999	150	150
P051696	Sao Paulo Metro Line 4 Project	LCR	Brazil	WB-Lend	2002	209	209
P060221	Fortaleza Metropolitan Transport Project	LCR	Brazil	WB-Lend	2002	85	85
P106038	Sao Paulo Trains and Signalling Project	LCR	Brazil	WB-Lend	2008	550	550
P106390	Sao Paulo Metro Line 4 Project (Phase 2)	LCR	Brazil	WB-Lend	2010	130	130
P106663	Sao Paulo Feeder Roads Project	LCR	Brazil	WB-Lend	2010	166.65	166.65
P111996	Upgrading and Greening the Rio de Janeiro Urban	LCR	Brazil	WB-Lend	2010	211.7	211.7

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Rail System Project						
P114010	GEF Sustainable Transport and Air Quality Project	LCR	Brazil	WB-Lend	2010	8.53	8.53
P116170	Sao Paulo Metro Line 5 Project	LCR	Brazil	WB-Lend	2010	650.4	650.4
P147695	Enhancing Public Management for Service Delivery in Rio de Janeiro Project	LCR	Brazil	WB-Lend	2014	500	500
P082412	Santiago Urban Transport Adjustment Project	LCR	Chile	WB-Lend	2006	30.16	30.16
P086689	Santiago Urban Transport Technical Assistance Project	LCR	Chile	WB-Lend	2006	4.8	4.8
P074726	Bogotá Urban Services Project	LCR	Colombia	WB-Lend	2003	100	100
P082466	Integrated Mass Transit Systems Project	LCR	Colombia	WB-Lend	2004	250	250
P117947	Support to the National Urban Transit Program Project	LCR	Colombia	WB-Lend	2012	350	350
P145766	Second Programmatic Productive and Sustainable Cities Development Policy Loan	LCR	Colombia	WB-Lend	2015	700	700

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P144489	Quito Metro Line One Project	LCR	Ecuador	WB-Lend	2014	205	205
P144798	Strengthening Capacity for Monitoring Project	LCR	Ecuador	WB-Lend	2014	0.7	0.7
P147280	Transport Infrastructure Improvement Project	LCR	Ecuador	WB-Lend	2016	52.5	52.5
P114292	Emergency Bridge Reconstructio n and Vulnerability Reduction Project	LCR	Haiti	WB-Lend	2009	20	20
P133352	Center and Artibonite Regional Development Project	LCR	Haiti	WB-Lend	2014	50	50
P107159	Urban Transport Transformati on Program	LCR	Mexico	WB-Lend	2010	150	150
P114012	GEF Sustainable Transport and Air Quality Project	LCR	Mexico	WB-Lend	2010	5.38	5.38
P035740	Lima Tansport Project	LCR	Peru	WB-Lend	2004	45	45
P074021	GEF Lima Transport Project	LCR	Peru	WB-Lend	2004	7.93	7.93
P116929	Safe and Sustainable Transport Project	LCR	Peru	WB-Lend	2010	150	150
P129561	Universal Mobility in Lima Project	LCR	Peru	WB-Lend	2012	2.5	2.5
P132505	Cusco Transport Improvement Project	LCR	Peru	WB-Lend	2014	120	120

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P145610	Lima Metro Line 2 Project	LCR	Peru	WB-Lend	2016	300	300
P072458	Transport Technical Assistance Project	MNA	Algeria	WB-Lend	2002	8.72	8.72
P119483	Vehicle Scrapping and Recycling Program	MNA	Egypt, Arab Rep.	WB-Lend	2010	8.32	8.32
P143569	Establishment of a Transport Regulatory Authority in Greater Cairo Project	MNA	Egypt, Arab Rep.	WB-Lend	2013	0.3	0.3
P081505	Amman Development Corridor Project	MNA	Jordan	WB-Lend	2004	38	38
P034038	Urban Transport Development Project	MNA	Lebanon	WB-Lend	2002	65	65
P115659	Urban Transport Sector DPL	MNA	Morocco	WB-Lend	2011	136.7	136.7
P128555	Promoting Accessibility of Persons with Limited Mobility Project	MNA	Morocco	WB-Lend	2012	2.85	2.85
P149653	Urban Transport (P4R) Project	MNA	Morocco	WB-Lend	2016	200	200
P064082	Second Transport Sector Project	MNA	Tunisia	WB-Lend	2001	37.6	37.6
P131864	Kabul Urban Transport Efficiency Improvement Project	SAR	Afghanistan	WB-Lend	2014	90.5	90.5
P050668	Mumbai Urban	SAR	India	WB-Lend	2002	542	542

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Transport Project						
P100589	Sustainable Urban Transport Project	SAR	India	WB-Lend	2010	20.33	20.33
P110371	Sustainable Urban Transport Project	SAR	India	WB-Lend	2010	105.23	105.23
P113028	Mumbai Urban Transport Project-2A	SAR	India	WB-Lend	2010	430	430
P132418	Efficient and Sustainable City Bus Service Project	SAR	India	WB-Lend	2015	9.2	9.2
P094941	Transport Economic Sector Review	AFR	Benin	WB-ASA	2007	0.06	0.06
P144128	River and Urban Transport Review	AFR	Congo, Dem. Rep.	WB-ASA	2015	0.1	0.1
P147972	Urban and Metropolitan Transport Review	AFR	Ethiopia	WB-ASA	2015	0.15	0.15
P143404	Gender and Transport in Uganda	AFR	Uganda	WB-ASA	2015	0.02	0.02
P110557	Urban Transport Climate Change Strategy	EAP	China	WB-ASA	2009	0.69	0.69
P115223	Development of Integrated Transport Promotion Law for China	EAP	China	WB-ASA	2010	0.12	0.12
P117917	Urban Transport Climate	EAP	China	WB-ASA	2012	1.17	1.17

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Change Strategy						
P129850	Urban Transport Knowledge Management Platform	EAP	China	WB-ASA	2015	0.47	0.47
P117178	Infrastructure Public Expenditure Review	EAP	Indonesia	WB-ASA	2012	0.33	0.33
P147488	Jakarta Metro Transport Agency Workshop	EAP	Indonesia	WB-ASA	2014	0.03	0.03
P150767	SUstainable Urban Transport Ulaanbaatar	EAP	Mongolia	WB-ASA	2015	0.11	0.11
P116137	Cebu Bus Rapid Transit Corridor Project	EAP	Philippines	WB-ASA	2011	0.31	0.31
P118253	Urban Transport (Metro Manila/Cebu)	EAP	Philippines	WB-ASA	2011	0.03	0.03
P073573	Infrastructure Development Study	EAP	Thailand	WB-ASA	2007	0.34	0.34
P099545	Country Development Partnership (CDP) Urban Transport	EAP	Thailand	WB-ASA	2007	0.05	0.05
P092556	Medium Cities Transport Strategy Study	EAP	Vietnam	WB-ASA	2008	0.25	0.25
P114030	Medium Cities Transport	EAP	Vietnam	WB-ASA	2010	0.18	0.18
P131211	Ho Chi Minh City Bus Energy Efficiency Improvements Project	EAP	Vietnam	WB-ASA	2014	0.13	0.13

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P131300	Ho Chi Minh City Integrated Planning for Urban Transport	EAP	Vietnam	WB-ASA	2014	0.13	0.13
P130275	Advisory Study for PPP of Bus Stations	ECA	Armenia	WB-ASA	2013	0.07	0.07
P096211	Transport Sector Review	ECA	Bosnia and Herzegovina	WB-ASA	2010	0.56	0.56
P127210	Green Transportation	ECA	Georgia	WB-ASA	2012	0.13	0.13
P112683	Transport Sector Policy Note	ECA	Kosovo	WB-ASA	2008		
P107834	Transport Sector Policy Dialogue	ECA	Kosovo	WB-ASA	2010	0.08	0.08
P103642	Transport Sector Dialogue	ECA	Kosovo	WB-ASA	2011	0.02	0.02
P117883	Transport Policy Note	ECA	Poland	WB-ASA	2010	0.21	0.21
P118031	City Policy Note	ECA	Poland	WB-ASA	2010	0.1	0.1
P130508	Strategic Planning in the Transport Sector	ECA	Romania	WB-ASA	2015	2.32	2.32
P109594	Urban PPP Unit in St. Petersburg	ECA	Russian Federation	WB-ASA	2008	0.15	0.15
P124324	St. Petersburg Urban Transport Strategy	ECA	Russian Federation	WB-ASA	2011	0.14	0.14
P119527	Western High Speed Diameter/Orlovski Tunnel Infrastructure Financing	ECA	Russian Federation	WB-ASA	2012	0.09	0.09
P126923	St. Petersburg Urban	ECA	Russian Federation	WB-ASA	2012	0.03	0.03

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Transport Strategy Part 3						
P126373	Technical Assistance for Development of Intelligent Transport System Strategic Plan	ECA	Russian Federation	WB-ASA	2013	0.2	0.2
P130218	Urban Transport Advisory Services	ECA	Russian Federation	WB-ASA	2013	0.3	0.3
P096210	Transport Study	ECA	Ukraine	WB-ASA	2007	0.11	0.11
P127551	Transport Sector Policy Note	ECA	Uzbekistan	WB-ASA	2013	0.19	0.19
P118238	Green City Development	LCR	Brazil	WB-ASA	2011	0.18	0.18
P131410	Reimbursable Advisory Service Sao Paulo PPP Support	LCR	Brazil	WB-ASA	2015	1.46	1.46
P154465	Technical Assistance for Santiago Metro Line 7 under a PPP Scheme	LCR	Chile	WB-ASA	2015	0.06	0.06
P133301	Design of a Targeted Public Transport Subsidy Scheme for Urban Transport Projects in Colombian Cities	LCR	Colombia	WB-ASA	2014	0.34	0.34
P127981	Transport Nonlending Technical Assistance	LCR	Ecuador	WB-ASA	2015	0.35	0.35

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P117624	Urban Transport Sector Memorandum of Understanding (MoU)	LCR	Mexico	WB-ASA	2014	0.46	0.46
P119024	Reimbursable Advisory Service (RAS) Federal Urban Transport Policy	LCR	Mexico	WB-ASA	2015	0.32	0.32
P103542	Urban Transport Study	LCR	Panama	WB-ASA	2007	0.15	0.15
P121712	Cairo Congestion Study	MNA	Egypt, Arab Rep.	WB-ASA	2014	0.31	0.31
P148192	Data Analytics for Urban Transport	MNA	Egypt, Arab Rep.	WB-ASA	2015	0.05	0.05
P100193	Urban Transport Strategy	MNA	Morocco	WB-ASA	2007	0.38	0.38
P101264	Transport and Energy Efficiency	MNA	Morocco	WB-ASA	2010	0.26	0.26
P101282	Tunis Urban Transport Efficiency Technical Assistance	MNA	Tunisia	WB-ASA	2009	0.04	0.04
P114161	Energy Sector Management Assistance Programme (ESMAP) Low Carbon Transport Strategy	MNA	Tunisia	WB-ASA	2011	0.18	0.18
P121039	Low Carbon Action Plan for Transport Sector	MNA	Tunisia	WB-ASA	2014	0.23	0.23

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P100971	Transport Sector Review and Strategy	MNA	West Bank and Gaza	WB-ASA	2007	0.07	0.07
P110209	Transport Sector Technical Assistance	MNA	West Bank and Gaza	WB-ASA	2009	0.26	0.26
P107026	Transport Sector Note	MNA	Yemen, Rep.	WB-ASA	2009	0.32	0.32
P078030	Transport Reform	OTH	Qatar	WB-ASA	2007	0.16	0.16
P104004	Transport in Public Expenditure Reviews Guidelines	OTH	World	WB-ASA	2007	0.07	0.07
P103867	Urban Transport Capacity Building	OTH	World	WB-ASA	2008	0.19	0.19
P119918	Urban Mobility Strategies	OTH	World	WB-ASA	2011	0.21	0.21
P131358	G20 Urban Transport Paper	OTH	World	WB-ASA	2013	0.07	0.07
P132394	Energy Efficient Urban Transport Policy	OTH	World	WB-ASA	2014	0.08	0.08
P104608	Urban Transport Performance	RGN	Africa	WB-ASA	2007	0.04	0.04
P113014	Pro-growth, Pro-poor Transport Strategies	RGN	Africa	WB-ASA	2010	0.08	0.08
P113315	Making Transport Climate Resilient	RGN	Africa	WB-ASA	2011	0.29	0.29
P114347	Poverty Reduction and Transport Strategies Review (PRTSR) -	RGN	Africa	WB-ASA	2011	0.09	0.09

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment /Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Application and Impact Review						
P144092	Study on Urban Transport in Africa	RGN	Africa	WB-ASA	2015	0.31	0.31
P114034	Urban Transport Development in East Asia Pacific Middle Income Countries	RGN	East Asia and Pacific	WB-ASA	2010	0.1	0.1
P100849	Transport Infrastructure Technical Assistance	RGN	EU Accession Countries	WB-ASA	2007	0.18	0.18
P126774	Regional Technical Assistance on Gender and Transport	RGN	Middle East and North Africa	WB-ASA	2013	0.04	0.04
P119509	Promoting Accessibility in Transport	RGN	Middle East and North Africa	WB-ASA	2014	0.15	0.15
P108496	Clean Air in Cities	SAR	Bangladesh	WB-ASA	2009	0.09	0.09
P150315	Electric Vehicle and Green Transport Initiative	SAR	Bhutan	WB-ASA	2015	0.36	0.36
P112333	Strengthening PPP Framework	SAR	India	WB-ASA	2011	1.42	1.42
P128272	Policy Note on Transport	SAR	Sri Lanka	WB-ASA	2013	0.12	0.12

Table G.2. Projects with UT Components or Activities but not Mapped to the Transport GP (Nondedicated)

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P082725	Second Decentralized City Management Project	AFR	Benin	WB-Lend	2006	35	10.85
P122950	Cities Support Project	AFR	Benin	WB-Lend	2013	60	16.20
P151832	Transport and Urban Infrastructure Development Project	AFR	Burkina Faso	WB-Lend	2016	100	26.00
P112998	Public Works and Urban Management Project	AFR	Burundi	WB-Lend	2009	45	9.00
P084002	Urban and Water Development Support Project	AFR	Cameroon	WB-Lend	2007	80	1.60
P104595	Emergency Urban Infrastructure Project	AFR	Central African Republic	WB-Lend	2007	18	3.60
P072030	Urban Development Project	AFR	Chad	WB-Lend	2007	15	1.95
P084315	Service Support Credit	AFR	Comoros	WB-Lend	2004	13.3	2.00
P081850	Emergency Economic and Social Reunification Support Project	AFR	Congo, Dem. Rep.	WB-Lend	2004	214	64.20
P088619	Emergency Living Conditions Improvement Support Project	AFR	Congo, Dem. Rep.	WB-Lend	2005	82	41.00
P104497	Emergency Urban and Social Rehabilitation Project	AFR	Congo, Dem. Rep.	WB-Lend	2007	180	39.60

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P129713	Urban Development Project	AFR	Congo, Dem. Rep.	WB-Lend	2013	100	60.00
P074006	Emergency Infrastructure Rehabilitation and Living Conditions Improvement Project	AFR	Congo, Rep.	WB-Lend	2002	40	25.20
P110020	Emergency Urban Infrastructure Project	AFR	Côte d'Ivoire	WB-Lend	2008	94	28.20
P082812	Local Infrastructure Development Project	AFR	Gabon	WB-Lend	2006	25	6.50
P122692	Local Government Capacity Support Project	AFR	Ghana	WB-Lend	2011	175	108.50
P091297	Third Urban Development Project - Phase 2	AFR	Guinea	WB-Lend	2008	15	3.00
P066488	Municipal Program	AFR	Kenya	WB-Lend	2010	100	25.00
P113542	Informal Settlements Improvement Project	AFR	Kenya	WB-Lend	2011	100	30.00
P107314	Nairobi Metropolitan Services Project	AFR	Kenya	WB-Lend	2012	300	60.00
P057761	Infrastructure Services Project	AFR	Malawi	WB-Lend	2006	40	16.00
P083799	Economic Policy and Public Finance Management Credit	AFR	Mali	WB-Lend	2006	25	2.50
P116602	Urban Local Government	AFR	Mali	WB-Lend	2011	70	9.80

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Support Project						
P096332	Maputo Municipal Development Program	AFR	Mozambique	WB-Lend	2007	30	6.00
P115217	Second Maputo Municipal Development Program	AFR	Mozambique	WB-Lend	2011	50	12.00
P146398	Second Climate Change DPO	AFR	Mozambique	WB-Lend	2015	50	7.00
P095949	Local Urban Infrastructure Development Project	AFR	Niger	WB-Lend	2008	30	7.50
P115386	Public/Private Partnership Program	AFR	Nigeria	WB-Lend	2011	115	52.90
P060005	Urban Infrastructure and City Management Project	AFR	Rwanda	WB-Lend	2006	20	6.00
P150844	Urban Development Project	AFR	Rwanda	WB-Lend	2016	95	71.25
P084022	Local Authorities Development Program	AFR	Senegal	WB-Lend	2007	80	32.00
P095232	Local Government Project	AFR	Swaziland	WB-Lend	2011	26.9	7.26
P111153	Strategic Cities Project	AFR	Tanzania	WB-Lend	2010	163	92.91
P123134	Dar es Salaam Metropolitan Project	AFR	Tanzania	WB-Lend	2015	300	147.00
P111338	Lome Infrastructure Rehabilitation and Maintenance Project	AFR	Togo	WB-Lend	2008	1.58	0.95
P113415	Emergency Infrastructure	AFR	Togo	WB-Lend	2009	25	6.00

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Rehabilitation and Energy Project						
P078382	Kampala Institutional and Infrastructure Development Project	AFR	Uganda	WB-Lend	2008	33.6	13.44
P133590	Second Kampala Institutional and Infrastructure Development Project	AFR	Uganda	WB-Lend	2014	175	82.25
P145101	Albertine Region Sustainable Development Project	AFR	Uganda	WB-Lend	2014	145	14.50
P121986	Zambia Pilot Program for Climate Resilience - Phase 1	AFR	Zambia	WB-Lend	2010	1.5	0.50
P127254	Stengthening Climate Resilience Project	AFR	Zambia	WB-Lend	2013	36	10.80
P040599	Second Tianjin Urban Development and Environment Project	EAP	China	WB-Lend	2003	150	30.00
P081161	Chongqing Small Cities Infrastructure Improvement Project	EAP	China	WB-Lend	2005	180	63.00
P083322	Sichuan Urban Development Project	EAP	China	WB-Lend	2007	180	120.60
P114107	Wenchuan Earthquake Recovery Project	EAP	China	WB-Lend	2009	710	177.50

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P098915	GEF Sino-Singapore Tianjin Eco-City Project	EAP	China	WB-Lend	2011	6.16	2.16
P110632	Sichuan Small Towns Development Project	EAP	China	WB-Lend	2011	100	60.00
P118597	Integrated Economic Development of Small Towns Project	EAP	China	WB-Lend	2012	150	82.50
P126611	Liaoning Coastal Economic Zone Project	EAP	China	WB-Lend	2013	150	108.00
P127034	GEF Shanghai Low-Carbon City Project	EAP	China	WB-Lend	2013	4.34	0.22
P129431	Anhui Xuancheng Infrastructure for Industry Relocation Project	EAP	China	WB-Lend	2013	150	108.00
P133000	Huainan Mining Area Rehabilitation Project	EAP	China	WB-Lend	2015	100	7.00
P133069	Shaanxi Small Towns Infrastructure Project	EAP	China	WB-Lend	2015	150	73.50
P133456	Sichuan Chongqing Cooperation: Guang'an Demonstration Area Infrastructure Development Project	EAP	China	WB-Lend	2015	100	55.00
P147087	Promotion of Sustainable Cities in China Project	EAP	China	WB-Lend	2015	2	0.66

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P084583	Third Urban Poverty Project	EAP	Indonesia	WB-Lend	2005	138.7	40.22
P096921	National Program for Community Empowermen t in Urban Areas Project	EAP	Indonesia	WB-Lend	2008	177.68	47.97
P107163	Infrastructure DPL	EAP	Indonesia	WB-Lend	2008	200	20.00
P111905	Second Infrastructure DPL	EAP	Indonesia	WB-Lend	2009	200	64.00
P115102	Third Infrastructure DPL	EAP	Indonesia	WB-Lend	2010	250	80.00
P118113	Third National Program for Community Empowermen t in Urban Areas Project	EAP	Indonesia	WB-Lend	2010	149.98	38.99
P118531	Fourth Infrastructure DPL	EAP	Indonesia	WB-Lend	2011	200	64.00
P124006	First Connnectivity DPL	EAP	Indonesia	WB-Lend	2013	100	44.00
P144774	Second Connnectivity DPL	EAP	Indonesia	WB-Lend	2014	300	168.00
P147893	Urban Transport Corridor Development in Surabaya Project	EAP	Indonesia	WB-Lend	2014	1.25	1.25
P125863	Community-led Infrastructure Development for the Urban Poor in Ulaanbaatar Phase 2	EAP	Mongolia	WB-Lend	2012	2.77	1.11
P048588	Local Government	EAP	Philippines	WB-Lend	1999	100	77.10

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Finance and Development Project						
P064925	Support for Strategic Local Development and Investment Project	EAP	Philippines	WB-Lend	2006	100	20.00
P143536	Capacity Building of Metro Manila Development Authority (MMDA) for Greenprint 2030 Project	EAP	Philippines	WB-Lend	2013	0.15	0.05
P114987	Rapid Employment Project	EAP	Solomon Islands	WB-Lend	2010	3.2	0.45
P156505	Vanuatu Reconstructio n Project	EAP	Vanuatu	WB-Lend	2016	50	15.00
P070197	Urban Upgrading Project	EAP	Vietnam	WB-Lend	2004	222.47	28.92
P086508	Priority Infrastructure Investment Project	EAP	Vietnam	WB-Lend	2008	152.44	73.17
P113904	Mekong Delta Region Urban Upgrading Project	EAP	Vietnam	WB-Lend	2012	292	78.84
P116398	Medium Cities Development Project	EAP	Vietnam	WB-Lend	2012	210	119.70
P123384	Danang Sustainable City Development Project	EAP	Vietnam	WB-Lend	2013	202.5	99.22
P143596	National Urban Development Program	EAP	Vietnam	WB-Lend	2014	250	50.00

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P151157	Floods Emergency Recovery Project	ECA	Bosnia and Herzegovina	WB-Lend	2014	100	40.00
P110126	Regional and Municipal Infrastructure Development Project	ECA	Georgia	WB-Lend	2009	40	8.00
P126033	First Regional Development Project	ECA	Georgia	WB-Lend	2012	60	27.00
P130421	Second Regional Development Project	ECA	Georgia	WB-Lend	2013	30	17.70
P147521	Regional and Municipal Infrastructure Development Project	ECA	Georgia	WB-Lend	2015	30	9.00
P150696	Third Regional Development Project	ECA	Georgia	WB-Lend	2016	60	21.00
P144880	Roads Civil Society Organizations (CSOs) Project	ECA	Kazakhstan	WB-Lend	2013	0.31	0.15
P104994	Bishkek and Osh Urban Infrastructure Project	ECA	Kyrgyz Republic	WB-Lend	2008	12	2.76
P096481	Municipal Development Project	ECA	Macedonia, FYR	WB-Lend	2009	25	15.00
P146322	Turkey Sustaining Shared Growth Development Policy Loan	ECA	Turkey	WB-Lend	2015	500	50.00
P088032	Buenos Aires Infrastructure Sustainable Investment Development	LCR	Argentina	WB-Lend	2005	200	54.00

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Project (APL 1)						
P060484	Basic Municipal Services Project	LCR	Argentina	WB-Lend	2006	110	23.10
P116974	Third National Communicati on Project	LCR	Argentina	WB-Lend	2011	2.44	0.61
P111928	Municipal Development Project	LCR	Belize	WB-Lend	2011	15	3.75
P127338	Climate Resilient Infrastructure Project	LCR	Belize	WB-Lend	2015	30	13.50
P083979	Urban Infrastructure Project	LCR	Bolivia	WB-Lend	2007	30	3.00
P106449	Emergency Recovery and Disaster Management Project	LCR	Bolivia	WB-Lend	2008	12.5	4.13
P081436	Bahia Poor Urban Areas Integrated Development Project	LCR	Brazil	WB-Lend	2006	49.3	11.34
P088966	Teresina Enhancing Municipal Governance and Quality of Life Project (APL 3)	LCR	Brazil	WB-Lend	2008	31.13	1.25
P094199	Pelotas - Rio Grande do Sul Integrated Municipal Development Program	LCR	Brazil	WB-Lend	2008	18.9	12.66
P099369	Ceara Regional Development Project	LCR	Brazil	WB-Lend	2009	46	5.06
P107843	Federal District	LCR	Brazil	WB-Lend	2009	130	42.90

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Multisector Management Project						
P126372	Recife Swap Education and Public Management Project	LCR	Brazil	WB-Lend	2012	130	6.50
P126735	Sengthening Public Management and Integrated Territorial Development Project	LCR	Brazil	WB-Lend	2014	48	4.32
P073985	GEF Santiago Sustainable Transport and Air Quality Project	LCR	Chile	WB-Lend	2004	6.98	5.58
P130972	Productive and Sustainable Cities DPL	LCR	Colombia	WB-Lend	2013	150	42.00
P143996	Manta Public Services Improvement Project	LCR	Ecuador	WB-Lend	2014	100	53.00
P118026	Local Government Strengthening Project	LCR	El Salvador	WB-Lend	2010	80	4.00
P100564	Second Economic Governance Reform Project	LCR	Haiti	WB-Lend	2007	23	3.45
P106699	Urban Community Driven Development Project	LCR	Haiti	WB-Lend	2008	15.7	1.57
P088319	Barrio-Ciudad Project	LCR	Honduras	WB-Lend	2006	15	1.95
P091299	Inner City Basic Services Project	LCR	Jamaica	WB-Lend	2006	29.3	4.98

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P146460	Integrated Community Development Project	LCR	Jamaica	WB-Lend	2014	42	9.24
P059161	GEF Climate Measures in Transport Project	LCR	Mexico	WB-Lend	2003	5.8	3.48
P082219	Clean Development Mechanism (CDM) Technical Assistance for Mexico Project	LCR	Mexico	WB-Lend	2006	0.35	0.07
P115608	Framework for Green Growth DPL Project	LCR	Mexico	WB-Lend	2010	1503.75	751.88
P064906	Poverty Reduction and Local Development Project	LCR	Nicaragua	WB-Lend	2001	60	8.40
P101471	First Progrmmatic Environmenta l DPL	LCR	Peru	WB-Lend	2009	330	82.50
P116152	Second Progrmmatic Environmenta l DPL	LCR	Peru	WB-Lend	2010	50	16.50
P118713	Third Progrmmatic Environmenta l DPL	LCR	Peru	WB-Lend	2011	75	10.50
P088876	Urban Povery Reduction Project	MNA	Djibouti	WB-Lend	2008	3	0.90
P145848	Second Urban Poverty Reduction Project	MNA	Djibouti	WB-Lend	2014	5.6	2.97
P094229	Alexandria Development Project	MNA	Egypt, Arab Rep.	WB-Lend	2008	100	55.00
P087910	Emergency Water Supply,	MNA	Iraq	WB-Lend	2005	90	20.70

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Sanitation and Urban Reconstructio n Project						
P155732	Emergency Operation for Development Project	MNA	Iraq	WB-Lend	2016	350	157.50
P070958	Regional and Local Development Project	MNA	Jordan	WB-Lend	2007	20	6.20
P081823	Cultural Heritage, Tourism and Urban Development Project	MNA	Jordan	WB-Lend	2007	56	20.72
P147689	Emergency Services and Social Resilience Project	MNA	Jordan	WB-Lend	2014	50	10.00
P050544	First Municipal Infrastructure Project	MNA	Lebanon	WB-Lend	2000	80	36.80
P050529	Cultural Heritage and Urban Development Project	MNA	Lebanon	WB-Lend	2003	31.5	6.30
P103875	Municipal Infrastructure Project	MNA	Lebanon	WB-Lend	2007	30	9.60
P149724	Municipal Services Emergency Project	MNA	Lebanon	WB-Lend	2014	10	2.00
P144438	Local Government Support Program Project	MNA	Morocco	WB-Lend	2014	4.55	0.68
P074594	Second Emergency Municipal Services	MNA	West Bank and Gaza	WB-Lend	2007	10	1.80

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Rehabilitation Project						
P127163	Second Municipal Development Project	MNA	West Bank and Gaza	WB-Lend	2013	10	2.30
P065111	Port Cities Development Program Project	MNA	Yemen, Rep.,	WB-Lend	2003	23.4	2.34
P082976	Third Public Works Project	MNA	Yemen, Rep.,	WB-Lend	2004	45	9.00
P107050	Integrated Urban Development Project	MNA	Yemen, Rep.,	WB-Lend	2010	22	6.16
P122594	Labor Intensive Public Works Project	MNA	Yemen, Rep.,	WB-Lend	2012	61	2.44
P117871	Regional Disaster Vulnerability Reduction Projects Project	OTH	OECS Countries	WB-Lend	2011	20.92	4.18
P129257	Governance of Basic Local Public Services - Third Global Report on Decentralization and Local Democracy (GOLD III)	OTH	World	WB-Lend	2012	0.25	0.05
P121026	Defining Africas Emerging Urban Agenda Central Program Operations	RGN	Africa	WB-Lend	2010	0.59	0.06
P096017	GEF Sustainable Transport and Air Qualiyt Project	RGN	Latin America	WB-Lend	2009	2.9	2.90

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P041887	Municipal Services Project	SAR	Bangladesh	WB-Lend	1999	138.6	32.50
P053578	Social Investment Program Project	SAR	Bangladesh	WB-Lend	2003	18.24	7.30
P098151	Clean Air and Sustainable Environment Project	SAR	Bangladesh	WB-Lend	2009	62.2	46.65
P133653	Municipal Governance and Services Project	SAR	Bangladesh	WB-Lend	2014	410	8.20
P090157	Second Urban Development Project	SAR	Bhutan	WB-Lend	2010	12	0.36
P079675	Karnataka Municipal Reform Project	SAR	India	WB-Lend	2006	216	64.80
P083780	Tamilnadu Third Urban Project	SAR	India	WB-Lend	2006	300	75.00
P113188	Transformation of Mumbai into a World Class City - Phase II Project	SAR	India	WB-Lend	2009	0.5	0.13
P071250	Andhra Pradesh and Telangana Municipal Development Project	SAR	India	WB-Lend	2010	300	30.00
P148868	Odisha Disaster Recovery Project	SAR	India	WB-Lend	2014	153	9.18
P150395	Sustainable Urban Development Program Project	SAR	India	WB-Lend	2015	400	120.00

APPENDIX G
LIST OF URBAN TRANSPORT PROJECTS: DEDICATED AND NONDEDICATED

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P154990	Jhelum and Tawi Flood Recovery Project	SAR	India	WB-Lend	2015	250	80.00
P127725	Bihar Kosi Basin Development Project	SAR	India	WB-Lend	2016	250	113.30
P120265	Emerging Towns Project	SAR	Nepal	WB-Lend	2011	25	7.50
P083929	Punjab Municipal Services Improvement Project	SAR	Pakistan	WB-Lend	2006	50	10.00
P125414	Federally Administered Tribal Areas (FATA) Urban Centers Project	SAR	Pakistan	WB-Lend	2012	7	1.40
P122735	Metro Colombo Urban Development Project	SAR	Sri Lanka	WB-Lend	2012	213	12.78
P130548	Strategic Cities Development Project	SAR	Sri Lanka	WB-Lend	2014	147	66.15
P091100	Urbanization Study	AFR	Ethiopia	WB-ASA	2007	0.27	0.27
P146519	Urbanization Review	AFR	Ethiopia	WB-ASA	2015	0.78	0.78
P143696	Urbanization Review	AFR	Ghana	WB-ASA	2015	0.36	0.36
P107317	Five Largest Cities Project	AFR	Kenya	WB-ASA	2009	0.05	0.05
P143476	Urbanization Review	AFR	Nigeria	WB-ASA	2015	0.44	0.44
P103028	Urban Policies	AFR	Tanzania	WB-ASA	2008	0.4	0.40
P078135	Clean Development Mechanism (CDM)	EAP	Cambodia	WB-ASA	2009	0.08	0.08

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Technical Assistance for Cambodia						
P071365	Clean Development Mechanism (CDM) Technical Assistance for China	EAP	China	WB-ASA	2009	1	1.00
P114815	Sino-Singapore Tianjin Eco City Project	EAP	China	WB-ASA	2009	0.2	0.20
P123996	Low Carbon Cities in China	EAP	China	WB-ASA	2011	0.37	0.37
P078281	Clean Development Mechanism (CDM) Technical Assistance for Indonesia	EAP	Indonesia	WB-ASA	2008	0.08	0.08
P109374	Infrastructure Financing Platform Project	EAP	Indonesia	WB-ASA	2008	0.22	0.22
P114181	Infrastructure Strategy and Prioritization	EAP	Indonesia	WB-ASA	2010	0.36	0.36
P129122	City and Corridor Labs	EAP	Malaysia	WB-ASA	2013	0.08	0.08
P144910	National Transport Strategy	EAP	Malaysia	WB-ASA	2015	1.93	1.93
P088898	Infrastructure Strategy	EAP	Mongolia	WB-ASA	2007	0.55	0.55
P131050	Capacity Building Support for Local Planning and Infrastructure Service Improvement	EAP	Mongolia	WB-ASA	2014	0.04	0.04
P099082	Public Expenditure Review -	EAP	Philippines	WB-ASA	2009	0.5	0.50

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Transport for Growth						
P111775	Infrastructure Expenditure Review	EAP	Philippines	WB-ASA	2011	0.08	0.08
P123163	Metro Manila Bay Initiative Project	EAP	Philippines	WB-ASA	2015	0.44	0.44
P145329	Transport Infrastructure Development Roadmap Framework Plan	EAP	Philippines	WB-ASA	2015	0.02	0.02
P109573	Country Development Partnership for Infrastructure	EAP	Thailand	WB-ASA	2009	0.78	0.78
P118595	Country Development Partnership for Infrastructure and Climate Change	EAP	Thailand	WB-ASA	2010	0.16	0.16
P124623	Country Development Partnership for Sustainable Development	EAP	Thailand	WB-ASA	2014	0.09	0.09
P072313	Priority Infrastructure Investment Project	EAP	Vietnam	WB-ASA	2008	0.2	0.20
P109056	Quang Nam Integrated Development Project	EAP	Vietnam	WB-ASA	2009	0.11	0.11
P110633	Carbon Finance Assist for Vietnam	EAP	Vietnam	WB-ASA	2009	0.04	0.04
P113836	Cluster-Infrastructure Policy/Regulation Reform	EAP	Vietnam	WB-ASA	2012	0.46	0.46

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P113947	Cluster-Regional Development and Urbanization	EAP	Vietnam	WB-ASA	2012	0.39	0.39
P130039	Municipal Infrastructure Financing Project	EAP	Vietnam	WB-ASA	2014	0.46	0.46
P102829	Private Partnership Technical Assistance	ECA	Kazakhstan	WB-ASA	2007	0.08	0.08
P112735	Public Private Partnerships Technical Assistance	ECA	Kazakhstan	WB-ASA	2010	0.09	0.09
P096960	Green Growth and Climate Change	ECA	Macedonia, FYR	WB-ASA	2014	1.05	1.05
P123048	Green Growth and Climate Change	ECA	Macedonia, FYR	WB-ASA	2014	1.69	1.69
P101047	Strategy for Transport Sector	ECA	Moldova	WB-ASA	2008	0.38	0.38
P143087	Spatial and Urban Strategy	ECA	Romania	WB-ASA	2014	0.31	0.31
P130684	Municipal Public Expenditure Review	ECA	Serbia	WB-ASA	2013	0.26	0.26
P128606	Key Urbanizaton review	ECA	Turkey	WB-ASA	2015	0.59	0.59
P090381	Infrastructure Finance Project	LCR	Argentina	WB-ASA	2007	0.3	0.30
P069097	Clean Development Mechanism Technical Assitance for Argentina	LCR	Argentina	WB-ASA	2009	0.26	0.26
P133244	Urban Development Economic and Sector Work	LCR	Bolivia	WB-ASA	2014	0.15	0.15

APPENDIX G
LIST OF URBAN TRANSPORT PROJECTS: DEDICATED AND NONDEDICATED

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P091061	Sao Paulo Study Project	LCR	Brazil	WB-ASA	2007	0.28	0.28
P105702	Low Carbon Country Case Study	LCR	Brazil	WB-ASA	2010	1.86	1.86
P130642	Rio de Janeiro Low Carbon City Development	LCR	Brazil	WB-ASA	2015	0.74	0.74
P143545	Metropolitan Governance Project	LCR	Brazil	WB-ASA	2015	0.15	0.15
P146605	Urban Poverty and Vulnerability Project	LCR	Brazil	WB-ASA	2015	0.31	0.31
P121640	Urbanization Review	LCR	Colombia	WB-ASA	2012	0.3	0.30
P104731	Carbon Finance Assist Program for Mexico	LCR	Mexico	WB-ASA	2009	0.14	0.14
P125103	Low Carbon Study	LCR	Uruguay	WB-ASA	2015	1.01	1.01
P097251	Assessment of Air Quality in Cairo	MNA	Egypt, Arab Rep.	WB-ASA	2013	0.32	0.32
P114958	Clean development Mechanism (CDM) Technical Asistance for Jordan	MNA	Jordan	WB-ASA	2010	0.03	0.03
P148494	Transport Sector Technical Assistance Project	MNA	Jordan	WB-ASA	2015	0.12	0.12
P114529	Clean development Mechanism (CDM) Technical Asistance for Lebanon	MNA	Lebanon	WB-ASA	2009	0.02	0.02

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P130329	Infrastructure Development Project	MNA	Libya	WB-ASA	2015	0.3	0.30
P067503	Clean development Mechanism (CDM) Technical Asistance for Tunisia	MNA	Tunisia	WB-ASA	2007	0.07	0.07
P130121	Assessing Gaza Infrastructure	MNA	West Bank and Gaza	WB-ASA	2013	0.09	0.09
P067785	Carbon Expo	OTH	World	WB-ASA	2007	0.27	0.27
P103852	Lessons Learned on Urban Infrastructure Finance in India, Brazil and Eastern Europe	OTH	World	WB-ASA	2007	0.03	0.03
P103630	Land-related Private Finance in Urban Infrastructure	OTH	World	WB-ASA	2008	0.07	0.07
P103718	Urban Expansion -- the tale of 3 cities (in India, China and Ecuador)	OTH	World	WB-ASA	2008	0.04	0.04
P103768	Transport and Energy Project	OTH	World	WB-ASA	2008	0.3	0.30
P111985	Delivering Pro-poor Infrastructure Project	OTH	World	WB-ASA	2009	0.01	0.01
P109896	Notes on Cities and Climate Change Project	OTH	World	WB-ASA	2010	0.17	0.17
P113671	Transport and Climate	OTH	World	WB-ASA	2011	0.7	0.70

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
	Change Project						
P116007	Assessment of GHG Intensity of Core Dev Project	OTH	World	WB-ASA	2011	0.26	0.26
P121303	Climate Change, Disaster Risk Urban Poor Project	OTH	World	WB-ASA	2011	0.45	0.45
P115868	Cities and Climate Change Project	OTH	World	WB-ASA	2012	1.79	1.79
P116417	Pilot Program for Assessment of GHG Intensity of Core Development Activities	OTH	World	WB-ASA	2012	0.34	0.34
P122995	Compact Urban Development Project	OTH	World	WB-ASA	2012	0.14	0.14
P126082	Green Growth Report Project	OTH	World	WB-ASA	2012	0.53	0.53
P126184	Program for Sustainable Development	OTH	World	WB-ASA	2014	0.44	0.44
P150083	City Strength Diagnostic	OTH	World	WB-ASA	2015	0.18	0.18
P150347	Urban Climate Action Planning Tool	OTH	World	WB-ASA	2015	0.4	0.40
P153026	Achieving Inclusive Green Growth Project	OTH	World	WB-ASA	2015	0.14	0.14
P076912	Clean Air Initiative in Sub-Saharan African Cities	RGN	Africa	WB-ASA	2009	0.73	0.73

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P096914	Ecological cities as Economic cities (ECO2) Program	RGN	East Asia and Pacific	WB-ASA	2009	0.4	0.40
P106006	Ecological cities as Economic cities (ECO2)	RGN	East Asia and Pacific	WB-ASA	2010	0.15	0.15
P113866	Gender Equality through Infrastructure	RGN	East Asia and Pacific	WB-ASA	2013	0.09	0.09
P131169	Regional Knowledge Exchange on Urban Resilience	RGN	East Asia and Pacific	WB-ASA	2015	0.09	0.09
P129911	Cities for a New Generation	RGN	Middle East and North Africa	WB-ASA	2014	0.66	0.66
P144356	Green Growth Policy Note	SAR	Bhutan	WB-ASA	2015	0.15	0.15
P083775	Public Private Participation Project	SAR	India	WB-ASA	2007	0.1	0.10
P094716	Mumbai Urban Bus Plan	SAR	India	WB-ASA	2007	0.73	0.73
P105640	Urban Strategy 2025	SAR	India	WB-ASA	2007	0.28	0.28
P107693	Mumbai Transformation Action Plan - Phase II	SAR	India	WB-ASA	2011	0.69	0.69
P123768	Urbanization Review	SAR	India	WB-ASA	2012	0.27	0.27
P150165	India Department of Economic Affairs (DEA) Urban Workshop	SAR	India	WB-ASA	2015	0.01	0.01
P149430	Urban Services Delivery in Punjab	SAR	India	WB-ASA	2016	0.23	0.23

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount (US$ million)	Commitment/ Guarantee Amount to UT (US$ million)
P070311	Clean development Mechanism (CDM) Technical Asistance for Sri Lanka Project	SAR	Sri Lanka	WB-ASA	2008	0.03	0.03
P112928	Infrastructure Assessment	SAR	Sri Lanka	WB-ASA	2012	0.72	0.72
P117210	Assessment of Secondary Cities of Sri Lanka: The Eastern and the Northern Provinces	SAR	Sri Lanka	WB-ASA	2012	0.2	0.20
P128031	Urban Policy Note	SAR	Sri Lanka	WB-ASA	2012	0.12	0.12

Table G.3. IFC and MIGA Projects (Dedicated)

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount	Commitment/ Guarantee Amount to UT
4138	Henri Konan Bédié Bridge Project	AFR	Côte d'Ivoire	MIGA	2012	145	145
10020	Panama Metro Line One	LCR	Panama	MIGA	2012	320	320
8050	Otogar-Badcylar-Ykitelli-Olimpic Village Metro Project	ECA	Turkey	MIGA	2011	19.5	19.5
9401	Kadikoy-Kartal-Kaynarca Metro Project	ECA	Turkey	MIGA	2011	409.2	409.2
11781	Izmir Marine Transportatio n Project	ECA	Turkey	MIGA	2013	65.5	65.5
12240	Izmir Tramway Project	ECA	Turkey	MIGA	2014	91.1	91.1

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount	Commitment/ Guarantee Amount to UT
12580	Izmir Metro Project	ECA	Turkey	MIGA	2015	32.6	32.6
25034	Bureau Burkinabe du Commerce International S.A (BBCOM INT)	AFR	Burkina Faso	IFC-IS	2007	2.47	2.47
29008	Societe Eiffage de la Nouvelle Autoroute Concedee (SENAC)	AFR	Senegal	IFC-IS	2011	30.53	30.53
33098	Societe Eiffage de la Nouvelle Autoroute Concedee (SENAC) 2	AFR	Senegal	IFC-IS	2015	31.93	31.93
35833	Blue Bird	EAP	Indonesia	IFC-IS	2015	19.65	19.65
30009	Podgorica Bypass	ECA	Montenegro	IFC-IS	2011	13.22	13.22
31065	Podgorica Roads	ECA	Montenegro	IFC-IS	2012	13.27	13.27
26363	Petropavlovsk	ECA	Russian Federation	IFC-IS	2008	28.68	28.68
27781	Republic of Mariy El	ECA	Russian Federation	IFC-IS	2009	13.42	13.42
28919	Republic of Mariy El II	ECA	Russian Federation	IFC-IS	2010	20	20
29666	Republic of Mariy El 2011	ECA	Russian Federation	IFC-IS	2011	22.52	22.52
27309	Istanbul Kadikoy-Kartal Metro Project	ECA	Turkey	IFC-IS	2009	67.9	67.9
31733	Izmir Muni Project	ECA	Turkey	IFC-IS	2013	58.52	58.52
34306	Izmir Tramway Project	ECA	Turkey	IFC-IS	2014	75.86	75.86
35012	Izmir Railcars Project	ECA	Turkey	IFC-IS	2015	24.95	24.95
26473	Bogotá Streets Project	LCR	Colombia	IFC-IS	2009	45	45

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount	Commitment/ Guarantee Amount to UT
36340	Transambiental Project	LCR	Colombia	IFC-IS	2016	16.69	16.69
24090	Municipality of Guatemala City Project (GCP)	LCR	Guatemala	IFC-IS	2006	6.61	6.61
28806	TWG1	RGN	Middle East and North Africa	IFC-IS	2010	30	30
33292	Daewoo Intercity Project	SAR	Pakistan	IFC-IS	2014	10	10
34819	Daewoo C Loan	SAR	Pakistan	IFC-IS	2014	10	10
601344	Dakar Bus Rapid Transit System	AFR	Senegal	IFC-AS	2016	2.62	2.62
583827	Ninoy Aquino International Airport (NAIA) Expressway	EAP	Philippines	IFC-AS	2011	1.08	1.08
593007	Manila Light Rail Transit PPP Program	EAP	Philippines	IFC-AS	2012	2.65	2.65
599787	Manila Second Light Rail Transit Project	EAP	Philippines	IFC-AS	2014	1.67	1.67
600643	Manila-Quezon Bus Rapid Transit Project	EAP	Philippines	IFC-AS	2015	0.39	0.39
600676	Cebu Bus Rapid Transit Project	EAP	Philippines	IFC-AS	2015	0.41	0.41
23875	Recife Transport Project	LCR	Brazil	IFC-AS	2006	0.95	0.95
28196	La Ceiba Road Project	LCR	Honduras	IFC-AS	2011	1.51	1.51
599589	Puebla Bus Rapid Transit PPP Project	LCR	Mexico	IFC-AS	2013	0.97	0.97
566168	Amman Ring Road Project	MNA	Jordan	IFC-AS	2009	2.76	2.76
28740	Amman-Zarqa Light Rail System Project	MNA	Jordan	IFC-AS	2010	1.93	1.93

Project ID	Project Name	Region	Country or Economy	WBG Institution	App. Fiscal Year	Project Commitment / Guarantee Amount	Commitment/ Guarantee Amount to UT
599855	West Bank Buses Project	MNA	West Bank and Gaza	IFC-AS	2016	0.94	0.94
584147	Bhutan Urban Transport System Project	SAR	Bhutan	IFC-AS	2011	0.71	0.71
599164	Thimphu Parking Project	SAR	Bhutan	IFC-AS	2013	0.67	0.67
581427	Chennai Metro Project	SAR	India	IFC-AS	2011	1.87	1.87

Note: AFR = Africa; App. = approved; AS = Advisory Services; ASA = Advisory Services and Analytics; EAP = East Asia and Pacific; ECA = Europe and Central Asia; GEF = Global Environmental Facility Trust Fund; GHG = greenhouse gas; IFC = International Finance Corporation (of the World Bank Group); LCR = Latin America and the Caribbean; MIGA = Multilateral Investment Guarantee Agency (of the World Bank Group); MNA = Middle East and North Africa; OTH = other; PPP = public-private partnerships; REG = Region; SAR = South Asia Region; WB = World Bank; WBG = World Bank Group.