

Document of
The World Bank

Report No: ICR00003821

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IDA-43340, TF-90550)

ON AN

INTERNATIONAL DEVELOPMENT ASSOCIATION CREDIT (IDA-43340)
IN THE AMOUNT OF SDR 29.8 MILLION
(US\$45 MILLION EQUIVALENT)

A

GLOBAL ENVIRONMENT FACILITY GRANT
IN THE AMOUNT OF US\$7 MILLION

AND AN

AGENCE FRANÇAISE DE DÉVELOPPEMENT CREDIT
IN THE AMOUNT OF EURO 20 MILLION
(US\$27 MILLION EQUIVALENT)

TO THE

REPUBLIC OF GHANA

FOR AN

URBAN TRANSPORT PROJECT

January 26, 2017

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 15, 2015)

Currency Unit = New Ghanaian Cedi (GHC)

GHC 1.00 = US\$0.26215

US\$1.00 = GHC 3.81459

SDR 1.00 = US\$ 1.393830

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AFD	French Development Agency (<i>Agence Française de Développement</i>)
AMA	Accra Metropolitan Assembly
BRT	Bus Rapid Transit
CBD	Central Business District
CUT	Center for Urban Transport
DUR	Department of Urban Roads
EPA	Environmental Protection Authority
ERR	Economic Rate of Return
FA	Financing Agreement
GAPTE	Greater Accra Passenger Transport Executive
GEDA	Ga East District Assembly
GEF	Global Environment Facility
GEMA	Ga East Municipal Assembly
GEO	Global Environment Objective
GHG	Greenhouse Gas
GoG	Government of Ghana
GPRTU	Ghana Private Road Transport Union
GWDA	Ga West District Assembly
HDM	Highway Development and Management
ICR	Implementation Completion and Results Report
ISR	Implementation Status and Results Report
KMA	Kumasi Metropolitan Assembly
M&E	Monitoring and Evaluation
MLGRD	Ministry of Local Government and Rural Development
MMDA	Metropolitan, Municipal, or District Assembly
MMT	Metro Mass Transit
MoRT	Ministry of Roads and Transport
MoRH	Ministry of Roads and Highways
MTR	Midterm Review
NPV	Net Present Value
NMT	Non-motorized Transport

OPCS	Operations Policy and Country Services
PAD	Project Appraisal Document
PAO	Project Advisory Office
PDO	Project Development Objective
PPIAF	Public-Private Infrastructure Advisory Facility
QBS	Quality Bus Service
TMA	Tema Municipality Assembly
UNFCCC	United Nations Framework Convention on Climate Change
UPTU	Urban Passenger Transport Unit
UPTCG	Urban Passenger Transport Coordinating Group
UTAC	Urban Transport Advisory Committee
UTP	Urban Transport Project
VHC	High Volatile Halogen Hydrocarbons

The ICR team would like to thank OPCS, IEG and Agile fellows for their guidance and support in preparing this “brief ICR” as part of the Africa Transport Agility Pilot.

Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Aurelio Menendez
Project Team Leader:	John Kobina Richardson
ICR Team Leader:	Akiko Kishiue

GHANA
Urban Transport Project

CONTENTS

Data Sheet	i
A. Basic Information	i
B. Key Dates	i
C. Ratings Summary	ii
D. Sector and Theme Codes	ii
E. Bank Staff.....	iv
F. Results Framework Analysis	iv
G Rating of Project Performance in ISRs.....	v
H. Restructurings	vi
I. Disbursement Profile	vii
1. Project Context and Objectives	1
2. Results	4
3. Key Factors that Affected Implementation and Outcomes	8
4. Other Issues	11
5. Recommendations	13
Annex 1. Results Framework Analysis	16
Annex 2. Bank Lending and Implementation Support/Supervision Processes.....	22
Annex 3. Project Costs and Financing	25
Annex 4. Borrower's, Co-Financiers and Other Partners/Stakeholders' Comments on the Brief ICR	26
Annex 5. Efficiency Analysis	29
Annex 6. Supporting Documents:	31
Annex 6a. Summary of Borrower's ICR.....	31
Annex 6b. List of Supporting Documents	36
MAP	38

Data Sheet

A. Basic Information			
Country:	Ghana	Project Name:	Ghana Urban Transport Project
Project ID:	P100619, P092509	L/C/TF Number(s):	IDA-43340, TF-90550
ICR Date:	01/26/2017	ICR Type:	Core ICR
Lending Instrument:	Specific Investment Loan, Specific Investment Loan	Borrower:	GOVERNMENT OF GHANA
Original Total Commitment:	SDR 29.80 million IDA, US\$7.00 million GEF	Disbursed Amount:	SDR 29.68 million IDA, US\$6.84 million GEF
Environmental Category: A, A		Focal Area: M	
Implementing Agencies: Department of Urban Roads Ministry of Local Government and Rural Development			
Cofinanciers and Other External Partners: French Development Agency (<i>Agence Française de Développement</i>)			

B. Key Dates				
Ghana Urban Transport Project - P100619				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	12/06/2004	Effectiveness:	10/19/2007	10/19/2007
Appraisal:	02/23/2007	Restructuring(s):		12/07/2012 12/03/2014 08/11/2015
Approval:	06/21/2007	Midterm Review:	04/15/2010	01/16/2012
		Closing:	12/31/2012	12/15/2015

Ghana Urban Transport Project - P092509				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	12/06/2004	Effectiveness:		10/19/2007
Appraisal:	02/23/2007	Restructuring(s):		12/07/2012 12/03/2014 08/11/2015
Approval:	06/21/2007	Midterm Review:	04/15/2010	01/16/2012
		Closing:	12/31/2012	12/15/2015

C. Ratings Summary

C.1 Performance Rating by ICR

Outcomes	Unsatisfactory
----------	----------------

C.2 Quality at Entry and Implementation Performance Indicators

Ghana Urban Transport Project - P100619

Implementation Performance	Indicators	QAG Assessments (if any)	Rating:
Potential Problem Project at any time (Yes/No):	Yes	Quality at Entry (QEA)	None
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA)	None
DO rating before Closing/Inactive status	Moderately Satisfactory		

Ghana Urban Transport Project - P092509

Implementation Performance	Indicators	QAG Assessments (if any)	Rating:
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA)	None
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA)	None
GEO rating before Closing/Inactive Status	Moderately Satisfactory		

D. Sector and Theme Codes

Ghana Urban Transport Project - P100619

	Original	Actual
Sector Code (as % of total Bank financing)		
Public Administration		
Sub-National Government	10	10
Central Government (Central Agencies)	16	16
Transportation		
Urban Transport	74	74
Theme Code (as % of total Bank financing)		
Environment and Natural Resource Management		
Environmental policies and institutions	14	14
Private Sector Development		
Business Enabling Environment	14	14
Regulation and Competition Policy	14	14
ICT	29	29

ICT Solutions	29	29
Public Sector Management		
Public Administration	14	14
Municipal Institution Building	14	14
Urban and Rural Development		
Urban Development	29	29
Urban Infrastructure and Service Delivery	29	29

Ghana Urban Transport Project - P092509		
	Original	Actual
Sector Code (as % of total Bank financing)		
Public Administration		
Sub-National Government	10	10
Central Government (Central Agencies)	16	16
Transportation		
Urban Transport	74	74
Public Administration		
Sub-National Government	21	21
Central Government (Central Agencies)	2	2
Transportation		
Urban Transport	77	77
Theme Code (as % of total Bank financing)		
Environment and Natural Resource Management		
Environmental Health and Pollution Management	12	12
Air quality management	4	4
Soil Pollution	4	4
Water Pollution	4	4
Environmental policies and institutions	14	14
Private Sector Development		
Business Enabling Environment	14	14
Regulation and Competition Policy	14	14
ICT	29	29
ICT Solutions	29	29
Public Sector Management		
Public Administration	14	14
Municipal Institution Building	14	14

Social Development and Protection		
Social Inclusion	13	13
Participation and Civic Engagement	13	13
Urban and Rural Development		
Urban Development	29	29
Urban Infrastructure and Service Delivery	29	29

E. Bank Staff

Ghana Urban Transport Project - P100619

Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli K. Ezekwesili
Country Director:	Henry G. R. Kerali	Mats Karlsson
Practice Manager/Manager:	Aurelio Menendez	C. Sanjivi Rajasingham
Project Team Leader:	John Kobina Richardson	Ajay Kumar
ICR Team Leader:	Akiko Kishiue	
ICR Primary Author:	Akiko Kishiue	

Ghana Urban Transport Project - P092509

Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli K. Ezekwesili
Country Director:	Henry G. R. Kerali	Mats Karlsson
Practice Manager/Manager:	Aurelio Menendez	C. Sanjivi Rajasingham
Project Team Leader:	John Kobina Richardson	Ajay Kumar
ICR Team Leader:	Akiko Kishiue	
ICR Primary Author:	Akiko Kishiue	

F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The Project Development Objective (PDO) of the project in the Project Appraisal Document (PAD) is to improve mobility in areas of participating metropolitan, municipal, or district assemblies (MMDAs) through a combination of traffic engineering measures, management improvements, regulation of the public transport industry, and implementation of a Bus Rapid Transit (BRT) system.

The PDO in the Financing Agreement (FA) is the same as in the PAD: “to support the Recipient in improving mobility in the areas of participating MMDAs,” but without the subsequent phrases. As advised in the Implementation Completion and Results Report (ICR) guideline,¹ the PDO statement in the FA is used as the basis for this ICR.

Revised Project Development Objectives (as approved by original approving authority)

The PDO was not revised. However, PDO indicators and intermediate indicators have been revised twice through the restructuring in 2012 and 2014. Annex 1 summarizes the original and revised indicators.

¹ Guidelines for Reviewing World Bank Implementation Completion and Results Reports, a Manual for Evaluators, last updated July 2014, pp 58.

Global Environment Objectives (from Project Appraisal Document)

The Global Environment Objective (GEO) of the project in the PAD is to promote a shift to more environmentally sustainable urban transport modes and encourage lower transport-related GHG emissions along the pilot BRT corridor in Accra. In the FA, the transport-related GHG emissions are further specified as urban transport-related GHG emissions.

Revised Global Environment Objectives (as approved by original approving authority) The Global Environment Objectives of the project were not revised.

G Rating of Project Performance in ISRs

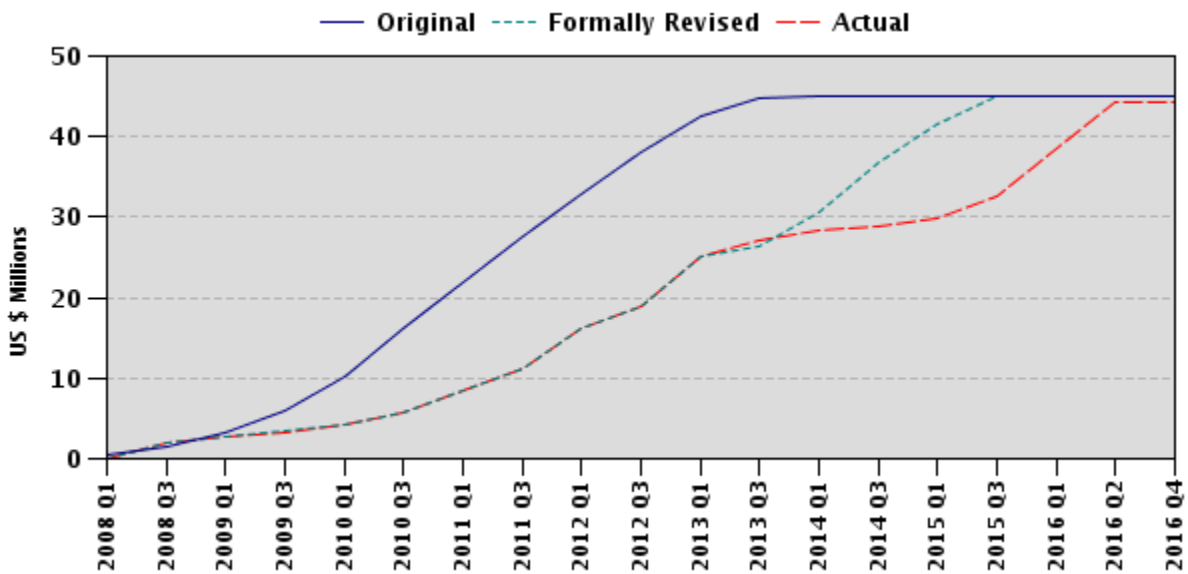
No.	Date ISR Archived	DO	GEO	IP	Actual Disbursements (US\$, millions)	
					P100619	P092509
1	07/18/2007	S	S	S	0.00	0.00
2	12/17/2007	S	S	S	0.00	0.00
3	05/30/2008	S	S	S	2.00	1.00
4	12/03/2008	S	S	S	3.02	2.73
5	06/04/2009	S	S	MS	3.67	2.87
6	12/01/2009	S	S	MS	4.71	2.87
7	05/25/2010	S	S	MS	6.60	2.96
8	12/10/2010	S	S	MS	10.16	4.15
9	10/06/2011	MS	S	MS	16.08	4.15
10	06/05/2012	MU	MS	MU	23.12	5.47
11	12/16/2012	MS	MS	MS	25.19	5.75
12	07/05/2013	S	MS	S	27.82	6.41
13	09/16/2013	MU	MU	MU	28.32	6.41
14	04/13/2014	MS	MS	MU	28.81	6.41
15	11/30/2014	S	MS	MS	29.79	6.66
16	06/22/2015	MS	MS	MS	35.35	6.66
17	12/15/2015	MS	MS	MS	39.82	6.66

H. Restructurings

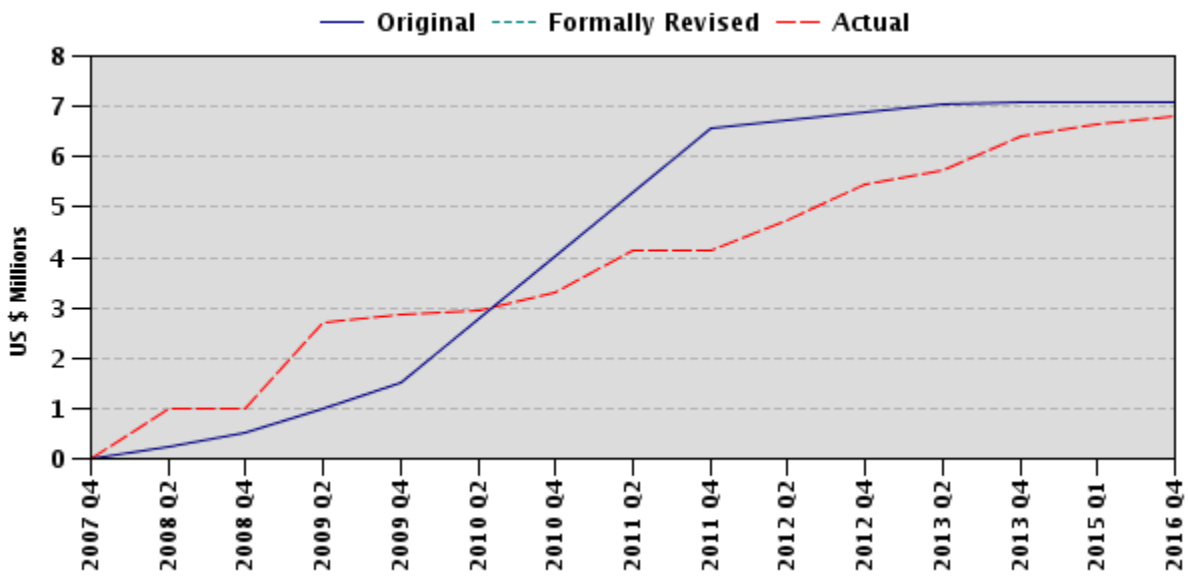
Restructuring Date(s)	Board Approved		ISR Ratings at Restructuring			Amount Disbursed at Restructuring in US\$, millions		Reason for Restructuring and Key Changes Made
	PDO Change	GEO Change	DO	GEO	IP	P100619	P092509	
12/07/2012	n.a.	n.a.	MU	MS	MU	23.12	5.47	(i) Reallocation of credit proceeds across existing components; (ii) a 23.5-month extension of the current closing date from December 31, 2012 to December 15, 2014 and (iii) revision and fine-tuning of the Results Framework
12/03/2014	n.a.	n.a.	S	MS	MS	29.79	6.66	(i) Revision of the main project scope of the BRT to the QBS; (ii) reallocation of funds for provision of the QBS on three routes in the Amasaman Corridor from the originally planned BRT trunk route; and (iii) a six-month extension of the current closing date, from December 15, 2014, to June 15, 2015
08/11/2015	n.a.	n.a.	MS	MS	MS	35.35	6.66	No cost extension of closing date by six months to utilize the remaining, uncommitted funds for emergency road repairs in Accra following the recent devastating floods

I. Disbursement Profile

P100619



P092509



1. Project Context and Objectives

1.1. Context at Design

1. **Beginning in 2000, Ghana accelerated its strong economic growth and Accra, Ghana's capital, was one of the fastest growing metropolises in Africa with a population of 1.66 million and an annual growth rate of 4.3 percent.**² The built-up area in Accra had expanded³ from 133 km² in 1990 to 344 km² in 2005 without valid urban plans, while in the same period, the population doubled, which resulted in about a 40 percent decline in population density.⁴ Urban sprawl made it more difficult for local governments to provide the necessary basic services in urban areas.

2. **This Urban Transport Project (UTP) was developed under the framework defined by the Letter of National Transport Policy prepared by the Government of Ghana (GoG) in 2007.** The project also responded to the Government's priorities set in the Ghana Poverty Reduction Strategy for 2004–2007, aligned with the support areas identified under the Country Assistance Strategies (2004–2008 and 2008–2010), and based on the recommendations from previous urban transport studies financed by the Public-Private Infrastructure Advisory Facility (PPIAF). The project aimed to develop the first Bus Rapid Transit (BRT) system in Sub-Saharan Africa. The project also gave significant weight to strengthening the urban transport sector's institutional structure, which was a milestone considering that passenger transport was mainly covered by informal operators.

3. **At preparation, the urban transport sector in Accra was facing serious issues associated with rapid urbanization and motorization.** Motorization in the Accra Metropolitan area, at 90 vehicles per 1,000 people, was higher than the average in Africa (for example, motorization in Nairobi, Dar es Salaam, and Addis Ababa were between 20 and 30 vehicles per 1,000 people).⁵ About 65 percent of vehicular movement had the Central Business District (CBD) as the destination. Over-reliance on low-capacity passenger vehicles, inadequate traffic management, heavy dependence on informal public transport services, inadequate non-motorized transport (NMT) facilities, occupation of roads by hawkers, and so on created severe traffic congestion and contributed to aggressive situations on the roads.⁶

4. **The urban passenger transport sector was self-regulated by an informal private sector and faced quality problems.** The informal 'tro tro' system⁷ organized by the Ghana Private Road Transport Union (GPRTU) provided the majority of public transport services in a consolidated and self-regulated manner. Nonetheless, the tro tro system was characterized by

² Ghana Population and Housing Census 2000.

³ Ghana: Accra Urban Profile, United Nations Human Settlements Programme (UN-HABITAT), 2009

⁴ In 2014, the urban extent (combined built-up area and open space) of Accra was 87,212 ha, increasing at an average annual rate of 5.3 percent since 2000. A total of 29,609 ha of built-up area was added to the Accra urban extent between 2000 and 2014, of which 19 percent was infill, 65 percent was extension, and 18 percent was inclusion. In 2014, the built-up area density was 72 percent per ha, decreasing at an average annual rate of 0.6 percent since 2000. *Source:* Atlas of Urban Expansion <http://atlasofurbanexpansion.org/cities/view/Accra>

⁵ Project Appraisal Document: Ghana UTP.

⁶ Ghana: Accra Urban Profile, United Nations Human Settlements Programme (UN-HABITAT), 2009

⁷ Tro tros are minibuses seating 12–14 passengers and working along pre-defined routes.

reliability and quality issues such as the lack of centralized routing, time scheduling, preventive maintenance, and quality control, limited driver skills, aged vehicles, and others.

5. **The existing institutional framework for the management of urban passenger transport in Ghana was fragmented.** Metropolitan, Municipal, or District Assemblies (MMDAs) had a clear mandate⁸ to provide urban passenger transport services but the Greater Accra metropolitan area fell under the jurisdiction of several MMDAs and there was neither formal coordination among them nor any higher-level authority to regulate inter-MMDA transport. At the ministry level, the Ministry of Roads and Transport (MoRT) was responsible for road infrastructure, the Ministry of Port, Harbors, and Railway was in charge of the mass-transit railway,⁹ and the Ministry of Tourism and Modernization of the Capital City claimed a key role in urban passenger transport in Accra.

1.2. Project Objectives and Components

6. **The UTP was a blend operation of an International Development Association (IDA) credit and a Global Environment Facility (GEF) grant.** The Financing Agreement (FA) included both a Project Development Objective (PDO) to “improve mobility in areas of participating metropolitan, municipal, or district assemblies (MMDAs)” and a Global Environment Objective (GEO) to “promote a shift to more environmentally sustainable urban transport modes and encourage lower urban transport-related GHG emissions along the pilot BRT corridor in Accra.” Along with IDA and GEF, the project’s financing plan also included a French Development Agency (*Agence Française de Développement*, AFD) credit of US\$20.0 million (later increased to Euro 20 million) and GoG counterpart financing of US\$18.0 million.

7. The original components of the project are summarized in Table 1.

Table 1. Components of Ghana UTP

Component	Summary of Project Component	Cost
Component 1: Institutional Development	<ul style="list-style-type: none"> Support strengthening of ministries and agencies concerned with urban transport, transport operators, and MMDAs Strengthen the Urban Passenger Transport Units (UPTUs) within each assembly and create an Urban Passenger Transport Coordinating Group (UPTCG) for the Accra and Kumasi MMDAs to plan, regulate, and monitor urban transport operations and services 	Total US\$13.6 million IDA: US\$11.0 million AFD: US\$1.4 million GoG: US\$1.2 million
Component 2: Traffic Engineering, Management, and Safety	<ul style="list-style-type: none"> Improve traffic management in the Accra MMDA and Kumasi areas Develop area wide traffic signal control in the Accra MMDA and Kumasi MMDA 	Total US\$26.9 million IDA: US\$3.8 million AFD: US\$18.6 million GoG: US\$4.5 million
Component 3:	<ul style="list-style-type: none"> Design and implement the BRT infrastructure along the Graphic Road/Winneba Road Corridor 	Total US\$46.0 million

⁸ Local Government Act of 1993.

⁹ In 2009, the transport sector was regrouped and renamed as two separate ministries; the Ministry of Roads and Highways (MoRH) and the Ministry of Transport. The Department of Urban Roads (DUR) is under the MoRH.

Development of a Bus Rapid Transit System	in Accra (including segregated bus lanes [9.1km], interchange facilities, terminals, and facilities for pedestrians and NMT); <ul style="list-style-type: none"> • Engagement with key stakeholders, and establish public relations and media strategy; • Overall management and operationalization of the BRT system 	IDA:US\$28.2 million GEF: US\$5.5 million GoG:US\$12.3 million
Component 4: Integration of Urban Development and Transport Planning for Better Environmental Management	<ul style="list-style-type: none"> • Support the Ministry of Local Government and Rural Development (MLGRD) and respective MMDAs to update the integrated urban and transport development plans for the Greater Accra Metropolitan Area. 	Total US\$2.0 million IDA: US\$1.0 million GEF: US\$1.0 million
Component 5: Project Outcome Monitoring	<ul style="list-style-type: none"> • Conduct studies to support the monitoring of project outcomes 	Total US\$1.5 million IDA: US\$1.0 million GEF: US\$0.5 million

8. **Theory of change.** The project planned to set up a regulatory framework and build the capacity of national and local institutes to manage and regulate urban passenger transport. Together with the enhanced capacity and the functioning regulatory framework, the project aimed at (a) developing the BRT system with dedicated bus lanes and (b) improving selected intersections with traffic engineering requirements, for smoother and safer traffic flows and adequate demarcations of the BRT and feeder route services for increased mobility. Large buses operating in dedicated bus lanes can reduce travel time by bypassing general traffic. This allows people to access to more job opportunities and basic needs within the same transit time as before the intervention. Shifting from tro tro and private cars to larger capacity buses with better emission standards would reduce the number of private cars and public transport vehicles and contribute to a reduction in CO2 emissions. Updating the urban development plan, integrating transport planning, and enhancing the monitoring and evaluation (M&E) system in the subsector would supplement the development of a new urban transport system.

1.3 Significant Changes during Implementation

9. **The project was restructured in December 2012 to (a) respond to the limited progress in establishing a suitable metropolitan public transport planning and regulatory body, (b) revise the project's Results Framework to incorporate other changes, (c) reallocate credit funds across components, and (d) extend the credit closing date by 23.5 months.** The key changes are summarized as follows:

- **Component 1.** Addition of new activity to establish a Greater Accra Passenger Transport Executive (GAPTE) to plan and regulate passenger transport operations in the Metropolitan Area. The MLGRD was added as the second project implementing agency.
- **Subcomponent 1D.** Revision of financial arrangements for the Center for Urban Transport (CUT) to mitigate the financial constraints that the GoG was facing.

10. **The second restructuring in December 2014 was to address the cost overrun issues as summarized in Table 2.** The main project scope shifted from the development of BRT to Quality Bus Service (QBS)¹⁰ but the PDO and GEO remained unchanged. Key results indicators and targets were revised, and the project's closing date was extended by six months, from December 15, 2014, to June 15, 2015, to complete the delayed civil works and operationalize bus services.

Table 2. Summary of Revisions made in the 2014 Restructuring

Component	Subcomponent	Revisions
1	1D (Support Project Advisory Office and CUT)	Due to management and budget issues, CUT was temporarily closed and no further support would be provided for CUT.
2	2D (Area wide traffic single control in Kumasi)	The GoG decided to implement an area wide traffic signal control in the Kumasi Metropolitan Area with funds from another source, and this was therefore dropped from the project. These funds would be reallocated to Subcomponent 2E to strengthen traffic enforcement along the QBS route.
3	3A (BRT Infrastructure)	Due to significant cost escalation of the first phase of infrastructure development and a design and cost update for the remaining BRT trunk route, the GoG opted for provision of the QBS along the Amasaman and Adenta corridors instead of the BRT route from Mallam to the CBD. (The Adenta corridor will be implemented under the ongoing Transport Sector Project).
	3C (Stakeholder engagement and public relations)	The BRT consultation, communications, and media strategy would focus on the QBS corridor rather than the BRT trunk road.
	3D (BRT system operation and management)	Overall management and operationalization of the BRT system also would refer to the management and operationalization of the QBS.
	New activity	Support to the GAPTE for their initial stage

11. **The third restructuring in 2015, requested by the Republic of Ghana, was a retroactive, no-cost extension of the closing date to December 15, 2015 to allow for the utilization of the remaining, uncommitted funds (US\$6.4 million) for emergency repairs in Accra following devastating floods.** A new component for emergency works and consulting services that would be expected to include repairs to drainage systems, buildings, and roads was added to the project, all of which were completed before the project's closing date. Both the PDO/GEO and Results Framework remained unchanged.

2. Results

Achievement of Project Development Objectives and Global Environment Objectives

12. **The project objectives remain highly relevant to the GoG's current development priorities.** The Ghana Shared Growth and Development Agenda II (2014–2017) set the road-based mass transport system, including accelerated implementation of the BRT under the UTP, as one of the medium-term strategies to create and sustain an efficient and effective transport system. The

¹⁰ QBS means the bus service operated on the type B corridor (e.g. based on route service agreements). It includes scheduled bus service supported by bus priority measures and infrastructure such as bus priority lanes (at certain times of the day), queue jumps at the intersections, exclusive left lanes, bus stops, bus terminals, and depots.

PDO and GEO remain highly consistent with the current Country Partnership Strategy (2013–2016), contributing to two of the focus areas of improving competitiveness and job creation.

13. **Split analysis of efficacy is not applied.** The PDO/GEO remained unchanged throughout the project life. In 2012 and 2014, the restructuring revised the PDO/GEO indicators and intermediate indicators. Split analysis is appropriate for the restructuring in 2014 because the revisions of PDO/GEO indicators reflected the project scope change from BRT to QBS. Nonetheless, indicators such as travel speed, travel time, and GHG emission before and at the restructuring have not been collected and therefore are not available because the project team considered there would be no changes in these indicators until the BRT would be fully functioning. Since the BRT was cancelled without completing 9.1km dedicated lanes after the construction of flyover and the expansion of Odaw Bridge¹¹, there was hardly any positive impact on mobility on the original BRT corridor which directly attributed to the project. Disbursement ratios of IDA and GEF at the 2014 restructuring were about 67 percent and 95 percent, respectively. Moreover, because the QBS was not operational at closure, there is no impact of the QBS yet on travel time, speed, and emission level on the QBS corridor, either. Therefore, a split analysis would not add any value to the assessment of outcomes in this Implementation Completion and Results Report (ICR). The review meeting of the ICR also supported this decision. The assessment results of the PDO/GEO are summarized in the following paragraphs and achievements by objective and outputs by component are detailed in annex 1.

PDO: Improve mobility in areas of participating MMDAs

14. **There was no scheduled bus system in operation in Accra at project closure in 2015.** In spite of high expectations and the award of route contracts, the QBS service did not start. Only 10 out of 85 buses to be operated on the Amasaman-CBD corridor were delivered by December 2015 and remaining buses arrived after the project closure. The second phase of infrastructure development for the bus priority measures, funded by AFD, was complete by the end of 2016. The Amasaman route is currently planned to have both type A (tro tro and buses without route service agreement) and type B (buses with route service agreement) operations and potential issues of cooperation are anticipated. The planned technical support to GAPTE for the initial operation of the QBS did not materialize because the project closed before the QBS became operational. Following a one-week test run of the QBS in September 2016,¹² the QBS operation officially commenced on December 1, 2016.

15. **The project's impact on improved urban mobility is deemed minimal at closure.** The ICR mission in January 2016 noted that the significant reduction of travel time along the original BRT corridor was largely attributed to the recent construction of a national highway, not to the project. Positive impacts of civil works completed along the original BRT corridor on travel time and speed remain limited without the actual full-scale operation of the BRT. The business plan¹³ for the QBS corridor estimates that travel time will be reduced by about 10 percent for the overall

¹¹ The total length of two bridges are about 460 m (400 m approach roads)

¹² Pulse.com (September 27, 2016).

¹³ ITP (Integrated Transport Planning). 2013. *Urban Transport Project Design Review: Business Case, Bus Priority Measures and Bus Infrastructure on Amasaman-CMB and Adenta-Tema Corridors*.

peak journey when the QBS is operational.¹⁴ Since the study in 2010¹⁵ presented that average travel time from Amasamn to the CBD (22 km) was 74.7 minutes, the target travel time of 32 minutes was too ambitious to achieve. The average travel speed of 28.2 km/h was recorded for tro¹⁶ when the works for bus priority measures along the Amasaman corridor were still ongoing. Because the ICR team could not verify the data source, it is uncertain if the increased travel speed was attributed to the project. The traffic lights installed along the QBS corridor under the project are functioning but to support the bus priority measures, the establishment and operationalization of an area wide traffic control center is necessary. Thus, the PDO was not achieved by project closing.

16. The first month of QBS operation indicates the challenges in attracting passengers. The ICR team was able to obtain some information for the first month of operation (December 1, 2016-January 14, 2017) of the QBS in Amasaman corridor from the GAPTE. Based on the data, the ICR confirmed that, on average, 86 percent (21 against 24 buses) of the target number of buses per day has been deployed and seven percent (1,580 against 22,500 passengers) of the target number of passenger per day has been recorded in December 2016. Due to the issues in integrated circuit (IC) card issuance, paper tickets were also sold, some of which might have not been recorded. Therefore, it is considered that the actual number of passengers during this period was slightly higher than the number of passengers reported. Average travel time and speed in the first two weeks in January 2017 were 62.8 minutes and 21km/hour, amounting to 27 percent and 10 percent achievement of those PDO indicators. However, because it takes time for the new system to be fully operational and accepted, it is suggested that another evaluation be carried out a year after the commencement of the operation.

17. The project contributed to the establishment of a solid foundation for the regulatory framework of urban transport, but these results were not part of the PDO, which focused only on improved mobility. The project's contributions to institutional arrangements and the regulatory framework for urban transport were measured in intermediate indicators, which were largely outputs: Six out of nine indicators for institutional development were achieved, including the dropped ones. The UPTUs/Departments of Transport (DTs) were established in the participating MMDAs and the MMDAs passed bylaws on urban passenger transport. Registration of public transport has been successful, and about 90 percent of public transport operators have type 'A' licenses in Accra. Though its sustainability is still in question, an inter-MMDA regulatory body, the GAPTE, was also established, and by November 2014, three route contracts were awarded. However, the GAPTE needed more time than anticipated to materialize the QBS operation¹⁷ due to delays in civil works, delivery of buses, training bus drivers, development of a communication strategy, and agreements with public transport operators.

18. Though not adequately linked with the PDO, the project also contributed to improved mobility by supporting the development of the Urban Development Policy Framework, the land use and spatial planning bill, policy guidelines for the regulation of urban passenger transportation, and the NMT master plan for Tema Municipality Assembly (TMA). The land

¹⁴ Including intersection improvements, queue jumps, bus shelters, terminals, and depots.

¹⁵ ITP (Integrated Transport Planning). 2010. *Urban Passenger Transport Pilot Bus Route Design (interim report)*.

¹⁶ Aide Memoires June 2015 and November 2015.

¹⁷ A set of 10 buses was delivered in June 2015, but the delivery of remaining 75 buses for the QBS was delayed until May 2016. As of November 2015, there were 12 certified drivers.

use and spatial planning bill, which was passed in July 2016, defines inclusion of public transport routing in the structural plan, and the NMT master plan provides the framework for an improved pedestrian and cyclist environment with improved road safety and can be used for other MMDAs.

GEO: Promote a shift to more environmentally sustainable urban transport modes and encourage lower transport-related GHG emissions along the pilot BRT corridor in Accra

19. **Due to the revision of the GEO indicator in 2014, the causal linkage between the GEO and the indicator was lost.** Although the GEO remained unchanged in its reference to the pilot BRT corridor, the GEO indicator was changed in 2014 from the pilot BRT corridor to the QBS corridor. Even so, baseline data and the target for the revised GEO indicator are missing. Contrary to the project design, gaseous pollutants were not monitored in the sites along both the BRT and QBS corridors under the project. However, other air quality monitoring sites supported by the United Nations Environment Programme, including one site along the QBS corridor (at Achimota), have monitored SO₂, NO₂, O₃, and CO, and reported that in 2012 for all sites, the levels of SO₂ and NO₂ were below the Ghana guideline. While transport sector GHG emissions accounted for about 18 percent of total GHG emission in Ghana in 2006,¹⁸ the transport sector still contributed about 19 percent of the national emission in 2012.¹⁹ At the country level, there was no significant change in GHG emissions.

20. **At project closure, there was no modal shift to a more environmentally sustainable mode of urban passenger transport because neither the BRT nor the QBS had started operations.** However, the newly purchased buses, which will be deployed on the QBS routes, will meet Euro III emission standards,²⁰ and the business plan of the QBS for the Amasaman-CBD route anticipated the catchment of 50 percent of existing passengers. Therefore, based on lack of tangible evidence, the GEO attainment at the closure is considered Unsatisfactory, but when the successful operation of the QBS is realized, positive impact is anticipated.

21. **The scope change, implementation delays, and cost overruns affected the project's efficiency.** An economic analysis of the Odaw Bridge and the flyover over the railway along the original BRT corridor was conducted under the ICR. The total cost of these civil works was US\$14.68 million, which accounts for about 33 percent of total IDA funds. The net present values (NPV) for these works over 20 years are estimated at US\$1.26 million at a 12 percent discount rate, and the economic rate of return (ERR) is estimated at 17.6 percent. A detailed analysis is available in annex 5. In spite of these positive results, due to the cost overruns and implementation delays (the project closing date was extended twice²¹ by 29.5 months), together with the limited achievements against the expected PDO/GEO at closure, the efficiency of the project's implementation is assessed as Low.

¹⁸ UNFCCC (United Nations Framework Convention on Climate Change) emission summary of Ghana.

¹⁹ National Greenhouse Gas Inventory Report 2014, Ghana Government's submission to the UNFCCC in 2015.

²⁰ European emission regulation for new heavy-duty diesel engines define the acceptable limit of exhaust emission (CO, hydrocarbon, NO_x, and PM₁₀). Euro III was introduced in October 2000.

²¹ Restructuring in June 2015 also extended the project closing date but it was for the execution of emergency works and not for supporting the bus operation.

Overall Outcome and Global Environment Outcome: Rating: Unsatisfactory

22. While the project objectives remain highly relevant to the current development priorities of the GoG and the Bank, the PDO and GEO were not achieved by project closing. Even though the economic analysis of Odaw bridge and flyover demonstrated their economic viability, overall efficiency is assessed as low due to the cost overruns and implementation delays. The ICR notes that the last two ISRs rated the overall PDO/GEO as Moderately Satisfactory based on the completion of most activities under the project. However, the ICR assesses Overall Outcome and Global Environment Outcome as Unsatisfactory based on the results achieved by the project against its PDO and GEO.

3. Key Factors that Affected Implementation and Outcomes

Project Design

23. **Built on the lessons learned from previous projects and the World Bank's policy paper on urban transport, including sector reform and the BRT system development in many other countries.** The project team and the GoG agreed that it was necessary to (a) learn from a successful sector reform program; (b) include legislative, institutional, and management changes at the national, state, and municipal level; (c) reorganize the urban transport service planning and delivery with integrated and inclusive decision making; (d) develop a full package of BRT designs (bus lanes, stops and junctions, network, Intelligent Transportation System, fare system, and so on) and operational arrangements; and (e) have a good monitoring system.

24. **Incomplete BRT designs and bid documents led to project delays and cost overruns.** As observed in the 2010 quality assessment, by the Operations Policy and Country Services (OPCS), the design of the BRT system was not fully developed at appraisal. The full package of designs and bidding documents for the BRT was prepared during project implementation. This contributed to significant delays, design changes, and cost overruns for the BRT. The cost of Lot 1 (expansion of the Odaw Bridge and the construction of a railway bridge) increased by 60 percent, from US\$9.2 million to US\$14.7 million, in part because inadequate tender drawings for the two bridges led to initial under-estimation of the costs. The World Bank team provided specialized assistance to review the designs of the bridges and confirmed that changes were required. In addition, the original cost estimate ended less than half of the revised costs based on the design review completed in 2013.²²

25. **The proposed BRT system in Accra was designed without up-to-date land use data and an urban transport plan for Greater Accra/Accra.** Accra's master plan was already outdated by preparation of the UTP and there was no urban transport master plan prepared which provided data and a vision for the future transport system, including public transport network. On the other hand, Kumasi had the 2005 Urban Transport Planning and Management Study which identified and recommended several measures to be taken, including upgrading of paratransit into large bus (Type B Transit Routes) and the development of five BRT routes.

²²The original cost estimate for the BRT infrastructure of US\$46 million was increased to US\$100.7 million after the review: The Lot 2 cost increased from the initial preferred bid of US\$28.7million to US\$52 million (81 percent increase) and the Lot 3 cost increased from the engineer's initial estimate of US\$30.1 million to US\$34 million.

26. **Many of the potential risks were identified and mitigation measures were prepared, but three risks that should have been evident at appraisal were not identified:** (a) inadequate institutional sustainability, (b) inability to provide counterpart funds, and (c) ineffective M&E mechanisms. Because the project was to support the establishment of the CUT and UPTUs, a strategic approach would have been required for the sustainability of such entities with regard to funding and human resources.

Implementation

27. **The project had a smooth kick off.** The project became effective on October 19, 2007, about four months after approval. One month before effectiveness, the UTP was officially launched with the attendance of ministers, parliamentarians, mayors, development partners, representatives of civil society, and other stakeholders.

28. **Initial stage of institutional set up at the MMDA level progressed well.** The passage of transport-related bylaws and the establishment of a department at the MMDA levels were smoothly completed and the registration of the public transport operator commenced.

29. **The GoG and the World Bank was able to restructure the project, responding to the unforeseen circumstances and technical difficulties.** The restructuring in 2012 focused on addressing the critical lack of an appropriate institutional setup. The 2014 restructuring managed to shift the project's scope to the QBS to cope with cost overruns and financing gaps, while pursuing the original project objectives.

30. **The UTP was implemented under three different government administrations and suffered from implementation delays during the transition periods.** Slow disbursements for about six months in 2008/2009 due to leadership changes caused delays in the approval and clearance of contracts by the Tender Board.

31. **The fragmented organizational structures to deal with urban passenger transport in Ghana added to project implementation further challenging due to limited leadership and coordination among the various organizations.** The implementing agency of the original project was the DUR, under the former MoRT. In 2009, the transport sector was regrouped in two separate ministries; the MoRH and the Ministry of Transport. The DUR remained under the MoRH and was responsible for urban roads and the infrastructure of the BRT, but not the management of the BRT. The project added the MLGRD as the second implementing agency as the regulation of urban passenger transport was a devolved responsibility under the Local Government Act of 1993, but how the MLGRD would fit into the overall planning and regulatory framework for urban transport was not defined. An Urban Transport Advisory Committee (UTAC), formed during project preparation, as a coordinating and advisory body was not empowered with authority over the sector institutions.²³ The UTAC held quarterly meetings, but these faded out in the last few years of the project. No effective and sustainable solution was put in place during the project life for national regulation and planning of urban transport.

²³ The PAD defined UTAC's functions as "to ensure key technical inputs, multi stakeholder consultation, collaboration, coordination, and information dissemination for urban transport policy development and implementation."

32. **Actual needs in the field of urban passenger transport were beyond the mandate of CUT.** The project included support for transforming the Project Advisory Office (PAO) into a permanent CUT. Act 799 established CUT as an advisory and research body without significant authority. Nonetheless, the initial tasks of CUT focused more on technical and hands-on support to the DUR and UPTUs, such as implementation of the pilot BRT, bus operations, implementation of the Intelligent Transportation System, sensitization for public transport operators, and so on.

33. **The absence of an institutional arrangement to manage and regulate inter-MMDA passenger transport proved to be a significant shortcoming in the institutional arrangements.** The PAD addressed the complementary pillars of the planned BRT: regulatory framework and institutions, structures for the passenger transport industry and for compliance with regulations, and infrastructure, but did not specify who would be responsible for overall management and operationalization of the BRT system. An UPTCG for the Accra and Kumasi MMDAs was created to plan, regulate, and monitor urban transport operations and services but no information regarding the actual implementation or effectiveness of the UPTCG was available in the ISRs or Aide Memoires. The project suffered by not having a permanent or successive champion to lead the process even after the establishment of the GAPTE.

34. **The midterm review (MTR), conducted in January 2012, found that overall project implementation was significantly behind schedule, specifically due to delays in civil works designs, inadequate government funding, and delayed establishment of CUT and other operational entities.** The MTR rated overall implementation as Moderately Unsatisfactory and highlighted the need for government action on core institutional reforms, design harmonization and cost updates for the next phases of civil works (BRT Lots 2 and 3), and coordination of the BRT services and civil works. The MTR confirmed the necessity of project restructuring, including extension of the closing date. In May 2012, the Country Portfolio Performance review raised serious concerns about the project. The MTR follow-up mission, in June 2012, prepared an action plan with agreed steps before the restructuring.

35. **An insurmountable funding gap that emerged in 2012 eventually led to the decision to drop the Accra BRT system from the project and its substitution with a QBS scheme in two other locations, which constituted a major reduction in the project's scope.** The Lot 1 works were completed in October 2012. The bidding process for Lot 2 (pilot BRT route: Accra CBD to Mallam) was completed, but the contract could not go forward as the completion date fell outside the project closing date and the contract value was higher than funds available within the project. Lot 3 (construction of terminals, depots, and tributary route improvements required for implementation of the BRT system and improved services on additional routes [called type B routes or QBS]) was to be funded under the ongoing Transport Sector Project (P102000). In 2012, the World Bank's Country Management Unit advised the borrower and the World Bank team to restructure the project based on a realistic cost and technical assessment and without additional financing from IDA. A review, in January 2013, of the remaining BRT lots, Lots 2 and 3, reconfirmed a significant funding gap for the BRT infrastructure.

36. **Political will to reform the urban transport sector remained throughout the project but the government's fiscal commitment was not realized.** The GoG had originally committed US\$18 million to the project, of which US\$12.3 million was for the BRT infrastructure. However,

the GoG was unable to provide its counterpart funds,²⁴ and this—together with the cost overruns—made it impossible to proceed with the BRT scheme. In 2014, the World Bank and the GoG decided to use the remaining funds for the development of QBS schemes on the two radial corridors to the CBD, the Amasaman and Adenta corridors. Following the updating of design and cost, implementation of improvements to the Amasaman corridor moved forward, while the Adenta Corridor was agreed to be implemented under the ongoing Transport Sector Project.

37. **Institutional development efforts under UTP encountered serious financial sustainability challenges.** The establishment of CUT in 2010 was one of the expected project achievements. Nonetheless, despite the interim financial support provided for it by the UTP as part of the 2012 restructuring, due to administrative and financial difficulties, CUT was dissolved in 2014 before becoming fully functional as an advisory body. Moreover, the UPTUs/TDs in the MMDAs and the GAPTE, both established under the project, continued to face challenges securing operating funds up to the UTP's closure. As of January 2016, the GoG confirmed that TDs have been fully integrated into the national government budget. The GAPTE, as a limited company, is expecting to generate revenue from bus route contracts and lease management fees, which operation started on December 1, 2016.

38. **In spite of a series of information sharing and awareness raising activities and the development of a communication strategy, the project was not able to unite all parties.** In 2010, several sources²⁵ reported resistance from members of the GPRTU against the implementation of a BRT. At the project's closure, the authorities had not reached an agreement on the route assignments among tro tro, large buses, and scheduled bus services along the QBS corridors and feeder routes.

39. **Safeguards.** Overall safeguard compliance was satisfactory under UTP. The process of land acquisition for the terminal was prolonged due to disputes among community leaders but the shifting of the route from the BRT corridor to the QBS corridor made these anticipated land acquisitions unnecessary.

40. **Financial management.** The ICR team did not observe any significant issue to be noted.

41. **Procurement.** Procurement and related reports were frequently submitted behind schedule. Delays in procurement was one of the factors that negatively affected project implementation and the decision to restructure UTP without additional IDA financing.

4. Other Issues

4.1. M&E Quality

42. **The project's original Results Framework had shortcomings.** The key PDO outcome of improved mobility was supported by indicators of reduced travel times and increased travel speeds along the BRT corridor. Although building capacity to plan, regulate, coordinate, and monitor urban public transport services was one of the important targets of the project, there were neither explicit the PDO outcomes nor key indicators for this. In addition, the GEO—to promote

²⁴ By the closing date, the GoG had provided only about US\$1.0 million of counterpart funding.

²⁵ Panapress.com (May 1, 2010) and Modern Ghana (May 5, 2010).

a shift to more environmentally sustainable urban transport modes and encourage lower urban transport-related GHG emissions along the pilot BRT corridor—was expressed several times in the PAD as achievable in the longer term through modal shift. However, the key indicator for the GEO was set as a 10 percent reduction in tons of CO₂ emissions along the BRT route funded by the project rather than measuring a modal shift. Although the PAD identified agencies responsible for M&E data collection, the data sources and methods were not defined. The M&E reporting arrangements were generic and vague.

43. **Despite the fact that a project component was devoted to M&E, M&E implementation suffered from major shortcomings, particularly delays, gaps, and inconsistencies in the collection and reporting of baseline, target, and actual values of indicators.** No M&E reports prepared by the implementing agency were available for this ICR. It appears that the PAO monitored some of the project indicators but did not submit formal written reports. Therefore, the ICR team could not verify the sources and reliability of the M&E data reported in the ISRs and Aide Memoires, other than particulate matter (PM₁₀) reported by the Environmental Protection Authority (EPA). When CUT was established in 2010, it reportedly took on the overall M&E responsibility, but CUT was later dissolved in 2014. Monitoring of agreed indicators was inconsistent in the World Bank's ISRs. The EPA installed the air quality monitoring sites along the BRT corridor, but these were only measuring particulates, not GHG, under the UTP. This issue was already identified during a supervision mission in 2008, but until project completion, monitoring of gaseous pollutants was not recorded under the UTP.

44. **The PDO and GEO could have been revised, as part of the project restructurings of 2012 or 2014, to reflect the scope change from BRT to QBS and the project's expected contributions to the regulatory and institutional framework for urban transport, but these opportunities were missed.** Many original indicators were dropped or replaced in the 2012 and 2014 restructurings (all the original PDO and GEO indicators and 18 out of 23 intermediate indicators) to reflect changes in the project's scope. For the revised or newly added indicators, neither the target values nor most of the baseline data were set at restructuring and some were not obtained until the end of the project. A gender indicator was included in 2012, though the ISRs and restructuring paper had different baseline data.

45. **The World Bank raised concerns about M&E implementation but, recognizing the lack of baseline and monitoring data for the project, it could have intervened in this matter more proactively at an earlier stage.** The project made noteworthy efforts to mainstream M&E as a main function of sector organizations and project implementation entities, including conducting M&E workshops and project management training, recruitment of M&E consultants, and supporting a unit for M&E in CUT. Nonetheless, the project was unable to make a significant contribution to establishing a culture of M&E in the urban transport sector.

4.2 Sustainability

46. **Despite not having been achieved at the project's closure, the PDO and GEO may still be realized to some extent in the near future.** With the commencement of QBS on the Amasaman route, about 10 percent travel time reduction during the peak period and catchment of

50 percent of existing travel demand with average travel speed of 20 km/h are expected.²⁶ The first month of QBS operation (December 2016) indicates some challenges, such as attracting passengers, issuance of IC cards, and so on. However, it normally requires some time for a new urban transport system to be fully operational. Since the GoG has purchased 85 new buses, which are compliant with the Euro III emission standard and are planned to be deployed on the QBS routes, reduction in air pollution along the corridor is expected and a shift to a more environmentally sustainable urban transport mode is likely to begin.

5. Recommendations

47. The UTP contributed, to some degree, to the establishment of a basic regulatory and institutional framework for urban transport among the MMDAs. However, the complexity of the urban transport sector was underestimated and the development of a new urban transport system in parallel with a full-scale sector reform was too ambitious. The hazards of establishing institutions without robust mechanisms for their sustainability was an expensive and painful lesson learned. The project was never able to solve the fundamental problem of the fragmented institutional framework for urban transport in Ghana. This, together with a lack of ownership over the BRT and the QBS, resulted in limited tangible contributions of the UTP to improved mobility and promotion of more environmentally sustainable urban transport modes by project closure. It is critical to ensure the full functioning and sustainability of the GAPTE for the recently started QBS operation. In addition, further efforts to create an enabling environment for M&E among relevant agencies in urban transport will be essential for the successful implementation of future projects. Based on the lessons learned from the project, the following recommendations are presented.

Political Economy

48. **Future operations must ensure the existence of robust political, regulatory, and coordinating institutions upon which the attainment of their objectives depends.** The fragmented institutional structure and absence of a project champion were critical factors, especially for the development of the BRT system. The PPIAF study in 2005 assessed that the MoRT²⁷ was the driving force behind the sector reform of urban transport. The ISR of November 2014 noted that the Mayor of Accra, who was installed in office in 2009, had championed the institutional reform. There was political will for sector reform, and by the end of the project, the registration of public transport operators reached about 90 percent in Greater Accra and about 60 percent in Kumasi. Nonetheless, the development of the BRT system, which had hard and soft components under the mandates and responsibilities of different ministries and local governments, suffered from having neither an adequately empowered apex regulatory and planning institution at the national level nor a consistent political champion to lead the process, even after the establishment of the GAPTE.

49. **Projects should reconsider the implementation and time frame, in case the committed resources of all partners are not made available on time.** Counterpart funding is normally recommended in order to enhance client ownership of and commitment to a project. However, if

²⁶ Business Case Report: Amasaman-CMB corridor, Integrated Transport Planning (ITP) study, December 2013.

²⁷ *ibid*

the counterpart funding becomes unavailable, the entire project needs to be reviewed carefully to ensure that the PDOs can be achieved.

Institutional Arrangements

50. **Urban transport sector reform and the development of an urban transport system need to be implemented sequentially.** In most cases, full-scale transport sector reform takes several years, especially when urban transport deals with sensitive issues and involves a large number of stakeholders. The development of a new urban transport system needs strong leadership and clear demarcation of roles and responsibilities among institutions tasked with handling both hard and soft components. Therefore, sector reform has to be (nearly) completed, or at least well advanced, before initiating development of new transport systems.

51. **A new transport system is best achieved by establishing institutional arrangements with a clear mandate and involving various local government units before designing the new system.** When a new urban transport system runs across various local government jurisdictions, new institutional arrangements responsible for the overall management of the transport system are necessary. Suitable institutions should be in place and functional at an early stage of a system development to lead the process, own the project, and determine who is responsible for each aspect of the system and its operation.

52. **The establishment of a new institution should require verification of its sustainability.** A new institution needs a clear mandate to perform the necessary tasks without any overlap with existing institutions. In the UTP, there were a number of institutions that were not fully functioning or dormant due to lack of financial and human resources. Therefore, setting clear mandates that are publicly announced and securing sustainable sources of revenue are indispensable.

Stakeholder Involvement

53. **Strong stakeholder support is crucial, especially in urban transport with multiple actors and interests.** The risks that bus operators would not accept relocation of their routes and rationalization of the urban transport system were identified at appraisal, but the mitigation measures (communications events and encouraging small operators to form associations) were insufficient to gain stakeholders' support. Opposition to changes in the status quo from GPRTU members played a significant role in hindering the implementation of the BRT and QBS schemes.

Project Management and M&E

54. **The UTP demonstrated the perils of undertaking complex urban transport reforms and improvements without a solid M&E framework supported by a capable institutional capacity.** In a complex, changing environment, it is even more essential than usual that the Results Framework be kept updated with correct objectives, SMART²⁸ indicators, quality baseline values and targets, and measurements. Special attention and effort are recommended for the task team not only to create a positive culture for M&E, so that data is used for decision making, but also to

²⁸ Specific, Measurable, Achievable, Realistic, and Time-bound.

provide technical support through active engagement with the client for careful and regular data collection using appropriate methodologies.

55. **Some outcomes, such as large scale modal shift or GHG emission reductions, may be beyond the scope of a single project and may only be realized well after a project closes.** Such results need to be monitored over an extended period. Modal shift is a slow and gradual process. Accepting and adapting to a new system by operators and users requires some time. In the future, greater care should be taken if attempting to hold individual projects accountable for long-term outcomes that depend on multiple factors, some of them exogenous.

56. **Construction supervision consultancies for multiple civil works should not be combined into a single contract.** There is a risk that planned civil works may be cancelled due to inflation, design revisions, unexpected market price changes, and/or political changes. To avoid unnecessary payments and penalties, construction supervision consultancy services should be awarded for each civil work, unless the commencement of multiple construction works is secured.

57. As a summary, a BRT project, as a high capacity and high quality bus-based transit system, is complex, requiring both hard and soft components. Due to the familiarity and flexibility of buses, compared with other mass transit options such as metro and light rail transit, implementation of BRT systems is often more complex than initially recognized. Based on the lessons learned from the UTP, the following are suggested as minimum requirements for the successful implementation of a BRT project:

- a) Strong, high-level political commitment and a champion preferably for the entire project life to lead the process;
- b) Institutional arrangements with clear mandate, staffing, and budgets to regulate, manage, and operate the system, and coordinate among different stakeholders;
- c) Development and endorsement of a multimodal public transport network and service plan integrated with land use planning to ensure the accessibility and intermodal connectivity;
- d) Inclusive planning with citizens and existing public transport operators, both formal and informal, to build support for the BRT system and creating incentives for local operators (for example, through operating feeder lines or other routes, technical assistance, training programs);
- e) Communications with the public to explain the BRT system's benefits, for example to users as an affordable, fast, reliable, and comfortable transport system, to society by improving people movement in congested corridors, and creating opportunities for sustainable urban development around transit points; and
- f) Adequate technical assessment and completion of the BRT designs and bus operations for the target area, including well-adapted plans for maintenance of traffic, traffic management systems, and an Intelligent Transportation System.

Annex 1. Results Framework Analysis

The ICR team adopted a summary table instead of the system-generated Results Framework. The following modified Results Framework table was designed to convey changes in the Results Framework over time.

Table 1.1. Summary of PDOs and Indicators

	Outcome Indicators	Baseline	Target	Actual Values	Achievement
PDO: Improve mobility in areas of participating metropolitan, municipal, or district assemblies (MMDAs) through a combination of traffic engineering measures, management improvements, regulation of the public transport industry, and implementation of a Bus Rapid Transit (BRT) system					
1	Original	Average travel time (minutes) by bus on the BRT pilot corridor (Mallam to CBD)	65	40	Revised and Replaced with indicator 1a at 2012 restructuring to specify the target section between Mallam Junction and CBD.
1a	Restructuring 2012 (revised)	Average travel time (minutes) by bus from Mallam Junction to CBD	44	Not defined	Dropped and Replaced with indicator 1b at 2014 restructuring because the GoG and the World Bank agreed to shift from the development of the BRT to the QBS system.
1b	Restructuring 2014 (revised)	Average travel time by bus (minutes) on Amasaman Corridor (from Amasaman Terminal to Tudu Terminal)	74 (tro tro)	32	62 (tro tro at closure) 68.2 (QBS as of January 2017) Not Achieved. (29%) <i>Note:</i> QBS became operational on December 1, 2016.
2	Original	Average travel speed (km/hour) on the BRT pilot corridor	15	20	Revised and Replaced with indicator 2a at 2012 restructuring to specify the target section between Mallam Junction and CBD.
2a	Restructuring 2012 (revised)	Average travel speed (km/hour) by other vehicles on the BRT pilot corridor from Mallam Junction to CBD	Bus: 29 Tro: 20.7 Passenger car :30.6	n.a.	Dropped and Replaced with indicator 2b at 2014 restructuring because the GoG and the World Bank agreed to shift from the development of the BRT to the QBS system.
2b	Restructuring 2014 (revised)	Average travel speed by vehicles on Amasaman Corridor (from Amasaman Terminal to Tudu Terminal)	16.5	Bus: 40 Tro tro: 20 Passenger car: 30	Tro tro: 28.2 QBS 21 (as of January 2017) Achieved The travel speed of tro tro was recorded when the works for bus priority measures were still ongoing. The ICR team could not verify the data source. Therefore, attribution is uncertain.
3	Original (dropped in 2012)	Passenger share of bus (large) (%)	15	45	n.a. Dropped at 2012 restructuring. The ICR team could not assess the achievement due to unavailability of actual data as at 2012.

4	Restructuring 2012 (added)	Direct project beneficiaries (number), of which female (%)	100,000 (estimate 51%) The baseline data was not revised when the target was set.	25,000 (51%)	1,580 (as of December 2016)	Not Achieved. The ICR team could not assess the achievement in percentage due to unavailability adequate baseline data.
GEO: Promote a shift to more environmentally sustainable urban transport modes and encourage lower transport-related GHG emissions along the pilot BRT corridor in Accra						
5	Original	GHG emissions from vehicles in Accra along the pilot BRT corridors (MTCO ₂ /year)	1,200,000	10% reduction from baseline	Revised and Replaced with indicator 5a at 2012 restructuring.	
5a	Restructuring 2012 (revised)	CO ₂ emission in BRT corridors (tons/year)	38,259	To be developed	Dropped and Replaced with indicator 5b at 2014 restructuring because the GoG and the World Bank agreed to shift from the development of the BRT to the QBS system. The ICR team was not able to assess this indicator since the target was not defined and the actual value at the restructuring is not available.	
5b	Restructuring 2014 (revised)	GHG emission from vehicles in QBS corridor (MTCO ₂ /year)	n.a.	To be developed	19,764	The ICR team could not assess the achievement due to unavailability of baseline data/target
Intermediate Results Indicators			Baseline	Target	Actual Values	Percentage Achieved
Component 1: Institutional Development						
1	Original (dropped in 2012)	Set up CUT	No	Established	Established but dissolved in 2014	Achieved then Dropped. However, the CUT was dissolved later, the ICR team considers this indicator “ Not Achieved ”.
2	Restructuring 2012 (added)	GAPTE established	No	Established	Established	Partially Achieved. The GAPTE is relying on revenue generated from fare collections and currently having challenges in securing sufficient financial resources. The ICR team assesses its sustainability uncertain.
3	Original (dropped in 2012)	Bylaws established to regulate UPTUs in participating MMDAs	No	6	11	Achieved then Dropped

4	Original (dropped in 2012)	UPTUs developed in participating MMDAs	No	6	6 UPTUs and 5 UPTU desks	Achieved then Dropped
5	Original (dropped in 2012)	Share of registered bus and minibus service (%)	0	100	Number of registered operator, ANA-150, TMA-75, GEMA-45, KMA 570, and EJIMA 30.	Dropped and Replaced with indicator 5a at 2012 restructuring. The ICR team was not able to assess this indicator since the data at the restructuring is not available.
5a	Restructuring 2012 (added)	Total operators in Accra and Kumasi holding type A licenses (%)	0	90, 90	89, 56	Substantially achieved in Accra, and partially achieved in Kumasi (89%, 56%).
6	Original (dropped in 2012)	Number of contracted BRT and feeder routes	0	10	0	Dropped in 2012. The GoG and the World Bank agreed to shift from development of the BRT system to implementation of the QBS in 2014.
7	Original	Number of bus companies formed by a group of current operators to bid for route licenses	1	4	3 companies	Achieved.
	Restructuring 2014	No changes in indicator (baseline and target changed)	0	3		
8	Original (dropped in 2012)	Public transport and BRT option studies for greater Kumasi Metropolitan Area	None	Completed	Comprehensive Urban Development Plan (2013) supported by Japan International Cooperation Agency has a transport section with public transport project list. No BRT option study	Dropped in 2012
9	Restructuring 2012 (added)	Route service contract (pilot type B licenses) issued (disaggregated: Accra, Kumasi)	0, 0	4, 2	3, 0	Substantially achieved in Accra, and not achieved in Kumasi (75%, 0%).
Component 2: Traffic Engineering, Management and Safety						
1	Original	Number of intersections improved in AMA, TMA, GEDA, and GWDA	0	24	12	Revised and Replaced with indicator 1a at 2014 restructuring.

1a	Restructuring 2014 (revised)	Number of intersections improved in AMA, GEDA, and GWDA	0	14	12	Achieved in AMA 100%, and Substantially Achieved in GEDA and GWDA 79%.
2	Original (dropped in 2014)	Number of intersections improved in KMA and Ejisu Juaben District Assembly	0	12	n.a.	Dropped in 2012.
3	Original (dropped in 2012)	Traffic signal system developed at intersections in Accra MMDAs	0	24	n.a.	Dropped in 2012.
4	Original (dropped in 2012)	Traffic signal system developed at intersections in KMA	0	12	n.a.	Dropped in 2012.
5	Original (dropped in 2012)	Set up traffic control center in AMA	0	1	Not established yet	Dropped in 2012.
6	Original (dropped in 2012)	Set up traffic control center in KMA	0	1	Not established yet	Dropped in 2012.
7	Restructuring 2012 (added)	Functional traffic lights supporting bus priority along the BRT and type B route	0	n.a.	n.a.	Dropped and Replaced with indicator 7a.
7a	Restructuring 2014 (revised)	Functional traffic lights supporting bus priority along the QBS and type B routes	54%	100%	16 traffic lights	Not Achieved. Traffic lights can support bus priority measure once a traffic control center is established and functional.
Component 3: Development of a Bus Rapid Transit System						
1	Original (dropped in 2012)	Length of the BRT corridor developed	0	9.2 km	0	Dropped in 2012. The GoG and the World Bank agreed to shift from the development of the BRT system at original corridor to implementation of the QBS at Amasaman Corridor in 2014.
2	Original (dropped in 2012)	Length of integrated feeder routes to corridor	0	15 km	0	Dropped in 2012. The project did not develop integrated feeder route to the original BRT corridor.

3	Original (dropped in 2012)	Length of sidewalk improved	0	40 km	No data	Dropped in 2012. With shifting the project scope from the development of the BRT to QBS, the improvement of sidewalk along the BRT corridor was no longer part of the project activities.
4	Original (dropped in 2012)	Number of contracted BRT and feeder routes	0	10	0	Dropped in 2012. The GoG and the World Bank agreed to shift from the development of BRT system at original corridor to QBS at Amasaman corridor in 2014.
5	Original (dropped in 2012)	Number of passenger shelters and terminal facilities built	0	6	27 bus stops, 2 terminals, and 1 depot	Dropped but later Achieved (100%) . At closure, 27 bus stops were built along the Amasaman QBS corridor. Two terminals at Achimota and Amasaman and one depot at Achimota were also built.
6	Restructuring 2012 (added)	BRT functioning	No	Yes	No	Dropped and Replaced with indicator 6a.
6a	Restructuring 2014 (revised)	QBS functioning	No	Yes	No	Not Achieved at closure but the QBS started its operation on December 1, 2016.
7	Restructuring 2012 (added)	Passenger share of large buses along the BRT corridor (%)	0	Not defined	n.a.	Dropped and Replaced with indicator 7a at 2014 restructuring.
7a	Restructuring 2014 (revised)	Passenger share of large buses along the QBS corridor (%)	0	70	n.a.	The ICR team could not assess because the data is not available.
Component 4: Integration of Urban Development and Transport Planning for Better Environmental Management						
1	Original (dropped in 2012)	Structural plan updated	None	Completed	The cabinet approved the Urban Development Policy framework but the integrated urban transport development plan was not updated.	Dropped in 2012.

2	Original (dropped in 2012)	Strategic Environmental Assessment on urban development and transport planning carried out	None	Completed	Completed	Achieved then Dropped.
3	Restructuring 2012 (added)	Permanent monitoring of PM ₁₀ and gaseous pollutant concentrations along the BRT corridor is in place.	No	Yes	At least three monitoring site along the BRT corridor were in place.	Dropped and Replaced with indicator 3a at 2014 restructuring.
3a	Restructuring 2014 (revised)	Permanent monitoring of particulate matter and gaseous pollutant concentrations along the QBS corridor is in place.	No	Yes	PM ₁₀ is being monitored but gaseous pollutant concentrations are not monitored under the project	Partially Achieved. The ICR team could not confirm the monitoring of the gaseous pollutant concentrations.
Component 5: Project Outcome Monitoring						
1	Original (dropped in 2012)	<i>Transport and social indicators</i> <ul style="list-style-type: none"> • Bus-km/bus/day (pilot) • Pax/bus/day • Peak-hour public transport vehicle flow • Average walking time to/from bus (minutes) 	125 265 3,200 40	225 800 1,800 20	Dropped because the project decided not to carry out the pilot bus operation.	Dropped in 2012.
2	Original (dropped in 2012)	<i>Environmental Impact Indicators</i> <ol style="list-style-type: none"> 1. System in place for ambient air quality monitoring and vehicle emissions inventory 2. Ambient air pollution along the BRT corridor 	1. Basic equipment and software exist 2. 120	1. Upgraded and maintained 2. 10% reduction	1. Monitoring sites were set up and vehicle emission baseline was developed 2. No data at 2012 restructuring is available.	1. Achieved then Dropped. 2. Dropped in 2012.
3	Original (dropped in 2012)	<i>Capacity Development Indicators</i> <ol style="list-style-type: none"> 1. Number of traffic police trained 2. Number of training programs for staff - DTCP, EPA, and MMDAs 	0 0	40 10	1. n.a. 2. more than 10	1. Dropped in 2012. 2. Achieved then Dropped.
4	Restructuring 2012 (added)	Urban transport sector M&E developed and implemented	No	Yes	No (is being developed under the Transport Sector Project [P102000])	Not Achieved.

Note: AMA = Accra Metropolitan Assembly; GEDA = Ga East District Assembly; GEMA = Ga East Municipal Assembly; GWDA = Ga West District Assembly; KMA = Kumasi Metropolitan Assembly.

Annex 2. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team Members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Ajay Kumar	Task Team Leader	GTIDR	TTL/Transport
Antoine V. Lema	Senior Social Development Specialist	GSU01	Social Development
Charles K. Boakye	Consultant	GSU19	n.a.
Frederick Yankey	Sr. Financial Management Specialist	GGO20	Public Financial Management
Gerhard Menckhoff	Consultant	GTIDR	Urban Transport
Kenneth M. Gwilliam	Consultant	GTI03	Urban Transport
Nina Chee	Lead Environmental Specialist	OPSPF	Environment
Ntombie Z. Siwale	Operations Analyst	GWADR	Operations and Administration
Richard G. Scurfield	Special Representative	SACMV	n.a.
Siele Silue	Sr. Transport. Specialist	GTIDR	Roads and Highways
Sylvester Kofi Awanyo	Lead Procurement Specialist	OPSPF	Procurement
Tawia Addo-Ashong	Sr. Transport. Specialist	GTI01	Transport
Names	Title	Unit	Responsibility/ Specialty
Supervision/ICR			
Ajay Kumar	Task Team Leader	GTIDR	Transport
Anne Njuguna	Country Program Assistant	MNCA2	Administration
Anthony Mensa-Bonsu	E T Consultant	AFTPE - HIS	n.a.
Antoine V. Lema	Senior Social Development Specialist	GSU01	Social Development
Kavita Sethi	Senior Transport Economist	GTI04	Task Team Leader/Transport Economist
Arun Banerjee	Consultant	SASDI – HIS	Rural and Urban Roads and Highways
Baba Imoru Abdulai	Procurement Specialist	AFTPE – HIS	Procurement
Charity Bofo-Portuphy	Program Assistant	AFCW1	Administration
Gifty Sarfo-Mensah	Temporary	AFCW1	Administration
John Kobina Richardson	Transport Specialist	GTI01	Task Team Leader/Transport
Jonathan Nyamukapa	Sr. Financial Management Specialist	AFTME – HIS	Public Financial Management
Modupe A. Adebawale	Sr. Financial Management Specialist	AFTME – HIS	Public Financial Management
Nina Chee	Lead Environmental Specialist	OPSPF	Environment
Nina M. Jones	Program Assistant	AFTTR – HIS	Administration

Names	Title	Unit	Responsibility/ Specialty
Ntombie Z. Siwale	Operations Analyst	GWADR	Operations and Administration
Robert Wallace DeGraft-Hanson	Sr. Financial Management Specialist	GGO31	Public Financial Management
Roger Gorham	Transport. Economist	GTI04	Transport Economics
Sameer Akbar	Senior Environmental Specialist	GCCPT	Environment
Tawia Addo-Ashong	Senior Transport. Specialist	GTI01	Transport
Akiko Kishiue	Urban Transport Specialist	GTI01	ICR Team leader
Damon C. Luciano	Program Assistant	GTI01	Administration/ICR
Alan G. Carroll	Consultant	GTIDR	ICR team member
Satoshi Ogita	Senior Transport Specialist	GTI04	Economic Analysis

(b) Staff Time and Cost

P100619		
Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US\$, Thousands (Including Travel and Consultant Costs)
Lending		
FY07	9.53	47.80
FY08	0.13	0.04
Total:	9.66	47.84
Supervision/ICR		
FY08	12.73	84.42
FY09	44.11	115.96
FY10	34.14	119.01
FY11	25.41	110.32
FY12	32.44	150.40
FY13	23.19	130.72
FY14	16.66	97.32
FY15	19.66	87.23
FY16	11.38	44.53
FY17	7.69	27.17
Total:	231.98	996,290.82
P092590 (GEF)		
Lending		
FY05	0.58	40.53
Total:	0.58	40.53
Supervision/ICR		
FY06	0.00	0.00
FY07	0.00	0.00
FY08	0.00	0.00
FY09	0.00	0.00
FY10	0.00	0.00
FY11	0.00	0.00
FY12	0.00	0.00
FY13	0.00	0.00

P100619		
Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US\$, Thousands (Including Travel and Consultant Costs)
FY14	0.00	0.00
FY15	0.00	0.00
FY16	0.00	0.00
FY17	0.00	0.00
Total:	0.00	0.00

Annex 3. Project Costs and Financing

(a) Project Cost by Component (US\$, Million Equivalent)

Ghana Urban Transport Project - P100619					
Components	Appraisal Estimate (US\$, millions)	Revised Estimate (US\$, millions)	Actual/Latest Estimate (US\$, millions)	Percentage of Appraisal	Percentage of Revised Estimate
1. Institutional Development	11.0	13.2	18.5	168.0	140.0
2. Traffic Engineering, Management, and Safety	3.8	2.7	0.2	5.0	7.0
3. Development of Bus Rapid Transit System	28.2	28.2	19.8	70.0	7.00
4. Integration of Urban Development and Transport Planning for Better Environmental Management	1.0	0.5	0.5	50.0	100.0
5. Project Outcome Monitoring	1.0	0.4	0.1	9.0	23.0
6. Emergency Works (new)	0.0	0.0	5.6	n.a.	n.a.
Total Project Costs	45.0	45.0	44.7	99.0	99.0
Ghana Urban Transport Project (GEF) - P092590					
Components	Appraisal Estimate (US\$, millions)	Revised Estimate (US\$, millions)	Actual/Latest Estimate (US\$, millions)	Percentage of Appraisal	Percentage of Revised Estimate
1. Institutional Development	0.0	0.0	0.0	n.a.	n.a.
2. Traffic Engineering, Management, and Safety	0.0	0.0	0.0	n.a.	n.a.
3. Development of Bus Rapid Transit System	5.5	5.5	5.4	98.0	98.0
4. Integration of Urban Development and Transport Planning for Better Environmental Management	1.0	1.0	0.5	50.0	50.0
5. Project Outcome Monitoring	0.5	0.5.0	1.0	200.0	200.0
6. Emergency Works (new)	0.0	0.0	0	n.a.	n.a.
Total Project Costs	7.0	7.0	6.9.0	99.0	99.0

(b) Financing

P100619/P092509 - Ghana Urban Transport Project				
Source of Funds	Type of Financing	Appraisal Estimate (US\$, millions)	Actual/Latest Estimate (US\$, millions)	Percentage of Appraisal
France: AFD	Credit	27.0	9.7	36
Borrower		18.0	1.5	8
International Development Association	Credit	45.0	44.7	99
GEF	Grant	7.00	6.90	99

Note: At appraisal, funds from the AFD were estimated US\$20 million, but Euro 20 million was formally approved.

Annex 4. Borrower's, Co-Financiers and Other Partners/Stakeholders' Comments on the Brief ICR

GHANA URBAN TRANSPORT PROJECT GOG COMMENTS ON THE BANK'S DRAFT ICR

The Bank's ICR has been reviewed by the Government of Ghana's implementing agencies. The report is concise and identifies and number of issues of pertinence to the development of urban transportation in Ghana. We have specific comments on the ICR as detailed below:

2. Key Factors That Affected Implementation And Outcomes

Paragraph 12 notes the administrative delays that impacted the project. It is our view that the changes in the task team for such a project did not allow sufficient time of overlap, particularly in the case of the TTLs, and that also impacted the approval processes from the WB.

The Urban Passenger Transport Coordinating Group as discussed in paragraph 12 was a notional body identified in the PAD, but whose exact form was undefined. The creation of the UPTUs under the project which have been transformed to the Transport Departments of the MMDAs acted as a precursor. The TDs are responsible for transport planning within the MMDAs. Given the time it takes for institutions to get established, the UPTCG could not be created immediately, and GAPTE later took over the role of coordination of urban passenger transport across the jurisdictions.

There appears to be a misunderstanding of the Role of UTAC in Paragraph 15. UTAC was only an advisory body that gave directions to the management of the project. The main technical body was the Steering Committee which comprised the Chief Directors of the participating Ministries. Admittedly, even at this level, there were challenges with coordination, but the revival of the UTAC as indicated in the ICR was to ensure that the policy makers were involved and engaged on project issues on a continued basis.

Paragraph 16 requires some modification of the opening statement. A framework for urban transport planning existing, albeit outdated. Nevertheless, development was largely guided by the main recommendations of the 1998 transport plans for Accra which were rolled over into the conceptualization of the UTP.

In paragraph 17, the issue of the non-readiness of BRT designs is linked to the poor performance of the local firm in a joint venture with an international firm. This is unfounded and irrelevant. Since the contract was signed with one entity which is jointly and severally liable, failures should be put on the entity and not its constituent parts.

Paragraph 18 notes some issues that led to slow progress of implementation of the project. The issues highlighted are generally true, but we would like to emphasize in addition that the project was complex and merited the sustained presence of the TTL in-country to help resolve the challenges. The TTLs were not in-country and that was also a contributing factor to the delays. Furthermore, the transition from one TTL to the other for such a complex project should have been over a longer period, however this was short and both TTLs were out of the country. The Bank should seriously consider this issue.

The discussion on sustainability in paragraph 21 are a fair reflection of the situation on the ground with the exception of the TDs which have been fully integrated into the central government budget to assure its financial sustainability. You may wish to review the report to reflect this.

Please note in Paragraph 22 that the government fiscal commitment was partially realized. GOG contribution was more than US\$1 million expended largely on CUT activities. GOG in 2012 transferred the equivalent of US\$5 million dollars (about GH\$7.5 million) to the project account as counterpart funds for the implementation of the BRT. This commitment was not viewed as sufficient by the Bank to allow works to proceed. The funding was eventually used to secure the terminals planned under the project for future development.

Paragraph 23 notes the role of the CMU in providing guidance for the restructuring of the project. It is regrettable that the CMU guidance did not provide for additional financing, whereas to all intents and purposes, the project at this stage was better defined. It is our view that having overcome a lot of unforeseen challenges, the opportunity of additional financing by the Bank should have been explored further, given clear project objectives along the corridor. This was necessary also from a social point of view, to ensure the BRT concept did not suffer a fatal mis-conception in the minds of the public, especially when it became evident that the Quality Bus Service was not likely to meet the original project objectives.

The assessment in paragraph 25 that the project was not able to get all parties on board for the project is a bit far fetched. Resistance to the change in the operational set up was inevitably met with some resistance over the life of the project, but the transport operators became more cooperative as the project progressed, and are currently involved in the provision of bus services along the Amasaman corridor. A few drivers protesting as picked up in the media should not mean that all parties are not on board. You may wish to review the report to highlight this.

To add paragraph 33 on land acquisition, Executive Instruments for compulsory acquisition of the depot and terminal were issued. DUR has formally paid compensation for the depot.

In paragraph 35, there is the need to clarify issue on procurement by direct contracting identified as a challenge to the project.

Achievement of Project Development Objectives and Global Environment Objectives

PDO rating of unsatisfactory is too harsh and needs to be revised to give a more positive light, given conclusions in paragraphs 38 and 39 of the ICR. From the project, TDs have been established for the MMDAs, GAPTE has been formed to regulate public transport, traffic management improvement measures have been undertaken, bus companies have been set up from existing operators, etc. Opportunities for improvement to the Public transport system in Ghana has been established.

The indicators for measuring the PDO for this complex project should have been various, for instance

- ✚ Travel time- measured by improvement in journey times on the project corridor
- ✚ Traffic management improvement- measured by journey time improvement, reduction in accidents, improvement in pedestrian safety, etc
- ✚ Regulation of public transport operations- measured by bye-laws passed to regulate public transport, setting up of an institution to regulate public transport, the buy-in of private operators into the new operations, etc.

In our opinion, the weak design of the PDO indicators should not mean that the substantial achievements particularly on the reforms should not be recognized. We also take note of this for our future projects.

Conclusions And Recommendations

We consider the conclusions and recommendations as useful and relevant. In paragraph 51 however, we disagree that the institution to manage public transport should be established before the provision of infrastructure. In practice this is not achievable in the light of the growing demand of the populace for better

services. Our view is that there should be a minimum acceptable institutional provision in place before infrastructure provision to avoid introducing redundancy of the public transport institutions.

Final Remarks

Overall the draft ICR provides a good assessment of the issues relating to implementation of an urban transport project in Ghana. Several issues need further attention and focus, for example GAPTE's functions and the environmental monitoring of emissions. We trust that a further engagement on the basis of the experiences of project implementation and the lessons learned will be possible to consolidate the gains of the GUTP.

Co-Financier's comments: AfD

(comments submitted by Mr. Augustine ATIAH, Project Officer)

Generally, I agree on the ratings of the various components.

Traffic Control Centre

On the Traffic Control Center (area wide) financed by the AFD, we have faced delays in the implementation of this component.

The bidding documents for these works have just been submitted for 'no objection'.

The deadline for the disbursement is likely to be extended from the end of December 2016 into 2017.

The implementation of this component might extend slightly beyond 2017.

Institutional set-up

For the rest, I agree on the findings on page 3; the weak institutional sustainability and framework, inadequate counterpart funding and weak M&E systems which could have been detected at the appraisal stage.

Although the institutional development component was supposed to strengthen the institutional weaknesses, the project has ended for the World Bank and is about to end for the AFD, with such weaknesses still persisting.

Gaps for institutional framework at the national level, especially the involvement of the MLGRD were rightly noted.

Fitting the MLGRD into the overall urban transport planning remains unrealized.

UPTUs/UTPCG

On the inadequate organizational structure for urban passenger transport at the metropolitan level, the UPTUs have now been mainstreamed into the Department of Transport at the MMDAs.

The staff form part of the MMDAs under the Local Government Service (LGS). The UTPCG is not functioning.

GAPTE

Management and the operationalization of the BRT (type 2 buses) is done by the GAPTE. However, the GAPTE is poorly financed. The GAPTE hopes to be financed mainly through the fare box from the bus operations.

On page 8, correct Ayalolo: *Ayayalolo bus system*

Conclusion

I agree with the conclusion that the UTP has contributed to the establishment of basic regulatory and institutional framework among MMDAs. However, the complexity of urban transport was underestimated. The development of a full BRT together with transport sector reform was too ambitious.

Annex 5. Efficiency Analysis

Ex post Economic Evaluation

Summary

1. This annex is a summary of the ex post economic evaluation of the railway flyover and Odaw Bridge on Graphic Road, which account for 33 percent of the project's investment. This ex post economic analysis follows the same basic approach as the ex-ante economic analysis, that is, estimating road users' surplus, but uses a slightly modified methodology to account for the significant changes to the project's scope during implementation. Concretely, the evaluation calculated the estimated vehicle operating costs and the costs of investments in works and assessed the net economic benefit streams as compared to a without-project scenario. Based on the analysis, the present value of the flow of net economic benefits (NPV) generated by the project over 20 years is estimated to be US\$1.26 million at a 12 percent discount rate and its economic internal rate of return is estimated at 17.6 percent.

Methodology

2. The evaluation followed the same approach as the ex-ante economic analysis in assessing road user benefits and the cost of the investments. The main benefits stemming from the flyover and bus priority corridor investments are savings from the reduction of the following transport costs: (a) vehicle operating costs, mainly reduction in consumption of fuel and in vehicle wear due to smoother road conditions, and (b) reduction in travel time of passengers and freight, which is converted into monetary terms and added as economic benefits. The vehicle operating costs are estimated using the Highway Development and Management Model (HDM-4) based on the local traffic characteristics and economic parameters. Additional benefits, which have not been quantified in this analysis, include a reduction in the number of collisions (which will lead to a reduction of economic loss from deaths, injuries, and vehicle damage); reduction of vehicle emissions such as GHG; and improved driving and riding comfort.

3. The flyover and bridge were originally designed to provide extra lanes for the BRT corridor but, because the BRT project on Graphic Road was canceled, they provide increased traffic capacity in locations where the railway and river crossings had formerly caused a bottleneck of traffic. This analysis considered the principal beneficial impact of the flyover to be vehicle operating cost savings from increased capacity of the road or faster traffic speeds over a 3.1 km road section which includes the flyover and the bridge.

4. **Traffic conditions.** The traffic volumes (average annual daily traffic) and the annual traffic growth rate are exhibited in Table 5.1. The ex-ante and ex post traffic data are from 2010 and 2015, respectively. The volume of each vehicle type and the traffic growth rates are based on the assumptions used for the ex-ante study. The observed vehicle travel speed on this section was 15 km/h in 2007 and 20–32 km/h in 2015, as shown in Table 5.1. Based on these data, the HDM-4 model assumed that the project increased the traffic capacity of the road section by removing the bottlenecks.

Table 5.1. Traffic Volumes in 2010 and 2015 and Traffic Growth Rate

Vehicle Classification	2015	2010	Traffic Growth Rate (%)
Motorcycles	1,408	902	9.31
Taxis	6,555	5,001	5.56
Private cars	6,647	5,398	4.25
Pickup/van/4WD	4,152	2,327	12.28
Small bus	5,212	4,005	5.41
Medium bus/mummy wagon	1,163	894	5.40
Large bus	510	392	5.40
Light truck	379	334	2.56
Medium truck	131	115	2.64
Heavy truck	36	30	3.71
3-axle semitrailer	14	12	3.13
4-axle semitrailer	9	8	2.38
5-axle truck trailer	5	4	4.56
Extra-large trucks and others	12	10	3.71
Total annual average daily traffic	26,220	19,432	6.18

Table 5.2. Observed Travel Speed in 2007 and 2015

	2015	2007
Motorcycles	Bus: 32 Tro tro (mini bus): 20 Passenger car: 30.6	15 km/h
Source	ISR (November 2015)	PAD (May 2007)

5. **Road work and vehicle operating costs.** The economic costs of the flyover and bridge were estimated as 85 percent of the total cost of the two civil works contracts of US\$14,676,017. The vehicle operating costs were estimated with the HDM-4 model using the basic economic parameters of vehicles and road/traffic conditions. The model adopted the same economic parameters as the ex-ante analysis, including 14 types of vehicles.

6. **Estimating economic benefits.** As noted in the paragraph 2, the main economic benefits of the roadwork are (a) vehicle operating cost savings, mainly, reduction in consumption of fuels and (b) reduction in travel time of passengers and freight, which is converted into monetary terms and added as economic benefits.

7. In the simulation model of HDM-4, these benefits are calculated as the difference in transport costs between a with-project scenario (alternative case) and a without-project scenario (base case). As the only difference between the with-project and without-project scenarios is the presence of the flyover and bridge, and the increase in traffic capacity, the economic benefits are attributed entirely to the project.

8. **Results.** The result demonstrates that the civil works of Odaw Bridge and flyover remain economically feasible. Based on the above methodology and parameters, the total economic costs of roadworks and vehicle operations are estimated for both scenarios during the 2010–2029 period and the economic benefits are calculated as savings of these costs. The present values of the flow of net economic benefits (NPV) generated by the project over 20 years are estimated at US\$1.26 million at a 12 percent discount rate and its economic internal rate of return is estimated at 17.6 percent.

Annex 6. Supporting Documents:

Annex 6a. Summary of Borrower's ICR

Borrower's ICR

Executive Summary

1. **Background.** The transport system in Ghanaian cities is characterized by inadequate public transport, traffic congestion, road safety, and mobility concerns which are major constraints to economic and social development and have detrimental environmental impacts. The Urban Transport Project (UTP) provided a comprehensive and integrated set of institutional enablers and physical infrastructure to improve urban transportation in two cities of Ghana as models for replication in other cities. It was initiated in 2008 and completed in 2015 with assistance from the World Bank. The objective was to enhance urban mobility at affordable rates within a socially and environmentally sustainable manner. The project had six major components Institutional Development; Traffic Engineering, Management, and Safety; Development of a Bus Rapid Transit System; Integration of Urban Development and Transport Planning for Better Environmental Management; Monitoring and Evaluation; and Emergency works (an added component). At the end of the project period, in June 2015, a six-month project extension period was granted by the World Bank to address problems on some roads in the city of Accra that resulted from the floods in Ghana on June 3, 2015.

2. The total project cost was approximately US\$82.0 million, with an IDA credit of US\$45.0 million; an Agence Française de Développement (AFD) facility at Euro 20.0 million; a Global Environmental Funds (GEF) grant of US\$7.0 million; and a Government of Ghana (GoG) component of GHC7.6 million.

3. The UTP was initially scheduled for completion in 2012 but was rescheduled for completion in 2015 due to delays in project implementation resulting from a number of factors, but mostly by delays caused by the resistance of bus operators to the introduction of BRT services. Procurement was based on funding agencies' credit conditions and Ghana's Procurement Act 663 of 2003. At the end of the project in December 2015, 100 percent of IDA credit and 100 percent of GEF fund had been committed. About US\$6.0 million of the uncommitted IDA funds was used to mitigate the impacts of severe flooding situation in Accra. About 48 percent of the AFD and 8.1 percent of the GoG funds have been disbursed. A summary of the key project achievements includes the following:

- **Regulatory frameworks.** Policy guidelines, including a national guideline for the Regulation of Urban Passenger Transportation, have been developed, disseminated, and are operational for the advancement of urban transportation in Ghana under the project. A framework to guide annual adjustments in transport fare structure for full cost recovery has also been developed.
- **Institutional reforms.** Both national and subnational urban transport management structures have been established through the formation of the Urban Passenger Transport Unit's (UPTU) at the Metropolitan, Municipal and District Assembly

(MMDA) levels. These have been translated into transport departments and have created the platform for urban transport management with several functions, including the passing of the bylaws on transport regulation which has been the main legal basis for regulating UPTU operations; route registration and issuing of permits to transport operators; sensitization of operators on the need for transport reforms; route registration exercises with enforcement; and the development of a database on various routes and operator operations with periodic updates.

- An inter-district body, the Greater Accra Passenger Transport Executive (GAPTE), is to coordinate, plan, regulate, and monitor bus transit operations and urban transport operations and services on specified routes that cut across MMDA boundaries. Three bus companies were registered for operation at project completion.

Infrastructure Development

4. **Traffic management in Accra MMDA areas.** The Traffic Management Works was separated into two batches (Batch 1 and Batch 2) and involved junction improvement works and road markings in AMA, TMA, GEMA, and Ga West Municipal Assembly (GWMA). Batch 1 was divided into 3 lots. Batch 1, Lot 1 involved junction improvement works at 60 selected intersections in the Accra Metropolitan area. Works are about 96 percent completed. Batch 1, Lot 3 included road markings, signs, and other minor installations on arterials and collectors in Accra. The works are substantially completed and substantial completion inspection has been done. The project is under a Defect Liability Period.

5. Traffic Management Works for Batch 2 involved junction improvement works at 14 selected intersections within the TMA, GWMA, and La Nkwantanan and Adenta Municipal Assemblies in the Greater Accra Region. Physical progress on ongoing works is about 96 percent complete. Batch 2 initially included improvement works at selected intersections in Ga-east and Kumasi, and the construction of a terminal in Ejisu. However, the works in Kumasi and Ga-east were dropped because of funding constraints even though designs have been made. The Kumasi works will be completed under the next budget cycle.

6. **BRT infrastructure.** With regard to infrastructure development, a BRT pilot route, Lot 1: Construction of Road over Railway Bridge and Expansion of the Odaw River Bridge on the Graphic Road has been constructed; Lot 2: Construction of BRT way from Accra CBD to 1st Light on the Winneba Road and stations up to Mallam Junction could not be completed due to financial constraints; Lot 3 involved construction of terminals, depots, and tributaries of the four routes: Route 1 Amasaman Route - CBD; Route 2 Adentan Route - CBD; Route 3 Kasoa-Mallam - CBD; and the CBD - Otumfuor Osei Tutu II Boulevard to Ejisu Road in Kumasi. Due to funding constraints only route 1 could be developed for the type B service. The works on route 1 were in two lots.

7. Lot 1 involving works on the Achimota terminal building structure and depot, Amasaman terminal building and passenger waiting areas, Ofankor terminal, and 42 bus stop shelters have been completed. The works on the Kasoa terminal and depot have not started even though the sites have been acquired.

8. Lot 2 which involved the construction of roads, junction improvement works, and parking areas such as a contraflow bus lane, Amasaman terminal pavement, exclusive left-turning lane for buses, widening of Taifa and Dome roads, and asphalt concrete overlay of junctions within the Amasaman-CBD Corridor, have been completed.
9. Beneficiaries in Kumasi were disappointed that the traffic management and operationalization of the BRT system components could not materialize.
10. **Cross-cutting issues.** Diverse environmental and social management tools for urban development and transportation is developed. Air quality monitoring is ongoing on selected urban routes and capacity has been developed in environmental issues relating to transport, including emissions, and so on. There has been improvement on urban land use and transportation. Guidelines on Transport Impact assessment have been fully disseminated to the MMDAs. Geographic Information System applications for transportation planning and management have been installed and are being operated. Safety standards on urban transport safety have been developed. Project activities such as the development of urban safety guidelines, dissemination of the guidelines, conduct of pedestrian and NMT safety education programs using materials prepared, dissemination of urban road transport accident reports, and training of staff in urban transport safety practice have been undertaken
11. **Economic analysis.** The economic assessment through the recalculation of ERR's gave positive returns to NPV (US\$5.208 millions) and ERR (23.8 percent).
12. **World Bank's performance.** The World Bank's performance is, on the whole, judged satisfactory. The intensity of supervision was adequate and provided the opportunity for continued dialogue with the borrower.
13. **Borrower's performance.** Officials heading the various institutions and agencies involved with the project implementation were cooperative with the World Bank, and ably performed their duties.
14. **Project implementation agencies.** All the project implementing agencies, especially the MMDAs, were committed to the implementation of the project components.
15. The project was challenged by an over complex project design with multiple implementing agencies making it difficult to coordinate, limited funding to develop driver and vehicle safety standards, delays in implementation of institutional components with over emphasis on infrastructure development, and extensive resistance by bus operators to the introduction of the BRT system in Ghana for fear of competition.

Emergency Works

16. This component aimed at addressing problems on some roads in the city of Accra that resulted from the floods in Ghana on June 3, 2015. Improvement works were conducted under four major emergency intervention categories as: Emergency Asphalt Overlay of Selected Flooded Collectors and Arterials Roads in Accra; Emergency Pothole Patching/Resealing of Selected Flood Affected Roads in Accra; Emergency Culvert Repair and Replacement Works in Accra; and Emergency Dredging of Tributaries of Odaw River and other Critical Streams.

17. A total of 40 contracts consisting of 8 major and 32 smaller contracts were awarded subject to post review and prior approvals of the World Bank. The Public Procurement Board approved the single sourcing for the emergency works and ‘no objection’ was also obtained from the World Bank for both smaller works and major contracts. The department completed due processes for the procurement of works in record time, with some good practices such as implementation, starting with advance actions.

18. As of June 2015, about US\$6.0 million of the uncommitted IDA funds was allocated to mitigate the impacts of severe flooding situation in Accra. As of February 15, 2016, a total of US\$5.5 million was disbursed.

19. A dedicated in-house project team, consisting of five key staff and four able supporting staff, was formed to supervise the project.

20. The works are substantially completed. The performance on the emergency contract works was very satisfactory. Out of a total of 40 functional projects, 88 percent, that is, 35 of the contracts were successfully completed according to the time schedule. Four contracts, that is 10 percent, are still awaiting resealing works and only one contract was not executed.

Lessons Learned

21. **The stage has been set for providing public transport systems for urban populations with safe, secure, accessible, rapid, efficient, and user-friendly transport, and to reduce pollution, congestion, and accidents.**

- (a) Urban transport is a key factor in urban development and though extensive works have been undertaken under the project, the scope of need is not exhausted and there is a need to do more to achieve the expected objectives.
- (b) The scope of the project components was too extensive and complex considering the fact that most of the activities were new and there was little capacity with regard to expertise and number to deliver on the requirements. The multiple nature of project components made it difficult to manage and in future, a staged approach should be adopted for such projects.
- (c) Though there were complexities in the project, the challenges resulted in cohesion among stakeholders involved in urban transportation. For example, the local government in collaboration with the Ministry of Transport and the MoRH is willing to support the funding of the GAPTE to sustain the advancement of the high-quality bus service operation in urban cities.
- (d) The inability to undertake the pilot BRT has created a gap in the project outcomes which would have to be filled.
- (e) The survey with bus operators indicated that 70 percent of operators are now willing to operate under a formalized system. Therefore, the platform for the implementation of a regulated bus transport system in urban centers has been well established. Thus, there is potential to move into a full BRT operation in Ghana.

- (f) The cost components of some of the activities were underestimated and so some key project activities had to be dropped for lack of funds. In future, proper costing of the project should be estimated at the beginning to avoid cost overruns.
- (g) Most of the MMDAs benefited immensely in institutional development for urban transport development but are still limited in the provision of infrastructure, though there was a challenge in the course of project implementation when some MMDAs were divided into substructures making it difficult to organize the UPTUs. For example, the AMA was subdivided into the LEKMA and La Dadekotopon, and so on. The project managed to surmount this challenge for successful operation.
- (h) Established regulation of urban transport can provide quality service. So there is need to scale up the regulatory regime to all MMDAs to sustain the gains made so far.
- (i) The various institutions that have emerged for urban transport management have acquired a generational knowledge which will not end with the UTP but can be emulated by other countries.
- (j) Development of complementary infrastructural facilities such as transport terminals, depots, and traffic management systems will facilitate the implementation of the proposed BRT services.
- (k) The inability to implement all the planned project components indicates that the project costing was not commensurate with the threshold of works defined; for example, the partial completion of the BRT infrastructure and the implementation of only one out of the four BRT routes. This should guide the future planning and costing of projects with large components. Such projects should be well costed and implemented in sequential progression with thresholds within available funding levels to avoid disappointments to project beneficiaries.

Annex 6b. List of Supporting Documents

1. Aide memoires, project progress reports, and implementation status reports of UTP
2. Accra Pilot BRT Corridor, progress reports, Ministry of Road and Highways
3. Air Quality Monitoring in Accra presentation by EPA, October 17, 2012
4. Business Case Report Amasaman to CMB, Pre-GAPTE, Republic of Ghana, December 2013.
5. Bus Priority Design and Infrastructure Report, Pre-GAPTE, Republic of Ghana, December 2013.
6. Center for Urban Transportation Act, Act 799, May, 2010
7. Constitution of Ghana, 1992
8. Country Assistance Strategy, FY2004–2007, Report 27838-GH, February 2004
9. Country Assistance Strategy, FY2008–2011, Report 39822-GH, May 2007
10. Country Partnership Strategy, FY2013–2016, Report 76369-GH, August 2013
11. Financing Agreement, UTP, between Republic of Ghana and IDA, August 8, 2007
12. Ghana: Accra Urban Profile, United Nations Human Settlements Programme, 2009
13. Ghana Poverty Reduction Strategy 2003–2005, February, 2003
14. Guidelines for Reviewing World Bank Implementation Completion and Results Reports, a Manual for Evaluators, last updated August 1, 2014
15. Implementation Completion Report Guidelines, OPCS, August 2006, last updated July 22, 2014
16. Infrastructure and Operational Design for Accra Pilot Bus Executive Summary - Final Report, Department of Urban Roads, Ghana, January 2012
17. Victoria Okoye, S. Jahmal, C. A. Debrah. 2010. The Accra Pilot Bus-Rapid Transit Project: Transport-Land Use Research Study. Earth Institute, Columbia University.
18. Local Government Act, 1993
19. National Population Census 2000
20. National Urban Policy Framework, MLGRD, May 2012

21. Sanggyun Kang, Jorge Ubaldo Colin Pescina, Philip Jayson Quashigah, and Innocent Kumashie. 2010. *NIMA Land Use Mapping Project - Report and Map Set*, Earth Institute, Columbia University.
22. Organizational Manual for Center for Urban Transport, DUR, March 2010
23. Project Appraisal Document for a Ghana Urban Transport Project, May 22, 2007
24. Project Implementation Manual of UTP
25. Project Restructuring Paper for a Ghana Urban Transport Project, Report No: 74139 – GH, Report No: RES16911, and Report No: RES19910
26. Quality Assessment of Lending Portfolio, Ghana Urban Transport Project, OPCS, July 2010
27. World Bank. 2014. *Rising through Cities in Ghana, Ghana Urbanization Review Overview Report*, Washington, DC: World Bank.
28. PPIAF (Public-Private Infrastructure Advisory Facility). 2005. Study of Urban Public Transport Conditions in Accra, Ghana.
29. The Ghana Shared Growth and Development Agenda (GSGDA) II (2014–2017), GoG, December 2014
30. The State of Eastern African Cities, 2014, UN-Habitat 2014
31. Third National Communications to the United Nations Framework Convention on Climate Change
32. Brenden Finn, M. Corinne. 2011. “Urban Bus Services in Developing Countries and Countries in Transition: A Framework for Regulatory and Institutional Development.” *Journal of Public Transportation* Vol. 14, No. 4.
33. Urban Passenger Transport Pilot Bus Route Design (technical reports under the UTP), ITP
34. Global Health Observatory Data Repository, Registered Vehicles Data by Country

MAP

