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Title: **The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation**

Name**: Edmund Teko**

Supervisor: **Oliver Lah**

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The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation

Edmund Teko
GHANA

Supervisor: **Oliver Lah**

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Summary

Rapid motorization and growing vehicle ownership are increasingly becoming major contributory factors to traffic congestion experienced in cities around the world, especially in developing countries. This phenomenon has necessitated the need for innovative sustainable solutions that promote public transportation in urban areas. One of such innovations is the development of Bus Rapid Transit (BRT) systems which has gained popularity over the years particularly in Latin America, Asia and gradually in Africa. Whilst some city authorities have been successful in its implementation, others have failed due to financial, political, regulatory and institutional challenges, the latter being the less discussed in literature. In a bid to improve urban mobility in Accra, city authorities in the year 2008, embarked on a BRT Project which was expected to be deployed by 2012. However, almost a decade after its commencement, the project could not be realized as planned; but was launched in 2016 as a Quality Bus Service (QBS) without dedicated bus lanes.

It is against this backdrop that this research sought to explain the institutional factors which affected the implementation of the BRT project in Accra. A qualitative research approach was adopted with a total of 17 interviews conducted with key actors from stakeholder institutions which participated during the implementation of the project. Findings from the study were triangulated with project evaluation reports and scientific articles with theoretical support of the institutional thickness framework. Institutional thickness as employed in this study, comprises of and was measured by the following institutional factors under which the project was implemented: institutional presence, level of interactions, power relations and sense of common agenda. The study made two comparisons; the first was made between a prototype institutional thickness situation developed in this study and institutional conditions that existed during the original phase (2008-2012) and the pilot phase (2013-2016) of implementation. The second compared the state of implementation between the two phases allowing for the explanation of how changes in institutional thickness factors accounted for varying states of implementation.

The study revealed that the institutional thickness during the original phase of the project was relatively lower than in the pilot phase; though the situation in both periods fell short of the proposed model. This research proved that the improved institutional thickness over time accounted for the improved state of implementation in the pilot phase. The study found that the following factors hindered implementation during the original phase of the project: the non-existence of a cross-jurisdictional authority to oversee the urban passenger transport sector in the project area; the lack of ownership arrangements for existing bus operators in the city to belong to the proposed BRT scheme; the distrust among transport operators towards project implementers; and the inadequate capacity of stakeholders in BRT. The improvements made in these aforementioned factors over the periods accounted for the positive progress in implementation during the pilot phase. Considering that all external factors employed in this study remained comparatively similar for both periods, the eventual piloting of the QBS in Accra was therefore possible with the combined effects of enhanced institutional presence, increased level of interactions, improved power relations and a well-sustained sense of common agenda among stakeholders.

The Accra case as revealed in this study showed that executing BRT concurrently with institutional reforms proved to be a risky task; as the distrust among existing transport operators led to a prolonged resistance and opposition to sector reorganization initiatives; hence jeopardized the chances of successful implementation. It is recommended that subsequent BRT initiatives in any city in Ghana should proceed after the reform of the city's transport sector taking particular interest in establishing a cross-jurisdictional authority if the BRT is to operate across more than one jurisdiction; ensuring part or full ownership of BRT scheme by existing transport operators; building stakeholders' capacity in BRT prior to actual implementation; and enacting and enforcing urban transport by-laws.

Keywords: Bus Rapid Transit, Institutional factors, Institutional thickness, Urban Passenger Transport, BRT implementation

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Foreword

The choice of this research topic is hinged on my interest in understanding how transportation systems shape the lives of urban dwellers. Having had the opportunity to further my studies at IHS and gained insights through my specialization into urban infrastructure management and financing, I desired to study how innovative transport systems could be advanced to help solve many urban transport challenges facing cities around the world especially in developing countries.

In this quest, my attention was drawn to Bus Rapid Transit systems which have become great relief to city authorities that have successfully implemented it. I settled on the case of Accra where a BRT project suffered implementation challenges. Understanding the institutional factors which might have accounted for these difficulties formed the basis of my research.

It is hoped that this study will contribute to the academic discussion on best practices in BRT systems implementation and provide some reference points to policy makers and implementers.

Abbreviations

AMA	Accra Metropolitan Assembly
BRT	Bus Rapid Transit
CBD	Central Business District
CEO	Chief Executive Officer
CUT	Centre for Urban Transportation
DUR	Department of Urban Roads
DVLA	Driver and Vehicle Licensing Authority
GAPTE	Greater Accra Passenger Transport Executive
GCTA	Ghana Co-operative Transport Association
GDP	Gross Domestic Product
GEMA	Ga East Municipal Assembly
GHG	Green House Gas
GPRTU	Ghana Private Road Transport Union
GUTP	Ghana Urban Transport Project
GWMA	Ga West Municipal Assembly
IHS	Institute for Housing and Urban Development Studies
ITDP	Institute for Transportation and Development Policy
MLGRD	Ministry of Local Government and Rural Development
MMDA	Metropolitan, Municipal and District Assemblies
MTTD	Motor Transport and Traffic Directorate
MTTU	Motor Transport and Traffic Unit
NMT	Non-Motorized Transport
NRSC	National Road Safety Commission
PAO	Project Advisory Office
PROTOA	Private Road Transport Operators Association
QBS	Quality Bus Services
STC	State Transport Corporation
TMA	Tema Metropolitan Assembly
UPTU	Urban Passenger Transport Unit

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Chapter 1: Introduction

This chapter presents a general overview of the study outlining the background, the problem statement, the objective, the research question and sub-questions. The chapter also includes the scope and limitations of the study.

1.1 Background

Cities in developing countries are increasingly facing challenges of congestion and reduced mobility partly caused by weak institutional regulations on transport and land use planning, rapid motorization and growing vehicle ownership. This situation manifests in longer travel times, less movement and interaction of people and diminishing economic productivity (Gakenheimer, 1999). Under these circumstances, developing countries are striving to implement integrated land use and transport policies, programmes and projects aimed at improving urban mobility in cities. According to da Silva, da Silva Costa, et al., (2008) urban mobility comprises of complex environmental, economic, social and behavioural issues; and making it more sustainable as suggested by Banister (2008) necessitates a shift in transport mode through effective mobility policies that promote the use of public transport. This shift requires restrictive measures on private car use and establishing an attractive public transport system that is beneficial to users (Banister, 2008). One single important transport initiative which aims at promoting public transportation and is gaining rising popularity is the development of the Bus Rapid Transit (BRT) systems (Hensher, 2007).

According to ITDP (2007) BRT is "a bus-based mass transit system that delivers fast, comfortable, and cost-effective urban mobility through the provision of exclusive right-of-way lanes and excellence in customer service" (ITDP, 2007, p.1). The BRT systems as posited by Hensher (2007) can serve as an effective catalyst in making cities more liveable and environmentally friendly. This is affirmed by (ITDP, 2007) which indicates that the project contributes to reducing GHG emissions and improves the state of urban environments. Again, BRT is rapidly growing as a preferred transit choice because of its relative lower cost of execution, fast implementation, efficient performance and positive resultant effects (Hidalgo and Gutiérrez, 2013). As such, municipalities around the world are gradually opting for the BRT as an alternative mass transport system in a bid to improve mobility and accessibility in their cities (Gwilliam, 2013). Hidalgo and Gutiérrez (2013) indicate that 16 cities in developing countries between the years 2010 and 2011 have completed BRT systems; and by the late 2011, 49 additional cities were building new systems; expansion works on BRT corridors were ongoing in 16 different cities whereas other 31 cities were in the planning stages of implementing BRT. As at the year 2016, a total of 206 cities worldwide are running BRT with Latin America having the highest number of cities (68) and only 4 cities each in Africa and Oceania implementing BRT (brtdta.org, 2017).

Latin American cities particularly Curitiba in Brazil and Bogota in Columbia have been cited as good examples for BRT implementation with Bogota's Transmilenio BRT system serving as an influential reference for planners and transport practitioners around the world (Hidalgo and Gutiérrez, 2013). In Asia, experiences of BRT operations in cities such as Jakarta in Indonesia, Ahmedabad in India, and Guangzhou in China were notable and characterized by low cost of execution, rapid implementation and considerable positive externalities (Hidalgo and Gutiérrez, 2013). Nonetheless, whilst some cities have been successful in implementing the BRT systems, others have experienced difficulties such as resistance from existing bus operators, lack of technical capacity, complex institutional interactions (Filipe and Macário, 2013); which according to Hidalgo and Gutiérrez (2013) have led to delayed implementation,

incomplete components of the system at the time of commencement of operation as well as premature deterioration of the BRT infrastructure.

Finn and Munoz (2014) reveal that the task of implementing BRT systems has been challenging and that the difficulties range from regulatory, institutional, and participatory framework imbalances to public and private incapacities as well as the peculiarities of cities in both the developing and developed countries. Other literature on reasons for poor implementation point to the lack of effective co-ordination among players (Gwilliam, 2013). Lindau, Hidalgo, et al., (2014) also identified barriers in the planning as well as in the implementation stages of BRT systems. At the planning phase, the authors cited among other factors, the institutional intricacies and lack of technical capacity of project implementers, deficient alignment among stakeholders and resistance from existing bus operators. With regards to implementation obstacles, the following conditions are noted: discontinuities due to political cycles, premature commissioning of projects, lack of national policies supporting BRT development and inadequate investments in transport infrastructure (Lindau, Hidalgo, et al., 2014). Working towards sustainable urban mobility, in general, has been a challenge for city managers in developing countries due to fragmented decision-making processes, the multiplicity of actors and the overall intricate nature of urban systems (Kennedy, Miller, et al., 2005). The implementation of a BRT system in Accra, Ghana is of no exception to these challenges which city authorities in the Accra Metropolitan Area have had to contend with for almost a decade.

1.2 Problem Statement

In a bid to improve urban mobility in Accra, Ghana, city authorities in the Accra Metropolitan Area embarked on a BRT Project in 2007. This was initiated against the backdrop of the problems facing the city at the time; which bordered on heavy traffic congestion, increasing dependence on private and intermediate public transport as well as sprawling settlement patterns that discouraged the use of non-motorized transport (World Bank, 2007). To derail the effects of this urbanization trend, the Government of Ghana in collaboration with international development partners initiated the Ghana Urban Transport Project (GUPT) of which the BRT development was a component. The GUTP essentially aimed at regulating the public transport sector; enhancing mobility in the city through traffic management measures; and execution of a BRT system which would include separated bus lanes, interchanges, bus stations and non-motorized transport facilities (Finn, Arthur, et al., 2009). The project was funded by the World Bank, the Global Environmental Facility and the French Development Agency with a matching fund from the Government of Ghana (World Bank, 2007).

The original financing of the GUTP was approved by project financiers on June 21, 2007 and was declared effective on October 19, 2007 with actual implementation starting in 2008 and a set project completion date of December 31, 2012 (Desta, 2015). This deadline was however not met but was extended to June, 2015. A further extension was requested by the Government of Ghana for project restructuring up until December, 2015 (Desta, 2015). Despite all these time extensions and the availability of funding support for the project, the implementation of the BRT system could not be realized; and as at November 2016, only an aspect of the BRT project called the “Quality Bus Service” was launched on a pilot basis in Accra without dedicated bus lanes- a critical element of any BRT system (Hensher, 2007). Nevertheless, Lindau, Hidalgo, et al., (2014) indicate that “there is much to lose if some elements of BRT are not in place” (Lindau, Hidalgo, et al., 2014, p.12). Explaining the reasons behind this failed attempt to successfully implement the BRT system in Accra is therefore a keen interest for research.

It is worth mentioning that existing literature identifies several factors that may affect the implementation outcome of BRT systems. However, this research focuses on the institutional

factors with the view that these factors are most relevant to the discourse on BRT systems; as asserted by Hook (2005) that the link between BRT, regulatory and institutional restructuring has been less explored even though such a relationship is one of the most significant features of BRT systems (Hook, 2005).

In order to bring a focus to this research, this chapter clarifies the term "institutional factors" with support from a review of literature on how some authors have conceived the notion of "institutions". North (1993) referred to "institutions" as the rules governing a society and or are humanly created constraints that form human interactions. The term is also construed by Stough and Rietveld (1997) as societal regulatory structures with accompanying patterns of behaviour and procedures. The authors noted that the term "institutions" is often confused with organizations which North (1993) defined as groups of people bound together by shared aims. Again, North (1993) summarized that, institutions are the rules of the game and organizations are the players. From the foregoing, this study defines "institutional factors" as factors relating to the players or actors in the urban transport sector involved in the implementation of BRT systems as well as those concerning the rules, procedures, interrelationships and interactions between them. A largely used concept to measure the effects of institutional factors and which is adopted in this study is the Institutional Thickness framework originally developed by Amin and Thrift (1995). The concept has been largely valuable in understanding the effects of institutional mechanisms on the implementation of sector policies, programmes and projects as well as their implications for the development of regions. Chapter two of this study expatiates on this concept.

1.3 Research Objective

The objective of this research is:

- To explain the institutional factors that affected the implementation of the BRT project in Accra.

1.4 Provisional Research Question

This research seeks to answer the following main question:

- Which institutional factors explain the state of implementation of the BRT project in Accra?

In order to answer the above research question, answers are sought to the following sub-questions:

- Under which existing institutional conditions was the BRT project implemented in Accra?
- Which institutional conditions are required for a successful implementation of a BRT system?
- How did existing institutional factors affect the implementation of the BRT project in Accra?

1.5 Significance of the Study

In order to consolidate the gains from the implementation of BRT systems, Hidalgo and Gutiérrez, (2013) reveal that several institutional and academic initiatives are being established to cooperate and share best practices in execution of BRT systems in developing countries. In this vein, this research seeks to contribute to the academic discourse on BRT systems implementation by studying the link between BRT and institutional factors which as mentioned

above have been less explored. This study also provides insights into the usefulness or otherwise of the institutional thickness as a concept for measuring the effects of institutional factors on empirical situations such as the BRT in Accra.

Also, Finn, Arthur, et al (2009) indicate that a successful implementation of the BRT in Accra, according to the project's goal, would have paved way for replication of BRT in other cities in Ghana. Hence, this study contributes best practices and policy recommendations; and serve as reference for future urban mobility initiatives in Ghana. Findings from this research will ultimately complement the efforts and vision of the Government of Ghana as stated in its National Transport Policy (2008): to provide a sustainable transportation system that is responsive to the needs of its citizens (Government of Ghana, 2008).

1.6 Scope and Limitations

This study was undertaken in the Accra Metropolitan Area of Ghana which as at the year 2007 consisted of four local administrative areas including the Accra Metropolitan Assembly, the Tema Municipal Assembly, the Ga East District Assembly and the Ga West District Assembly. The study focuses on the institutional factors that affected the implementation of the BRT project in Accra as they represent the most relevant and the less explored in literature. The study made two comparisons. The first comparison was made between the institutional thickness in the Accra case and a prototype case developed by this researcher based on theory on favourable institutional thickness levels and best practices in BRT implementation. Even though such approach had its limitations due to the differences in contexts and the intuitiveness of this researcher, it proved to be useful in this study since it provided some benchmarks for comparing with the Accra case. The second comparison was made between the state of implementation in the original implementation period (2008-2012) and that of the period (2013-2016) when the pilot BRT was launched.

Focusing on only institutional factors was a limitation to this study considering the fact that other factors might have affected the implementation of the project. The use of four external factors namely: availability of funding, political commitment, quality of design and economic growth as control variables in this study was intended to reduce this limitation. Also, the limited time and resources available for this research made it a real challenge to explore which and how other factors affected the implementation of the project. Future research on those other factors would be complementary to this study. Again, the non-availability of standardized units for measuring the indicators of institutional thickness constituted a major challenge; however, this work significantly reduced any effects of intuitive interpretations and assigning of measurements through triangulation (Thiel, 2014).

Another potential limitation in this study is the non-existence of a comparative BRT case in Ghana that could serve as a control group in this research. This could have diminished the validity of this research; however, the mixed research approach of co-variation and congruence analyses used in this case study as well as triangulation helped to enhance its internal validity. External validity is nonetheless largely limited since it was difficult to generalize findings to other cities in developing countries because Accra's case was contextually unique.

Chapter 2: Literature Review / Theory

2.1 Introduction

This chapter provides a theoretical foundation for the research through a review of relevant literature related to urban transportation and BRT systems. The chapter presents an overview of the nature of urban transport systems including the characteristics of BRT systems and issues relating to its implementation. It further elaborates on institutional matters arising from the execution of BRT and discusses the framework on institutional thickness. The chapter concludes with empirical studies on institutional factors affecting BRT and builds a conceptual framework for the study.

2.2 Urban Transportation Systems

Cities are anchored on transportation systems which support the intricate socio-economic make-up of its society. As such transportation systems are viewed as inextricably linked to the development of cities around the world (Moore and Pulidindi, 2013). Transportation facilitates the movement of people, goods and services through various modes including road, rail, water and air. Along this line, therefore, transport services have been established accordingly hence necessitating an institutionalization and integration of the various modes into coherent transportation structures especially in urban areas (Stough and Rietveld, 1997). According to Gwilliam (2013) road transport remains the major transport system in cities; nonetheless, its management has been done in fragmented manner where different functions are shared by public and private entities. In the developing countries, public transport in urban areas in the early 1980s as posited by Kumar, Zimmerman, et al. (2011) saw major changes where road transport operations which were hitherto provided by the state, were transferred to the private sector who offered transport services through minivans and shared taxicabs. By the year 2002, however, a World Bank report- "Cities on the Move" indicated that in developing countries, urban transport services mostly provided by informal private sector operators were disordered, generally precarious and characterized by weak institutional, financial and regulatory structures. The report nevertheless suggested that the sector could generate competition gains if properly regulated (Gwilliam, 2002). In order to consolidate these gains, Christodoulou and Finger (2012) propose that urban public transport services need to be integrated and managed by a single regional authority which should be responsible for planning, coordinating, financing and contracting service operators. In this vein, Sietchiping, Permezel, et al. (2012) argued that public transport could only be improved if the policies, laws and regulations that governed the sector are enforced without compromising on users' incentives.

Gwilliam (2002) indicated that one of the predominant public transport services aside the formalized and regulated system in developing countries is the paratransit services which are characterized by old and usually smaller vehicles rendering non-scheduled and sometimes on-demand services. According to the author, this informal transport sector despite its role in urban economies especially due to the employment opportunities provided, contributes to the congestion and increasing air pollution experienced in most cities in developing countries. Thus, there is rising urgency for alternative public transport modes to alleviate these concerns. A critical alternative public transport system which has been proved beneficial in city development all over the world is the deployment of Mass Rapid Transit which consist of a range of road and rail transport modes using special and segregated routes. Examples of these include busways, light rail transit such as the tram, suburban railways and metros. The works of authors including Banister (2008), Hensher (2007) and (Gwilliam, 2002) among others suggest that the Busways form of Mass transit represent the least expensive to execute and is gaining popularity in many cities in the world especially in developing countries. This

alternative mode of public transport is usually referred to as the Bus Rapid Transit Systems (BRT). The following section elaborates and provides an insight into issues relating to the implementation of Bus Rapid Transit Systems.

2.3 Bus Rapid Transit Systems and its Implementation

2.3.1 Bus Rapid Transit Systems

The Bus Rapid Transit System as defined by ITDP (2007) is "a bus-based mass transit system that delivers fast, comfortable, and cost-effective urban mobility through the provision of exclusive right-of-way lanes and excellence in customer service" (ITDP, 2007, p.1). Levinson, Zimmerman, et al. (2003) in developing an implementation guideline, define BRT to mean a "flexible, rubber-tired form of rapid transit that combines stations, vehicles, services, running ways and information technologies into an integrated system with strong identity". Largely, several authors have described BRT systems as a flexible and faster transport mode that provide services comparable to rail transit (Levinson, Zimmerman, et al., 2003, ITDP, 2007, Hensher, 2007, Hidalgo and Gutiérrez, 2013).

According to ITDP (2016), there are five critical features of BRT systems which make them reliable and more convenient for urban transit; these are: Dedicated Right-of-Way, Busway Alignment, Off-board Fare Collection, Intersection Treatments and Platform-level Boarding. In order to minimize delay, dedicated and sometimes segregated lanes are provided to ensure that buses do not mix with existing traffic. Reserving these priority lanes according to Hensher (2007) ensures that the buses maintain a certain average speed which is consistent with average travel time along BRT routes. Other elements which reduce delay are the Off-board Fare Collection system which ensures that passenger pay for fares before boarding the buses; and the Intersection Treatments which prohibit turns across buses especially in intersections and junctions. The bus alignment feature of BRT systems is designed to ensure that buses are kept away from busy sides of the road where cars park, stand or turn. This feature is usually fitted in the roadway centre or as bus-only corridor. The Platform-level Boarding in BRT systems facilitates fast boarding for passengers especially for people with disabilities. (ITDP, 2016).

The Concept of BRT according to Miller and Buckley (2000) is not new and dates back to the early 1950's when transportation firms were devising innovative solutions for quality and less expensive transit services. The authors indicate that most of the features of current BRT systems have been designed since the 1960's which include exclusive busways, priority traffic signals, quick fare payment methods and faster mechanisms for passengers to alight and board. These features of BRT systems as argued by several authors are critical for reaping the full benefits associated with the system (Hidalgo and Gutiérrez, 2013, Hensher, 2007, ITDP, 2007). The benefits of BRT systems are expressed in how quickly they can be implemented; its better operational flexibility vis-a-vis rail transit due to the system's capacity for feeder services; its relatively lower cost of implementation when compared with other mass transit modes; and its relatively higher performance and positive impacts on the urban environment (Levinson, Zimmerman, et al., 2003, ITDP, 2007, Hensher, 2007, Hidalgo and Gutiérrez, 2013).

In developing BRT systems, seven groups of factors according to the works of Lindau, Hidalgo, et al. (2014) and Wu and Pojani (2015) are considered as determinants factors to the success or failure of implementation of BRT systems; these are: institutional and legislative framework, political leadership and commitment, management of competing modes; public participation; funding and coordination; quality of physical design; and image promotion. These factors are explained as follows:

- *Institutional and legislative framework*: BRT systems implementation involves a wide range of stakeholders whose motives are not always aligned to the project. Coordinating

of activities and interactions between these multiple organizations often get complex and requires sophisticated bureaucratic procedures. Since BRT is usually a new innovation in many of the implementing cities, there are no single institutions which can deliver all the features of the system. Resorting to foreign consultancy services facilitates capacity building.

- *Political leadership and commitment*: Winning the commitment of political figures and authorities unlocks resources and makes them take the lead in the planning and the implementation of BRT. Their active involvement help reduce procedural delays and planning fatigue and maintain project integrity. A top-down approach in decision-making is usually seen as detrimental to project success; and the engagement of the public as well as all stakeholders facilitates implementation especially in the event there is a change in political leadership.
- *Management of competing modes*: BRT systems usually face opposition from other road users especially car owners and private operators of public transport who feel disadvantaged when bus lanes are prioritized. Planning to manage these competing modes is therefore crucial to proceed through implementation. Formalizing the activities of existing transport operators and incorporating them into BRT systems as a more integrated modal system is essential.
- *Public participation*: Constant communication with project stakeholders throughout implementation is key; as such participative activities to solicit support from participants must be transparent especially when dealing with the media. Such activities should aim at educating the public and actors on the benefits of BRT systems and how user expectations are to be met. Compromises can be made but not to the detriment of project success. Project implementers must therefore be tactful and possess strong negotiation skills to overcome any obstacles to reaching agreements.
- *Funding and coordination*: Since financial resources are often limited especially for public institutions, BRT implementation requires novel financing arrangements such as public-private partnerships, joint development ventures, innovative tax instruments to raise the necessary funds for the project. Funds recovery through operating revenues from BRT should be a priority to project managers; and this can be facilitated through collective enforcement of fares. In case of external funding, donors may be forced to freeze funding when the project implementation process takes longer than normal especially due to disputes. Such situations should be prevented if the project is to be executed according to plan.
- *Quality of physical design*: BRT systems required a physical integration to other transport modes and this is achieved through a conscious effort towards an integrated land use and transport planning initiatives. Physical features of BRT such stations, parking areas and corridor development necessitate proper land use designs and should be integral in the planning process. It is beneficial to link initial BRT corridors to neighbourhoods which can provide the most support for passenger ridership.
- *Image promotion*: It is important to create massive awareness about BRT since it is often considered as a novelty in most cities; hence must be well advertised. This can be done through vehicle branding, user education campaigns focusing more on the direct benefits of BRT such as reduced travel time and affordable fares rather than the relatively abstract benefits of safety and air pollution reduction. Efforts must be made to curtail negative media publicity whilst taking advantage of the support from those stakeholders who benefit directly from the project such as real estate developers along BRT routes.

Among the above described factors, institutional factors which is the subject of study is this research are largely viewed as the most critical and comprises of issues on involvement and coordination of multiple stakeholders, level of technical capacity of actors, creation of overarching authority and power play among stakeholders (Mallqui and Pojani, 2016).

The task of implementing BRT systems over the years has not been an easy one due to the complexities of issues considered in the planning, design and execution of the systems. In this study, a review of literature on BRT in many of the countries that adopted these systems show that there are several outstanding issues that range from institutional, regulatory, financial, technical, socio-political and environmental (Finn and Muñoz, 2014, Hidalgo and Gutiérrez, 2013, Finn, 2013, Miller and Buckley, 2000). Whilst some authors attribute these challenges to the multiplicity of issues bordering on traffic management, engineering and safety measures, transport infrastructure development; others conceive these challenges in terms of land use planning and transport integration as well as stakeholders' involvement in the implementation of BRT systems. The success or otherwise of BRT implementation in cities therefore lies in how well these issues are considered and addressed.

2.3.2 Bus Rapid Transit Systems Implementation

In the face of the above-mentioned challenges, BRT implementation in some cities has been successful whilst others have failed (Filipe and Macário, 2013). Hidalgo and Gutiérrez (2013) indicate that BRT systems are being implemented in all continents, with Latin American cities representing a quarter of all world cities implementing BRT. Evidently from the literature, Latin American cities account for most of the cities which have been successful in BRT systems deployment. For instance, the case of Curitiba in Brazil and Bogota in Columbia have been cited by many authors as good examples of BRT developments and have served as references for other cities (Filipe and Macário, 2013, Hidalgo and Gutiérrez, 2013, Hensher, 2007). In Curitiba and Bogota, the works of authors such as Rogat, Hinostroza, et al. (2008) and Hidalgo and Gutiérrez (2013) associate success to political commitment of city authorities towards innovate pragmatic urban transport solutions. These innovations according to the authors hinged on integration of land use and public transport, setting up of vibrant public-private partnerships and instituting strong capacity building measures. Also, Hensher (2007) citing the work of Menckhoff (2005) who reviewed the performance of existing BRT systems in Latin America revealed that institutional reform was key to the successful implementation in those cities. In Curitiba, Miller and Buckley (2000) agree that the government's ability to establish and enforce land use controls which promoted development along bus routes contributed to its success. Kumar, Zimmerman, et al. (2011) in their study on a synthesis of BRT systems implementation in five cities namely Lagos, Johannesburg (both in Africa) Jakarta, Delhi, and Ahmedabad (in Asia) found that though the projects have been largely successful, variations in the level of success could be explained by how each city managed issues of political and institutional leadership, communication among stakeholders as well as operational and financing arrangements.

Major problems associated with BRT implementation especially in developing countries have been documented by several authors; however, the similarities of these issues are far-fetched. Among these are the following outstanding problems identified by Hidalgo and Gutiérrez (2013):

- *Rushed implementation*: In many cases, some components of BRT systems are missing at the time of commencement of operations. This situation is often associated with political pressure to complete project within the political term. Incomplete components of BRT systems as indicated by Lindau, Hidalgo, et al. (2014) could undermine the effectiveness of the systems as a whole.

- *Delayed implementation:* As observed in unsuccessful BRT projects, Hidalgo and Gutiérrez (2013) explained that transport fare payment technologies often lag behind even though they represent a core component of the BRT systems. The authors blame this phenomenon on the non-readiness of implementing cities to adopt new innovations
- *Premature deterioration of infrastructure:* Poor maintenance culture has been cited for the early wearing out of BRT infrastructure especially in cases where there are flaws in initial designs.
- *Low user education:* Since BRT systems are usually novelties in many cities, many authors agree that active involvement of users and constant communication of the rationale for BRT is key to successful implementation. (Lindau, Hidalgo, et al., 2014, Hidalgo and Gutiérrez, 2013, Levinson, Zimmerman, et al., 2003)

Similar to the issues raised by Hidalgo and Gutiérrez (2013), a theoretical framework on barriers in planning and implementation of BRT systems has been provided by Lindau, Hidalgo, et al. (2014) who propounded that at the planning phase of BRT, the following factors could hinder success: the institutional intricacies and complexity of relationships among actors, lack of technical capacity of project implementers, deficient alignment among stakeholders and resistance from existing bus operators. With regards to implementation obstacles, the authors cited the discontinuities in the execution process due to political cycles, the premature commissioning of projects often due to political prudence, lack of national policies supporting BRT development and inadequate investments and funding for transport infrastructure (Lindau, Hidalgo, et al., 2014).

2.4 Institutional Issues in Bus Rapid Transit

As revealed by Stough and Rietveld (1997) transportation is generally seen as a functional infrastructure requiring a varied array of institutions that support the system. This assertion is affirmed by Pemberton (2000) who argued that the characteristics of the transport sector itself place an importance on the roles of actors and players in the sector as well as the relationships and networks that occur between them. Again, Mejía-Dugand, Hjelm, et al. (2013) contend that the nature of transportation systems necessitate varied operational approaches which require several stakeholders depending on individual city context. With regard to BRT systems, the operational environment required to deploy such systems call for several technical and operational institutions to ensure a smooth running of the system. Levinson, Zimmerman, et al. (2003) indicate that BRT development can be inhibited by numerous institutions and agencies involved in the process especially when their roles, responsibilities and perspectives diverge and overlap. Resolving these fragmentation according to the authors will be necessary for project success. As posited by Miller and Buckley (2000) the experiences associated with BRT systems with regard to planning, design, testing, evaluating, and eventual deployment suggest that institutional issues remain critical to successful implementation. The authors in their examination of BRT systems, identified the following institutional issues as posing major challenges to implementation. These are:

- The involvement of multiple agencies and the complexity of relationships between them. This situation can prolong and complicate how agreements are reached.
- The operation of BRT routes cutting through several administrative boundaries which can pose major setbacks to decision-making process since each actor tend to achieve its own agendas.
- The need for local and regional integration of land use and transport services
- The extent to which institutions adopt and adjust to transport innovations

The authors emphasize that identifying these issues and addressing them can win the commitment of stakeholders and present greater chances to execute BRT. Finn (2013) assented to these issues and proposed some measures to overcome these challenges including the establishment of special purpose mutual agreements among stakeholders; piloting BRT within the boundaries of one jurisdictional area and expanding it gradually; and allocating tasks to institutions which already have considerable capacities for BRT. Again Finn (2013) identified other institutional issues which cities implementing BRT systems still continue to contend with. These issues concern how to migrate BRT implementation from the national to the local level; how to ignite participation from other jurisdictional authorities in a case where BRT is implemented in an adjoining local area; how to promote private sector involvement in BRT; and how to ensure a coherent institutional framework for engagement of all actors.

As put by Stough and Rietveld (1997) the transport sector has evolved overtime; as such, the expansion and involvement of a wide range of stakeholders continues to slow down decision-making process and making the provision of transport services more expensive and time-consuming. The author in this regard suggest that researches in this domain are required to diagnose the issues and propound workable solutions in order to derive the full potentials of the transport sector in the development of cities.

From the foregoing, it can be deduced from the literature that BRT systems require a strong institutional presence in the transport sector, a high-quality relationships and interactions between these institutions, a strong commitment towards common objectives and well regulated environments with a levelled field of play for all actors. Understanding these mechanisms of the transport sector and measuring their impact on the implementation of BRT systems will be a step in realizing the gains of BRT especially in improving mobility in urban areas. Therefore, the examination of issues with BRT in a wider context of the urban transport sector can be instrumental in explaining reasons for the implementation outcomes experienced especially in developing countries.

2.5 Empirical Literature Review

There are several literatures on factors affecting the implementation of BRT systems especially in developing countries; and according to most authors, these factors range from institutional, regulatory, imbalanced participation of actors to inadequate capacity of project implementers as well as the peculiarities of cities (Finn and Muñoz, 2014). Among these factors, the institutional conditions or environments within which BRT is implemented has been reported to be one of the most critical determinants for project success. Some of such empirical findings are found in the work of Wu and Pojani (2015) who sought to explain reasons why the implementation of a BRT system in Bangkok failed. In their work, they used a modified theoretical framework provided by Lindau, Hidalgo, et al. (2014) which focuses on barriers in planning and implementing BRT. Their study revealed that the institutional structure of the transport sector in Bangkok consisting of excessively multiple organizations and agencies accounted for failure in the project implementation. Their work showed that the roles and responsibilities of these agencies overlap and there were three different ministries to which these agencies reported to. This situation, according to the research, limited the level of cooperation and collaboration among the agencies involved in the project and often led to delay in decision-making processes. For instance, the authors indicated that for a road lane to be prioritized for use by the BRT system, there was the need for road authorities as well as the police service to consent and give approval. Reaching such agreements, however, was a difficult task since each agency was reluctant to commit resources to this course.

The study of Wu and Pojani (2015) also revealed that the human capacity of agencies involved in the implementation was low; as such many of the staff and officers misunderstood the BRT

concept and focused more attention on the physical infrastructure of BRT to the neglect of its management which is equally a critical element of BRT systems. Also, the engagement of all stakeholders according to the authors was inadequate especially when project implementers failed to negotiate with existing bus operators in the city. The study concluded that the institutional structure in Bangkok was too complex for the kind of coordination required to implement the BRT; hence it was necessary for all actors to have a high sense of ownership and commitment towards the project.

In another study by Ponnaluri (2011), the author examined the role of leadership and institutions in successful implementation of five sustainable transport projects and programmes including the implementation of BRT in Delhi, India. Using a framework on leadership skills, the study showed that in all five projects, the active engagement of political figures, administrative managers and staff of all agencies concerned, as well as the general beneficiary users and public was pivotal to the successful initiation, implementation and deployment of the projects. The level of commitment towards common agenda among the stakeholders was considered favourable; and expressed in the way actors conceived a shared vision, were empowered and how they built a resolute team. The author concluded that decisive leadership and strong institutions played a major role in attaining project goals and objectives.

Allen (2013) presenting a case study on the first BRT system in Africa deployed in the South African city of Johannesburg found that the success of the project was attributed to the institutional reforms that took place. The author indicated that the initial stages in the project implementation was faced with difficulties in identifying which actors should play which role and those who were to be most affected by the project. The establishment of a planning and development department for the project facilitated the process; and as such all actors were actively involved and were made to appreciate the significance of the project to the city through study tours to best BRT practicing cities such as Bogota and Pereira in Columbia. The existing public transport operators in Johannesburg at the time, according to the author, represented major stakeholders; and those in good standing were at a point given the opportunities to own shares in the BRT operating company. The author mentioned that both private and public sector actors worked in harmony to ensure that innovative and international experiences matched with local inputs. The study showed that, though the implementation process was enormously complex, the ability and skills of the project implementers to coordinate and keep the focus of all actors was a contributory factor to the success of the BRT in Johannesburg (Allen, 2013).

Mallqui and Pojani (2016) conducted a comparative study in two cities: Brisbane in Australia, and Lima in Peru to ascertain the barriers to the implementation of city-wide BRT systems. The authors' study revealed that there was more institutional fragmentation in Lima than in Brisbane because in Brisbane, there was a single agency responsible for the management of all transport modes including the BRT system; whilst in Lima, four different institutions were involved in urban transport. This reflected in the integration of transport fares in Brisbane; whereas users of BRT in Lima had to double pay when connecting with other modes. The study also showed that the lack of coordination among transport organizations and weak political support constituted more of a barrier in Lima than in Brisbane. The author also indicated that issues of jurisdictional overlapping of activities was evident in both cities and represented a challenge to decision-making. For instance, bus routes defined by city authorities in Lima province do not correspond to how those same bus routes were defined by the authorities of the metropolitan region of which Lima is part of. In Brisbane, even though fares were the same across-board, the differences in the ticketing system for buses operating within and outside Brisbane posed regular disturbances in the service as government-subsidized buses from outside were not allowed to pick passengers within the city. The study concluded that the

magnitude of implementation barriers in Lima was higher than in Brisbane and was associated with the complexities in the institutional set-up existing in Lima.

2.6 The Concept of Institutional Thickness

The notion of Institutional Thickness has been largely used by many researchers to draw attention to how certain institutional factors shape the development of local economies (Zukauskaite, Plechero, et al. (2016). The concept was first framed by Amin and Thrift (1995) who built on the theoretical and empirical evidence of how some conditions spur local economic development. They propounded that there are four non-economic factors which combine to shape the economy of places; these are: institutional presence, quality of relationships and interactions between these institutions, commitment towards common objectives and level of structural dominance among these institutions (Coulson and Ferrario, 2007). Over the years, several authors have attempted to apply the concept when analysing the economic potentials and performances of regions and places; however, as Zukauskaite, Plechero, et al. (2016) indicate, the concept has also been applied to specific sectors of regional economies such as the transport sector and the Information and Communication Technology (ICT) and automobile industries. The authors suggest that Institutional thickness should be related to the specific situation on which it might have effects on. The original concept as framed by Amin and Thrift (1995) suggests that there are causal relationships between institutional conditions and the growth or otherwise of a region. These relationships according to Zukauskaite, Plechero, et al. (2016) can be measured and compared for different regions as well as for different periods in one region. The authors in their review of the concept added that in most cases, researchers rarely use all the four factors as suggested by Amin and Thrift (1995) in the analysis of local economic or sectoral performance.

For Amin and Thrift (1995), a strong institutional presence means that there exists a wide range of institutions in a region to support the local economy. In terms of interaction among institutions, they place importance on high level of cooperation and exchange of knowledge as favourable to spur growth. Again, their framework put forward the idea of relative power possessed by each institution and the level of dominance that exists between them. These three factors culminate into the fourth factor which is expressed as the level of awareness among these institutions towards common objectives (Amin and Thrift, 1995).

It is worth noting that from the literature, scholars who use the Institutional Thickness concept in their work, have developed indicators for each of these factors according to the local conditions within the research areas. Even though they admit to the difficulty in the measurement of such indicators, the concept has been largely useful in assessing how institutional issues affect certain sectors, policies or programmes implemented in places. For instance, Coulson and Ferrario (2007) in a study to identify and measure the effects of local institutional conditions on local governance in Birmingham, England defined two of the indicators for institutional presence as *density* and *commitment* whereby density means the number of local organizations engaged in local governance activities whereas commitment is the percentage of institutional budgets allocated for local economic activities. Similarly, a study by Pemberton (2000) operationalizes institutional presence as the number of institutions involved with or having impact on transport governance in Tyne and Wear, United Kingdom. The authors lauding the usefulness of the Institutional thickness framework adapted the work of Amin and Thrift (1995) and represented it as in figure 1:

Figure 1: Elements of the Institutional Thickness framework

Constitutive elements of the institutional thickness framework[a]

Institutional presence	The existence, within a territory, of a range of institutions organizing a variety of practices representing the local building blocks of 'institutional thickness'
Networks and interactions between institutions	The form and regularity of direct official contacts between different policy makers and officers within different institutions, the flows of information between institutions and the networks existing between individuals within institutions. Over time, such contacts can lead to the establishment of trust and co-operation
Structures of power, domination and control	Such factors help to minimize 'rogue behaviour' and to ensure coalition building and collective representation. Indeed evidence from Tyne and Wear supports the view that institutions have different resource and power bases, with some being tied to structures of local accountability, whilst others are empowered or disempowered by changes in nation-level politics. The form of 'institutional thickness' will therefore reflect these differentials with the more powerful institutions able to exert a dominating influence
A common agenda to develop upon	Whether there is a local common enterprise and a cognitive 'mapping of place' so that the agents involved in the governance of a policy sector perceive a common agenda (for example, an emphasis on economic competitiveness through the creation of an effective transport system) to develop upon and can establish effective networks

[a] Adapted from Amin and Thrift (1995).

Source: Pemberton (2000)

Again, Henry and Pinch (2001) argue that the four dimensions of Amin and Thrift (1995)'s framework when combined positively can produce different outcomes including institutional tenacity and flexibility that facilitates knowledge exchange; high innovative capacity of institutions which promotes production; and a high level of trust and common agenda which encourages resource mobilization.

Generally, from the literature, the Institutional thickness framework has been applied under different contextual situations to establish causal relationships between institutional factors and regional or sectoral performance of local economies. Whilst the difficulty may lie in measurement of indicators related to the various dimensions of the framework, the concept has been largely valuable in understanding the effects of institutional mechanisms on the implementation of sector policies and programmes and their implications for the development of regions. In this research, the Institutional thickness framework will be adopted and all the four variables will be operationalized to assess the institutional factors in the transport sector which affect the implementation of BRT systems. Using all four dimensions according to this researcher is intended to give a more comprehensive analysis of the collective effects of all the variables in order to better understand the various dimensions of institutional environments and conditions which are favourable or otherwise to the deployment of BRT systems in urban areas.

2.7 Conceptual Framework

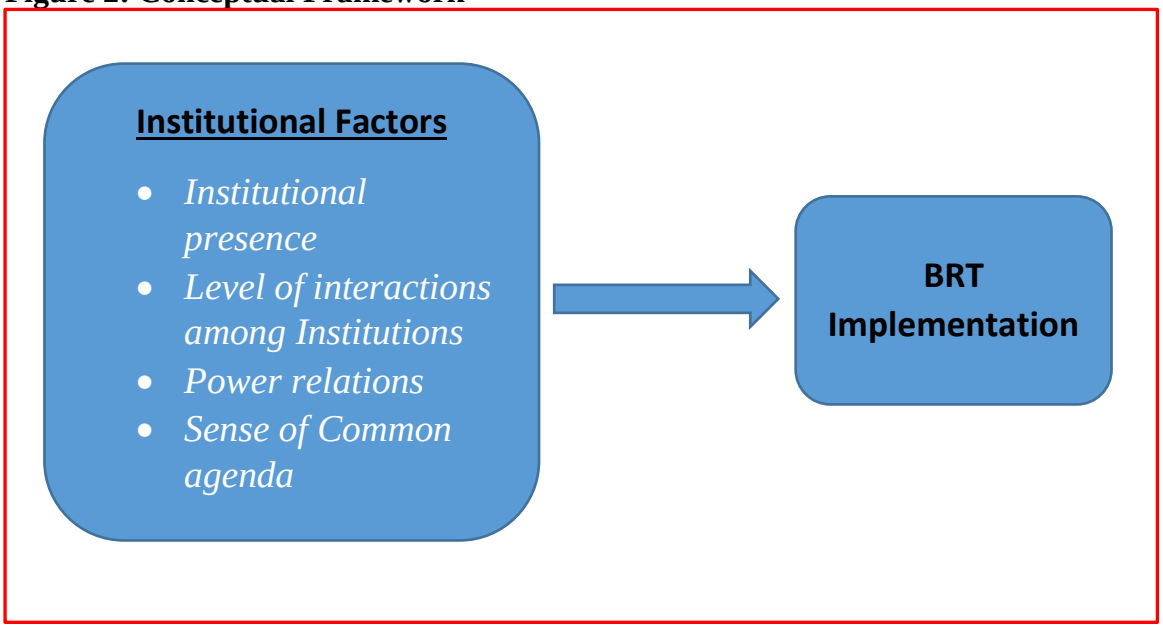
The conceptual framework as explained by Leshem and Trafford (2007) serves as a link between theory underpinning a research and practice which is the object under investigation in the research. The conceptual framework therefore encapsulates theoretical perspectives of a research issue into a simplified model which places the research in focus.

To begin, the term "institutions" is referred to as the rules governing a society and or are humanly created constraints that form human interactions (North, 1993). The term is also construed by Stough and Rietveld (1997) as societal regulatory structures with accompanying patterns of behaviour and procedures. The authors noted that the term "institutions" is often confused with organizations which North (1993) defined as groups of people bound together by shared aims. Again, North (1993) summarized that, institutions are the rules of the game and organizations are the players. In this research, the term "institutional factors" will be conceived as factors relating to the players or actors in the urban transport sector involved in

the implementation of BRT systems as well as those concerning the rules, procedures, interrelationships and interactions between them.

In this study, the reviews of literature on institutional factors affecting the implementation of BRT systems indicate that the wide range of organizations involved termed as institutional presence in the implementation can affect project outcome. The level of interactions among these institutions as well as the power relations among them are considered key to decision-making and also affect implementation. Again, the implementation of BRT is affected by the sense of common agenda possessed by these institutions towards project objectives and goals. A combination of these factors may lead to varying states in implementation including delayed execution or incomplete state of BRT systems. It is worth noting that the aforementioned factors are underpinned in the institutional thickness framework which establishes causal relationships between institutional factors and the situation they affect. The diagram in Figure 2 below shows the conceptual framework for this research.

Figure 2: Conceptual Framework



Source: Author's Construct, 2017

Chapter 3: Research Design and Methods

3.1 Introduction

This chapter presents the methodological approach and design used in this study. The chapter begins with the revised research questions which are guided by the insights gained from the literature review. This chapter dwells on the operationalization of variables and indicators and outlines the research strategy and techniques used. The Data Collection Methods and Sampling techniques employed are also elaborated on, with an indication on the aspects of reliability and validity of this research. The chapter concludes with the data analysis techniques used in this study.

3.2 Revised Research Questions

This research seeks to answer the following main question:

- Which institutional factors explain the state of implementation of the BRT project in Accra?

In order to answer the above research question, answers are sought to the following sub-questions:

- Under which existing institutional factors was the BRT project implemented in Accra?
- What is the state of implementation of the BRT system in Accra?
- How did existing institutional factors affect the implementation of the BRT project in Accra?

3.3 Operationalization of Variables and Indicators

According Thiel (2014), operationalization involves the translation of theoretical concepts into observable and measureable units in a real world situation. Doing this as explained by the author requires defining the concepts, determining how they can be expressed as variables in an empirical situation and how these variables can be measured using values or scores.

In this research, institutional factors (independent variable) are operationalized as factors relating to the players or actors in the urban transport sector in Accra involved in the implementation of the BRT system as well as those concerning the rules, procedures, interrelationships and interactions between them. These are represented as the following sub-variables: Institutional presence; Level of interactions among Institutions; Power relations; and Sense of Common agenda, all of which are grounded in the Institutional Thickness framework of Amin and Thrift (1995). The following session explains how these variables have been operationalized in this research.

Institutional presence in this study refers to the existence of organizations both public and private which are committed to urban transport and are involved in the implementation of the BRT project in Accra. This was operationalized by three indicators: *density, commitment and ownership*. Density means the number of organizations available to ensure the execution of the main features of a BRT system (Dedicated Right-of-Way, Busway Alignment, Off-board Fare Collection, Intersection Treatments and Platform-level Boarding); whilst commitment depicts the number of activities in organizations' budget dedicated to the implementation of the BRT project. Ownership in this study refers to the organizational status either public, private or public-private ownership. As posited by Coulson and Ferrario (2007), a higher percentage of public and public-private organizations involved in implementation, reflects a high commitment level to project objectives; as the ownership status according to the authors

significantly influences the priorities and autonomy of organizations. Amin and Thrift (1995) also indicate that a strong institutional presence means the availability of a wide range of institutions committed to a similar course; which according to the authors promotes success.

Again, Amin and Thrift (1995) define level of interactions as the regular formal and informal contacts that take place between organizations in the form of cooperation and exchange of knowledge which over time evolve into trust relations and norms. In developing a methodological approach to operationalize the concept of Institutional Thickness framework, Coulson and Ferrario (2007) measured level of interactions using the following indicators: "the themes or issues for which collaboration takes place, the number of formal partnerships, the intensity of other forms of collaboration and interaction, and the lengths of time they have been in operation" (Coulson and Ferrario, 2007 p.601). For the purpose of this study however, level of interaction is operationalized with two indicators; the first being *collaboration* among relevant stakeholders on the key issues in BRT which are: Institutional and legislative framework, Political leadership and commitment, Management of competing modes, Public participation, Funding and coordination, Quality of physical design, Image promotion. The collaboration is expressed in the regularity in meetings held as well as other joint initiatives taken on these main issues. The intensity of the collaboration ultimately influences decision-making during the implementation of the project. The second indicator employed in this study is the *length of time* the organizations involved have been in operation on urban transport. A longer period in operation promotes trust and cooperation as well as strengthen existing networks and relationships among organizations (Pemberton, 2000, Coulson and Ferrario, 2007)

With regard to Power Relations, Amin and Thrift (1995) explain that the structures of domination that exist among organizations control and shape their relationships and behaviours. These relations also reflect their resources base, financial independence and local significance and consequently affect the level of cooperation and decision-making. This research defines power relations with two indicators which reinforce each other: *formal competencies* and *local actors' perceptions;* and adopts the definitions of Coulson and Ferrario (2007) who refer to formal competencies as those core functions reserved to organizations and which highlight their pivotal roles. These functions can include authorization and licensing responsibilities as well as being the custodian of critical resources needed for the implementation of the project. The perception of local actors on the other hand provides cross-checked information on the existence or otherwise of these formal competencies and how they correspond to powers possessed by organizations or stakeholders.

The last sub-variable (Sense of Common agenda) represents the mutual awareness among local organizations and stakeholders which are involved in a collective enterprise. This shared agenda is influenced by the power structures; contributes to the legitimacy of relations and enhances resource mobilization for executing project deliverables (Amin and Thrift, 1995, Henry and Pinch, 2001). This study operationalizes this sub-variable as *shared local identity* and *shared local priorities*; all of which promote cohesiveness and motivation among stakeholders. Shared local identity in this study is measured by actors' awareness of urban transport issues confronting the city and of being involved in promoting urban mobility in Accra; hence the importance of their participation in the BRT project. The existence of shared local priorities is expressed in the collective importance given by actors and stakeholders to project activities.

This study also employed four external factors as control variables namely: availability of funding, political commitment, quality of design and economic growth. As discussed in the literature, these factors also constitute possible challenges to the implementation of BRT

systems; hence their inadequacy have been found to be contributory factors to failures encountered by project implementers in the execution of BRT projects.

The operationalization of the above described variables, sub-variables and their respective indicators is summarized in Table 1.

Table 1: Operationalization of variables and indicators

Concept	Variable	Sub-variable	Indicator	Measurement
Institutional thickness	Institutional factors (Independent)	Institutional Presence	Density	- Number of organizations available to execute main features of BRT system - Mandate to provide urban transport services
			Commitment	- Number of activities in organizations' budget dedicated to the implementation of the BRT project
			Ownership	- Organizational status either public, private or public-private
		Level of interactions among Institutions	Collaboration	- Consultations held on main issues of BRT project: Institutional and legislative framework, Political leadership and commitment, Management of competing modes, Public participation, Funding and coordination, Quality of physical design, Image promotion - Other joint initiatives taken on main issues
			Length of time in operation	- Operation period in urban transport in the city - Length of time involved in the project
		Power relations	Formal competencies	- Performance of core functions related to the project
			Local actors' perceptions	- Perception of local actors on existence of formal competencies and corresponding powers
		Sense of Common agenda	Shared local identity	- Awareness of urban transport issues in the city - Awareness of participating role in the project
			Shared local priorities	- Collective importance given to project activities.
	BRT implementation (Dependent)	State of implementation		- Percentage completion of project activities - Completion of activities according to time schedule
	Control variables	Availability of funding		- Disbursement of project funds
		Political commitment		- Existence of a political champion to follow through BRT implementation
		Quality of design		- Type of BRT system
		Economic growth		- Country GDP growth rate range over periods

Source: Author's Construct, 2017

3.4 Research strategy

3.4.1 Research Techniques

This study employed the Case Study research strategy which according to Thiel (2014) deals with a single or multiple cases in a real-life phenomenon where a considerable amount of usually qualitative data is collected on the case(s) in order to give an in-depth understanding of a situation. The case study approach is often used when the number of units of analysis (for example – inhabitants, neighbourhoods, organizations) is relatively small whilst the variables under study are large. The expanded nature of variables studied in the case study makes it a good approach when explaining a phenomenon in detail. Baxter and Jack (2008) also opined that the case study approach explores a phenomenon within a particular context using multiple sources of data hence allows for greater understanding of the phenomenon from different perspectives. A combination of methods usually using secondary data and primary data from interviews provide a rich qualitative analysis of the phenomenon (Thiel, 2014, Baxter and Jack, 2008).

Baxter and Jack (2008) distinguish between three types of Case Study namely: Co-variation, Causal Process Tracing and Congruence Analysis. The Co-variation approach according to the authors is employed when establishing causal relationships between independent and dependent variables using value data collected on these variables. The causal effects are usually deduced from a theoretical framework without an empirical tracing of events. In order to observe the actual causal process, however, the Causal Process Tracing becomes more suitable as the approach attempts to study the complex interactions of variables and mechanisms at every step in the development of the phenomenon so as to identify the links in causal effects leading to an outcome. Tracing such complex causal mechanisms according to the authors is sometimes unrealistic. The Congruence Analysis approach involves the understanding of a phenomenon based on the relevance and strength of several competing theories. The approach essentially draws largely on the most applicable theory that best explains the phenomenon (Blatter and Blume, 2008)

Again, as posited by Baxter and Jack (2008), the choice of the number of cases to study is an important decision to make when considering the Case Study strategy. The choice between a single case or multiple cases depends on the uniqueness of the case and the need for comparison between different cases. Thiel (2014) suggests that a single case can be selected when the research subject is contextually unique or constitutes an extreme example of a phenomenon; and when a situation of interest represents the first of its kind. In a single case, findings can be compared for different periods in the development of the phenomenon. Selecting multiple cases (either similar or dissimilar cases), on the other hand, enables researchers to draw comparative findings between cases of different contexts. Conducting multiple cases study according to Baxter and Jack (2008) is however time- consuming and expensive.

From the foregoing discussion, the Case Study strategy is appropriate in this study and focuses on a single case - the implementation of the BRT system in Accra; which is the first of its kind in Ghana. Firstly, a comparison was made between the Accra case and a prototype situation developed by this researcher based on literature on favourable institutional thickness factors for best practices in BRT implementation. Even though, such approach comes with some limitations due to the differences in contexts and the intuitiveness of this researcher, it proved to be useful in this study since it provided some benchmarks for comparing the Accra case. Secondly, findings on implementation state were compared between the original period of implementation (2008-2012) and the period after 2012 until the project was launched in 2016 making a link to changes in institutional thickness over the two periods. For purposes of

clarification, this study subsequently refers to the 2008-2012 period as the "original phase" and the 2013-2016 period as the "pilot phase"

The study employed a mixed approach combining the Co-variation and the Congruence analysis approaches. The Co-variation enabled the researcher to draw causal relationships between the independent variable (institutional factors) and the dependent variable (implementation state of the BRT project) from a theoretical foundation of the Institutional thickness framework and the proposed prototype. On the other hand, the light congruence analysis employed in the study facilitated the understanding of the case drawing from the two comparisons made. These comparisons provided a descriptive analysis of how institutional factors affected the implementation of the project. This was done through pattern finding, explanation building and direct interpretation.

3.5 Data Collection Methods and Sampling

3.5.1 Sampling techniques and Sample size selection

The sampling population in this study consists of actors and stakeholders in the implementation of the BRT project in Accra. These include the local government authorities and ministries, public and private urban transport operators' associations or unions, law enforcement agency involved in the urban transport sector, the vehicle licensing authority, urban transport professionals and experts. This study employed the purposive and convenience sampling techniques in selecting interviewees as it allowed this researcher to purposefully select respondents who were involved in the implementation of the BRT project with the rationale that they were more knowledgeable on issues relating to the project. This technique also facilitated the collection of data from secondary sources through a purposive selection of documents, reports and scientific articles for the analysis.

A total of seventeen (17) interviews were conducted upon the realization by the researcher that saturation level was reached. Even though this sample was relatively large considering the time-consuming nature of interviews, it provided a considerable level of saturation of responses which facilitated triangulation and enhanced the internal validity of this research (Thiel, 2014). Five local government officers and two Assembly members were interviewed from the four District Assemblies which directly participated in the project namely: Accra Metropolitan Assembly, Tema Metropolitan Assembly, Ga East Municipal Assembly and Ga West Municipal Assembly. Also, one government official was interviewed from the Department of Urban Roads under the Ministry of Transport. This department hosted the project office during the implementation of the BRT in Accra. Again, one executive of the Ghana Co-operative Transport Association (GCTA) and two executives of the Ghana Private Road Transport Union (GPRTU) were interviewed; the latter having a share of about 90 percent of the urban transport business in Ghana (Finn, Arthur, et al., 2009).

Moreover, there were two respondents from the Greater Accra Passenger Transport Executive (GAPTE) which was established to deal with cross-jurisdictional issues of the BRT project; whilst one respondent was interviewed each from the Driver and Vehicle Licensing Authority, the Motor Transport and Traffic Directorate formerly the Motor Transport and Traffic Unit (MTTU) under the Ghana Police Service, and the National Road Safety Commission. Finally, one urban transport expert who participated throughout the implementation of the project was also interviewed.

3.5.2 Data Collection Methods and Instruments

This study employed the qualitative research method using primary qualitative data and secondary qualitative data. A qualitative research as posited by Thiel (2014) provides researchers with non-factual information and enables them to explain a reality in the context in

which a situation develops or in which actors function. Such explanations according to the author are more appreciated by researchers in qualitative terms rather than quantitatively.

In this research, primary data was collected through interviews with key informants and experts in the urban transport sector in Accra as well those who were involved in the implementation of the BRT project. This provided a comprehensive information on the level of interactions among actors, power relations and sense of common agenda towards the project. In order to bring focus during the interviews, a semi-structured interview guide organized according to the variables and sub-variables of this research, was used by the researcher.

In addition to the interviews, this study gathered secondary data and information from project evaluation reports, government policy releases and scientific articles. As indicated by Thiel (2014), collecting information from such diversified sources is important when using the case study strategy; as the approach provides a wealth of information on the case under study.

3.6 Validity and reliability

A crucial feature of a scientific research is the aspect of validity and reliability which Thiel (2014) mentioned that are closely interrelated. Reliability according to the author is the extent to which research variables are measured accurately using appropriate data capturing instruments; and how methodological approaches in a research can be consistently repeated in other researches under similar context to arrive at same results. On the other hand, validity in a research concerns the strength of a study both internally and externally. Internal validity indicates how well a researcher measures a purported relationship or effects between variables. Also, a research is externally valid when it is possible to generalize its findings.

In a case study research strategy, challenges with validity are expressed in the fact that generalization is often limited due to the uniqueness of cases or contexts; whilst reliability is weakened by the multiplicity of data sources used (Thiel, 2014). It must be mentioned that there are potential limitations to the internal validity of this study as there is no BRT case in Ghana that could serve as a control group. The mixed approach of co-variation and the light congruence analyses used in the study is expected to enhance its internal validity. Also, internal validity was improved through triangulation by combining primary data from interviews with content analysis of secondary sources including documents, reports and articles. This also helped in minimizing the researcher's intuitive interpretative effects. It was however difficult to generalize the results from this study to other cases in developing countries since the case under study is contextually unique to Accra. With regard to increasing the reliability of this study, all procedures involved in carrying out the research especially with the data collection, processing and analysis were documented. This improved transparency and enhanced the reliability of this study (Baxter and Jack, 2008).

3.7 Data Analysis Techniques

Baxter and Jack (2008) posit that the case study strategy presents researchers with overwhelming volume of data collected from numerous data sources; which according to the authors usually necessitate a computerized management and analysis technique. In this study, a computer software called "Atlas.ti" was used. This software is a qualitative data analysis tool for analysing textual data; and helped this researcher to organize data from interviews and documents as well as facilitated the analysis process.

Interviews conducted in this research were audio-recorded and developed into transcripts. Though using this approach was time consuming, it was beneficial in reporting accurately respondents' views and minimizing the researcher's intuitive interpretation (Thiel, 2014). Also, a total of 21 codes were developed to represent the variables in this study; and were assigned to textual data collected using the Atlas.ti software; the code list is attached in Annex 2 of this report. A descriptive analysis approach was used in this study to establish relationships between variables and draw findings and conclusions. The Query tools in the Atlas.ti software facilitated the analysis process through pattern finding.

Chapter 4: Research Findings

4.1 Introduction

This chapter presents findings and results of this study. The chapter begins with a brief description of the sample interviewed in this research and gives a background to the BRT project in Accra. A descriptive analysis on existing institutional factors are elaborated on with summaries on key findings. The chapter presents in separate sections the two types of comparisons discussed in Chapter three. Highlights on the state of implementation of major activities are also provided. The chapter concludes with key findings on how institutional factors influenced the implementation of the BRT in Accra.

4.2 Sample characteristics

The data collected for this research was mainly through interviews with 17 respondents from 8 public institutions, 3 private organizations and 1 quasi-governmental institution in the transport sector in Ghana. The selected respondents were officers who were actively engaged during the implementation of the BRT project in Accra. Their experience in the field of urban transport therefore date back to the period before the year 2008 when the project took off. The table 2 shows their characteristics.

Table 2: Sample characteristics

Respondent	Type of Institution	Position
1	Public	Operations Officer
2	Public	Head of Department
3	Private	Branch Chairman
4	Public	Head of Department
5	Public	Head of Department
6	Public	Head of Department
7	Public	Assembly Member
8	Private	District President
9	Quasi-government	Branch Manager
10	Private	National Executive
11	Public	Urban Transport Expert
12	Quasi-government	Line Manager
13	Public	Deputy Director
14	Public	Head of Department
15	Public	Regional Manager
16	Public	Assembly member
17	Public	District Superintend of Police

Source: Author's Construct, 2017

4.2.1 Background of the BRT in Accra

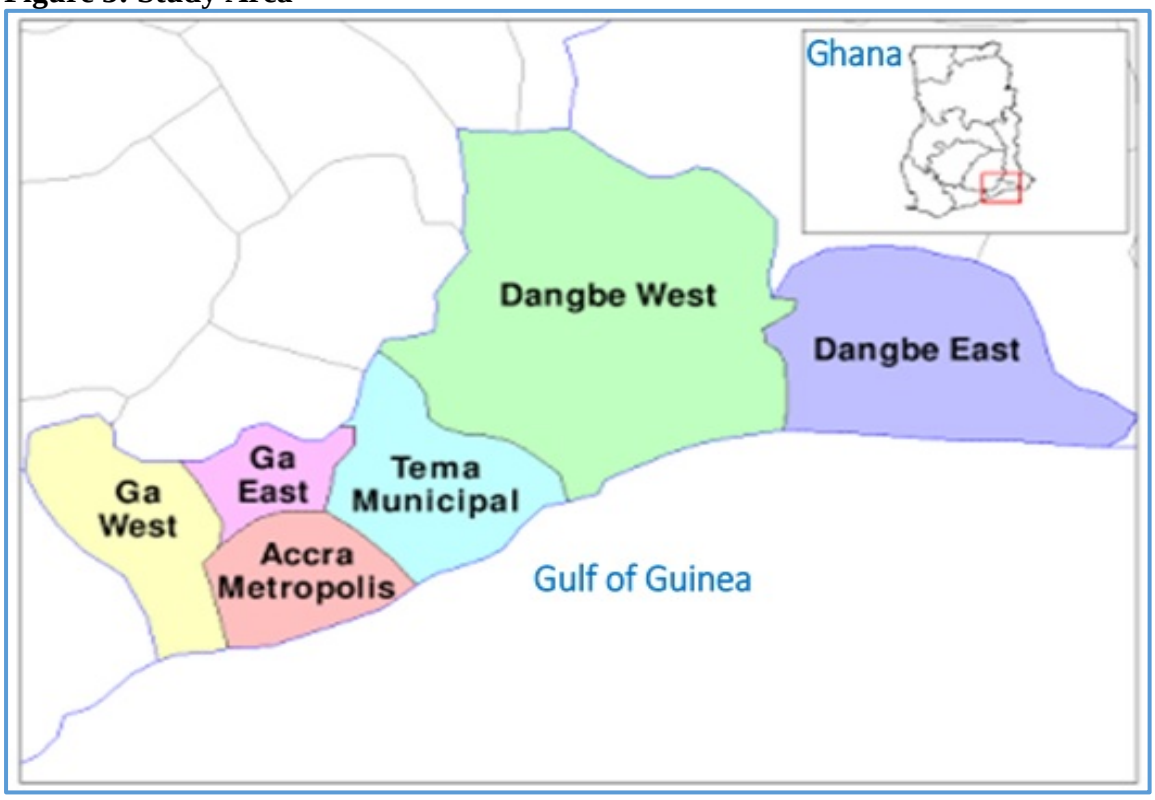
As at the year 2007, urban transport in Accra, the Capital City of Ghana, was characterized by poor public transport services, over-reliance on low-capacity passenger vehicles, congestion, inadequate road safety and traffic management measures. The sector was generally self-regulated by an informal private sector which encountered major quality issues. These posed serious economic, social and environmental impacts on livelihoods in the city (World Bank, 2017). Against this backdrop and in an effort to alleviate the unfavourable effects of these phenomena, the Government of Ghana in collaboration with international development partners initiated the Ghana Urban Transport Project (GUTP) which originally had five components namely: 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. A sixth component was later added on Monitoring and Evaluation; and Emergency works.

The main objectives of the GUTP was to improve mobility in the areas of the participating MMDAs through a combination of traffic engineering measures, management improvements, regulation of the public transport industry and implementation of the Bus Rapid Transit (BRT) system; and to promote a shift to more environmentally sustainable transport modes and lower transport related Greenhouse Gas (GHG) emissions along the BRT corridor in Accra. The project was initiated in 2007 with actual implementation taking off in 2008; and was expected to complete by the end of 2012. However, a series of extension periods were granted up until the end of 2015 by the donor partners when the project was restructured and delayed in its implementation

The Development of the Bus Rapid Transit System under GUTP is comprised of designing and implementing BRT infrastructure along the 9.1km Graphic Road-Winneba Road Corridor in Accra with segregated bus lanes, interchanges, terminals, facilities for pedestrians and NMT. This component was also expected to engage with key stakeholders; establish public and media relations as well as ensure the overall management and operationalization of the BRT system. It was expected that outputs from the other components of the GUTP would culminate in the successful implementation of the BRT system; which was considered as the flagship product of the GUTP.

The main implementing agencies of the project were the Department of Urban Roads which was initially under the Ministry of Roads and Transport; and in 2009 was moved to the Ministry of Roads and Highways after a regrouping of ministries in the transport sector. The DUR was responsible for urban roads and the provision of the BRT infrastructure, but not its management. The second major implementing agency was the Ministry of Local Government and Rural Development (MLGRD) which was the mother institution for the four District Assemblies involved in the implementation of the project. According to reports of the World Bank, it became necessary to add the MLGRD since the responsibility to regulate urban passenger transport fall under its mandate spelt out in the Local Government Act 462 of 1993. The Act however is not clear on how the MLGRD fits into the overall planning and regulatory framework for urban transport (World Bank, 2017).

Figure 3: Study Area



Source: Author, 2017 Adopted from Ghanadistricts (2008)

4.3 Existing Institutional factors under which the BRT was implemented

As one of the aims of this study, this section provides a detailed description of findings on the existing institutional conditions under which the BRT project was implemented in Accra during the original and the pilot phases. The institutional factors as conceptualized in this study comprises the institutional presence, level of interactions among institutions, Power relations and Sense of Common agenda. This section presents findings on these factors with theoretical support of the institutional thickness as employed in this study.

Also, a review of literature in Chapter two of this study on institutional thickness as well as best practices in BRT implementation enabled this researcher to develop a prototype situation which considers some model institutional thickness conditions that are favourable for a successful implementation of BRT projects. Even though, such approach may be deemed as restrictive due to the differences in contexts and the intuitiveness of this researcher, it shows to be useful in this study since it provides some benchmarks for comparing the Accra case. Findings on the institutional factors in the case of Accra are compared with the prototype situation in this section. Table 3 below presents the prototype situation and describes the model institutional factors for each indicator.

Table 3: Prototype institutional thickness factors for successful BRT implementation

	Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)	Support from Literature
Institutional Thickness	Institutional Presence	Density	✓ BRT services are integrated and managed by a single regional authority (cross-jurisdictional) which should be responsible for planning, coordinating, financing and contracting service operators ✓ Activities of existing transport operators formalized and incorporated into BRT systems as a more integrated modal system	Christodoulou and Finger (2012) Lindau, Hidalgo, et al. (2014) Wu and Pojani (2015)
		Commitment	✓ High level of commitment from all stakeholders and provision of institutional support to the project	Coulson and Ferrario (2007)
		Ownership	✓ Public regulatory institution assumes regulatory roles and all existing public transport operators owning shares in BRT operating companies	Allen (2013)
	Level of interactions among Institutions	Collaboration	✓ Constant communication with all project stakeholders throughout implementation ✓ Ability and skills of project implementers to effectively coordinate and keep the focus of all actors ✓ Successful negotiation with existing bus operators in the project area	Lindau, Hidalgo, et al. (2014) Allen (2013) Wu and Pojani (2015)
		Length of time in operation	✓ Stakeholders in urban transport collaborated and engaged in urban transport service delivery for several years ✓ No distrust among Stakeholders with regards to the project	Pemberton (2000) and Coulson and Ferrario (2007)
	Power relations	Formal competencies	✓ Tasks allocated to institutions which have considerable capacities for BRT ✓ No dominance of any particular stakeholder. Levelled field for all stakeholders to play their respective roles	Finn (2013) Amin and Thrift (1995) Coulson and Ferrario (2007)
		Local actors' perceptions	✓ Actors' perceptions reflect the actual situation about their capacity in BRT and the dominance of some actors	Coulson and Ferrario (2007)
	Sense of Common agenda	Shared local identity	✓ All key Stakeholders acknowledge urban transport issues	(Amin and Thrift, 1995, Henry and Pinch, 2001).
		Shared local priorities	✓ All key stakeholders consider BRT as a relevant project for the project area place high priority on it	(Amin and Thrift, 1995, Henry and Pinch, 2001).
NB: The Institutional factors of all indicators combine to determine the level of institutional thickness in the urban transport sector in the project area. The presence and favourable combination of all the factors during BRT execution contributes to successful implementation.				

Source: Author's Construct, 2017. (Based on literature review on institutional thickness framework and best practices in BRT implementation)

Box 1: Prototype indicators and their potentials for successful implementation

Density: The existence of a single authority promotes effective coordination among stakeholders whereas formalization of existing operators brings harmony and integration into the passenger transport sector

Commitment and *Ownership* enhance resource mobilization and attract consistent availability of stakeholders to keep to the course of the project

Collaboration promotes knowledge sharing and ultimately influences decision-making positively during implementation of the project

Length of time in operation: Longer time of engagement in the urban transport sector fortifies the experience of stakeholders and facilitates capacity building; whilst the absence of any distrust builds the confidence of stakeholders and alleviate fears as BRT is usually new to many.

Formal competencies promote effective delivery of project activities and provide fair grounds for stakeholders to play their respective roles

Local actors' perceptions about the existence of formal competencies positively shape behaviours and enhance the relationships among stakeholders during implementation

Shared local identity and *shared local priorities* promote cohesiveness and build motivation among stakeholders

Source: Author's Construct, 2017 (Based on literature review)

4.3.1 Institutional Presence

Institutional presence as theorized in this study refers to the existence of organizations both public and private which are committed to urban transport, and are involved in the implementation of the BRT project in Accra. The concept was operationalized by three indicators: *density, commitment and ownership.* This section presents findings from this research on these indicators.

4.3.1.1 Density

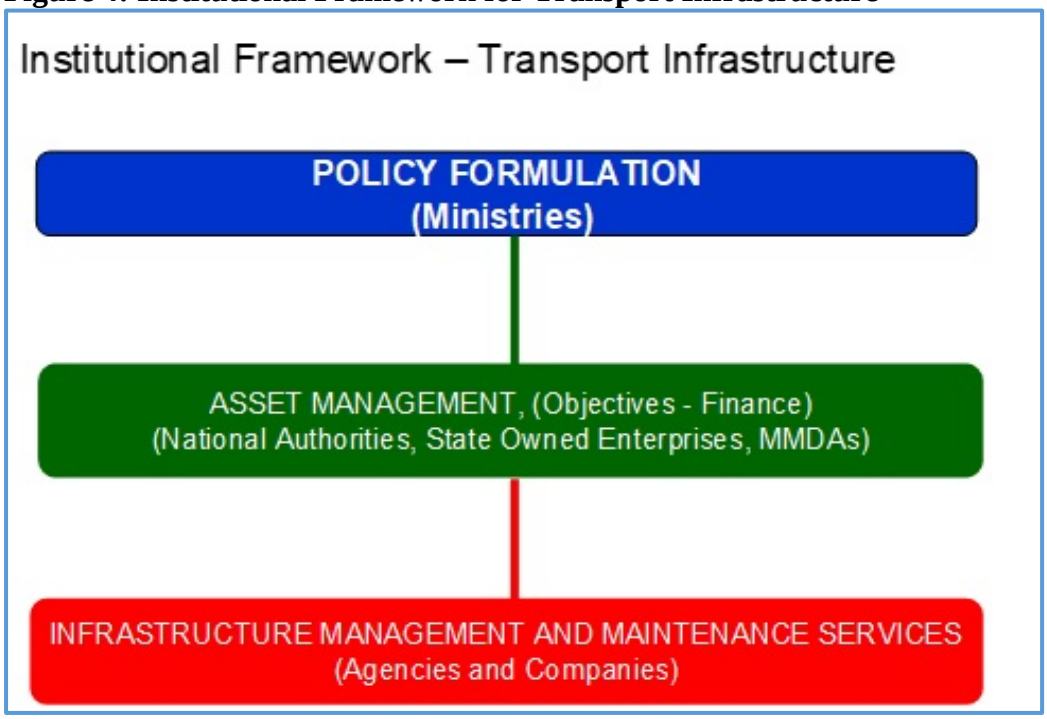
The institutional benchmarking carried out in 2008 for the Ghana Urban Transport Project under which the BRT was implemented identified the following key stakeholder groups:

- Government - Ministries, Departments and Agencies as policy makers
- Local Government - Metropolitan, Municipal and District Assemblies as planners and regulators
- Enforcement Agencies especially the then MTTU under the Ghana Police Service were expected to play a major role in the enforcement of driver and vehicle standards whilst the City Guards of each MMDA playing the roles of enforcing compliance with route licenses stipulated in by-laws
- Private sector SME owners and drivers as service providers
- State Owned Enterprises such as Metro Mass Transit and Intercity STC as service providers
- Trade and Transport Unions such as GPRTU, PROTOA, GCTA, among others representing owners and drivers and providing an informal regulatory role
- Users or passengers who were unrepresented and had no choice of services (Ministry of Transport, 2008)

Other stakeholders who were brought on board during the implementation of the project included the DVLA which has the responsibility to license and regulate drivers and road vehicles; and the NRSC whose responsibility is to promote road safety. Each of these institutions were expected to contribute in their various capacities towards the implementation of the BRT in Accra.

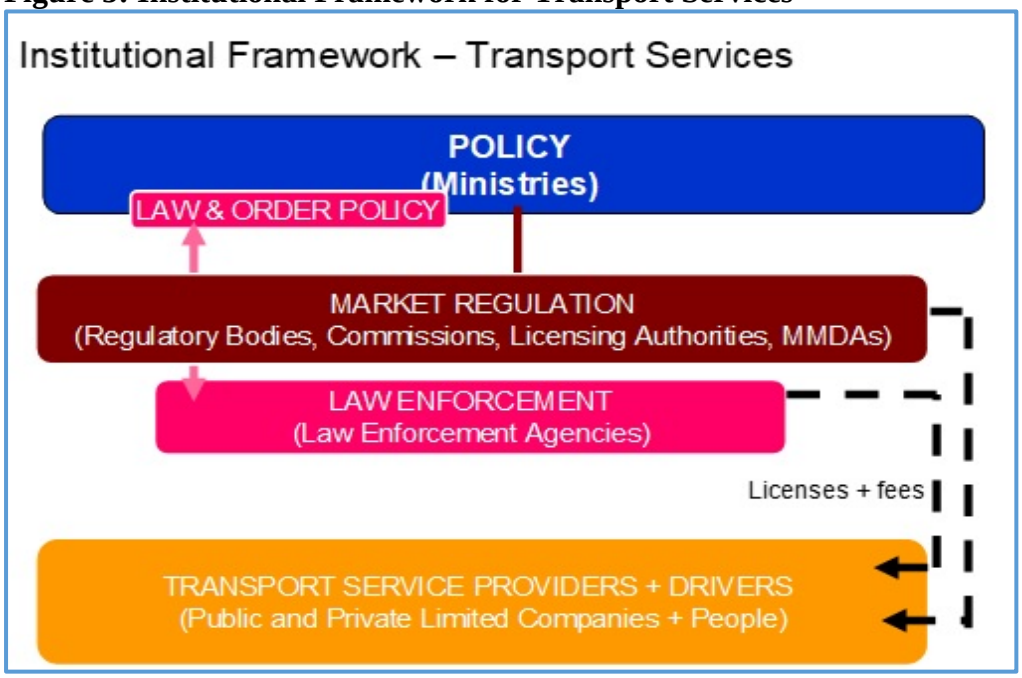
The Institutional Framework of the Transport Sector in Ghana under which the BRT was implemented during the original phase is represented in the diagrams in Figures 4 and 5 below.

Figure 4: Institutional Framework for Transport Infrastructure



Source: (Ministry of Transport, 2008)

Figure 5: Institutional Framework for Transport Services



Source: (Ministry of Transport, 2008)

Findings from this research showed that the BRT project in Accra during the original phase was implemented under a plethora of institutions involved in the transport sector; a finding which does not depart from the assertions by Stough and Rietveld (1997) and Pemberton (2000) who indicated that the nature of the transportation sector itself requires a varied array of institutions to support the system hence places importance on the roles of actors and players in the sector as well as the relationships and networks that occur between them.

Indeed, responses from interviews conducted revealed that most of these stakeholders identified above were engaged during the original phase of the project. At this phase, analyses of interviews and secondary data showed that the responsibility to plan, contract and regulate urban transport activities remained with multiple institutions some of which informally played such roles. A typical example is the transport operators' associations who self-regulated and contracted out transport routes. Transport policy formulation and planning was done by the Ministries of transport and local government whilst the participating Assemblies only issued business operating permits to drivers without any control over the routes plied even though the latter was responsible for the overall development of areas under its jurisdiction. Also, by-laws to formalize the urban transport sector were non-existent at the start of project but was later enacted during this phase with little enforcement.

The density of institutions in the pilot phase was characterized by the establishment of GAPTE in 2014 with the mandate to execute and coordinate the transportation management functions of the participating Assemblies. The self-regulation roles formerly played by the transport operators was also eventually taken over by the UPTUs established by by-laws under the participating Assemblies. At this phase, the by-laws on urban transport were partially enforced by the UPTUs and GAPTE with assistance from the MTTD (World Bank, 2017).

Comparing this finding to the prototype situation on this indicator showed that the required density level for a successful implementation was not present during the original phase but improved during the pilot phase. A favourable density level involving the existence of a single authority to oversee the urban transport sector was therefore higher in the pilot phase with the existence of GAPTE and partial enforcement of by-laws than in the original phase where multiple institutions assumed planning, coordinating, financing and contracting responsibilities.

4.3.1.3 Commitment

Coulson and Ferrario (2007) posited that a higher percentage of public and public-private organizations involved in implementation, reflects a high commitment level to project objectives. As indicated above, key stakeholder institutions involved in the implementation of the BRT in Accra, comprised more of public and public-private institutions established by law to provide transport related services.

From the interviews conducted, respondents described the commitment level of the stakeholders as high as they opined that most of the key institutions involved in the project were public entities whose main aim was to execute the deliverables of the project. One of the respondents remarked that:

> *"Now, in terms of commitment, we the institutional side, we are the technical side, because we are the project staff, we have commitment […]" (Respondent 5 - Head of Transport Department)*

Another respondent said:

> *"[…] By the mid of 2008, we had GPRTU, PROTOA and all the operators all on our side, government was committed, the MMDAs were committed, the World*

Bank was committed, all the agencies were committed and it led to two major study tours for them to know how it operates and how it's done. So we had a huge delegation, GPRTU representatives, PROTOA reps to three countries in the world, to United Kingdom to look at the way bus service operates; to Curitiba in Brazil to look at how it operates; how it originated and to Columbia Bogota. So when we returned there was a comprehensive support and massive support. So in terms of commitment, there was." (Respondent 11-Urban Transport Expert)

Again, as conceived in this study, the contribution of the stakeholders in terms of budgeted institutional activities towards the project demonstrates their commitment towards implementation. Findings from the interviews showed that the main implementers as well as other key stakeholder institutions provided some logistical support to the project. These supports according to respondents were mainly in the area of office accommodation for project staff. For instance, the respondent from the MTTD said: "

"[…] we have dedicated one of the offices at our headquarters at Accra Central to the Urban Transport Project with the designated officer […] most of the capacity building workshops and training were done at our facilities, some at Accra and Kumasi and the fares were offered free to the project […] the vehicles we got under the project, the police administration fuels it to do most of the works […]." (Respondent 17 – District Superintend of Police)

Also, the AMA Official when asked about the Assembly's contribution towards the project, answered that:

"Okay. I think it was only in the project environment setup within the Assembly. For instance, this space that we occupy used to be an old shield workshop. The Assembly put it up so that we could have office space to work. […] the setup was basically Furniture and the Air Condition" (Respondent 5 – Head of Transport Department)

The contribution of the Assembly was confirmed by a respondent from the GWMA who said:

"The only budgeted activity that the Assemblies were coming in was in terms of offices […]. The only thing that the Assemblies did at that time was to accommodate us. […] Most often than not I know from 2009 when they were preparing their budget they asked us to also bring our budget so that the things that the project cannot support, they would do for us. So every composite budget of the Assembly since 2009 involved our department." (Respondent 6 – Head of Transport Department)

The prototype situation developed in this study also proposes that a high level of commitment from all stakeholders and provision of institutional support to BRT project promotes success during implementation. In comparison to the Accra case as revealed by respondents, this study shows that the commitment level of the stakeholders remained relatively high throughout the original and the pilot phases. This finding is also confirmed by the World Bank as it noted in its Implementation Completion Report that all implementing agencies remained committed to the implementation of project components throughout the two phases (World Bank, 2017).

4.3.1.3 Ownership

The ownership status of institutions either public, private or public-private according to Coulson and Ferrario (2007) significantly influences the priorities and autonomy of organizations. This study reveals that the implementers of the BRT project in Accra, which were mainly public institutions, placed a high priority on the implementation of the project. All respondents from these institutions indicated that the project was of great importance to them

and received maximum priority during the implementation. Asked whether the BRT project was a priority for the Assembly, the Officer from GWMA answered:

> *"I will say yes. It has been and it still is. Because as a country we are all facing transportation issues especially when it comes to public transport […]" (Respondent 6 - Head of Transport Department)*

Another Officer similarly indicated that:

> *"Yeah! I think BRT was a concept that was developed by technical expertise. The Assembly understood its position that it was experiencing a growth in the number of private vehicles on its roads; so it was not difficult to convince management and leadership that this is what we needed. […]" (Respondent 5 - Head of Transport Department)*

It is however interesting to note that other key stakeholders comprising of the private transport operators such as the GPRTU and the GCTA did not perceive the project as a priority. Their stake in the project was to satisfy only the interest of their respective members. All two respondents from the GPRTU confirmed that the project was not their priority. One of them said:

> *"No. It wasn't. We felt the coming of BRT was to get us GPRTU and other stakeholders off the system." (Respondent 3 – GPRTU Branch Executive)*

The second GPRTU official answered:

> *"Oh! not a priority for GPRTU because we have our buses that we use; so it cannot be a priority. We rather had the idea that it will put some of our members, out of job." (Respondent 10 – GPRTU National executive)*

These findings confirm that the interests of the stakeholders towards during the original and pilot phases of the project was influenced by their ownership status. Hence the public institutions gave more priority to the project more than their private counterparts whose motive was to ensure that the project inured to the benefit of their members. This divergence in motive can be detrimental to consensus building especially when decisions do not favour private interest. Evidently, all respondents in this research indicated that it was not easy to reach agreement with transport operators especially during the original phase as they perceived the BRT project as a threat to their livelihoods. Consequently, such disagreements which according to respondents related to drivers and routes licensing contributed to a deadlock in the original period and lasted almost two years.

The views of the implementers on the ease of building consensus with the operators is summarized in the response from the official of the DUR as follows:

> *"As I told you with the operators, we had a challenge; because they didn't want to buy in; because they think we were taking their daily bread from them, their livelihood. It was very difficult. At a point, they interrupted most of our program" (Respondent 14 – DUR Head of Department)*

A respondent from the operators' group indicated that initial misunderstandings as to exactly what the benefit will be for all parties especially the operators and drivers delayed the project. The respondent said:

> *"Because you know, the unknown, the fear of the unknown. That was what delayed the project because we must understand it and understand it very well before we get ourselves involved […]" (Respondent 10 - GPRTU National executive)*

From the forgoing, the study showed that the pilot phase of the project saw some improvements in the ownership level of stakeholders as transport operators began to realize the benefits of the project to them especially when three associations namely the GPRTU, GCTA and the Amalgamated transport associations formed QBS companies and were registered and licenced to operate on QBS routes. Their gradual acceptance of the project in the pilot phase constituted favourable conditions for the project. A comparison between these findings and the prototype case therefore suggests that there was an improvement to this indicator in the pilot phase over the original phase since no BRT companies was established in the original phase but rather private operators played self-regulatory roles and own individual fleets. However, the optimum ownership level as proposed in the model situation was not fully attained even in the pilot phase since only few transport associations owned QBS companies.

4.3.2 Level of interactions among Institutions

In this study, the level of interactions among stakeholder institutions was considered as another factor which could affect the implementation of the BRT project in Accra. The study adopts the definition of Amin and Thrift (1995) who define level of interactions as the regular formal and informal contacts that take place between organizations in the form of cooperation and exchange of knowledge which over time evolve into trust relations and norms. This is operationalized in this research as *collaboration* and *length of time in operation* by these institutions. Findings on these indicators for both the original and the pilot phases of the project are also compared with the model situation.

4.3.2.1 Collaboration

This study revealed that the implementation of the BRT in Accra was characterized by intense stakeholder engagement in the form of meetings, workshops and sensitization programs. There were regular monthly meetings held for all key stakeholders of the GUTP during which participants reported on the progress of activities under each component of the project including the BRT component. It is worth noting that the collaboration on the aspect of institutional and legal frameworks led to the enactment of by-laws in 2008 within the various Assemblies to register and licence commercial vehicles; and ultimately resulted in the establishment of the Urban Passenger Transport Units (UPTU) mandated to regulate urban transport services in the respective jurisdiction of each participating Assembly. The UPTUs were later in 2014 transformed into Transport Department under the Legislative Instrument (LI 1961).

Respondents in this study confirmed that there was active collaboration among stakeholders throughout the original phase of the project (2008-2012). However, the pilot phase saw a decrease in this momentum since the regular formal meetings ceased; though there were occasional informal meetings when necessary between the GAPTE and transport operators. A quote from Respondent 1 summarized the views of the implementers on this:

> *"Yeah, I think there was a lot of collaboration in here. One major part was in the initial stage, all the assemblies had the Passenger Transport Unit […] to now start the process of regulation. So we needed the by-laws to help us, like give us teeth to what we were doing; so by-laws were passed in all the assemblies; Okay! so we had a lot of support from the operators, from the Assembly lawyers, from everybody […]; so it was a good collaborative effort, yes! […] I think the period after 2012, the stage has not been set for stakeholders to meet like they used to but occasionally when you need help and you call on any stakeholder, most of them are good to come and help" (Respondent 1 – Operations Officer, Transport Department)*

A respondent from the operators' sample affirmed that:

> *"Oh! there was collaboration; and there is some level of unity and understanding other than that its implementation would be a mirage; so I think the unity is very cordial" (Respondent 10 - GPRTU National executive)*

Even though the level of collaboration was generally perceived as positive, this research reveals that there were issues with coordination in the original phase. This could be attributed to what respondents described as frequent changes in the main coordinating unit of the project during the original phase. The Project Advisory Office (PAO) in the DUR which was the initial coordinating unit of the project changed to the Centre for Urban Transportation (CUT) and subsequently transformed into the Pre-GAPTE (Greater Accra Passenger Transport Executive) and eventually into GAPTE in 2014 with the latter having the mandate to execute and coordinate the transportation management functions of the participating Assemblies. A 2013 Draft Audit Report on the project identified this transformation process as a challenge and reported that it led to changes in management teams which consequently resulted in the loss of institutional knowledge during the original phase (MLGRD, 2013). Also, the World Bank's 2017 Implementation Completion Report on the BRT project in Accra enumerated the limited leadership and coordination among the various organizations as a militating factor against the implementation of the project at the original phase of the project (World Bank, 2017). These findings are confirmed in this study by some respondents in the following quotes:

> *"[…] a lot of changes were happening at the coordination agency level. It used to be PAO and it changed to CUT, it changed to Pre-GAPTE, and changed to GAPTE. I think it affected how the coordination was. Different project leaders came and the experiences were different." (Respondent 5 - Head of Transport Department)*

> *"[…] the challenges! I think it's about coordination and leadership crisis; that one I can say it anywhere because we had a project manager, we changed project manager like three times!" (Respondent 2 - Head of Transport Department)*

Pemberton (2000) and Coulson and Ferrario (2007) posited that the intensity of the collaboration among stakeholders ultimately influences decision-making. In the light of this, this study reveals that despite the active collaboration reported among stakeholders, the coordination of activities during the original phase of the project suffered a major setback partly due to frequent changes in leadership of coordinating role. This situation posed a challenge to implementation schedules and efforts since each management team needed to buy time to adjust to the project environment before making any major input.

Comparing the two phases with the prototype situation according to this research revealed that the level of collaboration remained the same in both periods. However, the level of collaboration during both periods per this research was not up to the required level as suggested in the model situation since all three conditions as proposed where not fully present in the Accra case during the original and the pilot periods. Despite the fact that the regular formal meetings which took place in the original phase ceased and reduced to occasional informal meetings in the pilot phase, the ability of project implementers to negotiate with existing transport operators was better improved in the pilot phase than in the original phase in which misunderstandings between project implementers and operators persisted regardless of the regular monthly meetings held. The transport operators as revealed in the interviews were relatively clearer about the benefits of the project to them in the pilot phase leading to the successful negotiations on QBS routes operations with three associations.

4.3.2.2 Length of time in operation

A longer period in operation promotes trust and cooperation as well as strengthen existing networks and relationships among organizations (Pemberton, 2000, Coulson and Ferrario, 2007). In this study, the organizations involved in the implementation of the project include public and private institutions which have for decades provided transport related services in the country prior to the implementation of the project. For instance, the DUR which was one of the main implementers, was established in 1988 by the Executive Arm of Government with the mandate to administer, plan, develop and maintain urban road networks in Ghana. Its mission also extends to building the capacity of MMDAs in the provision of quality urban road transport systems for safe mobility of goods and people. With regards to the participating District Assemblies, they were created by legislative instruments stipulated in the Local Government Act 462 of 1993 and the 1992 Constitution of Ghana which give the Assemblies the political and administrative authority to provide guidance, give direction to, and supervise the other administrative authorities in the district. The Assemblies are responsible for the overall development of areas under their respective jurisdiction.

Concerning the transport operators' associations which were engaged during the implementation of the BRT in Accra, this study highlights the length of time the GPRTU has been in operations in the urban transport sector in Ghana. The union controls the greater share of urban passenger transport, a sector which is dominated by minibuses and shared taxi services owned by individuals and associations. The GPRTU belongs to the Trade Union Congress, the umbrella organization of trade union activities in Ghana. The GPRTU was prior to the independence of Ghana in 1957 known as the Gold Coast Motor Union and has since been the dominant private transport organization with the aim of promoting safe road transportation in the country. Its members are fleet owners, driver-owners as well as drivers whose interest in the association may be conflicting.

Again, other key stakeholders such as the DVLA since its establishment in 1999 by an Act of Parliament (Act 569) had promoted good driving standards and the use of roadworthy vehicles in the country. As part of its mandate, the DVLA is to employ best practices for licensing drivers and vehicles to promote road safety and environmental sustainability. The NRSC, also established in the year 1999 by Act 567, had since delivered on its mandate of promoting and coordinating road safety activities in Ghana. The Commission had over the years played major roles in sensitizing the public on road safety. Finally, of concern in this study is the MTTU, a division of the Ghana Police Service responsible for road safety. The existence of this unit dates back to its establishment in 1952 as the Ghana Police Traffic Unit. It is currently known as the Motor Transport and Traffic Directorate (MTTD).

It is noteworthy that there exists some level of collaboration between the DVLA, the NRSC and the MTTD. For instance, in the investigation of road accidents, the process is initiated by the MTTD and later handed over to the DVLA. The MTTD and the DVLA also carry out collaborative exercises in the inspection of vehicle licences and road worthiness. The NRSC provides logistical support such as towing vehicles and sensitization materials to the MTTD. Collaboration among these three institutions is also seen in the joint road safety campaign initiatives carried out over the years. Ultimately these organizations work in conjunction with the District Assemblies as well as the various transport operators' unions to promote urban transport delivery in Ghana.

From the foregoing, it is expected that the length of time these institutions have been engaged in providing transport services in Accra should have built a considerable level of trust among them as postulated by Pemberton (2000) and Coulson and Ferrario (2007); however, in this study majority of respondents revealed that there was some mistrust between the BRT project

implementers and the transport operators during the original phase of the project. The report of the World Bank also confirmed these findings as it identified that there was the fear of competition among operators during both phases of the study. When asked about the challenges facing the implementation of the project, one respondent from the implementers' group observed:

> *"I think it's just about the lack of trust. I remember these people (transport operators) consistently told us that it is only when we need money that we come to them. And now this thing (BRT project) that we are doing, they are sure that we will need money, one day we will need money. It means that in the past we only go to them, give them sweet promises, we go back and nothing comes out in terms of positive change for them. So, I think that they didn't have the trust that we were working in their interest or in the interest of the public […]" (Respondent 2 - Head of Transport Department)*

In addition to the stakeholder institutions discussed above, the pilot phase saw the existence and full operations of the UPTUs and GAPTE both of which had been born out of the project hence have been in the urban transport sector in Accra for relatively fewer years as compared to the other institutions. The distrust among the stakeholders during the pilot phase still existed as it was reported that as at the project closure in 2015, project implementers had not reached an agreement on the route assignments among existing minibus, large and scheduled bus services along the QBS corridors and feeder routes (World Bank, 2017). However, this study revealed that the fear among the operators was alleviated over time especially during the pilot phase. A respondent from the operator group observed:

> *"Yes. it took a long time, since 2008 but it took off just 2016. From the beginning we thought that it was coming to spoil our work but later we got to know that it was coming to help; by then we had spent a lot of time." (Respondent 8 – GCTA District President)*

With respect to the optimum conditions of the length of time in operation that facilitate successful implementation, the comparison of the aforementioned existing institutional factors in Accra with the model situation shows that the Accra case presented a relatively poorer situation during the two periods since the distrust among operators during both periods derailed the benefits that could have been gained from their long-time existence and collective engagement in the urban transport sector as well as on the BRT project. Nonetheless the conditions were better in the pilot phase than in the original phase because the operators gradually allayed their fears about the project.

4.3.3 Power relations

This study recognizes the potential effects power relations could have on the implementation of the BRT project in Accra. Power relations as conceptualized in this research represent the relative importance of some stakeholders as a matter of the critical competencies possessed by them which were necessary to effectively execute project activities. This study also presents findings on respondents' perceptions about the existence of such influence. Here too, a comparison with the prototype situation was made vis-à-vis the situation during the original and pilot phases.

4.3.3.1 Formal Competencies and Local actors' perceptions

Each stakeholder in the implementation of the project assumed some responsibilities. It must be noted however that the analysis of secondary data revealed that the capacity of all stakeholders in BRT systems prior to the implementation of the project was non-existent since the BRT concept was new to all. Evidently, the GUTP dedicated a component on institutional

development to build both institutional and human capacity through induction training programmes, study tours and conferences, specialist support sessions as well as expert training exercises. Throughout the interviews, respondents confirmed that before the project started, BRT was a novel area for all stakeholders; however, as at the pilot phase of the project, the capacity of stakeholders had been built in BRT. The urban transport expert interviewed observed:

> *"So in terms of the capacity of those who were to implement it (BRT project), we were all at zero more or less […]. You know, we had civil engineers, yes! for the engineering bit of it but not BRT engineering. We had planners for transportation planning; for planning purposes but not BRT. So BRT basically was […] not something that capacities existed. But suffice it to say that, over time, second or the third year, a lot of capacities have been built […]" (Respondent 11 – Urban Transport Expert)*

Analysis of secondary data and the interviews showed that during the implementation of the project, greater importance was given to the DUR which hosted the Project Advisory Office (PAO) and played a critical role as the custodian of technical resources. Apart from the responsibility to implement, coordinate and offer advisory services, the DUR was also accountable for the procurement and directing of contracts for the design and construction of the BRT infrastructure. This importance is further reinforced by the central role the department played in the development and building of institutional capacity. Majority of respondents in this study perceived the DUR as the critical stakeholder responsible for the success or failure of the BRT project. These responsibilities bestowed great leadership roles and expectations on the DUR as all other stakeholders looked up to the department for direction. One of the respondent reacting to power relation issues opined:

> *"Of course, DUR felt to be in control of a lot of the implementation issues and this is where I mention that the Assemblies will need to show seriousness because up until that point the Assemblies will be perceived as not having the capacity to manage the system" (Respondent 5 - Head of Transport Department)*

It is noteworthy that as the coordinating role shifted to GAPTE and the planning to the UPTUs, the dominance of the DUR was lost during the pilot phase. This was expressed in respondents' views that the role played by GAPTE is critical since its non-existence meant that there was no cross-jurisdictional body to harmonize the activities of the participating Assemblies especially because the QBS under operation run through several jurisdictions. The opinion of one respondent on the critical roles summarizes these findings:

> *"If GAPTE is out of the scene, then there is no cross jurisdictional body to link up the assemblies […] If we are taking GAPTE out of the scene then I would say that the MMDAs are critical because without them nothing moves. It would still have been the same chaos as the private sector being the players and referees at the same time. But the MMDAs had to be the referees" (Respondent 12 – Line Manager, GAPTE)*

Again, interviews from this study revealed that some other key stakeholders were perceived as dominant actors; whose contributions were equally critical to project success. A typical example is the GPRTU which is considered as the frontline transport operators' association in Ghana. The position of the executives of the Union on major decisions taken throughout the two phases of the project represented the views of all transport operators. One of the GPRTU officials interviewed remarked:

"Oh! the other road transport unions […] readily embraced the idea at the primary stages. But we (GPRTU) delayed the whole process; so as for them I would say that they never had much problem. We control majority and if anything, our members will be affected the more. […]" (Respondent 10 - GPRTU National executive)

Analysis of responses also revealed that actors from the implementers' group perceived the GPRTU as critical actors in the project. One respondent said:

"For the project to succeed I think the major role and the major stakeholders were the operators; because, it could only succeed when they say it should succeed. When they kick against it, it would not. So the role of the operators was very key in getting things to move." (Respondent 6 - Head of Transport Department)

Another respondent noted:

"In the implementation period, I think the most critical stage was for the transport operators to readily register with the Assemblies. We had to wait for almost two years for them to understand and agree to register so I will say that the transport operators were most critical […]" (Respondent 5 - Head of Transport Department)

This study shows that the pivotal leadership roles of the DUR as well as the expected responsibility of the GPRTU to rally support from transport operators were essential factors during the original phase of the project. The GAPTE and the GPRTU again represented critical stakeholders during the pilot phase with the GPRTU still constituting a dominant actor. Analysis of the World Bank's Implementation Completion Report also support these findings as the report mentioned that the BRT project in Accra constituted a new urban transport system in the city; therefore, required a strong leadership and clear delineation of roles and responsibilities among stakeholders for both hard and soft components of the project (World Bank, 2017).

A comparison between the level of formal competencies in the Accra case and that of the model case showed that the situation in the original phase presented an inferior condition compared to the pilot phase. The original phase was characterized by low capacity of stakeholders in BRT as well as dominance of the DUR and GPRTU whilst in the pilot phase the stakeholders possessed considerable capacities in BRT execution with GPRTU remaining a dominant stakeholder. The situation in both periods however fell short of the ideal situation which proposes considerable capacities of stakeholders with no dominance of any stakeholder. With regards to the perceptions of local actors on the existence of such formal competencies, the comparison according to this research showed that the perception level remained the same through the two periods and is equally comparable to the proposed situation in the model case. This is because actors' perceptions as revealed in this study through the interviews reflect the actual situation about the capacities of stakeholders in BRT and the dominance of some actors during the two phases of the project.

4.3.4 Sense of Common Agenda

In measuring the sense of common agenda among the various stakeholders involved in the implementation of the BRT in Accra, this research sought the views of actors on the pertinent urban transport issues as well as the relevance of the BRT to the city. As indicated by (Amin and Thrift (1995) and Henry and Pinch (2001) the mutual awareness among stakeholders engaged in a common initiative enhances resource mobilization and builds legitimate relations among them. Also, in this study, the perceptions about the priorities assigned to the project by stakeholder institutions was determinant of the sense of common agenda among actors. This

section also presents a comparison of the level of sense of common agenda in the two periods under study with the model situation developed by this researcher.

4.3.4.1 Shared local identity

The interviews revealed that there was a general awareness among actors about urban transport issues facing the city of Accra prior to the implementation of the BRT project; which according to respondents still persist. Most respondents mentioned the issue of traffic congestion on major roads in Accra especially in the Central Business District of the city as the most pertinent transport concern. They associated the main causes to the inadequate mass transport services, the precarious and uncomfortable services offered by private minibuses and taxis; all of which have resulted in the increasing rate in private car usage. They opined that poor traffic signal management as well as improper land use planning have also contributed to the vehicular congestion experienced in Accra. The effects of these phenomena according to respondents include the loss of productive hours, noise, environmental pollution which ultimately affect the overall living standards in the city. These opinions are summarized in the views of three respondents who retorted:

> *"I think the main one (transport issue) is congestion, yeah! congestion! and then lack of alternative roads. Everybody has to use the same road so if that road gets blocked then we are in trouble. and then the traffic signals are not intelligent enough […]" (Respondent1 – Operations Officer of Transport Department)*

> *"When workers close someone will be in the queue for about three (3), four (4) hours; before he gets home is around 8 O' Clock. Sometimes when I'm passing by I feel for them but I hope with the introduction of the BRT system it will ease all these problems. But then, whiles we are thinking about the passengers or the citizenry, we should equally think about the existing operators too" (Respondent 3 – GPRTU Branch Executive)*

> *"[..] The other issues are that, when you pick traffic congestion, there are serious consequences like our health issues which needs to be addressed. Almost all our trotros (minibuses) are more than 10 years old which poses serious health issues to us because the emissions that come out from those cars are very deadly […]" (Respondent 6 - Head of Transport Department)*

> *"I think we know there is over reliance on the road network and the traffic too is too high; so there is a problem of connection […]" (Respondent 17 - District Superintend of Police)*

These remarks by respondents are confirmed by the rationale behind the conception and implementation of the BRT project in Accra. As indicated in the original project appraisal document of the World Bank, traffic in Accra as at the year 2007 was characterized by heavy congestion, increasing motorization, over-reliance on informal public transport vehicles of low carrying capacity, weak operation of traffic management measures, among others. The source also acknowledged the inadequate land use and urban management efforts which have all limited the economic growth potentials of the city (World Bank, 2007).

From the above discussion, this study showed that local actors in the implementation of the BRT equally appreciated the transport issues facing the city at the time. Their level of awareness in engaging in the project to resolve these issues was considerable during the original and pilot phases and was a major prospect for consensus building.

As proposed in the model situation, implementation of BRT is enhanced when all key stakeholders acknowledge urban transport issues and the relevance of BRT for the project area; as this promotes a mutual sense of engaging in a common enterprise and wins their

commitment. Comparing to the findings in the Accra case, this study revealed that the level of appreciation of the local identity of the city among stakeholders was relatively high and remained the same during the original and the pilot phases of the project.

4.3.4.2 Shared local priorities

Is was noted through the interviews that respondents' appreciation of issues facing the city reflected in their views about the relevance of the BRT project. All the stakeholders perceived the project as an important endeavour which when successfully implemented could have alleviated the effects of the transport problems explained above. They were of the view that the BRT system with dedicated lanes would have minimized travelled time, reduced congestion, provided more comfortable passenger buses and generally improved urban transport services in the city. They described the conceived BRT design proposed under the GUTP as very convenient, fast, environmentally tuned; and which was coming to relieve residents of the economic burden of an informal, self-regulated urban transport sector in Accra. One of the respondents from the operators group that resisted the project from the beginning acknowledged:

> *"Whatever it is, you know theirs (BRT service) is faster than the trotros (minibuses) that we have in Ghana here. You see, there is some comfortability in terms of this BRT and it saves time as well. And you see, with these trotros, the emission of exhaust fumes is also a factor which creates environmental pollution; so it (BRT) also goes to the extent of improving domestic GDP of the country because workers will get to their workplaces on time, less tired […]" (Respondent 10 - GPRTU National executive)*

It was found out however that even though all stakeholders shared common views on the local identity of the city in terms of urban transport issues and perceived BRT as relevant throughout the original and pilot phases, not all of them placed equally high priority on the project. Remarkably was the GPRTU which according to respondents did not consider the project as a priority activity during both phases of the project. A respondent from the operators' sample said:

> *"It was an important project. If you look at the general view, it's Okay; but it was not our (GPRTU) priority; I would say it is not a good thing for GPRTU" (Respondent 3 - GPRTU Branch Executive)*

A comparison with the prototype case showed that the level of shared priorities experienced in the original and pilot period of the project was relatively lower than the proposed level of shared priorities that promotes success in the implementation of BRT. This is because even though all stakeholders perceived the project as relevant for Accra, not all of them placed high priority on it as revealed in this study that the private transport operators throughout the two phases did not see the project as a priority but rather as a threat to their livelihoods.

These revelations, apart from the private motives of the GPRTU, could have affected their interest in the project as such their resistance to major decisions taken throughout the project. Deducing from the literature by Amin and Thrift (1995) and Henry and Pinch (2001) on institutional thickness, the motivation among stakeholders to push the project through to its realization was therefore dented by the lack of priority given to it by the transport operators who represented key actors for project success.

4.3.5 Summary of findings and comparison with prototype situation

This section summarizes findings on the level of institutional thickness which existed in the original and pilot phases of the BRT project implemented in Accra. The prototype situation developed is used as a benchmark to compare both the original and the pilot phases under study.

To depict the level of intensity of the institutional factors, scores were assigned ranging from one to three stars to each indicator used in this study; where one star means a low score while three stars represent a high score. Three stars were assigned to each indicator in the prototype to represent an ideal high score situation. The scores assigned to the situation in the Accra case are based on the discussions and findings from this study. The intuitive interpretations in this research were reduced significantly through triangulation of findings from the primary data and secondary sources from project documents and scientific articles. The scores are presented in table 4 below. A detailed summary showing the level of institutional factors under each indicator and their corresponding scores is shown in Annex 3.

Table 4 reveals that the institutional presence in the urban transport sector in Accra during the implementation of the BRT was comparatively lower in the original phase than in the pilot phase. As shown in the table, the indicators on density and ownership score lower in the original phase but improved with a moderate score in the pilot phase. The establishment of GAPTE as a coordinating body accounted for the progress made with the density of institutions. As discussed earlier, the ownership situation improved in the pilot phase due to the formation of three QBS companies owned individually by three different transport operators' associations. The commitment level of institutions as revealed in this study and depicted in the table remained high throughout the two phases.

With regards to the level of interactions among stakeholder institutions, the table shows that the interaction levels among stakeholders was low during the original and moderate in the pilot phase. Whilst collaboration remained moderate during both periods, the indicator on the length of time scored lower in the original phase but improved in the pilot phase. The moderate collaboration in the original phase is explained by the fact that despite the regular formal meetings held among stakeholders, the inability of DUR to keep the focus of all stakeholders due to the frequent changes to coordinating roles and the misunderstandings between project implementers and transport operators (especially GPRTU) about the benefits of the project made negotiations difficult. In the pilot phase, even though transport operators became relatively clear about the benefits of the project to them, the formal regular meetings which hitherto existed were ceased. The collaboration level in both periods therefore do not reflect the ideal situation. Again, as shown in the table, the improvement in the indicator on length of time in operation during the pilot phase was as a result of the longer time of engagement on the BRT project as compared to the original phase. Comparing to the ideal situation, the lack of trust exhibited by transport operators during both periods affected the required level of interactions expected to successfully implemented the project.

The two indicators under power relations as shown in table 4 below, display different patterns for both periods of the project where formal competencies improved over time whereas the perceptions of local actors match up to the prototype situation throughout the original period and the pilot phase of the project. Earlier discussions on formal competencies revealed that project stakeholders lacked capacity in BRT; however, the training programmes, workshops and study tours helped build their capacity over time. As such the pilot phase was characterized by the presence of stakeholders whose capabilities in BRT implementation were considerable. Nonetheless, the level of formal competencies was moderate during the pilot phase and did not reflect the model situation due to the dominance of some institutions like the DUR and the GPRTU. The appreciation of the existence of these formal competencies by local actors as revealed in this study, remained the same throughout the original and pilot phases; hence depicts the ideal situation proposed in the prototype.

Table 4: Comparison of prototype situation with Accra Case during original and pilot phases

	Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)	Rating		
				Prototype Situation	Original phase	Pilot phase
Institutional Thickness	Institutional Presence	Density	✓ BRT services are integrated and managed by a single regional authority which should be responsible for planning, coordinating, financing and contracting service operators ✓ Activities of existing transport operators formalized and incorporated into BRT systems as a more integrated modal system	★★★	★	★★
		Commitment	✓ High level of commitment from all stakeholders and provision of institutional support to the project	★★★	★★★	★★★
		Ownership	✓ Public regulatory institution assumes regulatory roles and all existing public transport operators owning shares in BRT operating companies	★★★	★	★★
	Level of interactions among Institutions	Collaboration	✓ Constant communication with all project stakeholders throughout implementation ✓ Ability and skills of project implementers to effectively coordinate and keep the focus of all actors ✓ Successful negotiation with existing bus operators in the project area	★★★	★★	★★
		Length of time in operation	✓ Stakeholders in urban transport collaborated and engaged in urban transport service delivery for several years ✓ No distrust among Stakeholders with regards to the project	★★★	★	★★
	Power relations	Formal competencies	✓ Tasks allocated to institutions which have considerable capacities for BRT ✓ No dominance of any particular stakeholder. Levelled field for all stakeholders to play their respective roles	★★★	★	★★
		Local actors' perceptions	✓ Actors' perceptions reflect the actual situation about their capacity in BRT and the dominance of some actors	★★★	★★★	★★★
	Sense of Common agenda	Shared local identity	✓ All key Stakeholders acknowledge urban transport issues	★★★	★★★	★★★
		Shared local priorities	✓ All key stakeholders consider BRT as a relevant project for the project area place high priority on it	★★★	★★	★★

Source: Author's Construct, 2017

Key: ★ Low ★★ Moderate ★★★ High

The level of sense of common agenda among stakeholders during the implementation of the BRT in Accra remained the same for both phases of the project. Whilst the level of shared local identity was high and reflected the ideal case during the original and pilot periods, shared local priorities was moderate hence fell short of the perfect situation. With regards to shared local identity, this study revealed that throughout both periods, all stakeholders including project implementers, transport operators and other key stakeholders appreciated urban transport issues facing the city of Accra which necessitated the execution of the BRT. On the other hand, the level of shared local priorities ranked moderate considering the fact that though all local actors perceived the project as relevant, a key stakeholder such as the GPRTU did not see the project as a priority.

This study concludes that the level of institutional thickness during the original phase of the project was relatively lower than in the pilot phase; though both phases did not reflect the ideal institutional thickness level required for success in the implementation of the BRT in Accra. As revealed in the comparison made in table…the relatively low institutional thickness in the original phase according to this research was largely due to the non-existence of a coordinating body to plan and regulate urban transport activities; the absence of any arrangements for transport operators to own BRT companies; the distrust among transport operators towards project implementers; and the dominance of some stakeholder institutions. Improvements with respect to these factors over time accounted for the better institutional thickness which existed during the pilot phase.

4.4 The State of Implementation of the BRT in Accra

This research gathered information on the status of implementation of the project through secondary sources such as the 2013 unpublished report for the Institutional Assessment and Performance of the Urban Passenger Transport Units of the Assemblies. More importantly, this study collected data from the Implementation Completion and Results Report of the World Bank published in 2017. These documents revealed that the BRT project was designed under the context that Accra as at the year 2000 was one of the fastest growing metropolises in Africa and was facing rapid urbanization and motorization. The project acknowledged the self-regulated nature of the city's passenger transport sector which was characterized by informal private transport operations carried out under a fragmented institutional framework. The project therefore placed substantial weight on strengthening the institutional structure of the urban transport sector in Accra.

4.4.1 Registration of Operators

As envisaged, the project in order to sanitize the urban passenger transport sector in Accra, sought to register all transport operators in the participating Assemblies. By the year 2009, by-laws were enacted in all participating Assemblies to regulate the sector; the by-laws also created UPTUs within each Assembly to plan and regulate urban passenger transport activities. Two distinctive permits were to be issued to operators namely: Type "A" and type "B" permits. The type "A" permits were to be issued to all eligible operators of existing routes in the city whilst type "B" was to license high order transport services such as high capacity buses operating which were to operate on dedicated bus lanes. The latter was scheduled to be piloted by the year 2010 but could not be realized. With regards to the registration exercise, the World Bank reported that transport operators' associations especially the GPRTU resisted the registration of their members for the type "A" permits for fear of competition. This incidence according to the World Bank protracted for about two years and was associated to causes of implementation delays. As at the new project closure in 2015, however, about 90% of transport operators in Accra had registered with the participating Assemblies following the legislation of by-laws and series of meetings to convince them. With regards to the type "B" permits, 4

bus companies were expected to be registered, however 3 out of the 4 were registered and issued with route licences.

4.4.2 Establishment of Coordinating Institution

Also of importance in this study, is the progress made with regard to the institutional reforms made under the project. The BRT services as mentioned earlier were designed to be operational along four corridors which run across several District Assemblies in Accra each having the authority to regulate urban transport within its jurisdiction. As such, there was the need to set up a cross-jurisdictional body to coordinate transport activities within all the Assemblies. Initial efforts included the setting up of a Project Advisory Office under the DUR at the onset of implementation to coordinate project activities. The PAO was in 2010 transformed into the Centre for Urban Transportation (CUT) which was established by an Act of Parliament (Act 799). However, reports showed that the Centre was dissolved in 2014 due to administrative and financial difficulties. This led to the establishment of the Pre-GAPTE in 2014 to assume the coordinating role. This body was eventually registered in 2015 as GAPTE, a company with limited guarantee. The frequent changes in the coordinating body according to reports created major information gaps and administrative inconsistencies. For instance, it was difficult to review financial budgets submitted by the UPTUs of the participating Assemblies hence distorting project schedules and causing delays in project implementation. In the light of these, the World Bank reported in its Implementation Completion Report that even with the creation of GAPTE, the development of the BRT system suffered from the non-existence of a well empowered coordinating institution that could champion the implementation process.

4.4.3 Piloting of BRT

The project anticipated to pilot a BRT service on one corridor (Mallam-CBD) out of the four corridors under consideration with segregated bus lanes by the year 2012. Nevertheless, this objective was not met and as at 2014 the Government of Ghana under the restructuring of the project opted for a Quality Bus Service (QBS) on two corridors (Amasaman-CBD and Adenta-CBD). This change in scope was according to reports due to cost escalations in the design and construction of the original BRT infrastructure on the Mallam-CBD corridor. As at the project closure in 2015, the QBS services did not start since project implementers had not yet reached agreements with transport operators on route assignments along the QBS corridors. The service was however launched in November 2016 without the planned dedicated bus lanes. Figures 6, and 7 show the proposed BRT Corridors with traffic volumes and the proposed pilot corridor and QBS Corridor under operation respectively. Figure 8 also shows the QBS terminals and bus stops.

As at the time of collecting data for this research, GAPTE was the main institution responsible for the operation and management of the Quality Bus Services running from the CBD to Amasaman. The company in collaboration with Bus Manufacturing Company, Scania Group, has procured 245 buses out of which only 45 were in operation; a performance which was associated to the lack of dedicated bus lanes on the QBS corridor. This was confirmed by most respondents during the interviews and illustrated by the following quotes:

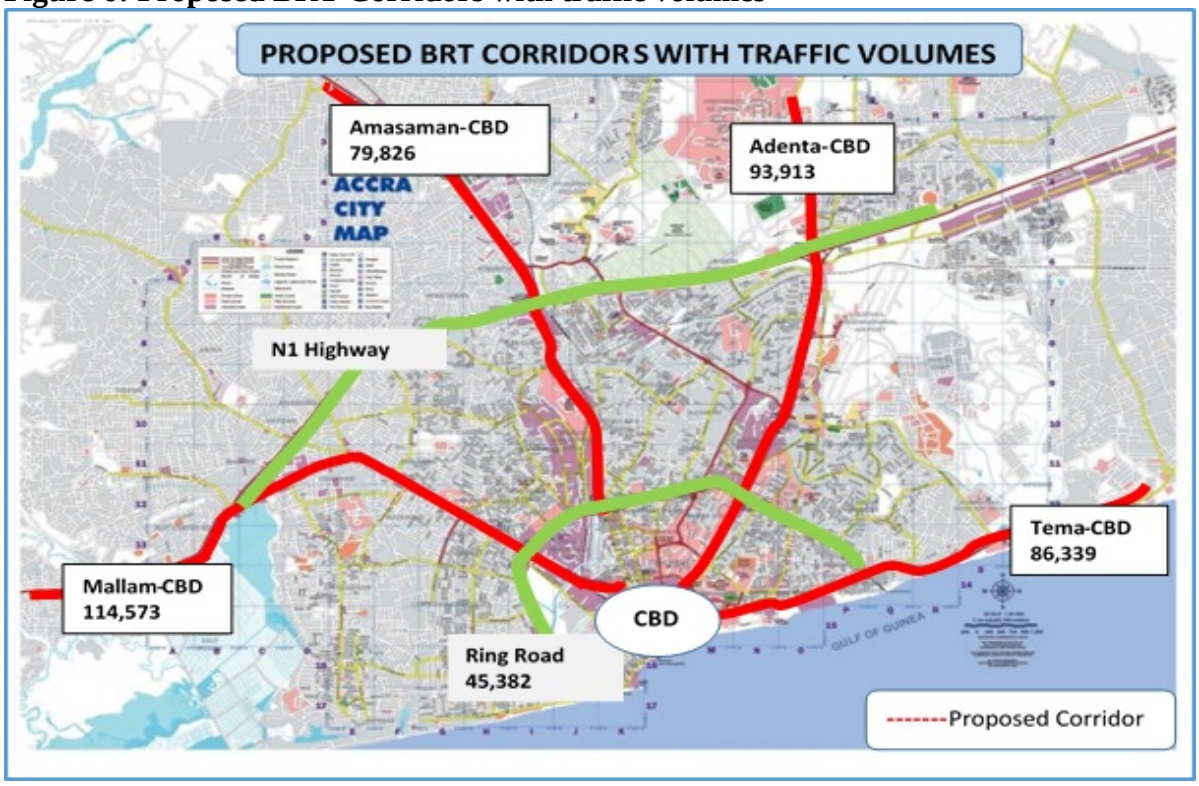
> *"The main challenge is about the route. We need our own route. Dedicated lane for the buses only! […]so I like to use this opportunity to plead with the government if they can create a dedicated lane not all the way to the CBD but at least where the traffic disturbs" (Respondent 8 – GCTA District President)*

> *"[…] if we get these operators to come on board, and do what they are supposed to do, get the private sector participating, let us get dedicated lanes! Every public transportation succeeds on dedicated lanes. Why are the trains succeeding? Because the trains have their dedicated lanes and nobody struggles with them.*

Everywhere in the world that buses have succeeded, it's because they have the dedicated lanes. Let us provide dedicated lanes for them. If government doesn't have money, government should advertise it and let the private sector come in […]" (Respondent 6 – Head of Transport Department)

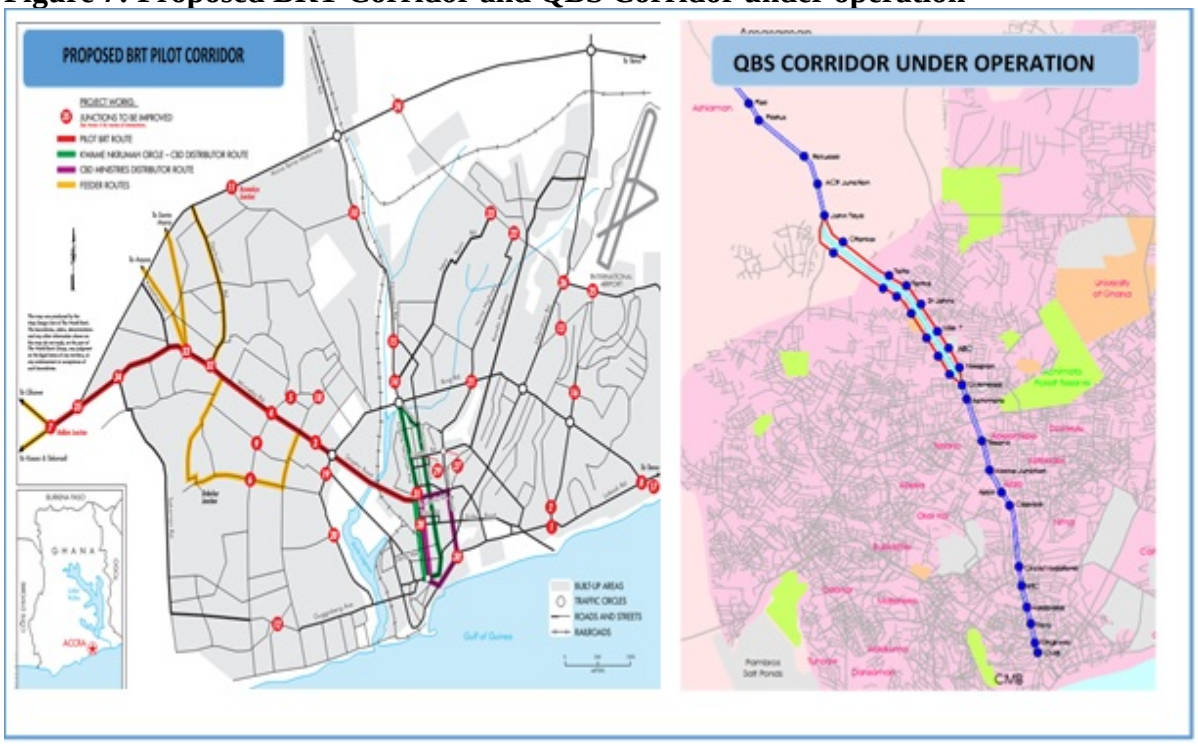
Asked why there were no dedicated lanes, all respondents laid the blame on poor leadership roles of the project implementers. They opined that apart from the financial cost implications of constructing or delineating bus lanes, there seemed to be no firm technical direction to lead the process. All respondents indicated that the implementation of the original BRT idea failed and did not meet their expectations.

Figure 6: Proposed BRT Corridors with traffic volumes



Source: Adopted from World Bank, 2007

Figure 7: Proposed BRT Corridor and QBS Corridor under operation



Source: Adopted from World Bank, 2007 and World Bank, 2017

Figure 8: QBS Terminals and Bus Stops

Source: Author's field work, 2017

4.5 How existing Institutional factors affected the BRT implementation in Accra

In order to explain how existing institutional factors influenced the implementation of the BRT project in Accra, the state of implementation in the original phase was compared with that of the pilot phase taken account of the changes in institutional thickness over the two periods. Figure 9 below presents a summary of this comparison and shows the direction of change in indicator levels represented by arrows that illustrate an increasing or a constant situation as well as the intensity of change; the key to figure 9 illustrates this. The directions of change as assigned in the figure are based on the combined interpretations of insights from the prototype comparison as well as findings from the perspective of the institutional thickness framework operationalized in this study. It must be noted that changes in all indicators over the study periods as depicted in the table, reflect the two perspectives; except for the indicator "density" which would have presented an opposite trend when operationalised according to Amin and Thrift (1995)'s framework that emphasizes on the benefits of multiple institutions engaged in a common enterprise. The prototype density proposed in this study therefore best explains the required institutional presence; this is discussed further in chapter five. The highlights of the state of implementation as presented in the figure below and as discussed earlier, are largely based on findings from secondary sources such as the 2017 Implementation Completion Report of the World Bank on the BRT project in Accra.

As seen in figure 9, there was an improvement in the execution of project activities during the pilot phase. It is worth mentioning that the combined effects of all indicators collectively constituted the institutional thickness level which contributed to the improvement in implementation over time.

To begin, though institutional presence in the framework of Amin and Thrift (1995) suggests that a wide array of institutions promotes success, this study revealed that the multiplicity of actors in the urban passenger transport sector in Accra during the original phase, rather made coordination of project activities difficult. The task of delineating stakeholders' roles in the project vis-a-vis their established mandated responsibilities was a challenge for project implementers. For instance, prior to the start of the project, the responsibility to regulate urban transport was not clearly assigned to the MMDAs whose mandate is to ensure the overall development of their respective areas. This responsibility had for decades been informally assumed by the private transport unions who owned, operated and regulated their own routes. Attempts to reorganize the sector under the BRT project and give the regulatory authority to the MMDAs therefore proved challenging and faced serious opposition from the existing private operators especially the GPRTU. This period saw the initiation of some formalization activities as depicted in figure 9. The urban transport expert interviewed expatiated on this:

> *"[…] So what we needed to do right from the beginning was to establish a relationship between the operator and the regulator. At that time, the operators were they themselves the regulators. So that should tell you the enormity of the work of bringing them to come to terms that they cannot be referee and a player at the same time; that, there should be someone to regulate them and somebody to own the system; and the one to own the system was not going to be central government. The one going to own the system was the local government […]" (Respondent 11 – Urban Transport Expert)*

Figure 9: Comparison of implementation state between the original and pilot phases vis-à-vis changes in institutional thickness

Institutional Thickness	Institutional factor	Indicator	Direction of change over time	State of Implementation: Original phase	State of Implementation: Pilot phase
	Institutional Presence	Density	⇧	**Formalization of Passenger Transport sector** ❖ By-laws were enacted to regulate urban passenger transport and also created UPTUs ❖ Deadlock in project lasted almost two years due to resistance and demonstrations of operators towards the project ❖ Registration for type "A" permit began but faced tough resistance from operators	**Formalization of Passenger Transport sector** ❖ 90% of transport operators in Accra registered for type "A" permits ❖ Three bus companies were registered for type "B" permits and issued with route licenses for QBS operation ❖ Three different transport associations owned each a bus company ❖ UPTUs transformed into Transport Departments in 2014 and integrated into the national government budget by 2016
		Commitment	➡		
		Ownership	⇧		
	Level of interactions among Institutions	Collaboration	⇨		
		Length of time in operation	⇧		
	Power relations	Formal competencies	⇧	**Establishment of a Coordinating Institution** ❖ Changes in coordinating role from PAO under the DUR to CUT which was established by Act of Parliament	**Establishment of a Coordinating Institution** ❖ CUT was dissolved and Pre-GAPTE established in 2014 to assume the coordinating role in the project. This body was eventually registered in 2015 as GAPTE to play indefinite cross- jurisdictional and coordinating role
		Local actors' perceptions	➡		
	Sense of Common agenda	Shared local identity	➡		**Piloting of QBS** ❖ Re-scoping of the project to Quality Bus Service (QBS) in 2014 ❖ QBS buses procured through partnerships of GAPTE and Scania Group ❖ QBS was launched in 2016
		Shared local priorities	⇨		

Source: Author's Construct, 2017

Key:

⇧	Low to Moderate
➡	Highly Constant
⇨	Moderately Constant

Initial state	Improved State
Initial state	Improved State
	New Initiative

From figure 9 above, the increased level of density over time, did not only improve coordination of activities during the pilot phase but also combined with increasing levels of formal competencies and length of time in operation to facilitate the execution of regulation activities.

Again, the ownership structure of key stakeholders was a contributory factor to the uneasiness in reaching agreement among actors during the original period. An improvement in this indicator however yielded some positive results in the pilot phase. The private operators' associations constituted major parties in the institutional framework proposed under the project; nonetheless, their interest in the project at the start was divergent to that of the implementers who were mainly public institutions. Their private interest was to safeguard the self-regulation roles they had played for years and ensure that they continued to reap the benefits of their operations to the advantage of their members. The regulation of the transport sector which was a major deliverable of the project could not fully be achieved in the original phase as the operators held onto their position. Yet, during the pilot phase, it can be seen from figure 9 that the moderate increase ownership level as a result of the formation of bus companies combined with other favourable indicators such as the gradual alleviation of fears (depicted as moderate increase in level of the indicator on length of time) to facilitate the licensing of transport operators for the type "B" permits which operated on the QBS routes.

As well, the increase in the level of interactions among stakeholders also contributed to the improved state of implementation of the BRT in Accra. A moderately constant level of collaboration maintained over both periods of the project through monthly regular meetings and study tours to learn best practices from well-performing cities in BRT, helped over time in negotiating and convincing the operators to give up on their stance. Respondents in this research in both the operators and the implementers' categories shared the view that the study tours enlightened the participants who were mainly association executives and government officials about the technicalities in BRT systems and possible lessons that could be adopted for the Accra context. Collaboration was also evident in the numerous workshops and sensitization programmes carried out for drivers and fleet owners throughout both phases. The resultant effects of the increased level of interactions coupled with the improvements in other factors accounted for the progress made in the pilot phase of the project.

Again, the collaborative initiatives among the stakeholders were reinforced by the fact that they have been working together in the urban transport sector for long. Their capacities in BRT were also improved over time. Worth noting however, is that the long-time collaboration among the institutions did not build trust between them as suggested by Pemberton (2000) and Coulson and Ferrario (2007); but rather, this study showed that there existed distrust among the implementers and the operators especially at the original phase, a situation which entrenched the operators' position not to register under the MMDAs for the type "A" permits during that period. Their resistance had repercussions on the timely registration of all operators which would have paved way for subsequent regulatory activities under the project. The lack of trust on the part of the operators reflected in the opinions of respondents from the operators' group who perceived the project as an important project for the city but not an arrangement in their interest. This study shows that the continuous engagement of the operators yielded some results in the pilot phase with the registration of about 90% of operators under the type "A" permit. Such interactions also facilitated the enactment of urban transport by-laws and UPTUs in the original phase as well as the eventual transformation of the UPTUs into Transport Departments in all participating MMDAs in the pilot phase.

Drawing from the institutional thickness framework and the prototype situation, power relations among stakeholders also affected the implementation of the project. The improved situation in this factor over the two time periods consequentially enhanced the institutional thickness level at the pilot phase hence the progresses made within this period. For instance, the dominance of the DUR and the GPRTU during the original phase of the project as revealed in this study, was gradually reduced by the pilot period; making it possible for GAPTE to play its roles and for other transport operators such as the GCTA and the Amalgamated Transport associations to be brought on board for the running of the QBS.

Finally, the sense of common agenda among stakeholders as revealed in this study remained constant throughout the two phases; and was manifested in their high appreciation of the relevance of BRT in solving the city's passenger transport problems. From the theoretical perspective of this study, it was expected that this shared recognition of the city's identity in terms of transport would attract high priority from all stakeholders for the project; however, the private actors who were mainly represented by the transport operators, did not place the same urgency as the public actors did. This situation remained throughout both phases of implementation. Nonetheless, the gradual ease of operators' fears over time resulted in positive negotiations for their participation in QBS bus routes operations during the pilot phase.

It is worth mentioning at this point that the four external factors used as control variables in this study namely; the availability of funding, political commitment, quality of design and economic growth have no effects in the analysis made. This is because these factors according to this research remained similar for both periods hence would not alter the change in the state of implementation over the two phases as shown in the study. On political commitment, the World Bank (2017) reported that the Mayor of Accra, who was in office from 2009 to 2016, had championed the institutional reform undertaken throughout the two phases. The report also mentioned that there was political will to reform the urban transport sector in Accra. With regards to funding availability, it was reported that donor funding was readily available throughout implementation; but government was not able to provide all counterparts funds, a situation which persisted during both study periods. Again, the type of BRT system proposed for the original period are similarly comparable to the QBS proposed during the pilot phase. The original design was expected to have the following features: high-quality bus with on-board fare collection or verification; segregated bus-ways on trunk corridors, restricted entry to system with open stations; and graduated or zonal fare structures. Except for the segregated bus ways, all the features under the original design remained the same for the re-scoped QBS which was expected to have dedicated bus lanes that does not require much infrastructure works to separate the system from traffic. Moreover, the range of economic growth of Ghana during both the original and the pilot phases are considered in this study as comparably unfavourable. Gross Domestic Product (GDP) growth rates during the original phase ranged between 4.8 percent to 14 percent whilst the pilot phase presented a range of 3.6 percent to 7.3 percent (World Bank Group, 2017). Both periods fell short of a range of 2 percent to 3 percent considered as favourable for economic development (Amadeo, 2012).

To summarize, findings in this study revealed that the existing institutional thickness during the original and the pilot phases produced varied implementation state within the respective periods. The study found that though the level of institutional thickness within the two periods did not match up to the ideal level proposed in the prototype model, the increased change in thickness over time resulted in improvements in project implementation during the pilot phase. Particularly to mention was the level of institutional presence which recorded the highest change with the density of institutions and sense of ownership increasing moderately. Specifically, the establishment of a lasting coordinating authority (GAPTE) and the formation of bus companies by transport operators' association to run the QBS accounted for this change.

Though the distrust among operators persisted throughout the two phases and constituted a potential factor that derailed progress, the increased level of interactions among stakeholders through constant collaboration relieved the fears among operators over time and was instrumental in the achievements made with regards to registration of operators, enactment of by-laws and establishment of UPTUs/Transport department in the participating Assemblies. As the dominance of DUR and GPRTU tapered down and the capacity of stakeholders in BRT was gradually built over the periods, it became more practical for actors to deliver project activities during the pilot phase.

In conclusion, this study revealed that the following factors hindered implementation during the original phase of the project: the non-existence of a cross-jurisdictional authority to oversee the urban passenger transport sector in Accra; the lack of ownership arrangements (such as formation of BRT companies) for existing bus operators in the city to belong to the proposed BRT scheme; the distrust among transport operators towards project implementers; and the inadequate capacity of stakeholders in BRT (even though this improved over time). The improvements made in these aforementioned factors over the periods therefore accounted for the positive progress made during the pilot phase. Considering that all external factors as shown in this study remained comparatively similar for both periods, the eventual piloting of the QBS in Accra was therefore possible with the combined effects of enhanced institutional presence, increased level of interactions, improved power relations among stakeholders and a well-sustained sense of common agenda among stakeholders.

Chapter 5: Conclusions and recommendations

5.1 Introduction

This chapter presents a summary of findings with a link to literature used in this study. The chapter provides insights into the usefulness of the institutional thickness framework and the prototype model used in this study. Considerations for theory and policy recommendations are made based on findings. The chapter concludes with proposals for further research.

5.2 Institutional factors affecting the BRT implementation in Accra

In many cities around the world, Bus Rapid Transit systems have become novel transport solutions which when successfully implemented help address pertinent urban transportation issues especially with passenger transport. Executing BRT however has proved to be challenging for city authorities mostly as a result of the nature of the transport sector itself which requires multiple actor contributions. Literature on BRT systems implementation point to militating effects of financial, political, regulatory and institutional factors with the latter being less discussed in the academia. This research therefore sought to contribute to the gaps in understanding how institutional issues affect the implementation of BRT systems with a case study strategy focusing on Accra where a proposed BRT project which was expected to be executed by the year 2012 could not be realized. The main research question in this study was: "Which institutional factors explain the state of implementation of the BRT project in Accra?" Findings in this research were based on interviews with key stakeholders as well as secondary data from project evaluation documents and scientific articles.

To answer the main research question, this study adopted the framework of Amin and Thrift (1995) who built on the theoretical and empirical evidence of how certain institutional factors shape the development of local economies. Same as applied in this research, the framework has been largely used to study institutional effects on specific projects, programmes and sectors of local economies. There were four institutional factors conceptualised in this study namely: institutional presence, level of interactions, power relations and sense of common agenda. The study also controlled for four external factors all of which were found not to have any significant effects on the analyses made. In order to answer the research sub-questions, the study made two comparisons. The first comparison was based on a prototype situation developed in this work; which comprises of model institutional factors necessary for successful implementation of BRT project. This comparison was made between the prototype model and the two periods under study in the Accra case; and made it possible to determine the institutional thickness levels for the original and the pilot phases of the project. The second comparison compared the state of implementation in the original phase against that of the pilot phase; allowing for the explanation of how changes in institutional factors over time accounted for the differences in the state of implementation within the two phases.

This research revealed that, contrary to the notion that a strong institutional presence of wide-ranging institutions promotes success, the institutional presence in the urban transport sector in Accra though characterized by multiple actors with public and private ownership structures rather posed coordination difficulties and conflicting interests; a situation which was detrimental to the implementation of the project. The prototype model in this study proposes that a single cross-jurisdictional authority is favourable for the implementation of BRT especially when the system is to be run across several jurisdictional areas such as in the Accra case. This according to the model promotes coordination among stakeholders. The coordinating difficulties faced in the original phase of the project is therefore best explained by the density level proposed in the prototype situation. The improvement in density level as revealed in this

study through the establishment of a cross-jurisdictional body (GAPTE) made coordination easier; and was thus instrumental in the achievements made in the pilot phase as GAPTE played regulatory roles on behalf of the participating Assemblies and was responsible for the contracting of bus routes and management of the QBS. The formation of Bus companies owned by existing operators during the pilot phase also improved the institutional presence within the sector. As shown in literature, such institutional presence factors usually contribute to success in BRT execution Christodoulou and Finger (Christodoulou and Finger, 2012, Lindau, Hidalgo, et al., 2014). Again, similar findings in literature show that institutional intricacies and complexity of coordination of relationships among actors constitute potential factors that hinder success in BRT systems implementation (Hidalgo and Gutiérrez, 2013, Lindau, Hidalgo, et al., 2014). The ability and skills of project implementers to coordinate and keep the focus of all actors is therefore necessary as demonstrated by Allen (2013) who identified effective coordination as one of the reasons for the success of the BRT in Johannesburg.

The study also showed that maintaining the commitment of stakeholders as was in the Accra case, is necessary for the attainment of project objectives. This study found that there was a high level of commitment among project stakeholders attributed to the greater share of public institutions engaged as well as their institutional support given to the project in terms of office accommodation and logistics. This finding confirms Coulson and Ferrario (2007)'s proposition on institutional presence that a higher percentage of public and public-private organizations involved in implementation reflects a high commitment level to project objectives. Owing to the fact that transport operators' associations in Accra have long assumed self-regulatory roles, the BRT project was perceived as a threat to the livelihoods of their members. As a result, their commitment towards the project was overshadowed by their private interests consequently leading to poor cooperation between them and the project implementers in the original phase. The sustained collaboration among stakeholders as well as transport operators' gradual alleviation of fears enhanced the level of interactions over time. As such the decision of transport operators' associations not to register their members for the type "A" permits during the original phase was upturned and consequently led to about 90% of all transport operators in Accra registering with the participating Assemblies during the pilot phase. These findings affirmed the idea of Pemberton (2000) and Coulson and Ferrario (2007) who put forward that intense level of interactions among stakeholders in the form of collaboration on shared issues ultimately influences decision-making.

The existence of dominant stakeholders such as the DUR and the GPRTU during the original phase of the project also affected implementation. It was revealed that the DUR fell short of its role to lead the process of setting up a lasting coordinating institution to manage and operate the proposed BRT services as the department could not effectively manage the transition from the PAO which it initially hosted to the CUT and eventually to the GAPTE in the pilot phase. As such there were administrative lapses in the project setup during the original phase accounting for delays as reported by the World Bank. Such wavering leadership performance as seen in literature is unfavourable to BRT execution (Ponnaluri, 2011). The GPRTU on the other hand, represented all transport operators in the country and exhibited its power by resisting the registration of its members from the onset of the project. As discussed in literature, the resistance of transport operators has been a major difficulty faced in BRT implementation; for instance, in the case of Bangkok in which Wu and Pojani (2015) revealed that the BRT project was unsuccessful partly because project implementers failed to negotiate with existing bus operators in the city. The existence of such power issues as confirmed by respondents in this study affected the level of cooperation and ease of consensus building among project stakeholders affirming Amin and Thrift (1995)'s assertions that the structures of domination that exist among organizations control and shape their relationships and behaviours.

The study also found that the inadequate capacity of stakeholders in BRT accounted for the poor performance recorded during the original phase. Evidently as shown in this study, as the capacities of stakeholders was built over time and tasks were allocated to the GAPTE and the UPTUs, the formal competencies of stakeholder institutions improved and was a catalyst to achievements made in the pilot phase. Also, this research showed that the relatively good sense of common agenda among project actors about the local identity and priorities for the city was contributory to progresses made as the urge to resolve transport issues remained throughout implementation.

The piloting of BRT services on one of the four corridors originally proposed under the project could consequently not be realised during the original phase owing to the complexity of relationships among multiple stakeholders; the lack of trust between transport operators and project implementers; the poor leadership on the part of the lead implementing agency to effectively coordinate activities and the resistance of operators to adjust to the project setup. From the foregoing, this study showed that the original phase of the project encountered difficult institutional reform challenges which were resolved over time and resulted in the progresses made during the pilot phase. Improvement in reforms included the establishment of GAPTE, the formation of bus companies owned by transport operators' associations; the gradual capacity building of stakeholders in BRT; and the enactment and enforcement of by-laws as well as the creation of UPTUs which were later transformed into Transport Department. The combined effects of the improved institutional presence, increased level of interaction, enhanced power relations, and a well-sustained sense of common agenda among stakeholders constituted an improved institutional thickness level in the urban transport sector in Accra; which resulted in attainments in implementation during the pilot phase.

5.3 Recommendations

Even though the case study approach employed in this study does not allow generalization of findings to other cities in developing countries, this research provides insights on how institutional factors affected the implementation of the BRT project in Accra and possible lessons to policy makers and planners. In the implementation of BRT systems, this study shows that it is prudent for sector reforms to precede actual implementation; as doing this will minimize the challenges that come with institutionalisation of new systems such as BRT. The Accra case showed that executing BRT concurrently with institutional reforms proved to be a risky task; as the distrust among transport operators led to prolonged resistance and opposition to sector reorganization initiatives and jeopardized the chances of successful implementation. It is recommended that subsequent BRT initiatives in any city in Ghana should proceed after the reorganization of the city's transport sector taking particular interest in the establishment of a cross-jurisdictional authority if the BRT is to operate across more than one jurisdiction; ensuring part or full ownership of BRT scheme by existing transport operators; building of stakeholders' capacity in BRT prior to actual implementation; and the enactment and enforcement of urban transport by-laws. Besides institutional factors, it is also recommended that future research be conducted to reveal how other factors could have affected the implementation of the BRT project in Accra.

For theory, this study poses some reflections on the usefulness of the institutional thickness framework for an empirical study such as this; and suggests that the operationalization of indicators under the four groups of institutional factors employed, should be done cautiously to adapt to and depict the case under study. A seen in this research, the prototype model used largely draws from the institutional thickness framework of Amin and Thrift (1995). However, strictly operationalizing the indicator "density" as "availability of wide-ranging institutions"

under institutional presence as suggested by Amin and Thrift (1995) was not reflective and explanatory to the Accra case; but rather the proposed density (single coordinating authority) in the prototype model in this study, better clarified the reasons for the coordinating difficulties faced by project implementers. It is noteworthy that operationalizing density exactly according to Amin and Thrift (1995)'s proposal would change the results for the sub-variable on institutional presence but would maintain the institutional thickness level in the pilot phase as a more improved level over the original phase; making all analyses in this study hold valid as they were. Again, the institutional thickness framework does not propose any specific measurement units or standards to assess institutional thickness; therefore, intuitive interpretations and assessments in empirical studies should be done with great details and triangulation as shown in this study. Overall, this study concludes that the institutional thickness framework was largely useful in this research. Future debates on its usefulness should revolve around developing a standardised measurement for assessing institutional thickness.

Bibliography

Allen, H., 2013. Africa's first full rapid bus system: The Rea Vaya bus system in Johannesburg, Republic of South Africa. *Unpublished Case Study Prepared for the Global Report of Human Settlements*, .

Amadeo, K., 2012. What is the ideal GDP growth rate. *The Balance*, Available at: https://www.thebalance.com/what-is-the-ideal-gdp-growth-rate-3306017 [Accessed 28-08-2017].

Amin, A. and Thrift, N. 1995. Globalisation, institutional thickness and the local economy. *Managing Cities: The New Urban Context*, 12 pp. 91-108.

Banister, D., 2008. The sustainable mobility paradigm. *Transport Policy,* 15 (2), pp. 73-80. Available at: http://www.sciencedirect.com/science/article/pii/S0967070X07000820/pdfft?md5=9d9a3d266dedc70df84ec5796d13ddb3&pid=1-s2.0-S0967070X07000820-main.pdf [Accessed 20-01-2016].

Baxter, P. and Jack, S. 2008. Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report,* 13 (4), pp. 544-559.

Blatter, J. and Blume, T. 2008. In Search of Co-variance, Causal Mechanisms or Congruence? Towards a Plural Understanding of Case Studies. *Swiss Political Science Review,* 14 (2), pp. 315-356.

Christodoulou, A. and Finger, M. 2012. The governance of urban public transport systems: the case of Zurich (ZVV). Available at: http://www.regionalstudies.org/uploads/funding/conferences/presentations/european-conference-2012/plenary-papers/christodoulou-finger.pdf [Accessed 04-04-2017].

Coulson, A. and Ferrario, C. 2007. 'Institutional thickness': Local governance and economic development in Birmingham, England. *International Journal of Urban and Regional Research,* 31 (3), pp. 591-615. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-35349014177&doi=10.1111%2fj.1468-2427.2007.00739.x&partnerID=40&md5=b2ae402f5bfeeaab23433f004c6e0200 [Accessed 6 April 2017].

Desta, W. W., 2015. Ghana - Urban Transport Project : Restructuring. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/224911468034768029/Ghana-Urban-Transport-Project-restructuring [Accessed 09 - 02 - 2017].

Filipe, L. N. and Macário, R. 2013. A first glimpse on policy packaging for implementation of BRT projects. *Research in Transportation Economics,* 39 (1), pp. 150-157. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84870257364&doi=10.1016%2fj.retrec.2012.06.008&partnerID=40&md5=a7a485218bc523562260773d1895fc11 [Accessed 24 February 2017].

Finn, B., Arthur, B. A. and Gyamera, S., 2009. New Regulatory Framework For Urban Passenger Transport In Ghanaian Cities. Available at: https://ses.library.usyd.edu.au/handle/2123/6026 [Accessed 09 - 02 - 2017].

Finn, B., 2013. Organisational structures and functions in Bus Rapid Transit, and opportunities for private sector participation. *Research in Transportation Economics*, 39 (1), pp. 143-149. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84870298250&doi=10.1016%2fj.retrec.2012.06.007&partnerID=40&md5=eab27846041a835fedd1e40df420f2b1 [Accessed 2 April 2017].

Finn, B. and Muñoz, J. C. 2014. Workshop 2 Report: Bus Rapid Transit. *Research in Transportation Economics*, 48 pp. 116-125. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84919617064&doi=10.1016%2fj.retrec.2014.09.009&partnerID=40&md5=fd679dad5e7781d9bd60d204c606b4dd [Accessed 24 February 2017].

Ghanadistricts, 2008. Ghana place names: Greater Accra Region. Available at: https://sites.google.com/site/ghanaplacenames/database [Accessed 03-08-2017].

Government of Ghana, 2008. Ghana National Transport Policy, 2008. Government of Ghana. Available at: https://s3.amazonaws.com/ndpc-static/pubication/Transport+Policy_Dec2008.pdf [Accessed 24-02-2017].

Gwilliam, K. M., 2002. Cities on the move : a World Bank urban transport strategy review. 24910), Washington, D.C.: The World Bank. Available at: http://documents.worldbank.org/curated/en/928301468762905413/pdf/multi0page.pdf [Accessed 24-02-2017].

Gwilliam, K., 2013. Cities on the move - Ten years after. *Research in Transportation Economics*, 40 (1), pp. 3-18. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84870758827&doi=10.1016%2fj.retrec.2012.06.032&partnerID=40&md5=d9318d0ed0311afac30fd5084019198c [Accessed 24 February 2017].

Henry, N. and Pinch, S. 2001. Neo-Marshallian nodes, institutional thickness, and Britain's 'Motor Sport Valley': Thick or thin? *Environment and Planning A*, 33 (7), pp. 1169-1183. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-0034881989&doi=10.1068%2fa32184&partnerID=40&md5=1486a70c6efe67b7c6d4d570cac0e1c9 [Accessed 6 April 2017].

Hensher, D. A., 2007. Sustainable public transport systems: Moving towards a value for money and network-based approach and away from blind commitment. *Transport Policy*, 14 (1), pp. 98-102. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-33845651343&doi=10.1016%2fj.tranpol.2006.10.004&partnerID=40&md5=f7e99aafe5783f22327d3796e4daa7ea [Accessed 24 February 2017].

Hidalgo, D. and Gutiérrez, L. 2013. BRT and BHLS around the world: Explosive growth, large positive impacts and many issues outstanding. *Research in Transportation*

Economics, 39 (1), pp. 8-13. Available at: http://www.sciencedirect.com/science/article/pii/S0739885912000637 .

Hook, W., 2005. Institutional and regulatory options for bus rapid transit in developing countries: Lessons from international experience. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-33645741141&partnerID=40&md5=416f79bedaec859478aa7fc3b64e6ad8 [Accessed 24 February 2017].

ITDP, 2007. The Bus Rapid Transit Planning Guide. Institute for Transportation and Development Policy (ITDP). Available at: https://www.itdp.org/wp-content/uploads/2014/07/Bus-Rapid-Transit-Guide-Complete-Guide.pdf [Accessed 09 - 02 - 2017].

ITDP, 2016. What is BRT? Available at: https://www.itdp.org/library/standards-and-guides/the-bus-rapid-transit-standard/what-is-brt/ [Accessed 2017].

Kumar, A., Zimmerman, S. and Agarwal, O. 2011. International Experience in Bus Rapid Transit (BRT) Implementation: Synthesis of Lessons Learned from Lagos, Johannesburg, Jakarta, Delhi, and Ahmedabad. *The Economist,* pp. 48.

Leshem, S. and Trafford, V. 2007. Overlooking the conceptual framework. *Innovations in Education and Teaching International,* 44 (1), pp. 93-105.

Levinson, H., Zimmerman, S., Clinger, J., Gast, J., et al., 2003. TCRP. Report 90 Bus Rapid Transit. *Case Studies in Bus Rapid Transit.Washigton, DC: Transit Cooperative Research Program, Transportation Research Board*, .

Lindau, L. A., Hidalgo, D. and de Almeida Lobo, A. 2014. Barriers to planning and implementing Bus Rapid Transit systems. *Research in Transportation Economics,* 48 pp. 9-15. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84919845125&doi=10.1016%2fj.retrec.2014.09.026&partnerID=40&md5=1df191534b12d4a26855f669cb30b860 [Accessed 24 February 2017].

Mallqui, Y. Y. C. and Pojani, D. 2016. Barriers to successful Bus Rapid Transit expansion: Developed cities versus developing megacities. *Case Studies on Transport Policy,* Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013835134&doi=10.1016%2fj.cstp.2017.01.004&partnerID=40&md5=6ca0475abe5dd0b6535fff8afc489da1 [Accessed 12 April 2017].

Mejía-Dugand, S., Hjelm, O., Baas, L. and Ríos, R. A. 2013. Lessons from the spread of Bus Rapid Transit in Latin America. *Journal of Cleaner Production,* 50 pp. 82-90. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84879909992&doi=10.1016%2fj.jclepro.2012.11.028&partnerID=40&md5=360a74a22a8c0aca979309227ff35e77 [Accessed 3 April 2017].

Menckhoff, G., ed., 2005. Latin American experience with bus rapid transit, [annual meeting of the Institute of Transportation Engineers, Melbourne].

Miller, M. A. and Buckley, S. M., 2000. Institutional aspects of bus rapid transit: a macroscopic examination. Citeseer.

Ministry of Transport (unpublished) 2008. A Review of The Policy, Governance And Institutional Frameworks For Urban Passenger Transport In Ghana.

MLGRD (unpublished) 2013. Institutional Assessment and Performance of the Urban Passenger transport units, Draft Final Report.

Moore, T. and Pulidindi, J. 2013. Understanding urban transportation systems: An action guide for city leaders. *National League of Cities.Available Online at: Http://Www.Nlc.Org.Accessed*, 31 .

North, D. C., 1993. Five propositions about institutional change. *Economics Working Paper Archive at WUSTL*, .

Pemberton, S., 2000. Institutional governance, scale and transport policy - lessons from Tyne and Wear. *Journal of Transport Geography*, 8 (4), pp. 295-308. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-0033786880&doi=10.1016%2fS0966-6923%2800%2900019-3&partnerID=40&md5=029552135128d9ee8696b4d19148b09d [Accessed 3 April 2017].

Ponnaluri, R. V., 2011. Sustainable Bus Rapid Transit initiatives in India: The role of decisive leadership and strong institutions. *Transport Policy*, 18 (1), pp. 269-275. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-78349306781&doi=10.1016%2fj.tranpol.2010.08.010&partnerID=40&md5=b28568be7617f4d39798251ec2955e25 [Accessed 2 April 2017].

Rogat, J., Hinostroza, M. and Kamala, E., eds., 2008. Sustainable transport practices in Latin America, [Actes du Colloque International: Environnement et Transports dans des contextes différents]. pp. 110.

Sietchiping, R., Permezel, M. J. and Ngomsi, C. 2012. Transport and mobility in sub-Saharan African cities: An overview of practices, lessons and options for improvements. *Cities*, 29 (3), pp. 183-189. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84859268310&doi=10.1016%2fj.cities.2011.11.005&partnerID=40&md5=491ed2c0b6965425f9620cbd38d07474 [Accessed 4 April 2017].

Stough, R. R. and Rietveld, P. 1997. Institutional issues in transport systems. *Journal of Transport Geography*, 5 (3), pp. 207-214. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-0031411791&partnerID=40&md5=6e9382fd2b5fbbb3f6841460738d725a [Accessed 4 April 2017].

Thiel, S. V., 2014. Research Methods in Public Administration and Public Management, an introduction. London/New York: Routledge.

World Bank, 2007. Project Appraisal Document, Ghana Urban Transport Project. 39750), Available at: http://documents.worldbank.org/curated/en/186371468036343928/pdf/39750.pdf [Accessed 09 - 02 - 2017].

World Bank, 2017. Ghana Urban Transport Project, Implementation Completion and Results Report. ICR3821), Available at: http://documents.worldbank.org/curated/en/933711488510098083/pdf/ICR-Ghana-Urban-Transport-Project-P100619-FINAL-01262017-01312017.pdf .

World Bank Group, 2017. World Bank Open Data: GDP Growth Rate, Ghana. Available at: http://data.worldbank.org/country/ghana?view=chart [Accessed 28-8-2017].

Wu, I. and Pojani, D. 2015. Obstacles to the creation of successful bus rapid transit systems: The case of Bangkok. *Research in Transportation Economics,* Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008324884&doi=10.1016%2fj.retrec.2016.05.001&partnerID=40&md5=2a8f588e1815dc82eadeb49be4a61219 [Accessed 2 April 2017].

Zukauskaite, E., Plechero, M. and Trippl, M. 2016. *Institutional Thickness Revisited,* Available at: http://wp.circle.lu.se/upload/CIRCLE/workingpapers/201601_Zukauskaite_et_al.pdf [Accessed 03-04-2017].

Annex 1: Research Instruments and Time schedule

ERASMUS UNIVERSITY, ROTTERDAM,
INSTITUTE FOR HOUSING AND URBAN DEVELOPMENT STUDIES (IHS)
MSc. URBAN MANAGEMENT AND DEVELOPMENT (UMD 13)
JUNE/JULY 2017

Interview Guide for Local Government Authorities – AMA, TMA, GWMA. GEMA, MOT
Research Topic: The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation

The objective of this research is to explain the institutional factors that affected the implementation of the BRT project in Accra. The purpose of this interview is to collect data strictly for academic purpose. Results and findings from this study will be reported in a Master thesis. The confidentiality of your responses is guaranteed. I kindly indulge your sincerity in your responses. The interview will take approximately 30 minutes. I am grateful for your time and cooperation. Thank you.

General information
Name of Institution/Organization: .....
Position/ Rank: .....
How long have you worked in this organization? .....

Part One - Institutional Presence
Density

1. Can you tell me about the organizations that are supporting the BRT project in Accra?
2. What is your opinion about the capacity of these organizations to implement the project?

Commitment

3. How would you describe the commitment of these organizations towards the project?
4. Can you tell me about any budgeted activities carried out by your organization in support of the project during the original phase of the project? What about the period after 2012?

Part Two - Level of interactions among Institutions

Collaboration

5. How do stakeholders engage on the following issues?
   - Institutional and legislative framework,
   - Political leadership and commitment,
   - Management of competing modes,
   - Public participation,
   - Funding and coordination,
   - Quality of physical design,
   - Image promotion
6. How would you describe the collaboration among stakeholders on these issues when the BRT project started? What about the period after 2012?

Length of time in operation

7. How long has your organization been involved in urban transport in Accra?
8. At what point was your institution involved in the BRT project? Planning, Design or implementation stage?
9. What was your contribution at that stage?

Part Three - Power relations

Formal competencies

10. What role did your organization play at the original phase of the project? And period after 2012?

Local actors' perceptions

11. How would you describe the performance of other stakeholders (Ministries, District Assemblies, Transport unions, others) during the original phase? What about the period after 2012?
12. In your opinion which roles played by the various stakeholders were critical to the project? And why?
13. Which organization/actor do you think is more responsible for the success or failure of the project? And why?

Part Four - Sense of Common agenda

Shared local identity

14. What urban transport issues do you think are pertinent in the City of Accra?
15. How relevant do you think the BRT project is for Accra?
16. How important do you think your organization is in the delivery of urban transport in Accra?
17. How will you describe the level of participation by your institution in the project? What about participation by other stakeholders?
18. What challenges do you think exist with regard to participation by stakeholders?

Shared local priorities

19. Is the BRT project part of priority activities of your organization? Why so?
20. Can you tell me about how important the BRT project is to your organization?

Part Five - State of BRT implementation

21. What can you say about the progress of implementation of the BRT project in Accra?
22. Did the implementation of the project meet your expectations? Why so?
23. What challenges do you think faced the implementation of the project? And why those challenges?
24. To summarize, what can you say about the implementation of the project?

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Interview Guide for Assembly Members – AMA, TMA, GWMA. GEMA
Research Topic: The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation

The objective of this research is to explain the institutional factors that affected the implementation of the BRT project in Accra. The purpose of this interview is to collect data strictly for academic purpose. Results and findings from this study will be reported in a Master thesis. The confidentiality of your responses is guaranteed. I kindly indulge your sincerity in your responses. The interview will take approximately 30 minutes. I am grateful for your time and cooperation. Thank you.

General information
Name of Institution/Organization: .....
Position/ Rank: .....
How long have you worked in this organization? .....

Part One - Institutional Presence
Density

1. Can you tell me about the organizations that are supporting the BRT project in Accra?
2. What is your opinion about the capacity of these organizations to implement the project?

Commitment

3. How would you describe the commitment of these organizations towards the project?
4. Can you tell me about any budgeted activities carried out by your organization in support of the project during the original phase of the project? What about the period after 2012?

Part Two - Level of interactions among Institutions

Collaboration

5. How do stakeholders engage on the following issues?
   - Institutional and legislative framework,
   - Political leadership and commitment,
   - Management of competing modes,
   - Public participation,
   - Funding and coordination,
   - Quality of physical design,
   - Image promotion
6. How would you describe the collaboration among stakeholders on these issues when the BRT project started? What about the period after 2012?

Length of time in operation

7. At what point was the Assembly involved in the BRT project? Planning, Design or implementation stage?
8. What was your contribution at that stage?

Part Three - Power relations

Formal competencies

9. What role did the Assembly play at the original phase of the project? And period after 2012?

Local actors' perceptions

10. How would you describe the performance of the other stakeholders (Ministries, District Assemblies, Transport unions, others) during the original phase? What about the period after 2012?
11. In your opinion which roles played by the various stakeholders were critical to the project? And why?
12. Which organization/actor do you think is more responsible for the success or failure of the project? And why?

Part Four - Sense of Common agenda

Shared local identity

13. What urban transport issues do you think are pertinent in the City of Accra?
14. How relevant do you think the BRT project is for Accra?
15. How important do you think the Assembly is in the delivery of urban transport in Accra?
16. How will you describe the level of participation by the Assembly in the project? What about participation by other stakeholders?
17. What challenges do you think exist with regard to participation by stakeholders?

Shared local priorities

18. Is the BRT project part of priority activities of the Assembly? Why so?
19. Can you tell me about how important the BRT project is to the Assembly?

Part Five - State of BRT implementation

20. What can you say about the progress of implementation of the BRT project in Accra?
21. Did the implementation of the project meet your expectations? Why so?
22. What challenges do you think faced the implementation of the project? And why those challenges?
23. To summarize, what can you say about the implementation of the project?

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Interview Guide for Other Institutions – DVLA, GAPTE, MTTU, NRSC, MMT, GPRTU, PROTOA, GCTA,

Research Topic: The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation

The objective of this research is to explain the institutional factors that affected the implementation of the BRT project in Accra. The purpose of this interview is to collect data strictly for academic purpose. Results and findings from this study will be reported in a Master thesis. The confidentiality of your responses is guaranteed. I kindly indulge your sincerity in your responses. The interview will take approximately 30 minutes. I am grateful for your time and cooperation. Thank you.

General information
Name of Institution/Organization: .....
Position/ Rank: .....
How long have you worked in this organization? .....

Part One - Institutional Presence
Density

1. Can you tell me about the organizations that are supporting the BRT project in Accra?
2. What is your opinion about the capacity of these organizations to implement the project?

Commitment

3. How would you describe the commitment of these organizations towards the project?
4. Can you tell me about any budgeted activities carried out by your organization in support of the project during the original phase of the project? What about the period after 2012?

Part Two - Level of interactions among Institutions

Collaboration

5. How do stakeholders engage on the following issues?
    - Institutional and legislative framework,
    - Political leadership and commitment,
    - Management of competing modes,
    - Public participation,
    - Funding and coordination,
    - Quality of physical design,
    - Image promotion
6. How would you describe the collaboration among stakeholders on these issues when the BRT project started? What about the period after 2012?

Length of time in operation

7. How long has your organization been involved in urban transport in Accra?
8. At what point was your institution involved in the BRT project? Planning, Design or implementation stage?
9. What was your contribution at that stage?

Part Three - Power relations

Formal competencies

10. What role did your organization play at the original phase of the project? And period after 2012?

Local actors' perceptions

11. How would you describe the performance of roles by other stakeholders (Ministries, District Assemblies, Transport unions, others) during the original phase? What about the period after 2012?
12. In your opinion which roles played by the various stakeholders were critical to the project? And why?
13. Which organization/actor do you think is more responsible for the success or failure of the project? And why?

Part Four - Sense of Common agenda

Shared local identity

14. What urban transport issues do you think are pertinent in the City of Accra?
15. How relevant do you think the BRT project is for Accra?
16. How important do you think your organization is in the delivery of urban transport in Accra?
17. How will you describe the level of participation by your institution in the project? What about participation by other stakeholders?
18. What challenges do you think exist with regard to participation by stakeholders?

Shared local priorities

19. Is the BRT project part of priority activities of your organization? Why so?
20. Can you tell me about how important the BRT project is to your organization?

Part Five - State of BRT implementation

21. What can you say about the progress of implementation of the BRT project in Accra?
22. Did the implementation of the project meet your expectations? Why so?
23. What challenges do you think faced the implementation of the project? And why those challenges?
24. To summarize, what can you say about the implementation of the project?

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Interview Guide for Urban Transport Experts – CUT, TCPD

Research Topic: The Bus Rapid Transit Project in Accra, Ghana: Institutional factors affecting its implementation

The objective of this research is to explain the institutional factors that affected the implementation of the BRT project in Accra. The purpose of this interview is to collect data strictly for academic purpose. Results and findings from this study will be reported in a Master thesis. The confidentiality of your responses is guaranteed. I kindly indulge your sincerity in your responses. The interview will take approximately 30 minutes. I am grateful for your time and cooperation. Thank you.

General information
Name of Institution/Organization: .....
Position/ Rank: .....
How long have you worked in this organization? .....

Part One - Institutional Presence
Density

1. Can you tell me about the organizations that are supporting the BRT project in Accra?
2. What is your opinion about the capacity of these organizations to implement the project?

Commitment

3. How would you describe the commitment of these organizations towards the project during the original phase of the project? What about the period after 2012?

Part Two - Level of interactions among Institutions

Collaboration

4. How do stakeholders engage on the following issues?
    - Institutional and legislative framework,
    - Political leadership and commitment,
    - Management of competing modes,
    - Public participation,
    - Funding and coordination,
    - Quality of physical design,
    - Image promotion
5. How would you describe the collaboration among stakeholders on these issues when the BRT project started? What about the period after 2012?

Length of time in operation

6. How long have you been involved in urban transport in Accra?
7. At what point were you involved in the BRT project? Planning, Design or implementation stage?
8. What was your contribution at that stage?
9. Do you think the length of time in operation of stakeholders affect the implementation of the project? Why so?

Part Three - Power relations

Formal competencies

10. What role did you play at the original phase of the project? What about the period after 2012?

Local actors' perceptions

11. How would you describe the performance of stakeholders (Ministries, District Assemblies, Transport unions, others) during the original phase? What about the period after 2012?
12. In your opinion which roles played by the various stakeholders were critical to the project? And why?
13. Which organization/actor do you think is more responsible for the success or failure of the project? And why?

Part Four - Sense of Common agenda

Shared local identity

14. What urban transport issues do you think are pertinent in the City of Accra?
15. How relevant do you think the BRT project is for Accra?
16. How important do you think your organization is in the delivery of urban transport in Accra?
17. How will you describe the level of participation by your institution in the project? What about participation by other stakeholders?
18. What challenges do you think exist with regard to participation by stakeholders?

Shared local priorities

19. Can you tell me about how important the BRT project is to the stakeholders?
20. Do you think that the stakeholders prioritize the implementation of the BRT project? Why so?

Part Five - State of BRT implementation

21. What can you say about the progress of implementation of the BRT project in Accra?
22. Did the implementation of the project meet your expectations? Why so?
23. What challenges do you think faced the implementation of the project? And why those challenges?
24. To summarize, what can you say about the implementation of the project?

SN	Time Schedule																
	Task	June				July				August				September			
1.	Proposal writing and submission																
2	Data collection (Interview)																
3.	Data Preparation (Transcription)																
4.	Data Coding																
5.	Analysis																
6.	Compilation of results																
7.	Report writing																
8.	Colloquium 4																
9.	Correction and incorporation of comments																
10.	Submission of draft thesis																
11.	Final review and submission of thesis																
12.	Thesis defense																
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Annex 2: Code list

Group Code	Code
Institutional Presence	❖ Commitment ❖ Capacity ❖ Contribution ❖ Density
Level of interactions among Institutions	❖ Collaboration ❖ Length of time in operation ❖ Stakeholder Involvement ❖ Coordination ❖ Participation
Power relations	❖ Formal competencies ❖ Leadership ❖ Perception on Performance ❖ Perception on Critical Role ❖ Perception on Responsibility
Sense of Common agenda	❖ Opinion on BRT Relevance ❖ Opinion on Transport Issues ❖ Shared local priorities
State of implementation	❖ Ease of reaching agreements ❖ Ease of executing decisions ❖ Implementation Challenges ❖ Opinion on Progress

Annex 3: Detailed Summary of Scores on Institutional thickness indicators for original and pilot phases

Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)		Original phase 2008-2012		Pilot phase 2013-2016	
		Institutional Condition	**Rating**	**Institutional Condition**	**Rating**	**Institutional Condition**	**Rating**
Institutional Presence	Density	BRT services are integrated and managed by a single regional authority which should be responsible for planning, coordinating, financing and contracting service operators Christodoulou and Finger (2012) Activities of existing transport operators formalized and incorporating them into BRT systems as a more integrated modal system Lindau, Hidalgo, et al. (2014) and Wu and Pojani (2015)	★★★	No presence of a single regional authority or a coordinating body Planning is done by the Ministries (Transport and local government ministries) Contracting and regulation of transport routes informally done by the private transport associations Frequent changes to project coordinating role from PAO to CUT and toe Pre-GAPTE By-laws to regulate the urban transport sector were non-existent at the start of project but was later enacted. However, enforcement was lacking	★	Planning and regulation partially enforced by the UPTUs (now transport department) in the participating Assemblies as established in the by-laws Existence of a coordinating body (GAPTE) for the contracting and management of QBS routes as well as assume some regulatory roles of the UPTUs whilst existing private transport associations still control some routes	★★
	Commitment	High level of commitment from all stakeholders and provision of institutional support to the project Coulson and Ferrario (2007)	★★★	Commitment level of stakeholders was high. Public stakeholders offered logistical support to the project	★★★	Commitment level of stakeholders was high. Public stakeholders offered logistical support to the project	★★★

Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)		Original phase 2008-2012		Pilot phase 2013-2016	
		Institutional Condition	**Rating**	**Institutional Condition**	**Rating**	**Institutional Condition**	**Rating**
	Ownership	Public regulatory institution assumes regulatory roles and all existing public transport operators owning shares in the BRT operating companies Allen (2013)	★★★	Private operators played self-regulatory roles and own their fleets No BRT companies established	★	GAPTE played coordinating role whilst three transport operators' associations formed QBS companies	★★
Level of interactions among Institutions	Collaboration	Constant communication with all project stakeholders throughout implementation Lindau, Hidalgo, et al. (2014) and Wu and Pojani (2015) Ability and skills of project implementers to effectively coordinate and keep the focus of all actors Allen (2013) Successful negotiation with existing bus operators in the project area Wu and Pojani (2015)	★★★	Intense stakeholder engagement in the form of meetings, workshops sensitization programs and study tours. There were regular monthly review meetings throughout this phase Frequent changes to coordinating roles leading to poor coordinating and leadership roles of DUR Misunderstandings between project implementers and transport operators (especially GPRTU) about the benefits of the project to the latter	★★	Regular formal meetings among all stakeholders ceased; though there were occasional informal meetings when necessary especially between GAPTE and operators Transport operators were relatively clear about the benefits of the project to them and successful negotiations on QBS routes operations	★★
	Length of time in operation	Stakeholders in urban transport collaborated and engaged in urban transport service delivery for several years No distrust among Stakeholders with regards to the project Pemberton (2000) and Coulson and Ferrario (2007)	★★★	All key stakeholders have for decades provided transport related services in the Ghana prior to and during the implementation of the project Lack of trust among transport operators towards project implementers as there was the	★	All key stakeholders have collaborated longer on the project and provided urban transport services except for UPTUs and GAPTE which have relatively shorter time in provision of transport services as they were established out of the project.	★★

Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)		Original phase 2008-2012		Pilot phase 2013-2016	
		Institutional Condition	Rating	Institutional Condition	Rating	Institutional Condition	Rating
				fear of competition among them		Inadequate trust among transport operators towards project implementers; but their fears about the project were alleviated	
Power relations	Formal competencies	Tasks allocated to institutions which have considerable capacities for BRT Finn (2013) No dominance of any particular stakeholder. Levelled field for all stakeholders to play their respective roles Amin and Thrift (1995) Coulson and Ferrario (2007)	★★★	All key stakeholders had no capacity in BRT at the beginning but their capacity was gradually built through training sessions, workshops and study tours Dominance of the DUR as the controller and custodian of technical resources Dominant GPRTU serving as the mouthpiece of all transport operators as well as the final decision-maker	★	The UPTUs, GAPTE, transport operators and other key stakeholders possessed considerable capacities in BRT Task were allocated to UPTUs and GAPTE DUR lost its dominance as GAPTE was established GPRTU remained the mouthpiece of transport operators but with more involvement of other transport operators in QBS operations	★★
	Local actors' perceptions	Actors' perceptions reflect the actual situation about their capacity in BRT and the dominance of some actors Coulson and Ferrario (2007)	★★★	Perceptions of actors confirmed that all stakeholders lack capacity in BRT at the start but were gradually trained Perceptions of actors about lack of capacity and existence of dominance reflected the actual situation	★★★	Perceptions of actors confirmed that all stakeholders possessed considerable capacity in BRT Perceptions of actors about lack of capacity and existence of dominance reflected the actual situation	★★★
Sense of Common agenda	Shared local identity	All key Stakeholders acknowledge urban transport issues (Amin and Thrift, 1995, Henry and Pinch, 2001).	★★★	Project implementers, transport operators and other key stakeholders appreciated urban transport issues which reflected the real issues facing Accra	★★★	Project implementers, transport operators and other key stakeholders appreciated urban transport issues which reflected the real issues facing Accra	★★★

Sub-Variable	Indicator	Prototype Situation (based on theory and best practices)		Original phase 2008-2012		Pilot phase 2013-2016	
		Institutional Condition	**Rating**	**Institutional Condition**	**Rating**	**Institutional Condition**	**Rating**
	Shared local priorities	All key stakeholders consider BRT as a relevant project for the project area place high priority on it (Amin and Thrift, 1995, Henry and Pinch, 2001).	★★★	All Stakeholders considered the project as relevant for Accra All public stakeholders placed high priority on the project except the private transport operators which did not perceive the project as a priority	★★	All Stakeholders considered the project as relevant for Accra All public stakeholders placed high priority on the project except the private transport operators which did not perceive the project as a priority	★★