Islamabad Bus Rapid Transit
Summary Project Briefing

Capital Development Authority
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Introduction

This summary project briefing outlines the need for and opportunities awaiting an investment in a bus rapid transit (BRT) system for Islamabad, Pakistan’s capital city.

The project has been developed by the Islamabad Capital Development Authority (CDA) with the support of the Cities Development Initiative for Asia, the Asian Development Bank, and the Infrastructure Project Development Facility of the Ministry of Finance of Pakistan.

This briefing introduces the capital city, outlines it’s key transport needs, and summarizes the highly participative development process undertaken in order to develop the recommended BRT project.

The project is then described in terms of its proposed route network and innovative infrastructure, outlining its indicative costs and highlighting the considerable economic and social benefits that the system brings to the city.

The CDA is currently preparing the next stage of the project, which potentially provides considerable partnering opportunities for the private sector and international development partners.
Islamabad is the capital city of Pakistan, the world’s sixth most populous nation. The city holds the seat of national government, houses Pakistan’s third largest stock exchange, and is the headquarters for many national and international corporations. It is considered to be one of Pakistan’s most livable cities; it has one of the nation’s highest literacy rates and is home to several of its top-ranked universities. Reportedly, Islamabad’s population is currently 1.3 million, with a population growth rate of 4 percent per annum.

Islamabad is one of only several cities globally to be planned as a national capital from the outset. Ever since its inception circa 1960, it has maintained its original urban structure: a rectangular-shaped grid pattern of development with its apex pointing northwest towards the Margala Hills. The city is characterized by 2-km by 2-km wide sectors, created through the intersections of wide and straight grid patterned roads. Each of the sectors is serviced by a commercial and retail center known as a ‘markaz’, designed as a mini business district and retailing hub for adjoining communities.

The social profile of the urban area is generally uniform within the sectors. As a result, high, medium and low-income residents are typically confined to discrete locations within the city.

Islamabad is closely integrated with the adjoining ‘twin city’ of Rawalpindi to its immediate south: a burgeoning city of population 3.3 million. The two cities have been closely aligned ever since Islamabad’s conception, and today form the nation’s third largest urban conurbation. The CDA is responsible for the planning, development and administration of infrastructure in Islamabad.

The city’s urban transport sector is supported by its unique urban structure of uniform land use, which has created a significant need for travel. It is estimated that within Islamabad, there are about 700,000 daily trips originating and terminating within the city, and up to a further 500,000 daily trips which either travel to or from the city to adjoining urban areas, the majority of these being commuters from Rawalpindi to Islamabad.

This growing demand, coupled with the city’s unusually wide road alignments and medians provides a unique opportunity to develop a hallmark BRT system within the city. Furthermore, the opportunity also exists in the future to extend the system to serve Rawalpindi, as the market demands.
Although it is estimated that there are well over one million trips taken within Islamabad every day, including up to half a million trips to and from Rawalpindi alone, the city does not currently have an urban transport master plan for the forward management of the sector. Furthermore, the level of congestion, while not as chronic as many other Asian cities, is beginning to have an impact on Islamabad’s clean environment and the overall liveability of the city.

Public transport in Islamabad is dominated by the private sector, which operates small wagons and buses in a largely unregulated and unmonitored environment. They contribute about 35 percent of mode share of overall traffic, a share that is on the decline due to the relatively poor level of service and widespread customer dissatisfaction with the services. In addition there are a myriad of private bus fleets: provided or contracted by Government departments, private companies, schools and other entities to exclusively serve the commuter needs of their workers and students.

Despite being the nation’s capital, Islamabad therefore lacks a formal public transport system that adheres to industry service standards, and where services are run on a reliable and predictable schedule and frequency. As a result, waiting times are variable and often lengthy, and when services do arrive, they often reportedly result in opportunistic fare gouging and passenger abuse.

Passenger demand is falling and the quality of service, relative to those with private transport, is declining. The public transport experience for women, the elderly and school children is particularly poor. This highlights the unique opportunity for a well designed and operated BRT system to capture this largely unsatisfied travel market.

A recent social survey indicates widespread (over 90 percent) public dissatisfaction with the existing public transport services, and high levels of support for improved, higher quality services. Women, the elderly and disadvantaged groups in particular highlight service reliability, seat availability and being treated with respect by drivers and conductors as key deficiencies. Over 75 percent of journeys by the occupants of low-income households are by public transport, underlining their reliance on this transport mode.

Despite these shortcomings, the level of demand in Islamabad suggests solid market potential for a well designed and properly managed urban transport system. Moreover, such a system could be developed and expanded as the new sustainable urban transport policies of the CDA are implemented, and fully adopted by the community. Respondents to the recent survey overwhelmingly support the concept of a BRT system, and expressed a willingness to pay more for such a premium service. This bodes well for a well-designed BRT system. 
What is BRT

Bus Rapid Transit (BRT) is an innovative, high quality bus-based mass transit system that is based around the needs of the passenger. It delivers fast, reliable, safe, comfortable and cost effective urban mobility. In this respect, BRT systems are an amalgam of best practice procedures supported by modern technology; developed for the specific city being served.

BRT is often characterized by segregated rights-of-way infrastructure, rapid and frequent bus services, and supporting intelligent infrastructure, such as real time passenger information systems and efficient fare collection systems. Stations are purposefully designed, bus fleets are clean and comfortable, service patterns are flexible and tailored to specific markets, and there is excellence in marketing and customer service.

The combination of these elements ensures that BRT systems offer a far superior level of service to conventional bus services. The proposed Islamabad BRT system is based on these concepts.

BRT systems are becoming a familiar sight across the world, as cities in over 30 countries are aware of the need to adopt the paradigm of ‘moving people, not cars’. It is becoming a preferred urban transport mode for many modern, forward-thinking cities.
The Investment Project Development Process

The BRT project has been developed on the basis of ‘what is logical and practical’, given the unique physical, economic and operational opportunities and constraints in Islamabad. It has been guided by valuable stakeholder assessment and feedback including:

- Surveys of existing public transport passengers to ascertain their level of satisfaction with the system, key concerns, suggestions for improvement, and willingness to pay more for improved services.
- Engagement with existing transporters through formal meetings, informal field discussions and workshops to understand and incorporate their concerns, future aspirations and involvement in the system, and to begin to identify contingency measures to mitigate any impacts on this group.
- Two major stakeholder workshops, encompassing a wide range of stakeholders.
- Close liaison with the CDA and other agencies to ensure that the project is well within the capacity of Government to implement and manage on a sustainable basis.

As a result, the selected BRT network has been framed to serve known corridors of demand, but which minimizes, as much as is possible, adverse impacts on existing transporters. Over time, and with improved operating conditions, the existing operators can increasingly appreciate the need for improvements as the existing passengers choose to use the BRT. At that stage, and with successful engagement and assistance from the CDA, transporters can become part of the overall improved transport system for the city. This will generate a cooperative public-private relationship: a crucial prerequisite for successful long-term project development.

The BRT system design and route selection also prioritizes the needs of lower income communities within Islamabad, particularly catering to the needs of women, the elderly and disadvantaged groups.
Islamabad BRT: Proposed Route Network

The BRT network therefore responds directly to the needs of Islamabad’s stakeholders, balancing these needs with the city’s essential travel demands, and sizing the project to an appropriate scale. It prioritizes linkages with Islamabad’s primary Government area known as ‘Pak Secretariat’, and is designed with the potential to expand seamlessly into Rawalpindi in due course.

The network improves equity in mobility for middle and lower income communities who are heavily reliant on public transport, servicing these communities as a priority. It can be extended westwards along the Kashmir Highway to serve rapidly developing communities in the west and also the new airport. In time, the existing alignment structure (median alignment) can be readily expanded to serve virtually the entire urban area by a simple extension from each of the four route terminals.

A median alignment structure has been selected for the BRT in preference to a kerbside alignment structure for the following reasons:

- Potential kerbside interference from existing transporters is minimized.
- The BRT buses are insulated from clogged kerbside lanes.
- The BRT buses are separated from the general traffic, allowing higher travel speeds and improved reliability.
- Passenger interchanging between services is more convenient.
- Less service relocations are required during construction.
- The generous lane widths allow for staggered platforms and passing lanes.
- Median arterials are possible throughout most of the urban arterial road network.

High floor/level boarding buses are also selected for the system, due to their lower cost and the fact that their floor height matches the height of the planned median station platforms. If low floor buses can be obtained for a minimal premium, then a low floor station platform is also possible.
Islamabad BRT: Innovative System Infrastructure

The proposed BRT system includes a 26.6-km corridor with 53.2-km of segregated runningways operating adjacent to the median. It includes 33 median-based stations, four end-of-line terminal stations, and one depot. A fleet of 48 high floor/level boarding buses will provide a 10-minute frequency for four routes, a 6-minute frequency for one route during peak hours, and a 15-minute frequency at other times. Anticipated service hours are from 6.00 am to 10.00 pm on workdays, and 7.00 am to 10.00 pm on other days.

The BRT is to be a closed operating system, with services provided only by authorized operators. It also provides for a trunk feeder arrangement, where existing transporters link services from lower demand routes, integrating these services with the BRT. Consistent with international BRT standards, the system will incorporate many modern BRT features, outlined in the following images.

1. Branding which reinforces the new era of quality of services being provided.
2. Dedicated passenger stations to provide sheltered, convenient and safe waiting areas for passengers.
3. Customer service staff to assist passengers with information and other service queries.
4. A smart card ticketing system, providing the ultimate in customer ticketing convenience.
5. Tailored passenger station designs to provide convenience and safety.
6. Security systems to ensure passenger safety and confidence in the system.
7. Passenger help facilities to respond to queries or emergencies that may arise from time to time.

Modern, comfortable stations with signature branding.

Buses with wide doors, designed for easy and rapid boarding and alighting.

Level boarding, with plenty of space available for passenger comfort.

BRT system control room, to ensure the system runs to plan, and that passenger needs are met.
Although yet to be verified through further feasibility assessment, indicative capital costs for the BRT system are estimated at US$ 79 million, and annual operating costs at US$ 3.8 million. Passenger demand, although extremely difficult to estimate due to the absence of prior travel demand data and traffic count limitations at this early stage, is estimated to be up to 42,000 passengers per day initially. Potential future connections to Rawalpindi would result in dramatic increases in ridership, potentially by a factor of three or more.

As with the great majority of BRT systems globally, the Islamabad BRT system will require an operating subsidy from Government, as part of Government’s contribution to the task of providing equitable mobility for all. Again however, if system expansion to Rawalpindi and other areas becomes a reality, it could have a substantial positive financial impact due to increased ridership, potentially reducing the subsidy amount over the long term.

Irrespective of the need for public subsidy, cities continue to invest in BRT systems on the basis of the significant economic and social benefits captured. For Islamabad, these benefits include savings in travel time and operating costs, reduced motor vehicle accidents, and lower pollution levels. The increased mobility will also generate additional employment opportunities, adding to the economic activity of the city. Once the benefits of the BRT are more widely appreciated and market forces react accordingly, land values along the BRT corridors can be expected to increase, attracting additional investments and contributing further to economic growth.

The proportionate positive impacts on the poor and on women are also likely to be significant due to their existing reliance on (inferior, inefficient and largely unregulated) public transport. The BRT will improve waiting and travel conditions for thousands of people, providing them with a clean, comfortable and reliable service. Environmentally, the BRT project will replace over 15 million km of car, wagon and motorcycle travel annually. It will have a positive impact on combating climate change by reducing CO2 emissions by over 4,000 tons per year.

The BRT system will provide Islamabad with improved urban amenity by allowing more direct and efficient travel. It promotes equitable accessibility for all, and will help create a better urban environment by reducing congestion and pollution.
As the designated BRT implementing agency, the CDA is now progressing with the necessary actions in order to complete feasibility and design activities, and ensure that the BRT project is delivered in the soonest time possible. This project is a key priority for the CDA and Islamabad: it is a pioneering and valuable initiative that can be emulated in other cities of the nation and region.

The CDA is currently establishing a dedicated BRT Cell within its organization to lead all development activities, and subsequently to manage the BRT project going forward. Eventually, the plan is for this cell to evolve into a fully functioning transport wing of the CDA, capable of undertaking the strategic and policy development functions of the entire public transport sector, including the management of a broader BRT city network.

Once the cell is in place, the project will move quickly through the project feasibility, design and construction phases in order to commission the BRT system by late 2015. From this point forward, the BRT system will be fully functioning.

The CDA is currently evaluating a number of commercial structures and financing options available for BRT development. These fall broadly into two distinct categories; firstly, the involvement of the private sector through public-private-partnership (PPP) modalities, and secondly, the involvement of international development partners.

Options for PPP range from, (i) the fully inclusive, long-term outsourcing of the entire system through design-build-finance-operate (DBFO) options, to (ii) the involvement of the private sector in specific components of the BRT system, providing one or a combination of the design, build, finance and operate functions.

For international development partners, valuable assistance opportunities exist to support further feasibility assessment and design activities, to provide capacity support to the BRT cell, and in potential long-term financing for the BRT system.

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