Development of Bus Rapid Transit (BRT) in Africa

Experience from Lagos, Accra and Kampala

A new approach for Africa

- Latin America is not the only model
- In Sub-Saharan Africa, generally
  - Cities are smaller, and lower density (not Lagos)
  - Travel demand is dispersed, not trunk focused
  - Motorisation is lower, but more minibuses
  - Affordability for investment and fares is lower
  - Urban environment is more constrained
- A holistic and pragmatic response is needed

Redefinition of BRT

- BRT is a systems-based approach to urban bus provision to meet locally defined user needs within the physical, institutional and financial constraints of an area
- It is a flexible, adaptable and cost-effective means of urban transport based on the bus mode, raising travel speed (absolute and relative), and carrying high volumes of people

BRT Network Concepts

- Base on quantified demand from surveys
- Justified at 6,000 passengers per peak hour
- Integrated tributary for 1,000 passengers/hour
- Develop service plan before infrastructure
- Insertion possible within 30m Right of Way
- City-centre access and terminal arrangements are crucial and difficult
- Costs likely to be $5m to $8m per kilometre, excluding land take and major structures

Public / Private Partnership

- Public sector provides enabling framework: necessary infrastructure, regulatory security, potential of attractive investment returns
- Private sector invests in rolling stock and operates the specified bus services
- Private sector manages the BRT system, and its customer-facing services
- Public sector compensates for displacement

Institutional Framework (1)

- BRT System Owner / Developer
  - All strategic decisions: network; routes; levels of service; fares structure; fares levels; selection of operators / managers; form of contract
  - Ultimate beneficiary but overall responsibility
- BRT Asset Manager
  - Holds and maintains all public BRT assets
  - Rewarded for their sustainable availability from user charges

Institutional Framework (2)

- BRT System Manager
  - Contracted by, and accountable to, system owner
  - Management / supervision of: bus operations; terminals and stations; customer-facing services; quality control and corrective actions; marketing and promotion
  - Skills need to be developed / rewarded
- BRT Bus Operations
  - Management of delivery to specified standards

Regulatory framework

- Public ownership of the route network and the right to operate bus services over this
- Controlled competition for operating rights of services specified by public institution
- Operators willing and able to enter into contractual relationships for these services
- Monitoring and enforcement capability in the public sector

Strategic Choices

- Form of Service Contract
- Fares structure
- Revenue collection modalities
- Passenger access standards
- Bus specification and size
- Cost recovery
- Fares levels

Form of Service Contract

- Gross-cost contract places revenue risk with public sector; operator is paid only for delivery of the specified service offer
- Net-cost contract requires operators to collect and protect revenues; contract can require track access payment or offer subsidy
- Gross-cost lacks performance incentives, and revenue risk may not be supportable; net-cost contracting preferred by default

Fares and Revenue Collection

- Graduated fares for financial sustainability
- Zonal structure for simplicity / integration
- Pre-paid tickets need closed stations with fares verification on alighting
- On-board payment allows open stations with over-riding control by conductor
- Smart-cards validated / decremented on bus
- Cash alternative payment mode still needed

Station and Bus Specifications

- Passenger access designed for 95+% of people
- Alternative provision for wheel-chair users
- Low station platforms to allow bus clearance
- 2-step bus entry to saloon floor at 850mm
- Optimum bus length 13.7m where allowed
- Articulated buses offer no unit-cost savings, present operational difficulties, and only carry more standing passengers

Cost Recovery and Fares Levels

- Passengers should pay all direct operating and recurrent costs of the BRT system, including maintenance of its infrastructure, but not for the original infrastructure capital investment
- BRT fares should be no higher than those now ordinarily being charged on its routes
- Passenger benefit comes from faster trips, and more reliable / predictable service

Operator Involvement

- Must be treated as partners, and be involved
- Fears of displacement are genuine, and losers have to be compensated
- Industry structure and incentives not suited to formal bus operation; development needed
- Mobilisation of necessary finance for fleet requirement is a real challenge
- Vision offered must be attractive and honest

Popular and Political Support

- Identify a credible political Champion
- Public relations and information strategy to build expectation and ownership
- Recognise that this doesn't finish at system launch – continuous improvement
- Watch the electoral cycle – BRT *can* be implemented within one term, but real difficulties if it isn't

Conclusion

- This approach might be termed BRT Lite, but Lagos has shown that it can do the heavy lifting!
- The lower the cost, and the greater the return, the more likely the system can be expanded
- All of the features of the enabling framework can be replicated on the core route network in a city, and enable new large-bus operation