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