Integrated Public Transport Planning

National workshop on promoting sustainable transport solutions for East Africa

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3rd August 2012
Contents – Integrated Public Transport Planning

1. Introduction
2. Overview of integrated public transport
3. What are the benefits?
4. Conditions & challenges
5. Key actors and approach
6. London example
7. What does this mean for Nairobi?
Introduction

Imagine a scenario.......
Overview of Integrated Public Transport Planning

- Environment
- Transport Modes
- Integrated Public Transport Planning
- Land Use Planning
- Education, health, economic, equality and wealth creation policies
# Overview

A shift towards a more integrated approach to public transport planning requires a fundamental shift in thinking

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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<tbody>
<tr>
<td>Making decisions for this generation</td>
<td>Making decisions for future generations</td>
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<tr>
<td>Understanding the transport system</td>
<td>Understanding transport and broader systems</td>
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<tr>
<td>Planning transport and land use separately</td>
<td>Planning transport and land use concurrently and iteratively</td>
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<tr>
<td>Responding to demand</td>
<td>Influencing and managing demand</td>
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<td>Accepting or mitigating impact on the environment</td>
<td>Seeking ways to conserve and enhance the environment</td>
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<td>Planning separate modal systems based on who owns/operates/manages</td>
<td>Collaborative planning of one interconnected transport system based on achieving system wide outcomes</td>
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<tr>
<td>Consulting government, industry and community</td>
<td>Engaging and developing partnerships</td>
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Non integrated public transport:

- **Comfort:** More than one ticket is needed for a single-trip ride.
- **Information:** The customer faces non-transparent tariff systems.
- **Travel time:** Timetables and connections between operators not harmonised.
- **Costs:** Parallel, competitive services exist.

Non-integrated public transport Neglects need of customers Decrease in public transport use Increase in private vehicle use
Overview

Integrated public transport

*one network, one timetable, one ticket, one fair*

- Service quality car comparable
- Multi-modal network integration
- Schedule and connection integration
- Fares and tariff integration (one ticket)
- Infrastructure integration
Benefits:
- For customers
  - More attractive system with the vision “one network, one timetable, one ticket, one fare – from door to door”.
  - Reduced travel time
  - Save money and time

- For operators, authorities and the public benefits will be felt over the medium and long term. Making public transport more attractive & reducing access barriers = more regular use by existing customers + new customers =
  - Higher revenue
  - Better for the environment
  - Less congestion
  - Community benefits – a social space
  - Cost effective (reduction of parallel services)
Conditions

Pre-conditions
• Political willingness & champion
• Initiative
• Common understanding
• Sound and stable legislative framework

Side-conditions
• Service quality
• Reliability
Challenges

- Political and operator willingness and initiative
- Development of a joint legal and institutional framework
- Agreement on harmonization/integration principles between operators
- Drastic change in approach to revenue distribution
- Financial support for subsidizing check through and harmonization losses
The Actors

Politicians

Operators

Public
**Approach**

- **Political Phase**
  - Consolidation of willingness of all actors
  - Setting up legal and financial framework
  - Setting up of a public transport authority

- **Strategic Phase**
  - Development of a public transport plan by all public transport players – defining principles e.g. the network, timetable, etc.
  - Collaboration between operators and authorities is essential

- **Realisation Phase**
  - Realisation of planning principles
  - Timetable and network coordination is first step
  - Continue with integration of tariffs and fares
The London Example

- **Oyster card** – integrated ticketing and fare structure across buses, metro (tube), tram and river services.
- **Different operators but one bus system** - seamless network, fare structure and information.
- **Cycle hire scheme** integrated with mainline rail stations and underground stations, supporting modal shift from public transport to cycling
- **Inter-modal hubs** providing services such as restaurants, cash points and supermarkets
- **Online journey planner** tool integrating all transport modes.
What does it mean for Nairobi?

The Study on Master Plan for Urban Transport in the Nairobi Metropolitan Area, JICA, 2006

“Insufficient network of buses and matatu, no existence of coordination between bus and matatu for sharing and integration”
“No spaces for non motorized transport’
“Uncoordinated transport infrastructure”

Feasibility Study & Technical Assistance for Mass Rapid Transit System for Nairobi Metropolitan Region, 2011
“Most bus companies operate on the same routes as the Matatus and compete for the same traffic”
“Most urban commuters do not use the commuter rail due to….inadequate inter-modal transfer facilities and long walk between station and places of work”
What does it mean for Nairobi?

**PAST**
- Economic stagnation
- Inadequate planning
- Public transport privatization
- Reduced infrastructure investment
- Little government control

**PRESENT**
- Emergence of transport as central focus of spatial planning
- Increased planning
- Plans for a transport authority
- Increased investment in infrastructure
- Plans for more government control
What does it mean for Nairobi?

Harmony and integration between all modes of transport

- Mass rapid transit (BRT, LRT, Metro, etc)
- Conventional passenger buses
- Paratransit buses (Matatus)
- Commuter Rail
- Walking and cycling
What does it mean for Nairobi

(1) Mass Rapid Transit Corridors
(2) Accessibility for Urban Poor
(3) Transition of Matatu Industry
What does it mean for Nairobi

Mass Rapid Transit Corridors
What does it mean for Nairobi? Focus on Mass Rapid Transit

Mass Rapid Transit – naturally aligned with public transport integrated planning;
- Multiple routes on a single corridor
- Multi corridor network
- Control center
- Integration with other public transport
- Pedestrian and cycle access/facilities
Integration with Other Public Transport

Often, when a BRT system is built in a city, a functioning public transport network already exists, be it rail, bus, or minibus. The BRT system should integrate into the rest of the public transport network.

There are three components to BRT integration:

- **Physical transfer points:** Physical transfer points should minimize walking between modes, be well-sized, and not require passengers to exit one system and enter another.

- **Fare payment:** The fare system should be integrated so that one fare card may be used for all modes.

- **Information:** All transit modes, including BRT, should appear in a single set of information. Thus, the BRT system should be integrated into existing public transport maps, and schedules should be available from a single source.

**Some examples of MRT integration**

Guangzhou, China, has physical integration, like this tunnel connecting the BRT to the Metro.

Parallel bike way to MyCITI, Cape Town, South Africa.

Map of all existing and potential BRT corridors in Jakarta, Indonesia.
What does it mean for Nairobi

Accessibility for Urban Poor
“Transport will be important not only in improving the competitiveness of products, but also....remain a key component in tackling such challenges as reduction of poverty by half by the year 2015 and overall improvement in the general welfare of the population”


“Transport Investment can actually harm the development process and adversely impact the lives of the poor, unless the conditions which they will lead to positive growth and poverty alleviation outcomes are carefully specified”

Hook, Transport and the Millennium Goals
What does it mean for Nairobi – a focus on the urban poor

• Poorest can often not afford any form of motorized transport relaying primarily on walking
• Delivery of affordable accessibility
• Less than 6-10% of monthly income
• Define how needs of urban poor will be met
What does it mean for Nairobi – a focus on the urban poor

Modal split on public transport - % of journeys

What does it mean for Nairobi – a focus on the urban poor

“73% of slum residents in Nairobi live on less than KSH106 per day”

“65% of urban poor walk to work (World Bank survey)”

Existing matatu fare

- Inconsistency in distance versus cost

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<th>From</th>
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<th>Distance</th>
<th>Cost</th>
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<tr>
<td>CBD</td>
<td>Eastleigh</td>
<td>4 km</td>
<td>50ksh</td>
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<tr>
<td>CBD</td>
<td>Kitingela</td>
<td>30 km</td>
<td>70ksh</td>
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- Fares change depending on the time

Kawangware to CBD 20-60ksh depending on travel time

- Directional targetting

CBD to Githurai morning peak 10ksh
Githurai to CBD morning peak 100ksh

- Weather impact

Rain equals a price increase!
What does it mean for Nairobi – a focus on the urban poor

• MRT Study corridors are locationally accessible to areas where majority of urban poor live

• But can the urban poor utilize the service;
  • Can they afford MRT fares?
  • Would MRT offer savings when compared against current transport options?
  • Will fares be prohibitive for those who require multiple trips?
What does it mean for Nairobi – a focus on the urban poor

- Ksh 2 – 2.5 per kilometre for BRT
- Ksh 4 per kilometre for LRT & metro
- Commuter rail also likely to rise from current Ksh20 per trip fare

<table>
<thead>
<tr>
<th>Matatu</th>
<th>From</th>
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<th>Distance km</th>
<th>Cost ksh</th>
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<tbody>
<tr>
<td>Kawangware</td>
<td>CBD</td>
<td>11.5</td>
<td>20-60</td>
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<tr>
<td>Githurai</td>
<td>CBD</td>
<td>17</td>
<td>100</td>
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<td>Githurai</td>
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What does it mean for Nairobi to focus on matatu integration?
What does it mean for Nairobi

Integration with matatu industry
What does it mean for Nairobi – focus on matatu integration

Current Status
• Control of physical transport split between public and private sector
• Tremendous growth in the matatu industry
• No effective planning framework or institutional structure
• Fare box has to cover all the costs = safety problems
• Market structure and system organization
  • System of paratransit and semi fixed routes
  • Low barriers to market entry
  • No effective legal impediments for service suppliers
  • Highly competitive system competing on mix of uncoordinated and informally designed routes

The Challenge
• Create a formal system or impose public order on existing informal systems
• To simultaneously create effective urban transport and institutional improvement
• Then to integrate with other public transport modes
South Africa Case Study

- 2006 South African National Department of Transport (NDoT) launched a policy to revitalize passenger transport systems in the country
- Envisaged 12 cities would embark on phased programmes to overhaul public transport by implementing BRT
- However, as the resulting networks would replace a substantial portion of existing road-based public transport operations, the policy stipulated that these operators be given the opportunity to be incorporated in the new system

So what went wrong?

- Inadequate engagement (particularly at the early stages)
- Inability to implement BRT and paratransit transformation in parallel
- Threats of force worsened relationships
- Lack of information/clarity
- Mismatch and assumptions
What does it mean for Nairobi – focus on matatu integration

Possible steps – matatu industry integration

(1) BRT as a mechanism to drive reform but learn from others

(2) Start true participation early

(3) Consider all options of formalization
   • Full assimilation between bus rapid transit and paratransit industry
   • Stepped, flexible transition
   • Paratransit industry upgrading

participation consultation persuasion
Thank you

Re-cap

• Overview of integrated public transport planning
• Benefits, conditions, challenges
• Key actors and approach
• London example
• What it means for Nairobi
Conclusion

Thank you

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