The Development of the Dar es Salaam Bus Rapid Transit (BRT) system

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Outline

• Context & Conceptual Design
• Dar BRT Development
• TOD - Corridor Development Strategy
Context: African Cities are Costly & Disconnected!

African cities are crowded, disconnected, and costly.

Typical African cities share three features that constrain urban development and create daily challenges for residents:

Crowded — not economically dense — investments in infrastructure, industrial and commercial structures have not kept pace with the concentration of people, nor have investments in affordable formal housing: congestion and its costs overwhelm the benefits of urban concentration.

Disconnected — cities have developed as collections of small and fragmented neighborhoods, lacking reliable transportation and limiting workers’ job opportunities while preventing firms from reaping scale and agglomeration benefits.

Costly for households and for firms — high nominal wages and transaction costs deter investors and trading partners, especially in regionally and internationally tradable sectors; workers’ high food, housing, and transport costs increase labor costs to firms and thus reduce expected returns on investment.
Dar es Salaam - 3rd Most Rapidly Urbanizing City in Africa
- Master-plan dated 1979
- Massive Traffic Congestion
Traffic Congestion – by Private Cars!

Traffic Survey Findings (Modal Split) in 2007:
- Public Transport – 61%
- Private Cars – 11%
- Walking & Cycling – 27%

<table>
<thead>
<tr>
<th>Transport Mode</th>
<th>No. of Trips (1,000)</th>
<th>% to total</th>
<th>% to total (excluding walking)</th>
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</thead>
<tbody>
<tr>
<td>Walking</td>
<td>744.3</td>
<td>25.9</td>
<td></td>
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<tr>
<td>Private Mode</td>
<td>376.5</td>
<td>13.1</td>
<td>17.7</td>
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<tr>
<td>Bicycle</td>
<td>39.5</td>
<td>1.4</td>
<td>1.9</td>
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<tr>
<td>Motorcycle</td>
<td>24.6</td>
<td>0.9</td>
<td>1.2</td>
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<tr>
<td>Passenger car</td>
<td>158.1</td>
<td>5.5</td>
<td>7.4</td>
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<tr>
<td>Pick-up, van</td>
<td>99.4</td>
<td>3.5</td>
<td>4.7</td>
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<tr>
<td>Taxi</td>
<td>18.2</td>
<td>0.6</td>
<td>0.9</td>
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<tr>
<td>Others</td>
<td>36.6</td>
<td>1.3</td>
<td>1.7</td>
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<tr>
<td>Public Mode</td>
<td>1,751.7</td>
<td>61.0</td>
<td>82.3</td>
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<td>1,714.6</td>
<td>59.7</td>
<td>80.6</td>
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<td>Intercity bus</td>
<td>2.4</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>School bus</td>
<td>34.7</td>
<td>1.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>2,872.6</td>
<td>100.0</td>
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</tr>
</tbody>
</table>

Source: 2007 HIS by JICA Study Team
BRT Trunk Network (2007)

Six BRT Phases

- Phase 1 (2009) – 20.9 km
- Phase 2 (2013) – 19.3 km
- Phase 3 (2017) – 23.6 km
- Phase 4 (2021) – 16.1 km
- Phase 5 (2025) – 22.8 km
- Phase 6 (2035) – 27.6 km
- Total: 137 km
BRT Phase 1: 2008 - 2016

Infrastructure:
• 21km trunk corridor
• 27 stations;
• 5 terminals
• 1 depot; 4 transfer stations

X-Section at Stations

X-Section off-station
BRT Operations – PPP process

• **Transaction Advisors** hired => Road Show – June 2014
• **Services:** Trunk Buses (150psgr) – 177 Nos. & Feeder Buses (80psgr capacity) – 128 Nos; Automated fare Collection system & Fund Manager

Alt. 01: Multiple Service Providers

- Fund Manager
  - **Fund Management Agreement**
  - Bus Operation Services Agreement
  - Interface risks
- DART Agency
  - Station Management and AFCS Services Agreement
- Transport Operator
  - Station Manager and AFCS Provider
- Bus Manufacturer
  - AFCS Provider
  - Telecom Operator
  - Station Manager
  - Cleaning and Maintenance Firm
  - Security Firm
• One Contract with a ‘Strong’ Service provider
• Preferred when Govt Agency has Inadequate Capacity
BRT Operations - PPP process

- Single Service Provider structure selected (Oct. 2014)
- Interim Services to be Introduced – misuse of infra
- Existing Minibus Operators – Organize & Operate as ISP

**Interim Service Providers Contract (April 2015)**
- Bus Fleet: 5 Trunk and 71 Feeder
- Actual Supplied: 39 Trunk & 101 Feeder
- Contract amended – Operations Commenced May 2016

**Final Structure (Process to be Completed in June 2018)**
- Bus Operator 1 (ISP)
- Bus Operator 2 (Competitive)
- Fare Collector & ITS Operator (Competitive)
- Fund Manager (Competitive)
Transformation so far by ISP Operation

BRT average Daily Ridership - 200,000 passengers!
BRT Interim Operations
Dar es Salaam - ITDP Sustainable Transport Award 2018
First African City to be awarded!
TOD Process: Intensive Engagement (Two Years)

Key Principles!

- Viable and suitable for the local context
- Quality placemaking and vibrant communities
- Excellent and well-structured

Key Stakeholders Consultation & Public Exhibition!
Corridor Analysis – Ridership, Accessibility
Key Deliverables!

DAR ES SALAAM METROPOLITAN DEVELOPMENT PROJECT

VOLUME 01
BRT Corridor and Station Typology Guidelines

VOLUME 02
Baseline Assessment and Diagnosis of BRT Corridor

VOLUME 03
Benchmarking Transport Oriented Development
TOD Scenario analysis

**Preferred Hybrid Framework**

**SCENARIO 1: POLYCENTRIC**

**SUMMARY**
High density areas directly adjacent to the corridor and station core areas + areas adjacent to feeder and key connection network

**SCENARIO 2: SUPER DISTRICT**

**SUMMARY**
Selected station core areas + high density areas in Ubungo-Kimara, Morocco-Magomeni and Gerezani

**SCENARIO 3: HIGH DENSITY CORRIDOR**

**SUMMARY**
Only very high density areas adjacent to the corridor

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**PROVISION OF MORE DIVERSE HOUSING & REAL ESTATE OFFER**

**BETTER "LAST MILE" CONNECTIVITY VIA SAFE, DIRECT AND PLEASANT ROUTES**

**FOCUS INFRASTRUCTURE & DEVELOPMENT TO DELIVER TRANSFORMATIVE CHANGE**

**IMPROVE SERVICE STANDARDS TO SUPPORT DENSITY AND MAXIMIZE RETURN ON INVESTMENT**

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**Preferred Hybrid Framework**
Phase 1 Corridor Framework
Framework for Land-use, Employment & Residential Density

- Structure for investment and growth
- Integrated transport programme
- Utility improvement programmes
- Regulated land uses
- Diversity with density
- More accessible jobs
- More adequate homes
- More managed green space

• Accessible jobs for all communities
• Employment on corridor and nodes
• Formal employment in slums
• Kigamboni shows long term plan

• Focused at stations and nodes
• Along corridor and feeders
• New affordable homes beyond Ubungo
• Risk areas prioritised and mitigated
• Better slum homes and infrastructure
Two Pilot Areas

UBUNGO Pilot:
US$100m Development Cost
Estimated US$35m LVC
Gerezani Pilot Project:
Development Cost - US$62m
LVC – US$4.5m
Next Steps:

- Gazetting of the CDS
  - Opportunity for TOD based Masterplan!
- PPP Feasibility Studies
- Transactions for Development of Two Pilot Hubs
- Scaling up of CDS to cover remaining BRT Phases (2-6)
Thanks for Listening