HIGH CAPACITY PUBLIC TRANSSPORT IN EAST AFRICA:
THE DAR RAPID TRANSIT (DART)

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PRESENTATION OUTLINE

1.0 INTRODUCTION

2.0 PLANNING THE DART SYSTEM

3.0 THE IMPLEMENTATION PROCESS

4.0 REMARKS
HIGH CAPACITY PUBLIC TRANSPORT IN EAST AFRICA:

- Relates to the design of an intricate set of framework for PT to ensure efficiency, behavior, control and viability with each aspect influencing the others.

- Competition-on-the-street is chaotic, hurts mobility, health and economic competitiveness of the cities (PPIAF).
THE BRT SYSTEM – AN OPPORTUNITY

- Mega cities have opted the introduction of the Bus Rapid Transit (BRT) Systems
- The 1st system is implemented in Dar es Salaam named *Dar Rapid Transit - (DART)*.
- Other cities have initiated the process.
DAR ES SALAAM CITY

- Area: 1800 Sq. Kms. with a population: projected to 3.8M
- 7% of Country Population, 30% of Urban Transport
- Dar es Salaam is the commercial city of Tanzania,
- Generates 70% of government internal revenue
THE CURRENT SITUATION

- Public Transport Lacks priority reduces number of trips buses can make, discourage the use of public transport
- Congestion on the roads, individual efforts to address transport challenges
- Capacity and Quality of vehicles
- Individual ownership and the management / operation structure
- Drivers ‘salary’ directly linked to fare box
- Routing System, regulating fragmented fleet is an impossible
Lack of traffic segregation, who has the right of way?
Overall evaluation: 80% of the respondents unsatisfied

Unsatisfied: Routing, waiting time, comfort, and safety

Slightly unsatisfied: operating hours and fare

Many complain about routing
INSTITUTIONAL ISSUES

• Fragmentation
• Duplication
• Gaps in responsibilities
• Multiple responsibilities

Many strategic initiatives have multiple implementing agencies – inadequate accountability
HOW DO WE MOVE FROM HERE?

- Congestion
- Low Capacity
- Emission
THE DART VISION

To have a modern public transport system at a reasonable cost to the users and yet profitable to the operators using quality, environmentally friendly, high capacity buses which meet international service standards that operate on exclusive lanes, reducing travel time.
DART CHARACTERISTICS

• Segregated bus lanes
• Modern, articulated buses
• Closed stations
• Comfortable, modern terminals
• Bus depot near the corridor
• Bike lanes on all DART corridors
• Beautiful sidewalks
PLANNING THE DART PROJECT

- Demand Studies
  - Operational Plan
    - Infrastructure Plan
      - Business Plan
  - Equipment Definitions
    - Infrastructure Design

BIDDING PROCESS

- Operation
- Reorganization
DART initial corridor selection

- Transport Demand (51.7%)
  - Current demand in the public transport corridor (48.5%)
  - Servicing low income areas (26.1%)
  - Travel time impact (25.4%)

- Feasibility (27.7%)
  - Easiness for construction (34.3%)
  - Financial viability (30.0%)
  - Qty daladala routes cancelled (20.4%)
  - Gen. costs benefits (15.2%)

- Environmental Impact (20.6%)
  - Qty of Demolitions (24.4%)
  - Air and sound pollution (22.4%)
  - Promote development urban areas (31.7%)
  - Impact during construction (21.5%)
Implementation Phases

Key DART corridors phases
- Phase 1: 20.9 km
- Phase 2: 19.3 km
- Phase 3: 23.6 km
- Phase 4: 16.1 km
- Phase 5: 22.8 km
- Phase 6: 27.6 km

- 130.3 km of DART corridors
- 18 terminals
- 228 stations
DART Phase 1 will have 20.9 km, 29 stations and 5 terminals and it is expected to be able to carry about 406,000 passengers per day.
For Phase 1, 1500 Daladalas and 48 routes will be replaced by DART Integrated Trunk and Feeder System

145 Trunk buses
221 Feeder buses
DESIGN CONSIDERATIONS
(Ten Cross sections to minimise relocations)
OTHER PLANNING ASPECTS

• **Institutional**: Developing the best institutional model (organizational, regulatory, and administrative structure.

• **Transport Industry Reform and Engagement**: Developing a strategy for transforming the existing industry so that they can participate in the DART system. A study on capacity of the existing operators is being finalised.

• **Marketing and Communications**: Developing the image and the brand (logo, name, etc.) of the system; public education and outreach on how to use new system. A communication Strategy is in place.

• **Economic Development Plan**: Transport Policy and Systems Development Master Plan is place, city development schemes are being done.

• **Environmental concerns**: A study on alternative fuels done and campaign on cleaner buses and fuels is conducted with support from UNEP.
BASIC STRUCTURE FOR IMPLEMENTING DART

TANROADS
ØTanzania Roads Agency – Development Agency

Bus Operators

Fare Collection System

Funds Administrator

Trunk

Feeder
Sets STRATEGIC URBAN TRANSPORT

Vision & Direction
Allocates responsibility & accountability
Allocates budgets & resources
Policy is objectives-based and measurable

Dar es Salaam
‘Urban Transport Authority’

Coordinates urban planning functions
- Road management
- Traffic management
- Land use & town planning
- Priorities & policymaking
- Funding allocation

Integrate Transport PLANNING and COORDINATION

All modes of transport/mobility
- BRT/Buses/Daladala
- Cars and trucks
- Taxis & paratransits
- Non motorised transport
- Pedestrian infrastructure
### Summary of Bus Specifications

<table>
<thead>
<tr>
<th>Bus Type</th>
<th>Articulated Front Engine Bus</th>
<th>Micro bus</th>
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<tbody>
<tr>
<td><strong>Passengers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Capacity</td>
<td>140</td>
<td>50</td>
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<tr>
<td>Seated Passengers</td>
<td>38-44</td>
<td>22</td>
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<tr>
<td>Area for Standing Passengers</td>
<td>16</td>
<td>4.4</td>
</tr>
<tr>
<td>Standing Design Capacity</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Standing Passengers</td>
<td>102</td>
<td>28</td>
</tr>
<tr>
<td><strong>General Features</strong></td>
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<td></td>
</tr>
<tr>
<td>Propulsion Fuel</td>
<td>Diesel</td>
<td>Diesel</td>
</tr>
<tr>
<td>Technology</td>
<td>EURO III*</td>
<td>EURO III*</td>
</tr>
<tr>
<td>Engine Location</td>
<td>Front Engine</td>
<td>Front Engine</td>
</tr>
<tr>
<td>Transmission</td>
<td>Manual Gear Box</td>
<td>Manual Gear Box</td>
</tr>
<tr>
<td>Suspension</td>
<td>Front: Parabolic Springs/ Rear: Bunch of Semmi elliptic Spring with Parabolic Auxiliary Spring</td>
<td>Front: Semi elliptic springs/Rear: Semi-elliptic of progressive action springs</td>
</tr>
<tr>
<td>Breaks</td>
<td>Pneumatic</td>
<td>Pneumatic</td>
</tr>
<tr>
<td>Fuel Reserve (liters)</td>
<td>300</td>
<td>150</td>
</tr>
<tr>
<td>Minimum Power (HP)</td>
<td>350</td>
<td>150</td>
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</tbody>
</table>
DART INVESTMENT OPPORTUNITIES

- Fare collection and related facilities.
- Bus operations and related services within and around the depots.
- Fund management and Banking opportunities
- Hotels and restaurants along the corridor, around terminals and feeder stations.
- Shopping malls and parking facilities
1 Package Bid Vs 7 Packages

- Road works – 20.9KMs
  (including Bike lanes on both sides of corridors and sidewalks)
- Closed stations - 29
- Feeder Terminals - 6
- Comfortable, modern terminals - 5
- Bus depot near the corridor - 2
FINANCING

The DART System has been financed by the following:

- Government of Tanzania
- Dar es Salaam Local Authorities
- World Bank
- UNEP

Technical Support has also been received from:

- USAID through ITDP
- Netherlands Government through I-CE
- UITP & UATP
CONCLUDING REMARKS

• Solicit Government commitment in P/Transport Reforms, good public transport will encourage its use & reduce private car use.
• Create awareness raising to service providers and users.
• Develop a shared vision and Internalize the processes to all key stakeholders
• Focus on integrated approach and implement the plans
• Institutional Development and capacity building in planning and implementation of integrated transport systems
• Mobilize Resources to implement the developed plans and strategies, implementation of plans motivate participation
THANK YOU