Improving Urban Transport Systems in Dhaka

Capacity Building Workshop on Sustainable Urban Transport Index (SUTI)
Colombo, Sri Lanka
Outline to today’s presentation

1. Existing traffic condition
2. On going Initiatives
3. Future plans
4. Critical Challenges
Dhaka: Capital City of Bangladesh

Population: 17 million
Population density: 29069/ km²
Road length: 1286 Km
Road Density: 9.01 %
Car density: 15/1000

Vehicle Composition in Dhaka

Source: BRTA 2017
Current Modal Share

- Waterway: 0.1%
- Private Bus: 2%
- Car: 5%
- Auto Rickshaw: 7%
- Public Bus: 28%
- Walk: 19%
- Rickshaw: 38%
- Railway: 1%

30 million Trips / day
Road Based Public Transport
Rail and Water Based Public Transport

DEM Train

Water Bus

DEM Train

Water Taxi
In real life ....... On the Road

I am fed-up with this traffic... when will it be resolved

Government is sleeping

This is Frustrating
On going initiatives

**Urban Transport Policy**

- National Integrated Multimodal Transport Policy (NIMPT)
- Strategic Transport Plan for Dhaka (2016-2035)
- Dhaka Structure plan (2016-2035)
- BRT Act 2017 & MRT Act 2016
- Road Transport Act 2017
Dhaka Transport Co-ordination authority (DTCA) Established in 2012

Mission

Ensure safe, reliable, faster and affordable Public Transport by introducing integrated transport planning

Strategic Objectives

- To ensure interagency cooperation and coordination in transportation sector
- To ensure an integrated and planned transportation system formulation
- To introduce and expand Mass Rapid Transit system
- To improve traffic management
- To improve public transport level of service
- District e-service centers and Union Information and Service Centers (UISCs) are established to provide all major public services

- Video conferencing (VC) among government offices

- Online banking/shopping/ Air-Train-Bus ticket/Utility bill /Application for educational institute

- E-procurement for Government purchase

- Transit Oriented Development (TOD) along major transit Line
- Improvement of walkway
- High occupancy articulated buses and double-deck buses
- Commuter train services have been added to connect Dhaka with other districts
- Construction work of two mass transit projects (BRT & MRT)
- Introduction of water Bus/Taxi
Major Component BRT Project

- Construction of 20.5 Km Road (1+1 BRT lane, 2+2 Mixed lane, NMT lane)
- 4.5 KM elevated section, 6 Flyover, 12 lane Tongi Bridge
- 114 link road, high capacity drainage system and 10 kitchen market
- 25 Station, 2 Terminal, 1 Depot
- Rolling stock, ITS and Control centre
Typical Cross Section (At grade section)
Typical Cross Section (Elevated Section)
## Proposed BRT Station

<table>
<thead>
<tr>
<th>Type</th>
<th>Access</th>
<th>Spacing</th>
<th>Ticketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staggered (3.5m)</td>
<td>At grade / FOB</td>
<td>Ave: 750 m (0.5-1.0km) Height 900 mm</td>
<td>Off Board</td>
</tr>
<tr>
<td>Island (5.0m)</td>
<td></td>
<td></td>
<td>Smart Card</td>
</tr>
</tbody>
</table>
BRT Bus and Service Planning

Passenger Demand
12,750 PPHPD

Service Planning
3 Bus Platooning
2 min Head way
16 hour service

BRT Bus
• 110 nos. 18 m articulated AC Bus (160 pax)
• Seat reserved for Women and Special need People

BRT Bus Operation
• Government Owned Dhaka BRT company
• Bus Operation will be Outsourced to Private Operator
• Pay Operator per KM run
Hybrid Car & Battery powered Paratransit

CNG as fuel for Bus, car and Trucks

Road map to reduce the sulfur level to 50 ppm by 2023

Elevators at foot over bridges.

Development of Public space

Elevated Expressway

Safety awareness
Clearing house established at DTCA which will integrate multiple operators into a common fare ticket system.

- It has the functions of
  - Revenue sharing
  - Fare collection settlement
  - Card management
Car free day

22 September
Major Components of STP

• 5 Mass Rapid Transit (MRT) Line construction [MRT Line 1, 2, 4, 5 & 6]
• 2 Bus Rapid Transit (BRT) Line Construction [BRT Line 3 & 7]
• 3 Ring Roads
• 8 Radial Roads
• 6 Expressways
• 21 Transportation Hubs
• Improvement of Circular Waterway around Dhaka
• Improvement of Traffic Management and Traffic Safety
• Bus Sector Reforms [Route Rationalization, Bus Company Formation, Relocation of Bus Terminals ]
• Pedestrian first policy
Mass Transit Line by 2025

**MRT Line 1 (28km)**
- Airport - Khilkhet - Vatara - Badda - Rampura - Khilgaon - Kamalapur
- Purbachal - Khilkhet

**BRT Line 3 (43km)**
- Gazipur – Airport
- Airport - Jhimil

**MRT Line 6 (20km)**
- Uttara North – Pallabi – Tejigaon – Shahbag - Motijheel

Dhaka International Airport
Kamalapur Railway Station

2025
Mass Transit Line by 2035

**MRT Line 1 (52km)**
- Gazipur - Airport - Kamalapur - Jhilmil
- Purbachal - Khilkhet

**MRT Line 2 (40km)**
- Ashulia - Savar - Gabtali - Dhaka Unv. – DSCC - Kamalapur

**BRT Line 3 (42km)**
- Gazipur – International Airport - Jhilmil

**MRT Line 4 (16km)**
- Kamalapur - Narayanganj

**MRT Line 5 (35km)**
- Bulta - Badda – Mirpur Road – Mirpur 10 – Gabtoli Bus Terminal – Dhanmondi – Bashundhara City – Hatir Jheel Link Road

**MRT Line 6 (41km)**
- Ashulia - Uttara Phase 3 – Pallabi – Tejigaon –Motijheel - Kamalapur

**BRT Line 7 (36km)**
- Eastern Fringe Area
### 3 Ring Road

<table>
<thead>
<tr>
<th></th>
<th>Inner Ring Road (KM)</th>
<th>Middle Ring Road (KM)</th>
<th>Outer Ring Road (KM)</th>
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<tbody>
<tr>
<td>Completed</td>
<td>4.0 (5.5%)</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Widening/Improvement</td>
<td>38.2 (52.2%)</td>
<td>59.9 (55.5%)</td>
<td>0.0</td>
</tr>
<tr>
<td>New Road</td>
<td>31.0 (42.3%)</td>
<td>48.1 (44.5%)</td>
<td>129.0 (100.0%)</td>
</tr>
<tr>
<td><strong>Total, KM</strong></td>
<td>73.2</td>
<td>108.0</td>
<td>129.0</td>
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**Proposed 8 radial roads:**

1. Dhaka-Joydebpur-Mymensingh
2. Dhaka-Tongi-Ghorashal
3. Dhaka-Purbachal-Bhulta
4. Dhaka-Kachpur-Meghna Bridge
5. Dhaka-Signboard-Narayanganj
6. Dhaka-Jhilmil-Ekuria
7. Dhaka-Amin Bazar-Savar
8. Dhaka-Ashulia-DEPZ
• Dhaka Elevated expressway (Airport - Kutubkhali)
• Dhaka – Ashulia Expressway
• Dhaka – Chittagong Expressway
• Dhaka - Sylhet Expressway
• Dhaka - Maowa Expressway
• Dhaka – Mymensing Expressway
21 transportation Hubs

Primary interchanges:

- Dhaka International Airport
- Kamalapur Station
- Mohakhali Bus Terminal
- Jatrabari Bus Terminal
- Gabtoli Bus Terminal
- Gabtoli Circular Waterway Station
- Shadarghat Terminal
Circular Water way

Length : 70.0 KM
Landing Station : 14

- Tongi Khal
- Turag
- Balu
- Shitalakhya
- Buriganga
- Dhaleswari
- Tongi Khal
## Implementation of Major Projects

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<tbody>
<tr>
<td>1.0</td>
<td>Construction of MRT Line - 6 and BRT Line - 3</td>
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<td>2.0</td>
<td>Improvement of Traffic Management and Traffic Safety</td>
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<td>3.0</td>
<td>Construction of Southern part of Middle or Outer Ring Road</td>
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<td>4.0</td>
<td>Construction and Improvement of Road Networks in Eastern Fringe Area</td>
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<tr>
<td>5.0</td>
<td>Circular Waterways</td>
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<td>6.0</td>
<td>Bus Sector Reforms [Route Rationalization, Bus Company Formation, Relocation of Bus Terminals]</td>
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<tr>
<td>7.0</td>
<td>Construction and Improvement of Radial and Ring Roads and Expressways (phase-1)</td>
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<tr>
<td>8.0</td>
<td>Construction of MRT line 1 and MRT line 5</td>
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<tr>
<td>9.0</td>
<td>Construction of Multimodal Hub at Airport</td>
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<td>10.0</td>
<td>Radial and Ring Roads and Expressways (phase-2)</td>
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<tr>
<td>11.0</td>
<td>Construction of BRT Line 7 and MRT Line 2 and 4 and Extension of MRT Line 6.1 and 5</td>
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<tr>
<td>12.0</td>
<td>Construction and Improvement of Radial and Ring Roads and Expressways (phase-3)</td>
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Challenges

- Funding proposed projects
- Lack of Coordination between different agencies
- Integration of Land use and Transport Planning
- Fragmented Public Transport Sector
- Institutional Capacity
- Less investment in NMT
Dhaka and SUTI
Thank You