Expert Group Meeting on

Promoting the Utilization of Transport Big Data from Smart Transport Systems in the Asia-Pacific Region for the Achievement of Sustainable Transport

Faeg Ahammad
RHD, Bangladesh
Geographical Location:
Latitude between 20°34’ and 26°38’ North;
Longitude between 88°01' and 92°41' East

Boundaries:
North - India (West Bengal and Meghalaya); West - India (West Bengal); East - India (Tripura and Assam) and Myanmar; South - Bay of Bengal

Area: 147,570 sq. km. (land: 133,910 sq km, water: 10,090 sq km)

Official Name: The People's Republic of Bangladesh
Capital: Dhaka
Population: 164.6 million (2018, BBS)
Language: Bangla (national language) spoken by 95%.
English is widely understood and spoken.
Ministry of Road Transport and Bridges

Road Transport and Highways Division (RTHD)

Bridges Division
Road Transport Sector

- Total Road Network in Bangladesh: 375,353 km (Highways and Rural Roads)
- Total No. of Registered Motor Vehicle in Bangladesh: 5.74 Million (May 2023)
- ADP Allocation for Transport and Communications Sector in 2023-2024: 28.9%
- No of Ports:
  (a) Land Port: 24 (12 in Operation)
  (b) Sea Port: 3 (Chattogram, Mongla and Payra)
  (c) Inland River Port: 29 (11 call-in river port)
  (d) Airport: 3 International (Dhaka, Chattogram and Sylhet) & 8 Domestic
Road Transport Sector

RHD Road Network, Bangladesh

<table>
<thead>
<tr>
<th>Category</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Highway</td>
<td>3944 km</td>
</tr>
<tr>
<td>Regional Highway</td>
<td>4883 km</td>
</tr>
<tr>
<td>Zilla Roads</td>
<td>13,536 km</td>
</tr>
<tr>
<td><strong>Total Lengths</strong></td>
<td><strong>22,363 km</strong></td>
</tr>
</tbody>
</table>

- **Bridges**: 4,404 nos
- **Culverts**: 14,814 nos
- **Ferries**: 71 Nos and 39 Ferry Ghats

*Source: HDM Circle, Roads and Highways Department*
Road Transport Policies in Bangladesh

- Road Master Plan 2009
- Vehicle axle Load Control Station Operation Policy 2012
- National Integrated Multimodal Transport Policy 2013
- Road Maintenance Fund Board Act 2013
- Toll Policy 2014
- RHD Land Management Policies 2015
- Metro Rail Act 2015
- Revised Strategic Transport Plan 2015 for Dhaka
- Bas Rapid Transit Act 2016
- Road Transport Act 2018
- National Road Safety Action Plan 2018-2020
- Highway Act 2021
- Road Transport Regulations 2022
- Electric motor vehicle registration and operation guideline 2023
The following regional corridors are in Bangladesh:

- Asian Highways Routes (AH)
- SAARC Highway Corridors (SHC)
- SASEC Road Corridors (SRC)
- BCIM- Economic Corridor
- BIMSTEC Road Corridor
- BBIN Routes
Asian Highways Routes in Bangladesh

Asian Highway 1 (AH1) - 492 km

Asian Highway 2 (AH2) - 517 km

Asian Highway 41 (AH41) - 762 km
Ref. SASEC Operational Plan 2016-2025 Update
SASEC Road Corridors (SRC) in Bangladesh

**SASEC Road Corridor 2:**
Benapole-Jashore-Magura-Rajbari-Dhaka-Chattogram – Cox’s Bazar with spurs Akhaura–Agartala and Bariarhat–Ramgarh–Sabroom

**SASEC Road Corridor 4:**
Banglabandha- Rangpur - Hatikumrul-Dhaka-Chattogram with spurs Burimari – Rangpur, Hatikumrul–Mongla and Dhaka - Payra

**SASEC Road Corridor 5:**
Dhaka-Sylhet-Tamabil with spur Sylhet-Sheola-Sutarkandi
SAARC Highway Corridors (SHC) in Bangladesh

- **SHC1**: Benapole-Paturia-Dhaka-Sarail-Akhaura (Lahore-New Delhi-Kolkata)

- **SHC4**: Banglabandha-Hatikumrul-Pakshy-Jashore-Mongla/Hatikumrul-Joydevpur-Dhaka-Feni-Chattogram (Kathmandu-Kakarvita-Phulbari)

- **SHC5**: Tamabil-Sylhet-Kanchpur-Dhaka-Paturia-Jashore-Benapole (Samdrup Jonkhar-Guwahati-Shillong)

- **SHC6**: Akhaura-Chattogram (Agartola)

- **SHC8**: Burimari-Hatikumrul-Pakshy-Jashore-Mongla/Hatikumrul-Joydevpur-Dhaka-Feni-Chattogram (Thimpu-Jaigaon-Chengrabandha)

- **SHC9**: Sonamasjid (Shibganj)-Bangabandhu Bridge (Malda-Shibganj)
**BCIM Corridor:**
Kolkata-Petropole/Benapole-Jashore
-Dhaka-Sylhet-Sheola-Silchar-
Imphal-Morreh/Tamu-Ka Lay -
Mandalay- Mose/Ruili-Tengchong-
Erhai Lake-Dali-Kunming

**BCIM Alternate Alignment:**
Kolkata-Dhaka-Chattogram-Cox’s
Bazar- Gundum/Taungbro-
Bawlibazar-Kyauktaw-Mandalay-
Lashio-Ruili-Kunming
BCIM Corridor:

BCIM Alternate Alignment:
Kolkata-Dhaka-Chattogram-Cox’s Bazar- Gundum/Taungbro-Bawlibazar-Kyauktaw-Mandalay-Lashio-Ruili-Kunming
BIMSTEC Road Corridors in Bangladesh

<table>
<thead>
<tr>
<th>No.</th>
<th>BIMSTEC Road Corridor (BRC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kolkata-Petrapole (India)/Benapole (Bangladesh) - Dhaka-Akhoura-Agartala</td>
</tr>
<tr>
<td>4.</td>
<td>Kathmandu-Kakarvita-Phulbari (India)/Banglabandha (Bangladesh) - Mongla/Chattogram</td>
</tr>
<tr>
<td>5.</td>
<td>Samdrupjongkhar (Bhutan) - Shillong (India) - Sylhet (Bangladesh) - Dhaka - Kolkata</td>
</tr>
<tr>
<td>6.</td>
<td>Agartala-Akhoura-Chattogram</td>
</tr>
<tr>
<td>8.</td>
<td>Thimphu (Bhutan) - Phuentsholing - Jaigon - Chengrabandha (India) / Burimari (Bangladesh) - Chattogram/Mongla</td>
</tr>
<tr>
<td>9.</td>
<td>Maldha-Shibgang-Bangabandhu Bridge</td>
</tr>
<tr>
<td>11.</td>
<td>Chattogram-Ramu (Cox’s Bazaar) - Teknaf-Maungdaw</td>
</tr>
</tbody>
</table>
The identified routes for Regular and Non-Regular Passenger Vehicles

**India - Bangladesh**
1. Khulna-Jessore-Benapole/Petrapole-Kolkata
2. Chittagong- Dhaka- Banglabandha/Fulbari-Siliguri
3. Chittagong- Dhaka- Burimari/Chengrabanbha-Siliguri
4. Chittagong- Dhaka- Benapole/Petrapole-Kolkata
5. Guwahati-Shillong-Dawki/Tamabil-Dhaka-Benapole/Petrapole-Kolkata

**Bangladesh – India - Nepal**
1. Dhaka-Banglabandha/Fulbari-Siliguri-Panitanki/Kakarvita-Kathmandu
2. Kathmandu-Kakarvita/Panitanki-Siliguri-Chengrabanbha/Burimari-Dhaka

**Bangladesh – India - Bhutan**
1. Dhaka-Burimari/Chengrabanbha-Jaigaon/Phuentsholing-Thimphu
2. Dhaka-Tamabil/Dawki-Guwahati/Samdrupjongkhar

The identified routes in Bangladesh for Cargo Vehicles

1. Mongla - Hatikamrul /Teknaf - Dhaka - Hatikamrul - Burimari/ Chengrabanbha - Jaigaon/Phuentsholing - Thimphu
3. Agartala/Akhaura - Ashuganj - Joydevpur - Paturia - Benapole/Petrapole - Kolkata
Sub-Regional Road Transport Project Preparatory Facility

Financed by Asian Development Bank (ADB) Loan:

- Feasibility Study and Detailed Design completed for **1752 km** under SRTPPF-I Projects (13 Roads and 1 Major Bridge)
- Feasibility Study and detailed design completed for **590 km** road under SRTPPF-II Project (7 Roads)

Road Transport Connectivity Improvement Project

Financed by Asian Development Bank (ADB) Loan:

- Feasibility Study and Detailed Design of **1711 km** under 23 sub-projects, 3 ICT/ICD connecting roads and 1 sub-project for improving road safety at level crossings ongoing
✓ 8 Major Highways spread over the country.
✓ 440 Km Highway was developed as 4 or more lane highway
✓ 660 km highway is being developed as 4 or more lane highway.
✓ 1280 km highway in pipeline for developing as standard highways.
Strategies for Smart Transport System in Bangladesh

- Bangladesh National Intelligent Transport System Master Plan, ITS Architecture & Standards
- Updating Revised Strategic Transport Plan (RSTP) for Dhaka
- National Determined Contributions (NDC) for reducing carbon emission
- Electric Toll Collection (ETC) in Bangladesh
- Road Safety Demonstration Corridor as a part of Smart Highway
- Automation of BRTA by issuing Smart Card Driving License and others online facilities.
Major Activities of RHD

▪ Construction of Balanced, Strategic and Safe Road Network in Bangladesh
▪ Maintain and Development of Road Networks under RHD
▪ Improve, Expand and Development of National, Regional and District highways
▪ Ensuring Mobility on Roads and Highways
▪ Ensure Road Safety
▪ Development of Regional Connectivity in Bangladesh
Government of Bangladesh is working for development of "Bangladesh National Intelligent Transport System Master Plan, ITS Architecture & Standards"

A Draft of national Intelligent Transport System master plan for Bangladesh is already prepared.

An effective Intelligent Transport System (ITS) master plan will be prepared for Bangladesh to enhance efficiency by utilizing ICT and ITS in highways.

This ITS master plan is a mid to long-term plan, with a total of 10 years consisting of three phases: 1st Phase: 2023-2025, 2nd Phase: 2026-2028, and 3rd Phase: 2029-2032.

Firstly, ITS would also be introduced historic on N8 as pilot project.
The deployment of VDS (Vehicle Detection System), CCTV, ASES (Automatic Speed Enforcement System), RWIS (Road Weather Information System), and WIM (Weigh in Motion), all traffic data will be integrated into the Traffic Data Processing System in Traffic Monitoring Center (TMC), will be displayed on the VMS, website, and mobile phone application for public viewing.

Traffic Monitoring Center (TMC), in the RHD head office, will play the role of a national integration center connecting with the Highway Police, local government centers, and future eight (8) Sub-TMC that will be located in each N1 to N8 roads.

Government has planed to establish ITS in Jashore-Hatikurul Highways, Bhanga-Benapole Highway, Sylhet-Sheola Highway, Elenga-Rangpur Highway for Primary stage.
Promoting the Utilization of Transport Data

**ITS Design Highlights**

- **Vehicle Detection**
- **Overhead Message Sign**
- **Weight in Motion**
- **Traffic Management Center**
- **Speed Detection**
Major Activities of BRTA

- Registration of Motor Vehicles
- Issuance of fitness certificate
- Issuance of Route Permit
- Issuance of Motor Driving Licenses
- Issuance of Motor Driving Instructors License
- Road Safety Manuals
## Promoting the Utilization of Transport Data

### Bangladesh Road Transport Authority

#### NUMBER OF REGISTERED MOTOR VEHICLES IN BANGLADESH (YEARWISE)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ambulance</td>
<td>2486</td>
<td>218</td>
<td>181</td>
<td>240</td>
<td>337</td>
<td>472</td>
<td>374</td>
<td>493</td>
<td>563</td>
<td>665</td>
<td>788</td>
<td>755</td>
<td>591</td>
<td>124</td>
<td>8287</td>
</tr>
<tr>
<td>2</td>
<td>Auto Rickshaw</td>
<td>110623</td>
<td>20406</td>
<td>23528</td>
<td>15633</td>
<td>19828</td>
<td>18700</td>
<td>10656</td>
<td>8852</td>
<td>21593</td>
<td>29807</td>
<td>16724</td>
<td>9158</td>
<td>7606</td>
<td>2779</td>
<td>315893</td>
</tr>
<tr>
<td>3</td>
<td>Auto Tempo</td>
<td>9446</td>
<td>175</td>
<td>626</td>
<td>393</td>
<td>472</td>
<td>1081</td>
<td>1313</td>
<td>1592</td>
<td>609</td>
<td>224</td>
<td>77</td>
<td>25</td>
<td>9</td>
<td>4</td>
<td>16046</td>
</tr>
<tr>
<td>4</td>
<td>Bus</td>
<td>23385</td>
<td>1753</td>
<td>1438</td>
<td>1104</td>
<td>1486</td>
<td>2378</td>
<td>3832</td>
<td>3757</td>
<td>2755</td>
<td>3558</td>
<td>2395</td>
<td>1517</td>
<td>2688</td>
<td>1439</td>
<td>53485</td>
</tr>
<tr>
<td>5</td>
<td>Cargo Van</td>
<td>3363</td>
<td>489</td>
<td>282</td>
<td>686</td>
<td>605</td>
<td>398</td>
<td>1015</td>
<td>1413</td>
<td>1280</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>9543</td>
</tr>
<tr>
<td>6</td>
<td>Covered Van</td>
<td>6022</td>
<td>2480</td>
<td>1511</td>
<td>2347</td>
<td>2950</td>
<td>2442</td>
<td>3399</td>
<td>5201</td>
<td>5728</td>
<td>3070</td>
<td>2023</td>
<td>3800</td>
<td>4424</td>
<td>762</td>
<td>46159</td>
</tr>
<tr>
<td>7</td>
<td>Delivery Van</td>
<td>15391</td>
<td>1037</td>
<td>802</td>
<td>941</td>
<td>1235</td>
<td>1779</td>
<td>2220</td>
<td>2420</td>
<td>2105</td>
<td>1523</td>
<td>1170</td>
<td>1436</td>
<td>1167</td>
<td>175</td>
<td>33401</td>
</tr>
<tr>
<td>8</td>
<td>Human Hauler</td>
<td>4827</td>
<td>1151</td>
<td>714</td>
<td>385</td>
<td>225</td>
<td>1129</td>
<td>3443</td>
<td>3393</td>
<td>1449</td>
<td>609</td>
<td>509</td>
<td>122</td>
<td>52</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>Jeep(Hard/Soft)</td>
<td>28131</td>
<td>2141</td>
<td>1575</td>
<td>1303</td>
<td>1849</td>
<td>3564</td>
<td>4869</td>
<td>5419</td>
<td>5547</td>
<td>5627</td>
<td>4911</td>
<td>7602</td>
<td>10240</td>
<td>3179</td>
<td>85957</td>
</tr>
<tr>
<td>10</td>
<td>Microbus</td>
<td>62399</td>
<td>4037</td>
<td>3031</td>
<td>2530</td>
<td>4302</td>
<td>5177</td>
<td>5789</td>
<td>5571</td>
<td>4131</td>
<td>3682</td>
<td>2779</td>
<td>4941</td>
<td>7399</td>
<td>2118</td>
<td>117886</td>
</tr>
<tr>
<td>11</td>
<td>Minibus</td>
<td>23070</td>
<td>271</td>
<td>246</td>
<td>148</td>
<td>257</td>
<td>320</td>
<td>459</td>
<td>491</td>
<td>436</td>
<td>835</td>
<td>620</td>
<td>392</td>
<td>402</td>
<td>141</td>
<td>28088</td>
</tr>
<tr>
<td>12</td>
<td>Motor Cycle</td>
<td>755514</td>
<td>116534</td>
<td>101895</td>
<td>85321</td>
<td>90401</td>
<td>220910</td>
<td>315089</td>
<td>325876</td>
<td>393545</td>
<td>401452</td>
<td>311016</td>
<td>375252</td>
<td>506912</td>
<td>129013</td>
<td>4136830</td>
</tr>
<tr>
<td>13</td>
<td>Pick Up (Double/Single Cabin)</td>
<td>29103</td>
<td>10314</td>
<td>7530</td>
<td>6443</td>
<td>9424</td>
<td>9992</td>
<td>11220</td>
<td>13454</td>
<td>13060</td>
<td>11918</td>
<td>10498</td>
<td>10897</td>
<td>9804</td>
<td>3161</td>
<td>156818</td>
</tr>
<tr>
<td>14</td>
<td>Private Passenger Car</td>
<td>207989</td>
<td>12942</td>
<td>9220</td>
<td>10456</td>
<td>14681</td>
<td>21029</td>
<td>20268</td>
<td>21952</td>
<td>18222</td>
<td>16779</td>
<td>12403</td>
<td>16049</td>
<td>16695</td>
<td>4445</td>
<td>403130</td>
</tr>
<tr>
<td>15</td>
<td>Special Purpose Vehicle</td>
<td>5022</td>
<td>391</td>
<td>225</td>
<td>228</td>
<td>174</td>
<td>298</td>
<td>613</td>
<td>994</td>
<td>1334</td>
<td>1179</td>
<td>703</td>
<td>518</td>
<td>414</td>
<td>80</td>
<td>12173</td>
</tr>
<tr>
<td>16</td>
<td>Tanker</td>
<td>2066</td>
<td>309</td>
<td>188</td>
<td>218</td>
<td>350</td>
<td>319</td>
<td>380</td>
<td>317</td>
<td>527</td>
<td>417</td>
<td>304</td>
<td>248</td>
<td>409</td>
<td>135</td>
<td>6727</td>
</tr>
<tr>
<td>17</td>
<td>Taxicab</td>
<td>35122</td>
<td>75</td>
<td>170</td>
<td>50</td>
<td>372</td>
<td>83</td>
<td>43</td>
<td>14</td>
<td>159</td>
<td>11</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>36111</td>
</tr>
<tr>
<td>18</td>
<td>Tractor</td>
<td>14648</td>
<td>5195</td>
<td>3494</td>
<td>1885</td>
<td>1521</td>
<td>1689</td>
<td>2535</td>
<td>2777</td>
<td>3553</td>
<td>2561</td>
<td>2498</td>
<td>2567</td>
<td>1602</td>
<td>557</td>
<td>47082</td>
</tr>
<tr>
<td>19</td>
<td>Truck</td>
<td>65889</td>
<td>6853</td>
<td>4043</td>
<td>4838</td>
<td>7939</td>
<td>6022</td>
<td>6605</td>
<td>10329</td>
<td>12644</td>
<td>8318</td>
<td>4719</td>
<td>5789</td>
<td>4528</td>
<td>928</td>
<td>149444</td>
</tr>
<tr>
<td>20</td>
<td>Others</td>
<td>22332</td>
<td>1265</td>
<td>1062</td>
<td>1064</td>
<td>1580</td>
<td>2059</td>
<td>3842</td>
<td>5018</td>
<td>5973</td>
<td>5293</td>
<td>3900</td>
<td>4029</td>
<td>3244</td>
<td>755</td>
<td>61416</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1427368</strong></td>
<td><strong>188036</strong></td>
<td><strong>161761</strong></td>
<td><strong>136213</strong></td>
<td><strong>159988</strong></td>
<td><strong>307941</strong></td>
<td><strong>397964</strong></td>
<td><strong>419333</strong></td>
<td><strong>495182</strong></td>
<td><strong>497432</strong></td>
<td><strong>377660</strong></td>
<td><strong>445030</strong></td>
<td><strong>578151</strong></td>
<td><strong>149804</strong></td>
<td><strong>5741863</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total Registered Motor Vehicle Number = 5,741,863
Promoting the Utilization of Transport Data

Automation of BRTA

- Issuance of online driving Licenses
- E-Paper License Tutorial
- Web Portal Services by BSP for automations of services
- Utilization of BRTA (Mobile App)
- Driving Licenses (DL) Checker App
- BRTA Service App
- Digital Registration Certificate
- Retro-Reflecting No. Plate for Vehicles
Promoting the Utilization of Transport Data

Major Activities of BRTC

▪ Providing modern mass communication services to esteemed passengers throughout the country
▪ Strategic interventional role in road transport sector
▪ Render Emergency Services during time of natural calamities
▪ Provide charter bus service, coach bus service, public bus service, shuttle bus from one city to another without affordable
Major Activities of DTCA

In Greater Dhaka City

- Formulate strategic planning for traffic and transport sector of Dhaka
- Co-ordinate the traffic and transportation infrastructure development plan
- Transportation sector Management Planning
- Advising the concerned agencies on an integrated and safe traffic and transportation system
Major Activities of DMTCL

- Planning, Survey, Design and Financing for Mass Rapid Transit in Dhaka and surrounding areas
- Construction, Operation and Maintenance of Mass Rapid Transit (MRT)
- Ensuring Mass Rapid Transit in Dhaka City by reducing traffic congestion and reducing travel time.
Dhaka Transport Coordination Authority (DTCA), Dhaka South City Corporation, Dhaka North City Corporation have taken initiatives to introduce ITS in Signal Management of Dhaka City Road Junctions under Integrated Traffic Management Project.

Dhaka Mass Transit Company Limited has taken initiatives to introduce ITS in Metro Line -6.

Bus Rapid Transit (BRT) from Gazipur to Dhaka will have the ITS for overall BRT bus operation.
Introducing Hybrid Vehicle and Tax incentive

Electric Vehicle (EV) industry has been established in Bangladesh and production will start.

Passenger and freight movement by waterway is increasing

Walkway and Eco Park along the Circular Waterway of Dhaka

Updating the Strategic Transport Plan for Dhaka

BRT (Gazipur-Airport) inauguration and operation.

MRT-6 operation and Maintenance.

BRT-7 (Narayanganj-Kamargaon) construction and establishment.

Others MRT-1 to MRT-5 lines construction and establishment.

Bus route rationalization and Company based bus operation

Construction of Underpass in Dhaka International Airport as Multimodal Integration
Challenges

- Securing Fund for Restoring missing link
- Harmonization of standards
- Prioritization of Projects
- Multimodal Transportation
- MRT and BRT operation and Maintenance
- ITS Master Plan Implementation.
THANK YOU