



Environmentally Sustainable Transport (EST) System in Bangladesh : Sustainable Mobility



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Modes of Transport

- Roads.
- Waterways.
- Railways.
- Airways.

Air traffic is insignificant (less than 0.5% of the traffic volume) compared to other modes of transport. This presentation will be confined to other three modes of transport.



EST Implementation in Bangladesh: Policy Response

- ❖ Strategic Transport Plan (STP) for Dhaka, 2005 to be implemented period of 20 years (approved by the Govt. in 2008)
- ❖ National Land Transport Policy (NLTP), 2004 for at least 30 years with a view to establish a transport system which is safe, chief, modern, technologically dependable, environment friendly and acceptable in the light of globalization
- ❖ An Integrated Multi Multi-Modal Transport Plan, 2005 emphasizing on maintaining of existing assets and infrastructure and encouraging more investment in Roads and Inland Water transport, the main objectives of which are reducing transport cost and improving efficient expenditure in the transport sector.



Integrating EST Aspects into Transport Policy

- ❖ Sectoral integration of institutional structure (DTCB)
- ❖ Integrate transportation and land use planning (NLTP, DAP)
- ❖ Incorporate social objectives (BRT, Walkways, FOB)
- ❖ Protect environmental health (CAMS, SAMS)
- ❖ Support economic Manage transport demand Circular water way, Fly over, BRT, Subway, Monorail, Commuter train)
- ❖ Manage transport supply (Import of CNG Busses with increased capacity)



EST under Sixth Five Year Plan in Bangladesh: FY2011-FY2015 – Objectives of Transport Sector

- ❖ To achieve an average GDP growth rate of 7 percent per annum the transport sector growth rate is projected to increase by 7.5 percent per annum. Keeping in view the increased volume of domestic traffic as well as the future traffic from the Asian Highway and Trans-Asian Railway, the main objective of the Sixth Five Year Plan will be to develop a balanced and integrated transport network through adoption of strategies/programs.



EST under Sixth Five Year Plan in Bangladesh: Strategies of Transport Sector

The main elements of the overall transport strategy are as follows -

- ❖ The two sea port will be further developed and linked to Dhaka.
- ❖ Railway linkages will be established between the east and south west zones of the country . Expansion of line capacity by double tracking of major rail corridors, rehabilitate/upgrade and replace old aged railway track, bridges, signalling and other assets, acquiring modern rolling stocks to provide speedy, environment friendly and cost effective transport facilities to the national, regional and international traffic will be made.



Strategies (Contd.)

- ❖ The development strategy for the rural transport will be reoriented for efficient external access through optimal integration of road and inland water transport and off-road internal accesses.
- ❖ Efforts will also be made to develop some of the critical inter-modal transport network that allows connectivity of neighboring countries to the sea ports of Bangladesh.
- ❖ Efforts will also be made to fully participate in global and regional connectivity initiatives that help develop the land route links between South Asia and East Asia through Bangladesh.
- ❖ Improvement in resource mobilization will be made through introduction of user charges and fees by the agencies in all areas of transport and all use of transport network.



Strategies (Contd.)

- ❖ Provision of required incentive packages for the private sector for greater participation will be ensured, not only in transport service, but also for infrastructure building.
- ❖ Identification and implementation of preventive, emergency and post-disaster mitigation measures will be made.
- ❖ Transport development strategy framework will be broadened by incorporating the vital urban transport dimension starting with improvement in transport service of greater Dhaka city.
- ❖ Assurance of deficit-free operation of Bangladesh Railway as envisaged in Railway Recovery program will be fulfilled.



Strategies (Contd.)

- ❖ Improvement of sub-standard ferry operation on major road networks will be made. Introduction of necessary institutional reforms to the operational constraints of the port transit system with special reference to containers and privatization measures for port transit system will be made.
- ❖ Adequate care will be taken while developing transport networks and service so that these do not cause environment pollution and affect ecological balance.
- ❖ Attention will be given to improve transport safety standards including specific attention to women safety in all means of transportation with a view to substantially reducing the incidence of accidents; and
- ❖ Provision of duty-free or import of engines and spares at low duty for mechanization of country boat will be made.



Clean Air and Sustainable Environment (CASE) Project

Background

- In recent years high circulation of commercial vehicles (primarily buses) and small industries (primarily brick kilns) have been identified as the major emitters of air pollution in and around cities.
- Country Environmental Assessment Report jointly prepared by GOB and WB identified air pollution as the leading cause of mortality and morbidity.
- With Dhaka set to become one of the most populous cities in the world by 2020, the demand for public transportation which in turn will drive the growth of local and global emissions, unless efforts are initiated urgently to address these sources of air pollution.

Project Duration

- July 2009 – June 2014



General Objective

- The main objective of the project is to strengthen the institutional and regulatory framework for air quality management and to improve urban transport sector to ensure clean air for capital Dhaka and other populous cities.

Specific Objectives

- Increase pedestrian mobility.
- Reduce congestion by improving traffic flows
- Lay the foundation for reforming bus operations in capital Dhaka
- Strengthen institutional capacity and provide knowledge about sustainable urban transport intervention



Key Features

Physical improvement of traffic flow and pedestrian mobility (Implemented by DCC)

- Campaigns for clean and safe mobility
- Sidewalks and ancillary road improvements:
- NMV/MV lane separation
- Foot over bridges (FOBs)
- Traffic signaling, intersection improvements and related initiatives

Bus Route Network Rationalization and Franchising (Implemented by DTCB)

- BRT Feasibility Study
- BRT Design Study
- Public Transport Network Study



Expected Outcomes

- Improved traffic flow in the locations of project intervention due to reduced congestion.
- The outcome is to reach 10% increase in vehicular traffic throughout by end of the project particularly for those who use non-motorized vehicles and public transport, especially women
- A 10% decrease in the number of traffic accidents in the project areas by end of the project.

Complementing goals of Bangkok 2020

Goal-1: Transport Planning adopted through different activities.

Goal-4: Includes Non Motorized Transport (NMT) components in transport master plan.

Goal-5: Public transport service implementation through BRT.

Goal-13: For pedestrian safe mobility different initiatives taken.

- **Some other goals of Bangkok 2020 also meet through the different activities of CASE project indirectly.**



MRT Line 6 Project

- The project MRT Line 6 is one of the six proposed projects by STP. The rationale of MRT Line 6 project is –
 - To promote socio-economic development;
 - To meet future traffic demand;
 - Integration of urban development with urban transport system.
- The objectives of the MRT Line 6 project are as follows –
 - Development of an effective and efficient transport systems in Dhaka;
 - Provide easy public transport access to the people; and
 - Development of safe and environment friendly transport system.
- The total length of the project is 21.5 km long with one Rail Depot and 18 elevated stations including platforms, Escalator, Elevator, Ticketing Systems, Toilet and Wash Room, Prayer Room and other Facilities.
- This project is expected to be completed by 2014.



Dhaka Elevated Expressway Project

- To reduce the acute traffic congestion of Dhaka, Government of Bangladesh has taken all out efforts to construct an Elevated Expressway in Dhaka City under Public Private Partnership (PPP). The Expressway is recommended in the Strategic Transport Plan (STP) and the present Expressway has been conceived as a part of the STP recommended Expressway. The Expressway will start from Hazrat Shahjalal International Airport and will end at Dhaka-Chittagong Highway near Kutubkhali. The Expressway will have a main route, 2 elevated links, 7 interchanges and 35 ramps. Length of the main route with two elevated links is 26 kilometer and the total length of the Expressway including all the ramps will be 42 kilometer. The purposes of the Expressway are as follows:
 - increase traffic capacity within and around the city by improving north-south connectivity and linking important commercial and business centers; and
 - reduce travel times and provide travel comfort and convenience to people living in and around Dhaka City.
- This project is expected to be completed by 2014.

Greater Dhaka Sustainable Urban Transport Corridor Project

Background

- In order to accommodate the travel demand of greater Dhaka, Gazipur and Tongi, this project was undertaken in 2011 and will be commenced in April 2012. This project will improve quality of life within the Tongi and Gazipur Purashava (TGPA), which forms part of north greater Dhaka, through the delivery of a more efficient and sustainable Urban Transport System (UTS) including a 20 km Bus Rapid Transit (BRT).



General Objective

- The main objective of this project is to ensure a sustainable future for Dhaka by improving Public Transport, focused on people's mobility needs and accessibility and also by giving priority over other road projects.

Specific Objectives

- Reduce emission of Green House Gas (GHG), congestion and efficient mass transportation in Gazipur, Tongi and Uttara area.
- Replacing existing fuel inefficient fleet with larger capacity cleaner fuel BRT buses.
- Improving average speeds in the corridor, resulting in less idling times.
- Establishing improved emission standards and enforcement practices.



Key Features

- *Improved quality of urban life; by increasing resident positive perception of urban quality of life.*
- *Annual emission reductions- on average around 40,000 tCO₂ per annum including feeder routes. The project can earn without any upfront resources and without taking any risk annually 300,000 euro for a time period of 21 years.*
- *BRT achieves 100,000 pax/day ridership (at least 30% women) in first year operation.*
- *Modal share of public transport and NMT increase by 80%.*
- *Street lights will be given, supported by solar technologies.*
- *High capacity CNG driven articulated bus will run all along to decrease travel time and to adopt Clean Development Mechanism (CDM) and sustainable technologies.*
- *Mixed traffic lanes, side walks and sophisticated terminals as per design and international quality standards, including safety design standards and features for women and children.*
- *90% flood free days along the route from the first year of operation.*
- *Corridor Restructuring and Rebound Effect.*



Expected Outcomes

- Due to the complex nature of UTS and the need for an integrated and holistic approach to address the needs for improved infrastructure, system management, improved operations and enhanced monitoring of negative externalities such as accidents and pollution.
- Urban quality of the corridor is improved.
- Traffic accidents including violators of illegal parking, public and common space are decreased.

Complementing goals of Bangkok 2020

Goal-1: Transport Planning adopted through different activities.

Goal-2: Achieve mixed-use development and medium to high densities along key corridors within cities.

Goal-4: Includes Non Motorized Transport (NMT) components in transport master plan.

Goal-5: Improve public transport services.

Goal-13: For pedestrian safe mobility different initiatives taken.

- **Some other goals of Bangkok 2020 also meet through the different activities of CASE project indirectly.**

4-Laning of Dhaka-Chittagong Highway Project

Background

- In the major route of the country connecting the capital city Dhaka to the port city Chittagong i.e. Dhaka-Chittagong Highway the traffic increased at much higher rate and already exceeded 40,000 PCU/day at many locations. This is beyond saturation capacity of a 2-lane road and the situation has resulted heavy congestion, abnormal delay and accidents.
- The project was formulated in 2010, while the core construction activities was started on February 2011 and the intended date of completion is December 2012.



General Objective

- The main objective of this project is to reduce constraints and increase efficiency of road transport through upgrading of Dhaka-Chittagong Highway (Daudkandi-Chittagong Section) from 2-lane to 4-lane.

Specific Objectives

- Optimize the utilization of Chittagong Port
- Develop an adequate and efficient transport system between capital Dhaka and Commercial Port City Chittagong
- Enhance economic development for expansion and integration of markets and growth of international trade
- Assist sustainable economic development through enhancement of transportation between agricultural centers as well as industrials areas
- Enhance road safety measures.



Key Features

- *The improvement of this strategic corridor is envisaged to provide substantial economic and social benefits to south-eastern region in particular through generation of employment, creation of improved facilities for trade and commerce, promotion of social integration and development of tourism and thus assisting in overall economic development and poverty reduction of the country.*
- *Construction of 192.30 km road as 4-lane, 3 nos. of Flyovers, 6 Major Bridges, 20 Minor Bridges and 196 box-culverts.*
- *33 steel foot over bridges for the pedestrians*
- *61 Bus stops at different hot-spots and key locations.*
- *Two underpass to accommodate an Army Cantonment*



Expected Outcomes

- Develop adequate and efficient transport system between capital Dhaka and commercial port city Chittagong.
- Savings of vehicle operating cost, travel time and subsequently travel cost.
- Decrease in the number of traffic accidents especially head on collision in the project areas by end of the project.

Complementing goals of Bangkok 2020

Goal-1: Transport Planning adopted through different activities.

Goal-2: Achieve mixed-use development and medium to high densities along key corridors within cities.

Goal-4: Includes Non Motorized Transport (NMT) components in transport master plan.

Goal-13: For pedestrian safe mobility different initiatives taken.

- **Some other goals of Bangkok 2020 also meet through the different activities of CASE project indirectly.**

Construction of Flyover at Mirpur-Airport Road & Overpass at Banani Rail Crossing

Background

- Smooth connectivity between greater Mirpur to Airport, Uttara, Tongi Area, this project connecting major route of the capital city Dhaka i.e. Uttara-Airport-Mohakhali-Maghbazar was taken in December 2010.
- Afterwards on January 2011 physical work of constructing a Flyover at Mirpur- Airport road and overpass at Banani Rail Crossing was started.
- In the project, land acquisition requirement was kept minimal to avoid interference and hindrance of the people living nearby.



General Objective

- The main objective of the project is to construct Flyover at Mirpur-Airport Road and Overpass at Banani Rail Crossing in Dhaka City Area.

Specific Objectives

- Reduce traffic congestion and accident hazard at the major route of the capital city and railway level crossing at Banani.
- Establish uninterrupted railway as well as Road Communication.
- Improve traffic capacity at railway crossings and near by area.
- Improve people's mobility and reduce poverty.



Key Features

Balancing of increased traffic flow and pedestrian mobility

- Route connectivity between eastern and western part of the city.
- Segregation of traffic according to their destination by flyover and overpass.
- Reduction of travel hindrance as well as travel time both in road and railway communication.
- Sidewalks and ancillary road improvements:
- NMV/MV lane separation
- Traffic signaling, intersection improvements and related initiatives



Expected Outcomes

- Direct, safe and uninterrupted road and railway communication will be established.
- Introduction of energy intensive and sustainable technologies in line with the Greater Dhaka Urban Transport Corridor Project and Dhaka Elevated Expressway Project with a view to implement Strategic Transport Plan.
- Decrease in the number of traffic accidents in the project areas by end of the project.

Complementing goals of Bangkok 2020

Goal-1: Transport Planning adopted through different activities.

Goal-2: Achieve mixed-use development and medium to high densities along key corridors within cities.

Goal-4: Includes Non Motorized Transport (NMT) components in transport master plan.

Goal-13: For pedestrian safe mobility different initiatives taken.

- **Some other goals of Bangkok 2020 also meet through the different activities of CASE project indirectly.**



Inland Water Transport – Target under SFYP

- Improvement of 53 rivers channels of the existing waterways through dredging. Among them, 12 rivers excavation projects are on going and 24 projects are in the pipeline.
- Under this programmes, 32 river ports and 500 landing stations will be established.

Bangladesh Railway – Target under SFYP

- Rehabilitation, upgrade/improve and replace old-aged infrastructure and rolling stocks to reduce journey time, improve the service quality and to build the image of railway as a safe and reliable means of transport.
- Connect the capital city with other major cities and towns and other areas where rail network does not exist.
- Establishment of Asian railway network and regional railway connectivity.
- Improve commuter train services to provide better urban transport facilities to daily passengers.
- Augmentation of line capacity along selected corridors.

Sustainable Transport in the Context of Green Economy



Some key points to be considered:

- Sustainable low-carbon transport provides economically viable infrastructure and operation that offers safe and secure access for both persons and goods whilst reducing short and long term negative impacts on the local and global environments.
- Clean and efficient transportation is critical to increasing energy security, improving public health and environmental protection, and promoting economic growth.
- Sustainable transport interventions should be implemented with strong and consistent political will or strategy.
- The sustainable transportation strategy should be based on *avoiding* unnecessary journeys and reducing the lengths of trips, *shifting* transport demand to low-carbon modes, and *improving* the carbon intensity of all modes of transport. To achieve the optimal impact interventions should seek to combine elements from the Avoid, Shift and Improve strategy components and co-ordinated and selected according to local circumstances.
- There should have sustainable transportation plan for in the short and long-term and employ an adaptive management approach taking into account the local context.
- Should substantially enhance the engagement of the private sector in promoting sustainable transport.

Sustainable Transport in the Context of Green Economy (Contd..)



- Should support the development of enabling institutional and regulatory frameworks and financial structures to encourage private sector participation in sustainable transport operations.
- Should support for comprehensive capacity development and in addition to training activities including adjustment of institutional mandates, budgeting procedures, development of tools and instruments, data gathering and management, development of institutional coordination mechanisms, as well as awareness on financing structures and sources.
- For promoting sustainable transport the following interventions may be taken in partnership with relevant agencies/forums:
- *Global Fuel Economy Initiative (GFEI)* - to give concrete options to promote cleaner and more efficient cars with working with governments, the automotive industry and other stakeholders to achieve reduction in GHG emissions;
- *Institutional Capacity Building on Mass Transit Technologies* - to scale up efforts by providing targeted capacity building trainings on urban transport planning and facilitate transport decision making process;
- *Support the UNFCCC Climate Negotiation Process with specific recommendations on sustainable transport.*



Sustainable Transport in the Context of Green Economy (Contd..)

- Regional cooperation is essential for not only production of cleaner and more fuel efficient vehicles, and development of non-petroleum alternative fuels and vehicles, but also broader themes such as traffic congestion, public transportation, transportation infrastructure, and land use planning. These issues must be viewed in a systems approach.
- Should develop clean and efficient Vehicle Technologies with the goals of-realizing low sulfur fuel for both gasoline and diesel, designing more robust transportation (emissions and fuel) compliance and enforcement programs ;reducing growth in oil demand and CO₂ emissions in the transportation sector by light and heavy duty vehicles; promoting biofuels production and its use in transportation; exploring opportunities for voluntary, public-private partnership programs to reduce emissions from the transportation sector.
- Should formulate design and modality of Transportation System with the goals of congestion controls that balance the demand and supply of transportation facilities; ensuring the highest degree of safety and efficiency to reduce fuel burn and implement energy conservation; achieving greater efficiencies in the transport of commercial goods and passengers between and among various modes (truck, rail, air, and maritime), and land use configurations.
- A clear “Road Map” needs to be formulated for ensuring sustainable transport.



Conclusion

This presentation has outlined some of the key transport and environment issues in line with Bangkok 2020 Declaration. In many areas, we are reaching crisis points. However, there have been many positive steps taken in recent years to address the problems.

This forum will provide a valuable opportunity for discussion of the issues and development of co-ordinated actions to further improve our transport and environment policies. This type of regional co-ordination and information sharing is of critical importance to the future of our countries and the health and economic well being for our future generations.



THANK YOU