



Developments in EST in Bangladesh



**Ministry of Environment and
Forests
&
Ministry of Communication**

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Modes of Transport in Bangladesh

- Roads -60%
- Waterways -14%
- Railways -12%
- Airways – less than 0.5%



Passenger/Freight Flows and Modal Shares

Modal Share	Passenger flow/ Freight flow	Road	Rail	IWT
Passenger Transport	67 (Billion-Km)	60	12	14
Freight Flows	9.4 (Billion Ton-Km)	51	10	25

Road Traffic Scenario

Number of Registered Vehicles in Bangladesh

Up to 2003	2004	2005	2006	2007	2008	2009	2010	Total
737400	49202	65878	80305	121272	144419	145243	80263	142398

Road Traffic Scenario

Number of Registered Vehicles in Dhaka City

Up to 2003	2004	2005	2006	2007	2008	2009	Total
303215	21471	26779	33963	36942	48137	56778	527285

Recent Research Findings

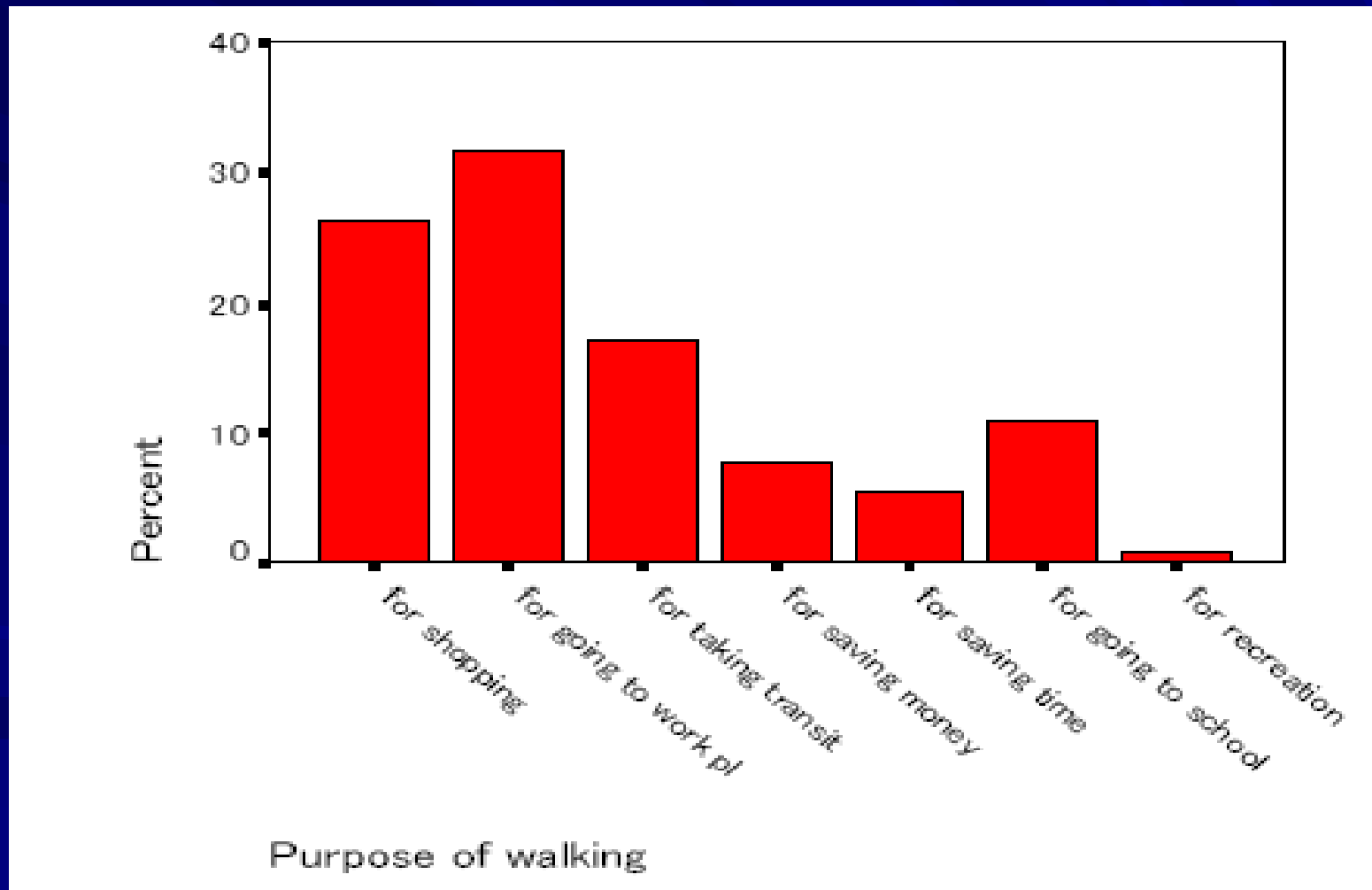
- **DHAKA:** An increase in bus share from **24% to 60%** saves fuel equal to 15 per cent of the fuel consumed in the base case. Frees up road space equivalent to removing 78,718 cars from the roads. CO₂ emissions drops by 9 per cent. PM can drop by 13 per cent and NO_x less than 1 per cent.

Modal Share in Dhaka Metro Area in 2009

Walk	Car	Priv. Bus	Auto Rickshaw	Rickshaw	Truck	Rail	Public Bus	Waterway
19.8 %	5.1 %	1.8 %	6.6 %	38.3 %	0.0 %	0.0 %	28.3 %	0.1 %

Walk share in Dhaka

Field survey shows more than 30% people walk to work



Environmentally Sustainable Streets in Dhaka



Modal Share of Transport in Dhaka

Transportation Modes	Modal Share (%)
Walking	62
Cycle Rickshaw	13.3
Bus	10.3
Three-wheelers	5.8
Car	4

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-Modal Transport Plan (IMTP) awaiting approval of the Government 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.**

EST Implementation in Bangladesh: Past Initiatives

- **Phase out of leaded petrol in 1999**
- **Introduction of Compressed Natural Gas (CNG)**
- **Introduction of unleaded gasoline from 1st July of 1999**
- **Notification of lubricant standards on 1st January, 2001**

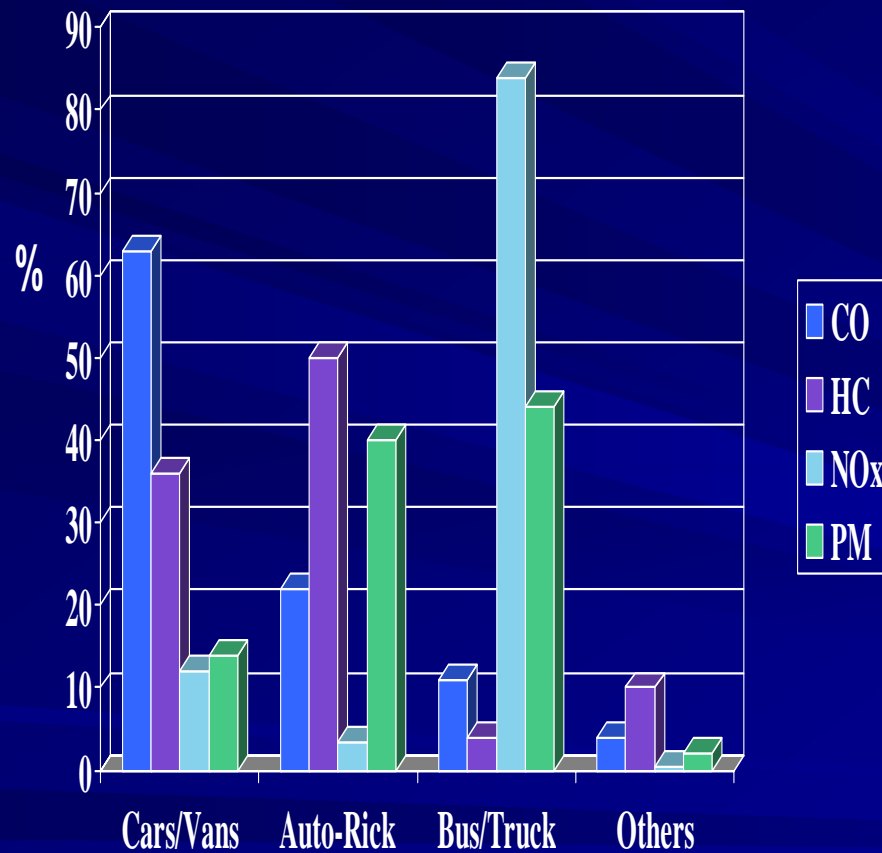
EST Implementation in Bangladesh: Past Initiatives (Contd.)

- **Banning of two-stroke three wheelers from 1st January, 2003**
- **Banning of imported reconditioned cars older than 5 years**
- **Banning of commercial trucks in Dhaka city during day time (8am -10 pm)**
- **Ban on trucks older than 25 years and buses older than 20 years from 2002**

EST Implementation in Bangladesh: Past Initiatives (Contd.)

- **Introduction of ambient air quality standards**
- **Introduction of EURO I for new diesel and EURO II for petrol vehicles from 2005.**
- **Introduction of in use vehicle emission standards from 2005.**

Contribution of Vehicles to Pollution in Dhaka



- Petrol-driven light duty vehicles and auto-rickshaws: 85% CO
- Diesel buses and trucks: 84% of NOx
- Two stroke auto rickshaws: 50% PF unburned HC from all vehicles
- Diesel buses and trucks: 45% auto-rickshaws: 40% of total PM
- SO₂ emissions from vehicles are not very significant compared to other pollutants.

Benefits of Air Pollution Control in Dhaka

- **Impact of two-stroke three wheeler: More than 900 premature deaths avoided and \$ 25 million saved in health cost per year.**
- **With proposed national standard: Premature mortality can be reduced by about 3300 and health cost by \$474 million per year.**

Integrating EST Aspects into Transport Policy

- **Policy making by objectives and targets (STP in 2008)**
- **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)**

Integrating EST Aspects into Transport Policy (Contd.)

- **Support economic development**
- **Manage transport demand (Circular water way, Fly over, BRT, Subway, Monorail, Commuter train)**
- **Manage transport supply (Import of CNG Busses with increased capacity)**
- **Provide implementation guidelines**
- **Measure performance**

Recent Major Initiatives

- **Amendment of “The Bangladesh Environment Conservation Rules, 1997”**
- **Phasing out diesel-run Two stroke three-wheelers by environment friendly CNG fueled 3-wheelers in capital Dhaka and port city Chittagong.**
- **Replacement/conversion of Diesel bus/minibus by CNG fueled bus/minibus in Dhaka & Chittagong Metro Area**
- **Conversion of diesel run commercial vehicles in Dhaka city**

Recent Major Initiatives (Contd..)

- Provide land to private entrepreneurs to establish CNG re-fueling stations
- Convert gasoline fueled all government vehicles into CNG fueled vehicles
- Set up “ Energy Regulatory Commission” under which use of environment friendly fuel issues are being looked into
- Introduction of circular water ways around Dhaka City

Recent Major Initiatives (Contd..)

- Stop the import of old buses and trucks for commercial use**
- Stop the import of old diesel engines**
- Retire aging diesel run vehicles in major metropolitan cities including capital Dhaka**
- Phase out all types of pre-Euro vehicles and introduce EURO II and above in major urban centres**

Recent Major Initiatives (Contd..)

- **Use diesel with Sulfur content less than 500 ppm**
- **Encourage use of environment friendly fuel for running vehicles by reducing custom duties**
- **Construction of New Flyovers**
- **Auto Traffic Signal System**
- **Enforcement actions against unauthorized vehicles**
- **Maintenance of separate lanes for different vehicles**
- **Detailed design and study for introducing BRT under CASE Project funded by WB.**
- **Feasibility study by JICA for introducing METRO**

Main Issues under STP, 2005

- Ensuring safety of all road users**
- Provision of adequate pedestrian facilities**
- Provision of dependable public transport system**
- Establishing control on the numbers and operations of non-motorized transport leading to efficiency and safety**

Main Issues under STP, 2005 (Contd.)

- Introducing travel demand management measures in order to create a balance between the different systems (public and private) and also to keep the demand at a level which can be better served**
- Addressing the issue of managing urban freight transport**
- Provision of adequate mass rapid transit system which the general public can afford**

Main Issues under STP, 2005 (Contd.)

- A system integration so that all modes of transport are integrated to achieve greater efficiencies and increased patronage**
- Ensuring proper traffic management measures to establish a program to reclaim the full potential capacity of the existing roadway space.**
- A detailed study of parking supply and demand is needed with the objective of identifying permanent and temporary parking areas for cars, taxis, bicycles, rickshaws and other vehicles**

Main Issues under STP, 2005 (Contd..)

- Provision of a safe environment which can be addressed by looking into fuel technology, vehicle technology and planning interventions**
- Proper integration between transport and land use planning**
- Review of the social and political aspects due to implementation of any project particularly encompassing the development of a transportation system**

Main Issues under STP, 2005 (Contd..)

- There is a need for considerable institutional development through training and the provision of increased resources**
- The issue of privatization, deregulation and subsidies need to be addressed properly**
- High quality mass rapid transit system (BRT and Metro); (Both BRT and Metro will certainly reduce pollution and at the same time facilitate mass transit)**

Main Issues under STP, 2005 (Contd..)

- **High initial cost (USD 4.2 billion excluding the BR investment); exceeding potential financial capability**
- **Annual operating subsidy; large for Metro component, small for BRT component; However, these are rich factors**

Future Plan

- **Construction of sufficient flyover, under pass, over pass on major roads of the city**
- **Construction of underpass in railway crossings crisscrossing the city**
- **Effective and efficient integration of different transport modes when and where necessary**
- **Introduction of BRT, LRT in the initial phase**
- **Adopt a sustainable urban transport development strategy to keep face the growing travel demand**

Thank you