

# **3<sup>rd</sup>-EST-Forum.**

## **Bangladesh Country Paper Presentation**

**AMM Nasir Uddin**  
**The Member**  
Physical Infrastructure  
Planning Commission  
Government of Bangladesh

**Tazul Islam Chowdhuri**  
**Joint Secretary**  
Ministry of Communication  
Government of Bangladesh

**Md Shahjahan**  
**Director (Technical)**  
Department of Environment  
Ministry of Environment and Forest  
Government of Bangladesh

# Bangladesh: and Urbanization Trends

- Area: 147,570 km<sup>2</sup>
- Population: 140.6 million
- Population density: 953/km<sup>2</sup>.
- Population growth rate: 1.42 per annum
- Urbanization: 25% (Present)  
30% (by 2010)  
50% (by 2025)

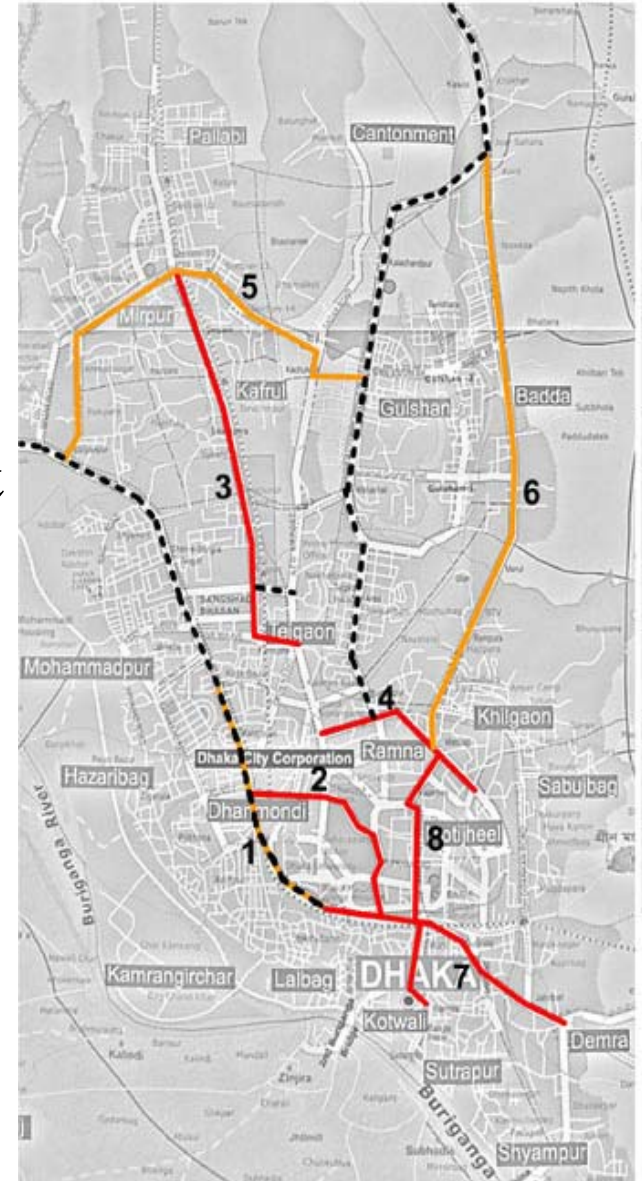


# Urban Characteristics in Bangladesh

- Rapid urbanization
- High growth rate of vehicle population – over 10%
- Disproportion in demand and facility of transport
- Mix traffic with high % of NMT
- Improved Public transport system- A Growing Demand
- Traffic management with weakness in enforcement
- High parking demands
- Environmental Impact: an issue of serious concern.

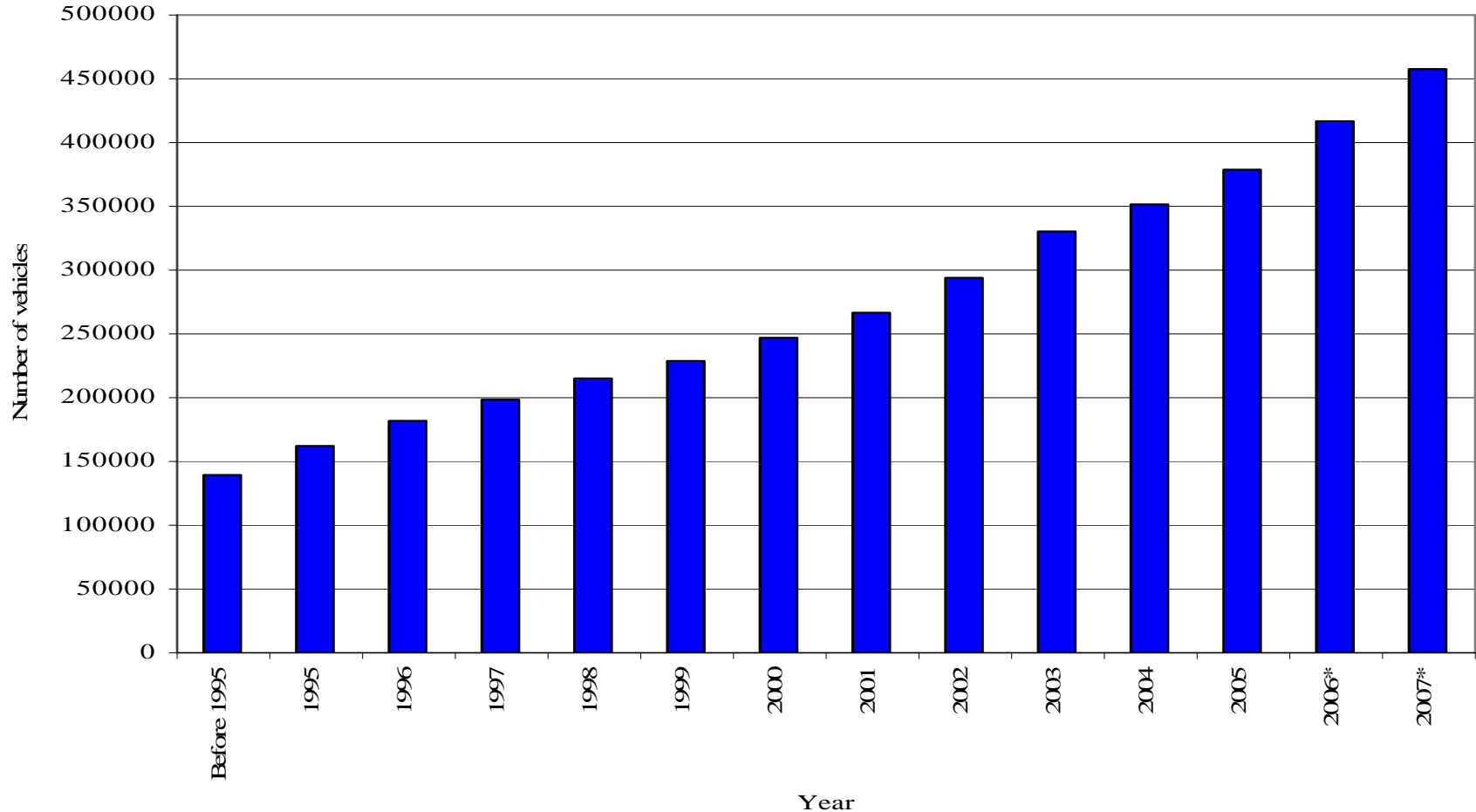
# Transport Profile of Dhaka – The Mega City

- Area - 2,000 km<sup>2</sup>
- Population – 12 million
- Metropolitan Dhaka accounts for nearly 40% of total urban population
- Contribution to country's GDP – nearly 15%
- Road network – 3000 km (450 km primary & secondary/collector roads)
- Vehicle population – around 450,000
- NMT predominantly rickshaw – around 500,000
- Cost of congestion and accidents – US\$ 520 million/annum
- Air pollution and noise level – very high
- Urban road accident fatalities – 400/annum



# Motorized Vehicle Growth

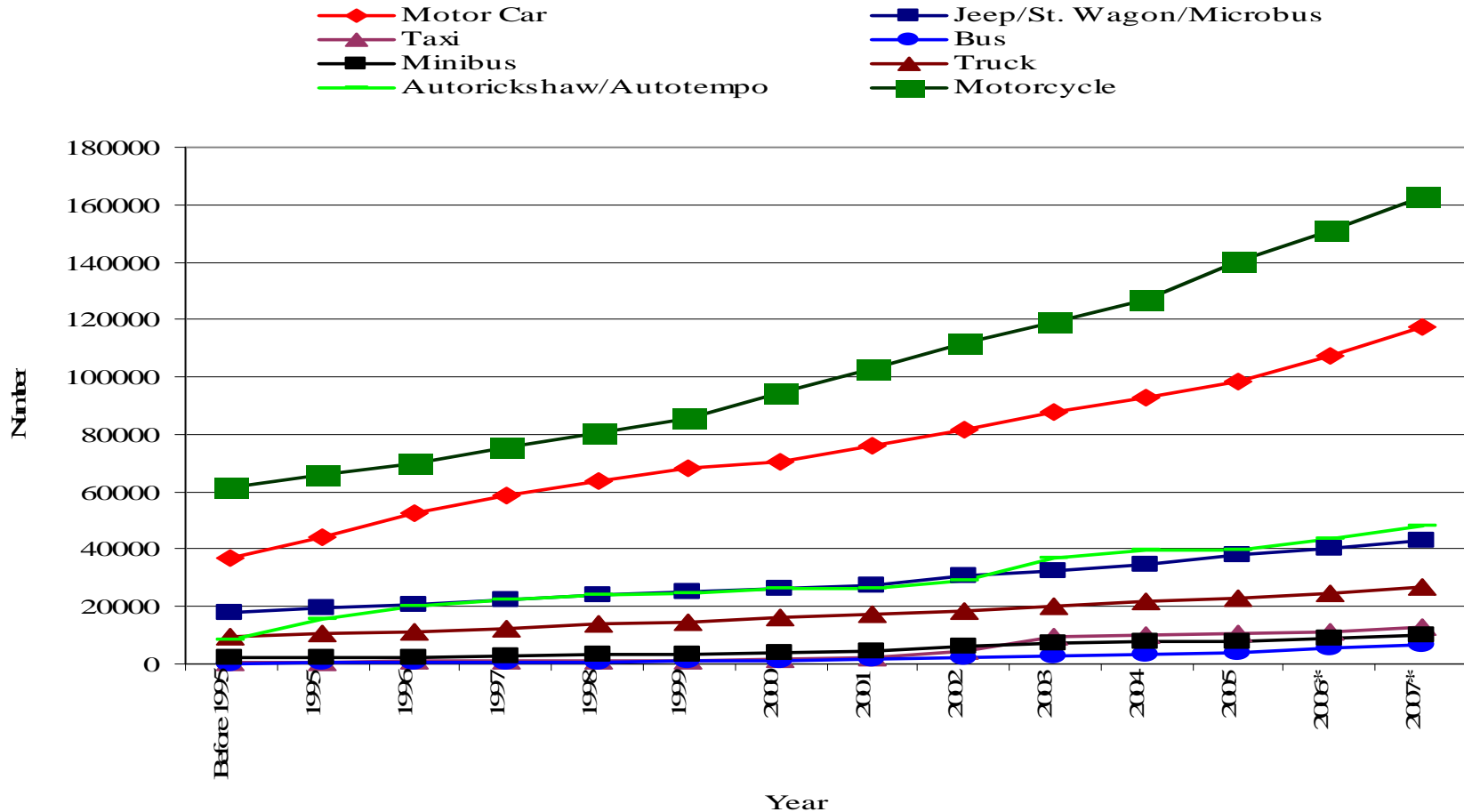
- Increasing Motorized Vehicles.....
- Annual growth rate over 10%.



\*Number of 2006 and 2007 are projected

\*\*Source: BRTA

# Growth of Different Type of Vehicles in Dhaka

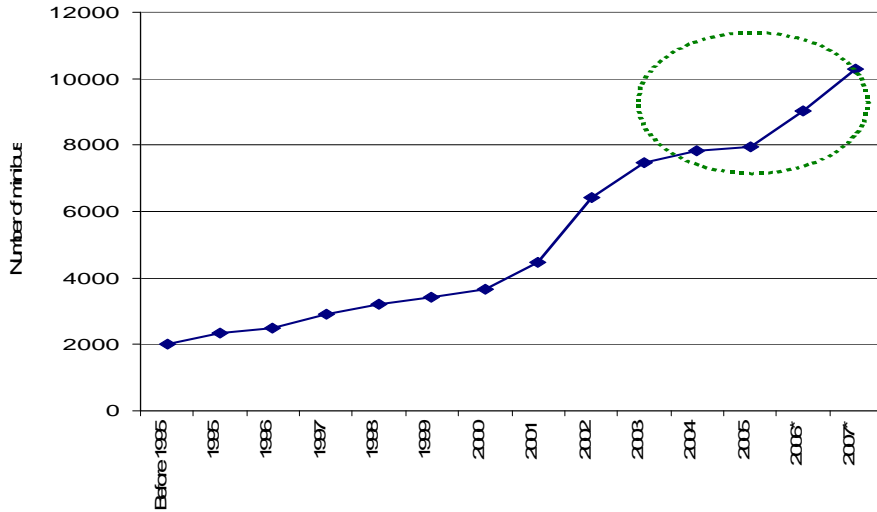


\*Number of 2006 and 2007 are projected

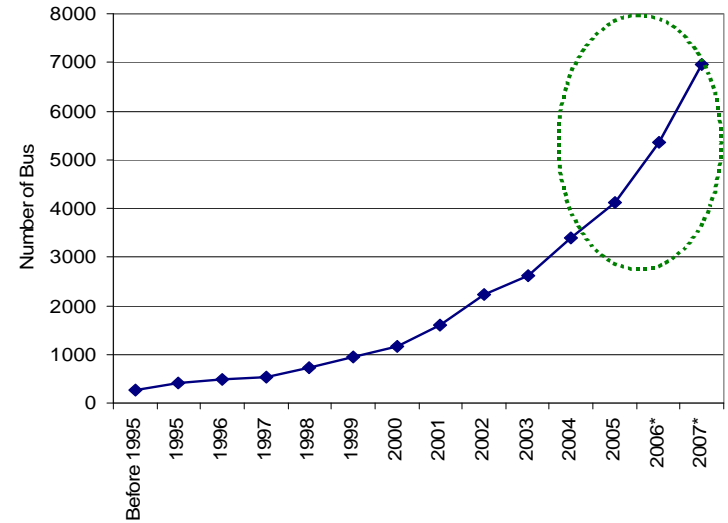
\*\*Source: BRTA

# Growth Trend of Bus, Mini Bus And Trucks

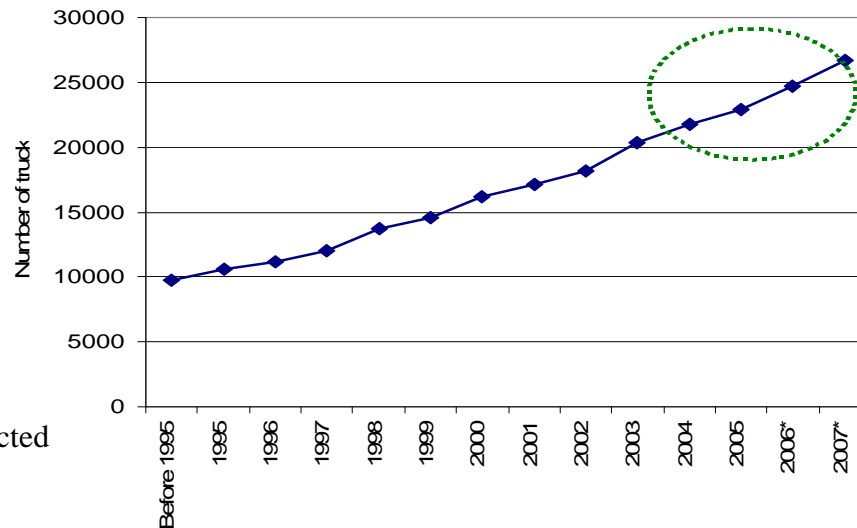
Growth Trend of Minibus in Dhaka City



Growth Trend of Bus in Dhaka City



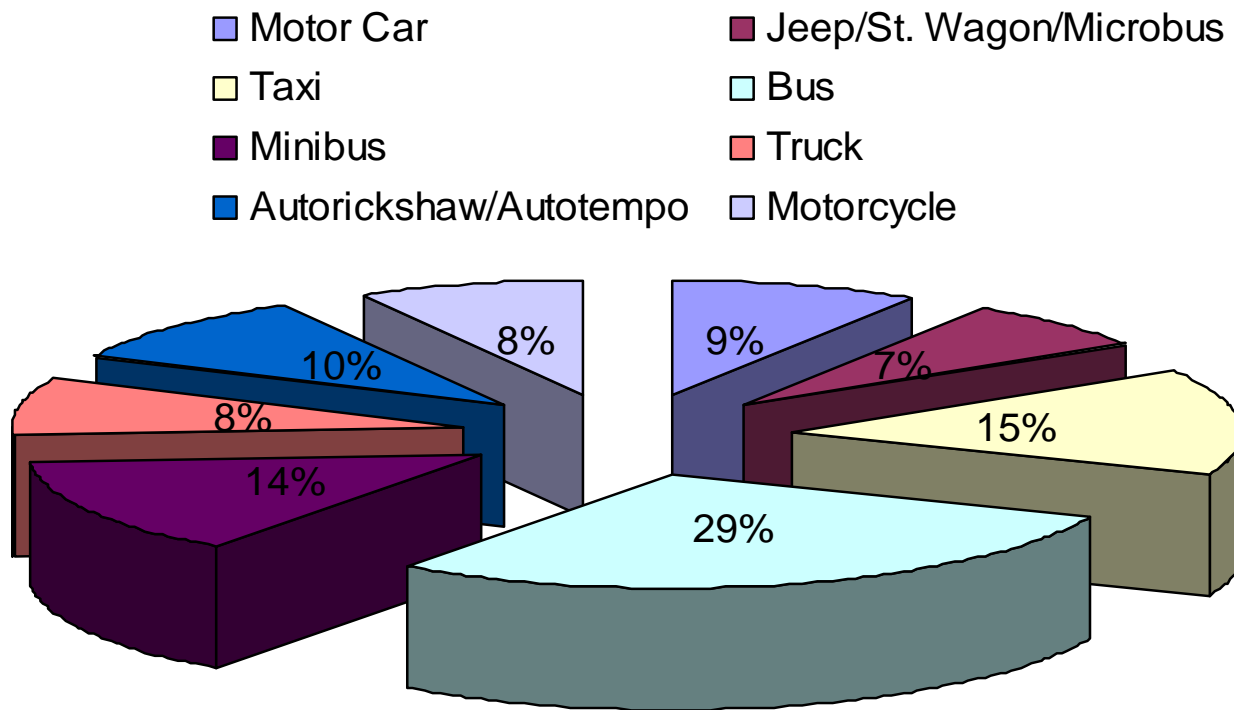
Growth Trend of Truck in Dhaka City



\*Number of 2006 and 2007 are projected

\*\*Source: BRTA

# What is growing most ???



**Increase of vehicle type in %**



# Public Transport Crisis



Anxious passengers waiting for bus, struggling to get in, overcrowded bus.

# Public Transport Crisis



Congestion,  
Poor management,  
Inefficient road use,  
Mixed traffic,  
Air pollution

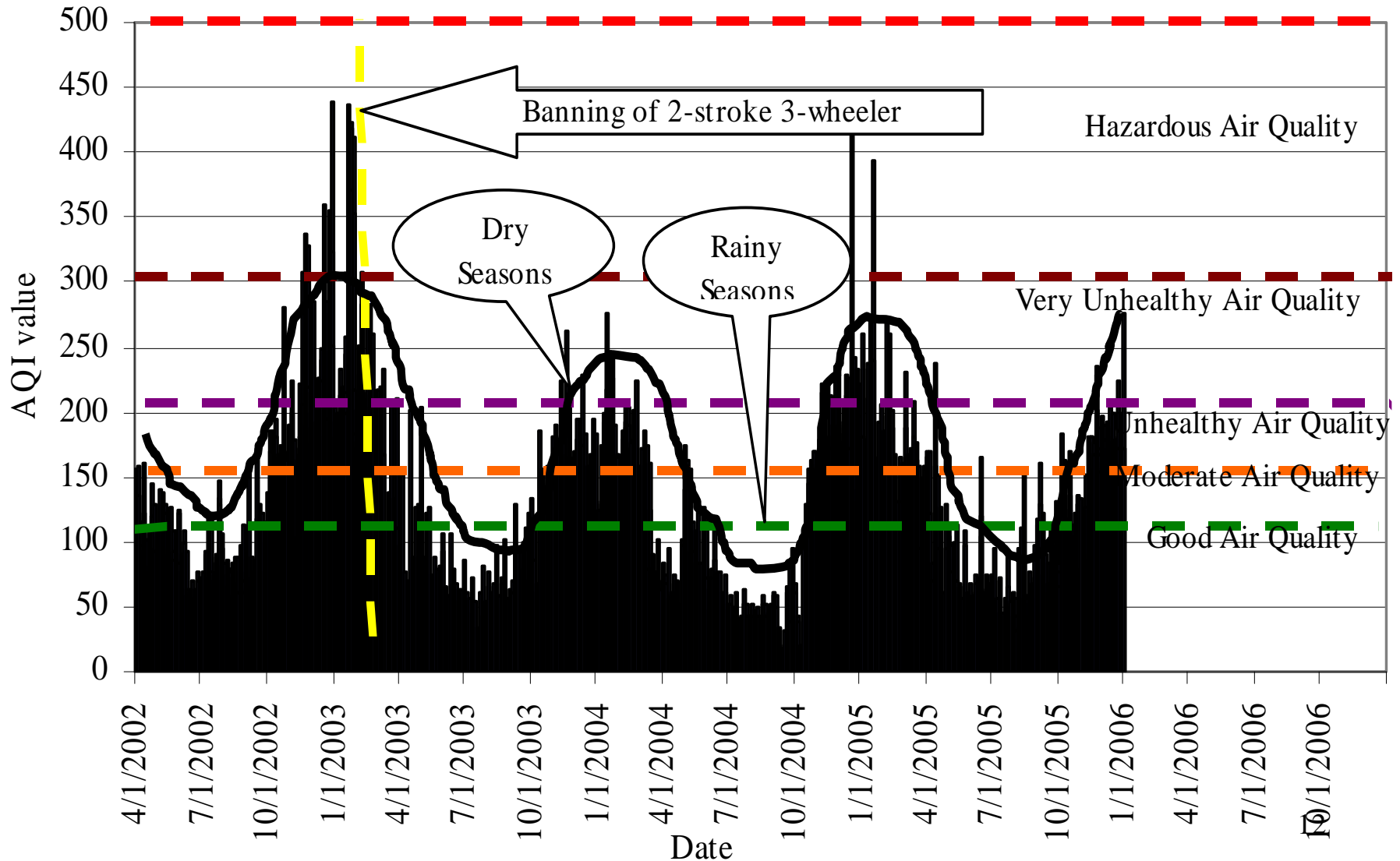


# National Ambient Air Quality Standards (NAAQS) for Bangladesh

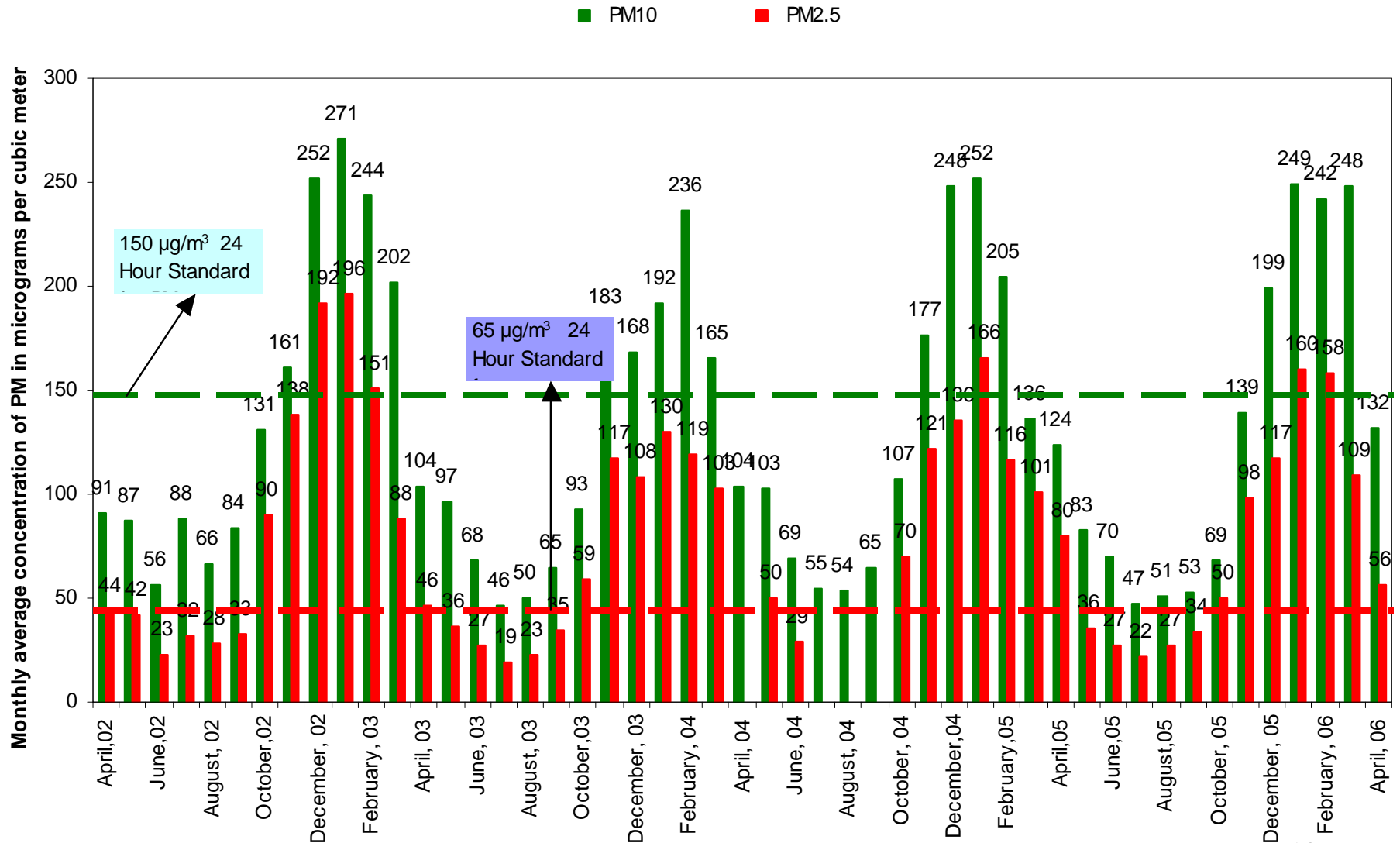
<b>Pollutant</b>	<b>Objective</b>	<b>Averaging Time</b>
CO	10 mg/m <sup>3</sup> (9 ppm)	8-hour
	40 mg/m <sup>3</sup> (35 ppm)	1-hour
Lead	0.5 µg/m <sup>3</sup>	Annual
NO <sub>2</sub>	100 µg/m <sup>3</sup> (0.053 ppm)	Annual
PM-10	50 µg/m <sup>3</sup>	Annual
	150 µg/m <sup>3</sup>	24-hour
PM-2.5	15 µg/m <sup>3</sup>	Annual
	65 µg/m <sup>3</sup>	24-hour
Ozone (O <sub>3</sub> )	235 µg/m <sup>3</sup> (0.12 ppm)	1-hour
	157 µg/m <sup>3</sup> (0.08 ppm)	8-hour
SO <sub>2</sub>	80 µg/m <sup>3</sup> (0.03 ppm)	Annual
	365 µg/m <sup>3</sup> (0.14 ppm)	24-hour
SPM	200 µg/m <sup>3</sup>	8 hour

# Air Quality Trends in Dhaka

## Seasonal variation of Air Quality Index



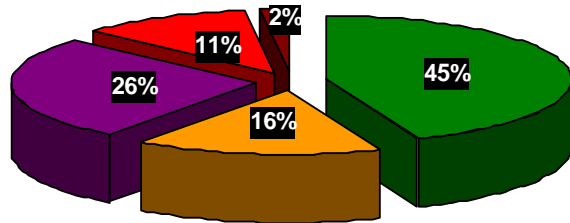
# Trend of Particulate Matter in Dhaka



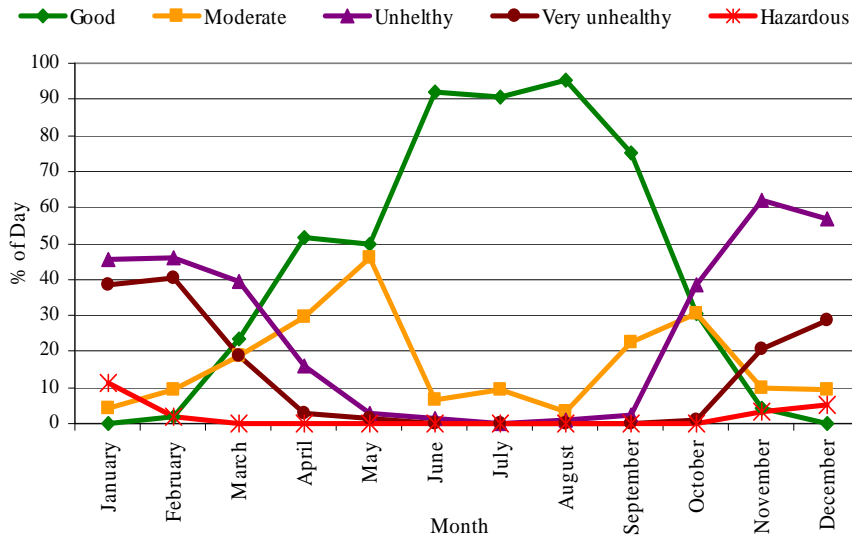
# Particulate Matter: Main Pollutant of Concern in Dhaka

Period: 2002 to 2006

■ Good      ■ Moderate      ■ Unhealthy  
■ Very unhealthy      ■ Hazardous

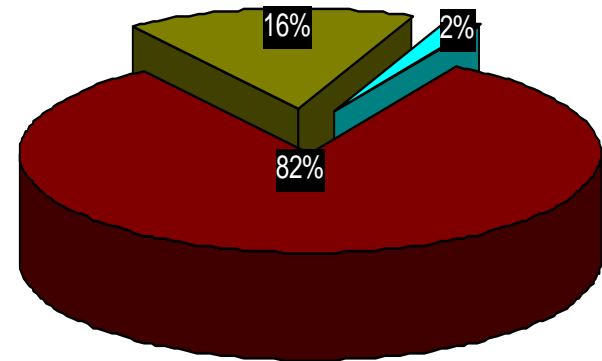


55% days were exceeded the *NAAQS*



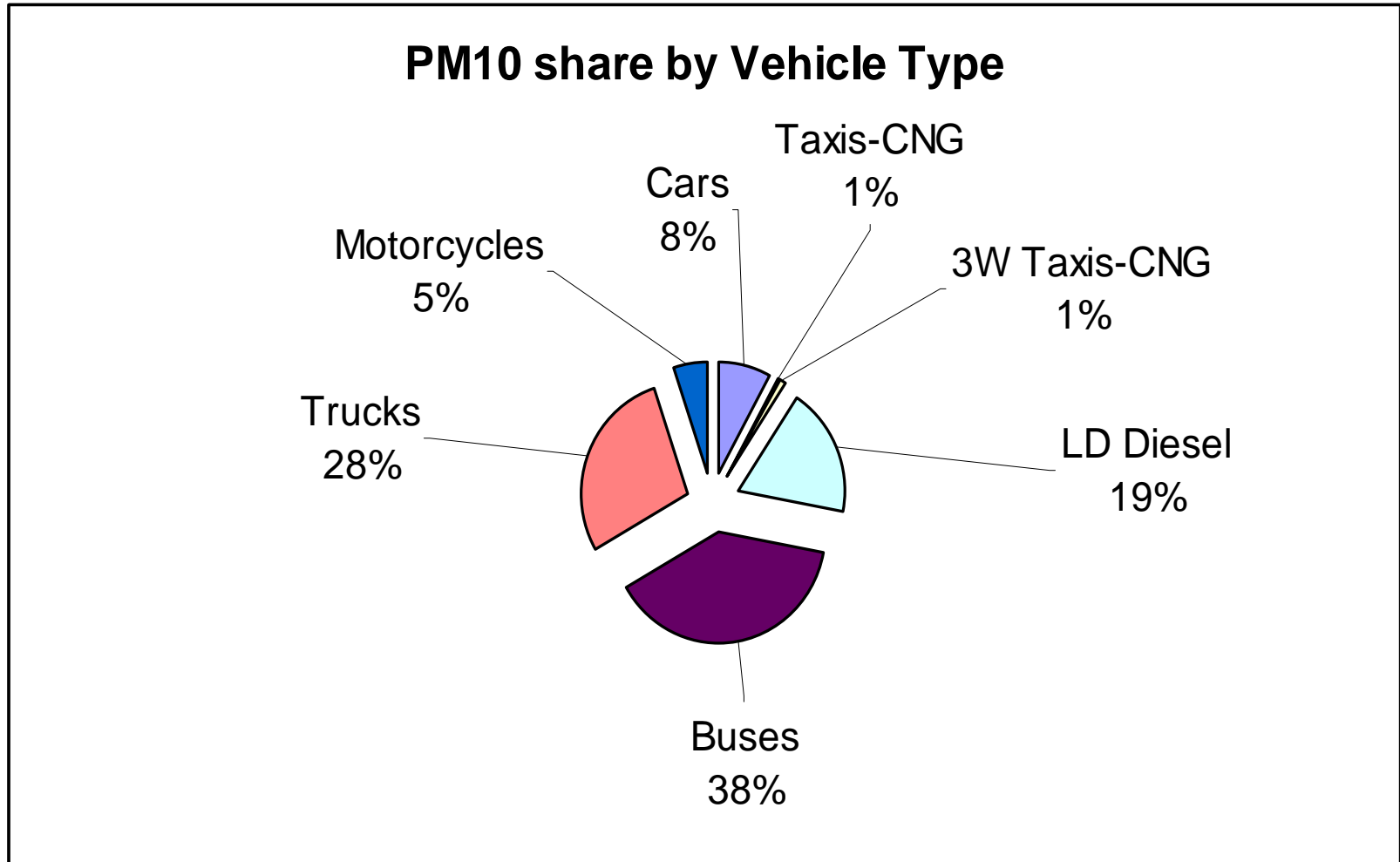
Seasonal variation of air quality level in Dhaka

■ PM2.5      ■ PM10      ■ 8h-O3



98% times PM appeared as *Responsible Pollutant*

# Vehicle Emission Inventory for Dhaka: >85% of PM10 from Diesel Vehicles



# National Land Transport Policy

## 14- Policy

### Objectives:

- Provide Safe and dependable transport system
- Remove unnecessary control, laws and regulations
- Control and Regulate Fare
- Specify role of Government and Private Sectors
- Maintain economic and environmental balance
- Ensure utilization of funds
- Improve transport system proportionate to transport demand
- Reduce transportation cost
- Ensure Growth of traffic commensurate with economy
- Formulate strategic transport system for Dhaka City



# National Land Transport Policy Contd.

- Introduce integrated transport systems
- Provide Alternate transport system
- Create awareness :better life and better safety
- Make transport system efficient for Poverty Alleviation

# Strategic Transport Plan (STP) for Dhaka City

## Strategic Goals:

- Efficiency – maximizing use of existing resources
- Mobility & Accessibility – ensure reasonable access to employment, education, health social, and services and opportunity
- Safety – develop and implement a coordinated , comprehensive set of safety standards
- Affordability – ensure a balance between requirement and resources
- Achievability – develop transport operations and capital investment projects and services
- Economic Development – support economic growth and competitiveness
- Social Development – support programs and efforts toward the alleviation of poverty
- Environment – minimize the transport sector’s negative impact on the environment

# Major Program Under STP

- Underground Railway System (Metro)
- Bus Rapid Transit (BRT)
- Development of Traffic Management
- Non-Motorized Transport (NMT) lanes
- Pedestrian Facilities
- Circular Waterway
- Elevated Express Way
- Light Railways
- East-West Connection Road
- 50 Road Projects

# Traffic Management Strategies

- Managing pedestrian travel
- Managing non-motorized traffic
- Promoting bicycle as an important travel mode
- Improving mass transit system application
- Urban truck management policy
- Enhancement of traffic engineering transport planning and management practices
- Enforcement of Traffic regulations

# Strategies for Road Safety

- For road environment improvement:
  - Wider application of traffic engineering approaches
  - Both accident prevention and accident reduction strategies
  - Systematic implementation of road safety audit
- Traffic segregation, canalization, speed reduction and other self-enforcing measures
- Identification of black spots by systematic accident investigation
- Preparation of road traffic safety action plan

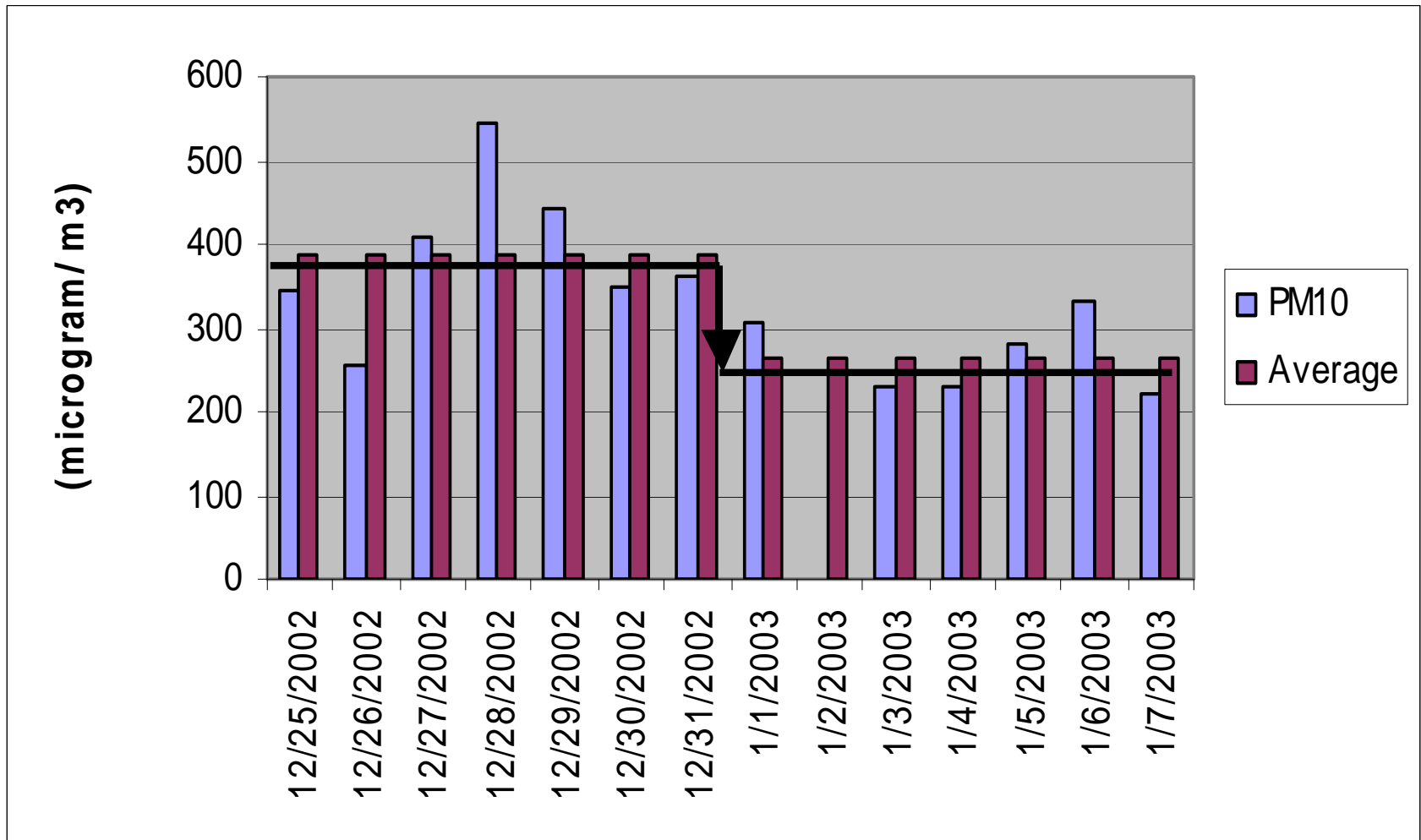
# Environmental Safety

- Introducing EIA/EMP in the road construction and operation
- Adequate funding for mitigation measures of adverse environmental impacts
- Environmental standards for new roads, including social and re-settlement issues
- Long term sustainability in road construction – use of hard rocks, lime stone etc.
- Adaptation of modern technology in road construction

# **Banning of 2-stroke 3-wheeler**

## **A Success Story**

# Levels of PM10 before and after removal of Baby Taxis (Phase-II)





# Steps Taken by Government to Improve Air Quality In Bangladesh

- Adoption of NLTP.
- Formulation and approval of STP
- Introduction of unleaded gasoline from 1<sup>st</sup> July,1999
- Ban on import of two-stroke engine
- Phase out of 2- stroke 3 wheeler baby taxis from Dhaka city in January 2003
- Ban on vehicles older than 20 years
- Introduction of Bangladesh-1 and Bangladesh-2 in line with Euro emission norms
- Undertake an emission reduction Road map for all types of vehicles registered before and after September 2004
- Increase the use of Compressed Natural Gas
- Restriction on plying of trucks in Dhaka from 8:00 am to 8 pm
- Improvement of mass-transport system within urban areas
- Regular monitoring of the ambient air quality
- Increasing public awareness
- Introduction of 4-stroke 3 Wheeler CNG Auto Rickshaw
- To minimize emission from brick kiln, chimney height has been fixed to 120 feet.

# Lessons Learnt

➤ **Difficult but achievable if political will is there**

➤ **A bridge between the stakeholders and the press is a must**

➤ **Once achieved , protect the achievements**

**A careful planning is Imperative**

**Thanks  
for sharing your time  
with us**