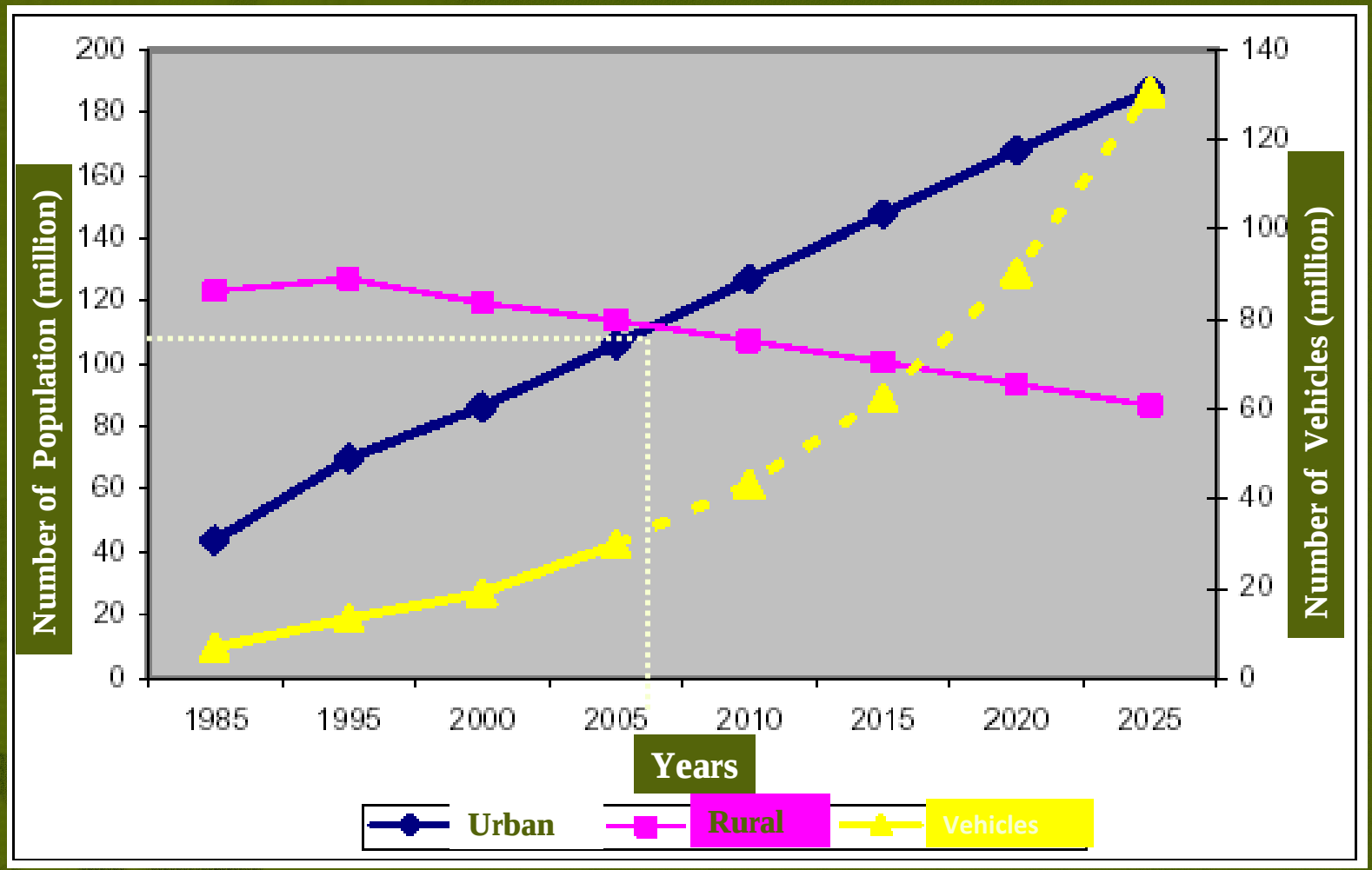
Indonesian Country Report on Environmentally Sustainable Transport Implementation

Ministry of Transportation &
Ministry of Environment
Republic of Indonesia

I. GENERAL ISSUES AND PROBLEMS ON LAND TRANSPORT SECTOR

URBAN-RURAL POPULATION AND VEHICLES

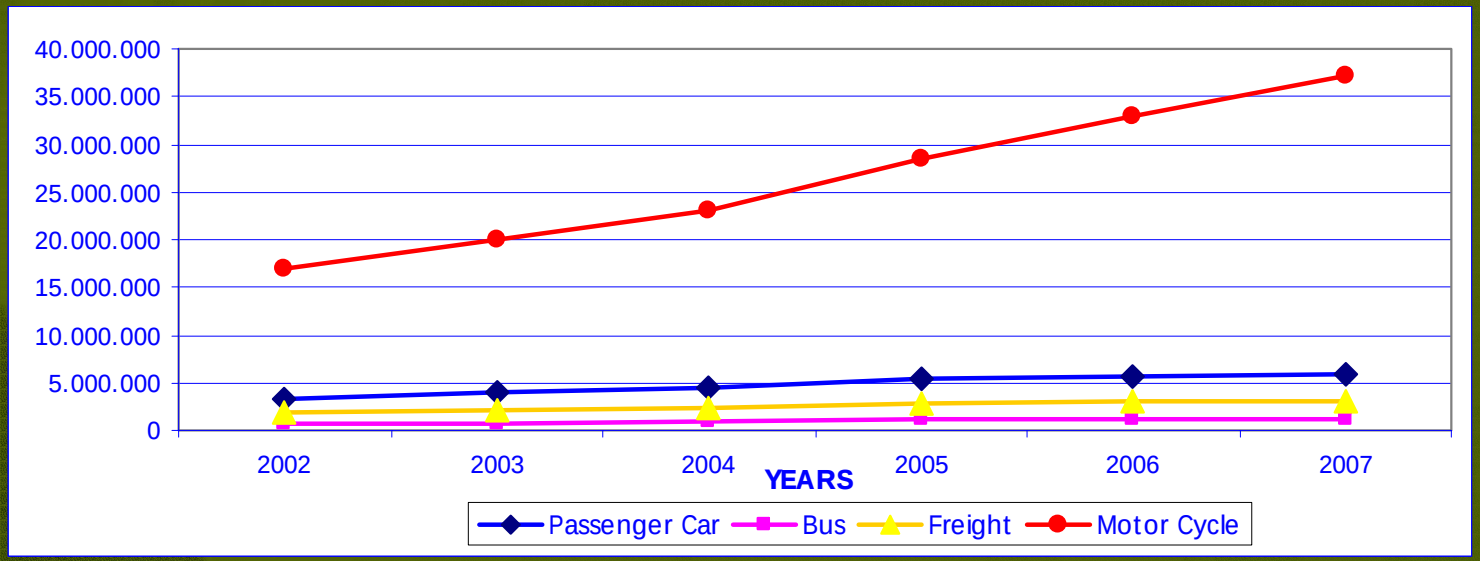


CAR OWNERSHIP IN INDONESIA

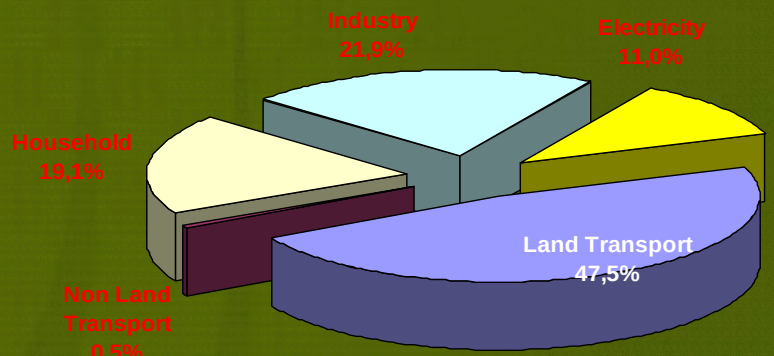
(EXCEPT MILITARY, POLICE AND DIPLOMATIC)

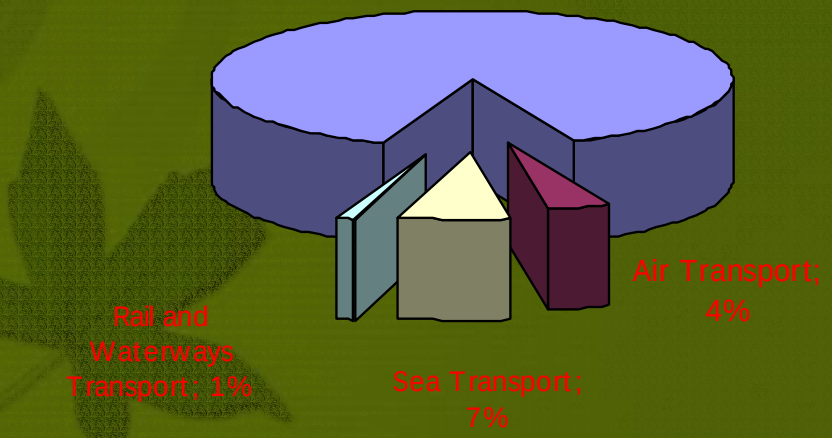
Year: 2002 to 2007

	2002	2003	2004	2005	2006	2007
Passenger Car	3.403.433	3.885.228	4.464.281	5.494.034	5.716.421	5.992.350
Bus	714.222	798.079	933.199	1.184.918	1.186.479	1.188.416
Freight	1.865.398	2.047.022	2.315.779	2.920.828	3.015.784	3.133.602
Motor Cycle	17.002.140	19.976.376	23.055.834	28.556.498	32.983.840	37.192.768



PROPORTION OF FUEL CONSUMPTION





Land Transport sector consumed 47.5% of national fuel.

Meanwhile, 88% of it are consumed by Road Transport.

TRAFFIC CONGESTION

- Traffic congestion is caused by various factors:
  - The high growth of motor vehicles,
  - Physical bottlenecks,
  - Capacity Reduction at intersection,
  - Loading and unloading of bus passenger on the road,
  - U-turns, rail road crossing,
  - Bad driving practice, etc.

  have brought impact on economic lose and increasing air pollution.

PUBLIC TRANSPORT

- The level of bus service at present is low in many aspects, such as lack of punctuality, long waiting time, insecurity on board, untidy inside bus fleet.
- Many of public transport are using old vehicles.
- Many of Metropolitan Cities are still using small buses for public transport .

AIR POLLUTION PROBLEMS

- Air pollution in metropolitan and medium-size cities has become a chronic issue as a threat to the urban people's health and economic. The problem is due mainly by population concentration, a drastic increase in traffic volume, exhaust emission from motor vehicles, and industries.

- In Metropolitan Cities, transport sector gives proportion to air pollution about 60 to 80%, followed by industry and household sectors.

II. POLICY AND STRATEGY FOR SUPPORTING ENVIRONMENTALLY SUSTAINABLE TRANSPORTATION

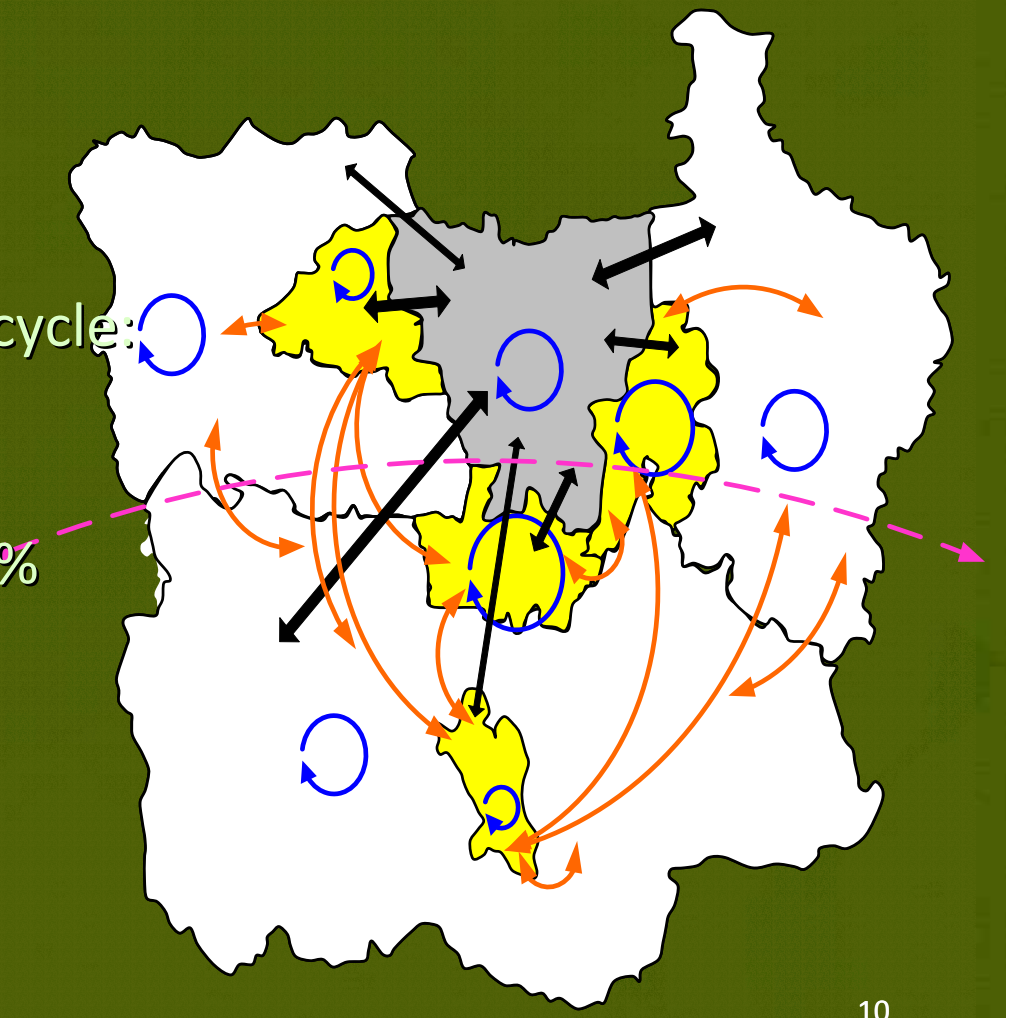
- **Jakarta**
- **Yogyakarta**
- **Bogor**

CONDITIONS
JAKARTA, the Capital City

- Number of vehicles 6,3 m
  (growth 13% /annum) :

  - Private Car: 89.45% (Motorcycle: 54.14%)
  - Goods Vehs: 9.21%
  - Public Transport Vehs: 1.35% (56% share)

700 private cars increase/day→
Need 3 km road length/day;
Road growth 0.1%).



CONDITIONS
JAKARTA, the Capital City, Cont.'d

- ***Traffic Jam*** (everywhere and anytime) → typical LoS of main road in the peak periods are D, E and F
- **Significant Speed Reduction** (38 kph in 1995, 17 kph in 2007) → More Fuel Consumption 3,10 million liters/day or 930 million liters/year.
- **Motorcycle Boom Phenomenon** (more than 70% traffic composition) → cause safety problems
- **The existence of small paratransit public transport** → transport and traffic problems
- **Back-to-The City Phenomenon** → Massive development of apartments → some are not integrated with transportation development
- **Road-Hierarchy is not well maintain** → difficult to differentiate whether arterial, collector or local roads.

CONDITIONS
JAKARTA, the Capital City…..cont'd

- Number of vehicles today 6,3 m (growth 11% /annum).
- 296 private cars increase/day
- Everyday 600.000 vehicles from surrounding area (Bodetabek) carry 1,2 m pax
- private cars ratio to public car 92:8
- 17 m trips/day , public transport share 53%
- Public transport service poor, shares going down

STRATEGY FOR THE COMPREHENSIVE MOBILITY

Mass Transit

- TransJakarta Busway (Bus Rapid Transit)
- Monorail – Light Rail Transit
- Waterways
- Mass Rapid Transit

Peds. Facilities & NMV

- Integrated Network for Pedestrians & NMV
- Pedestrian Walkways, Curbs, Peds-Crossing
- Facilities for Diffable People & Senior People

Traffic Restraint

- Electronic Road Pricing (ERP)
- Parking Management/ Restraint
- Car free day event

BUS RAPID TRANSIT : THE SHORT TERM SOLUTION

PUBLIC TRANSPORTATION REFORMS……..Cont'd

- **JAKARTA**

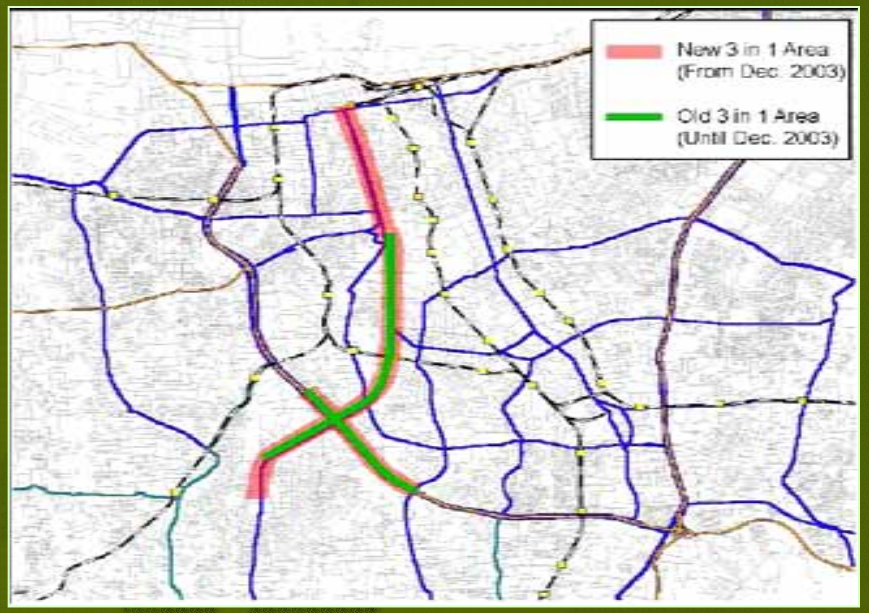
  TransJakarta Busway, 2008 Services 10 corridors from the total of 15 corridors planned.

BUSWAY IMPACTS

- 14% of busway user shifted from private car (JICA)
- Number of busway passenger increase significantly each year
- Based on Institute for Transportation and Development Policy (ITDP) research, each year busway operation:
  - reduce emission 155 ton of NOx
  - reduce 23 ton of Particulate
  - reduce CO2 emission up to 20,000 ton

TRAFFIC RESTRAINT
Jakarta 3-in-1 Scheme

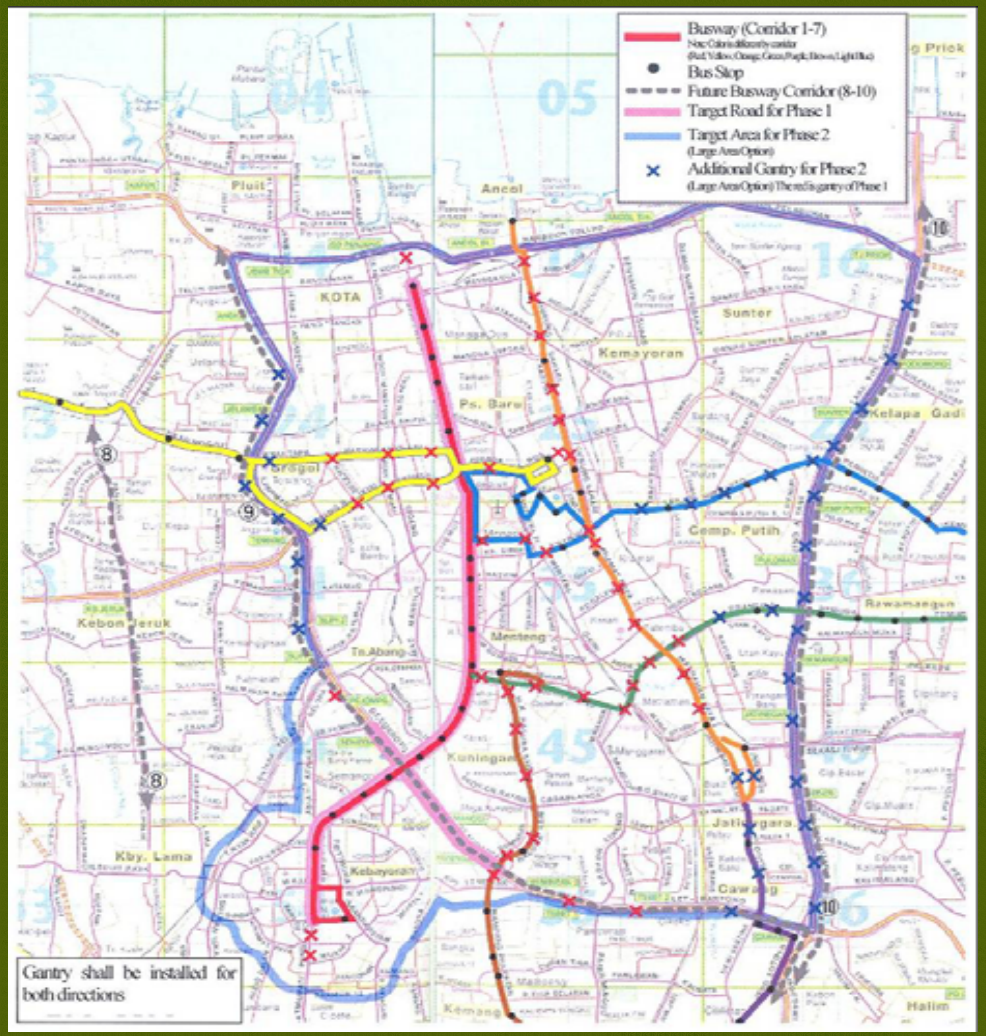
Only vehicles with three or more passengers allowed to enter the restricted road section



- 3 in 1 scheme will be replaced by Electronic Road Pricing in 2010
- Jabodetabek Toll-road will be equipped by Electronic Toll Collection System

TRAFFIC RESTRAINT
Proposed ERP System

- Area:
  - Phase 1 replacing 3-in-1 scheme
  - Phase 2: East – West (between railway lines)
- Charging Methods: Area Pricing
  - Target : Cars and Motorcycles
  - Operation Hours : 07:00-10:00; 16:00-19:00 Mon-Fri.
- Expected Impacts: pull-out 20% traffic from area



YOGYAKARTA

Before: Services Of Paratransit

* Private/Personal Fleet Ownership
* Conventional Management
* Non Motorized Vehicles

a. **Operating Urban Mass Transport,**
   * **as a new transport mode,**
   * **More comfortable (air conditioned buses)**
b. **Operated By a Consortium Company**
c. **New professional management**
   * **Smart Card On-line Ticketing System**
   * **Scheduled Services**
   * **Public Private Partnership**
   * **Local governments coordination**

" TRANS JOGJA "

BOGOR

- "Kota Sejuta Angkot"→
  ("City of Million Paratransit")
  Private/Personal Fleet ownership
- Conventional Management

- **Operating Urban Mass Transport,**
  - *** as a new transport mode,**
  - *** More comfortable (air conditioned buses)**
  - **- New professional management**
  - *** Smart Card Ticketing System**
  - *** Scheduled Services**
- **Using Biofuel (Waste Cooking oil)**

FUTURE DEVELOPMENT

BRT System Be Implemented in Other Big and Medium Cities

- **Megapolitan city : Jabodetabek**
- **Metropolitan Cities:**
  - ✓ Medan – North Sumatera;
  - ✓ Bandung – West Java;
  - ✓ Semarang – Central Java;
  - ✓ Surabaya – East Java;
  - ✓ Makassar – South Sulawesi;
- **Medium Cities:** Pekanbaru, Surakarta, Manado

OTHER MEASURES TO SUPPORT SUSTAINABLE URBAN TRANSPORTATION SYSTEM

1. Energy Diversification
2. Encourage the use of Non Motorized Vehicle
3. Traffic Safety
4. Blue Sky Cities Evaluation Program

1. ENERGY DIVERSIFICATION

- Existing Gas for Transport (CNG);
- Bio fuel (Bio-solar and Bio-ethanol) for motor vehicles;
- Waste Cooking Oil (BDF in Bogor);
- LPG introducing this year.

A. GAS FOR TRANSPORT (CNG)

- Socialization and Technical Assistance, for instalation Converter Kit (CNG) on Public Transport;
- Gasification for public transport in DKI Jakarta and other Metropolitan Cities;
- 1755 unit Converter Kit installed on taxis in Jakarta;
- Revitalization of Gas Stations in Jakarta and Surabaya.

B. BIO FUEL

- **BIO FUEL USE FOR PUBLIC VEHICLES;**
- **BIO FUEL USE FOR GOVERMENT VEHICLES;**
- **BIO FUEL USED FOR BUS PILOT PROJECT (TRANSPAKUAN) IN BOGOR.**

2. Encourage the Use of Non-Motorized Vehicles

- Development of Regulations
- Development of pedestrian fasilities
- Development of bike line
- Development of facilities for disable person

CYCLING AND PEDESTRIAN FACILITIES

- Preparing facilities for pedestrian and bicyclist;
- Advocate bicycle using.

3. TRAFFIC SAFETY

- Traffic accident increase, both human and materials
- Most of traffic accident caused by human error

- 2006: 87,020 accidents (15,762 fatal), and 2007: 32,000 deaths.
- 87 death/day or 3.63 death/hour
- Economic lost about 41,4 trillion rps. or about **2.91% from GDP Indonesia**

Traffic accident have become the bigest killer

Cause and Type of Injuries

- Motorcycle = 47 %
- Human Error = 90 %
- Head = 30 %, Limbs = 31 %

Policy :

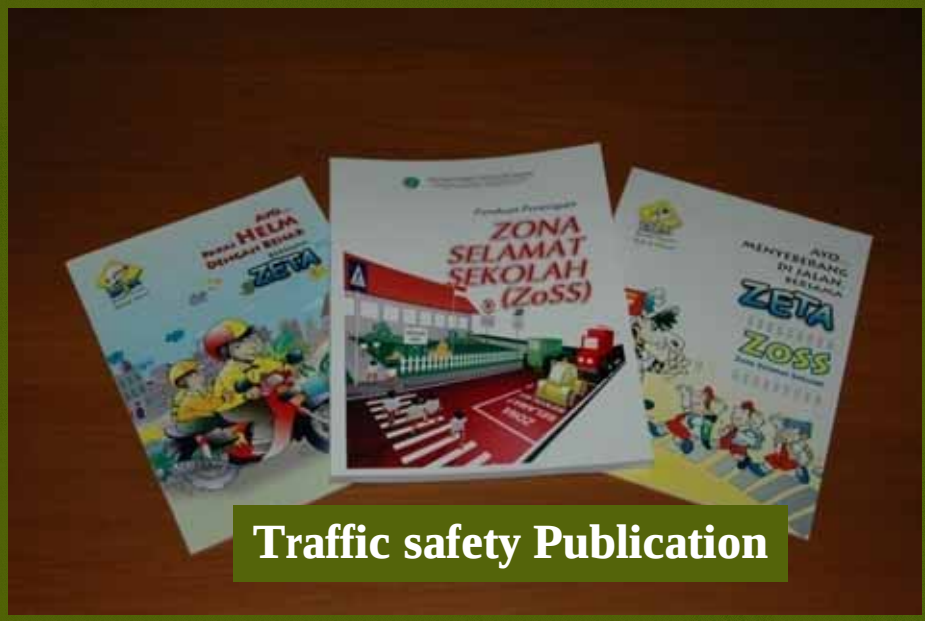
Increasing for transport user safety

1. Increasing for facilities and infrastructure safety standar
2. Development of safety information management
3. Supporting for partnership scheme

Traffic Safety for Children

Helmet for Kids

School Safety Zone



Traffic safety Publication

4. The BLUE SKY Cities Evaluation PROGRAM

Vision

- **Vision**
  - Indonesian Clean Air at the year of 2020
- **Objective**
  - Compliance of Ambient air quality standard for SO2, NOx, CO, HC, PM10, O3, Pb at least 340 days/yr that will be achieved round about 2015

Blue Sky Cities Evaluation

Objective:

- Improving urban air quality through implementation of environmentally sustainable transport policy

Blue Sky Cities Evaluation

Institution Performance

- Regulation
- Mayor City commitment
- Program
- HRD
- Financial
- Infrastructure

Urban Characteristic

- Urban traffic performance
- Compliance of Vehicle emission standard
- Roadside air quality
- Fuel quality
- Noise

The Blue Sky Cities Evaluation (Metropolitan and Big Cities)

- Year 2006 : Tryout in 3 cities
  - Medan, Makassar, dan Surabaya
- Year 2007 : Evaluation in 12 cities
  - DKI Jakarta (5 cities), Bandung, Jogjakarta, Semarang, Surabaya, Denpasar, Makassar, Medan
- Year 2008 : Evaluation in 16 cities
  - 2007 cities + Bekasi, Depok, Tangerang, Palembang
- Year 2009 : Planning in 20 cities
  - 2008 Cities + Bogor, Balikpapan, Pekanbaru, Padang

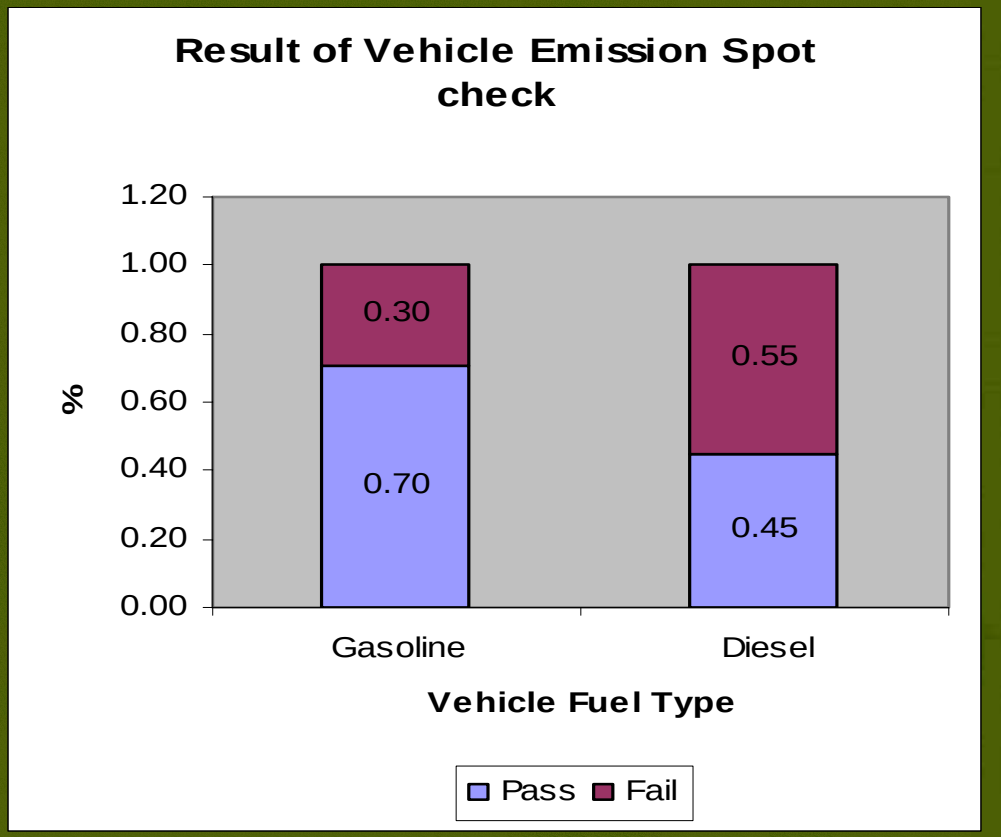
Evaluation Result in the year 2008

- Roadside ambient air quality
  - NO2 : All of 16 cities have complied to ambient air quality standard (AAQS)
  - SO2 : 1 city has exceeded AAQS, 15 Cities have complied to AAQS
  - CO : All of 16 cities have exceeded AAQS
  - HC : 5 cities have exceeded AAQS, and 11 Cities have complied to AAQS

Evaluation Result in the year 2008….cont'd

Vehicle emission spot check

- Total vehicle : 32.911 vehicle
- Gasoline vehicle : 25.018
  - Pass the emission standard 70%
- Diesel vehicle : 7.893
  - Pass the emission standard 45%



Challenges Remain

- Fuel quality (especially diesel oil quality) remains a major problem.
- The average sulfur content in diesel oil is 2500 ppm.
- This contributes to PM10 pollution which is most detrimental to human health,
- But most importantly, it prevents on-vehicle emission control devices (such as, particulate trap) from functioning appropriately.
- The Euro 2 corresponding fuel standards require a maximum of 500 ppm sulfur in diesel.

Challenges

- So far, gas conversion program has not fulfilled it's objective of replacing gasoline and diesel.
- This is caused by the controlled price of CNG has been too low (around 43% that of gasoline) to provide adequate revenue to the CNG filling station operators.
- Customers complain of slow and incomplete refueling, carry-over of oil and water into the vehicle cylinder which leads to maintenance problems and presents a safety risk.

Policies relevant to Air quality management & Climate Change

- **National Action Plan for Climate Change** – serves as an implementing guide for climate change mitigation and adaptation efforts which is adopted by all stakeholders in Indonesia.
- **National Board on Climate Change** – led by the President with main tasks to deal with climate change related issues and to strengthen Indonesia's position in international forum for climate change mitigation.

Policies relevant to Air quality Management & Climate Change…cont'd

- **National Development Planning Response to Climate Change** – mainstreaming of climate change into national planning agenda (mid-term), integrating climate change in development planning process, funding mechanism for climate change mitigation and adaptation program.

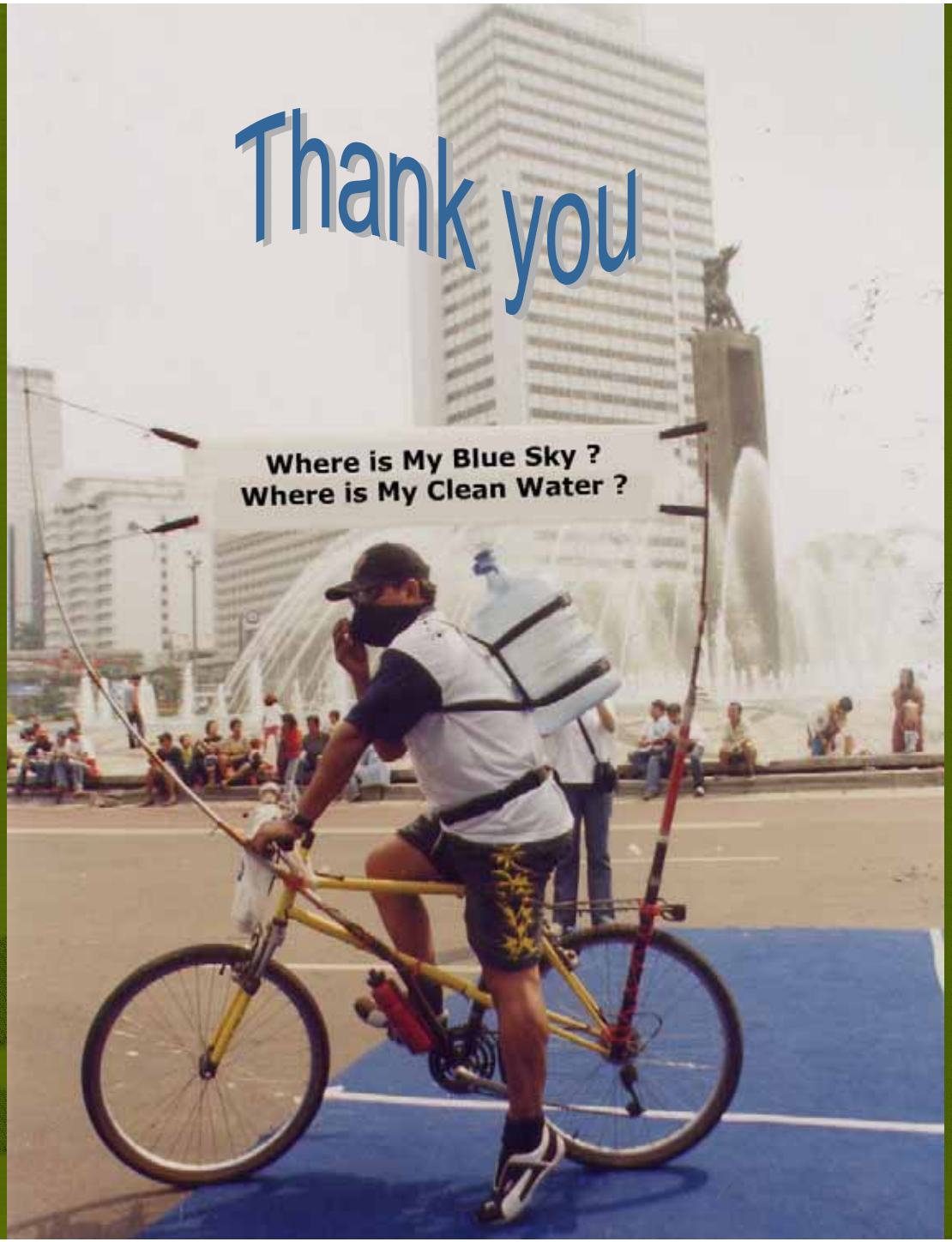
- **National Strategy and Action Plan for Urban Air Quality Improvement** – a working document which provides a basis for various institutions to implement actions that directly or indirectly will improve urban air quality.

AWARENESS RAISING , CAMPAIGN AND EDUCATION ON AIR QUALITY PROGRAM

- Cooperation with Vehicle Sole Agent Association and Indonesian Industry Automotive Association :
  * Jakarta - Bali Bio Premium Road Show, December 2007 (as a part of supporting UNFCC activities)
  * Environmental Sustainable Transport to evaluate clean and green city award (Blue Sky City Award)

- Industrial performance rating indicator (Proper Program) for stationary sources

- Towards green Indonesia (MIH)


Thank you
Where is My Blue Sky ?
Where is My Clean Water ?