SUSTAINABLE TRANSPORTATION POLICY IN INDONESIA

Director of Transportation
Jakarta, May 15th 2016
Outline

- Sustainable Transportation Concept and Approach
- Why Transport Sector?
- Outlook
- National Action Plan for Greenhouse Gas
- Mitigation Action in Transport Sector
- Adaptation Action in Transport Sector
- Sustainable Transportation Policies in Indonesia
The EST Concept and Approach

- The role for proactive policy

Source: Freidirch, GIZ
23% of total energy-related CO2 emissions from Transport Sector

Half of the emissions come from urban transport passengers and freight.

- Between 2000 and 2050, greenhouse gas emissions from the transport sector are projected to increase by 140%, with 90% of the share in developing countries.
- Adequate transport-related activities to curb emissions could put cities on tracks towards a 50% emission reduction by 2050 compared to business as usual.

Source: COP 21
Outlook

- Biggest Energy Consumption in Indonesian Primer Energy (in terms of fuel consumption) → 48% in 2005
- CO2 emission from motor vehicle is 23% from total energy sector (2005)
- CO2 emission in 2010 → 67 Million Ton

Distribution the use of fuel consumption in transport sector
- Road 90,7%
- Sea 6,9%
- Air 2,4%
- Rail, less than 1%
Indonesia is characterized by high levels of emissions of greenhouse gases, which puts the country among the highest emitting countries globally. At the same time, the country is highly vulnerable to the negative impacts of climate change itself, with more than 17,000 islands and an impressive length of shoreline highly susceptible to sea level rise. This situation calls for a serious response, which the government of Indonesia gave by committing itself to reduce GHG emission by 26% in 2020 from the BAU level with its own efforts and reaching 41% reduction if it secures international support.
Mitigation Action in Transport Sector

Sustainable Urban Transport Programme

AVOID
- Compact City
- Green Logistics
- Freight Improvement Programme
- Eco ports/airports

SHIFT
- TOD
- Traffic Impact Control (TIC)
- Congestion charge
- ITS
- ITS
- BRT
- CNG Switch
- Shipping

IMPROVE
- Rail Projects
- Rail Programme
- Eco-Driving Campaign
- Car labelling
- Fuel Economy
- Vehicle Tax
- Emission standard

Urban Transport

Eco ports/airports

Illegal Logging

Improvement Programme

Vehicle Tax

Emission standard
Mitigation Action in Transport Sector

**AVOID / REDUCE**

Reduce or avoid demand for travel
- Integration of transport and land-use planning
- Smart logistics concepts

**SHIFT**

Shift to more environmentally friendly modes
- Transport Demand Management
- Mode shift to Non-Motorized Transport
- Mode shift to Public Transport

**IMPROVE**

Improve the energy efficiency of transport vehicle technology
- Low-friction lubricants
- Optimal tire pressure
- Low Rolling Resistance Tires
- Speed limits Eco-Driving (Raising Awareness)
- Shift to alternative fuels
Adaptation Action in Transport Sector

- Bored Pile Foundation to Protect slope
- Pile Foundation
- Bridge Design
- Rail track relocation

Protection | Retrofitting | Redesign | Relocation
Sustainable Transportation Policies in Indonesia
The Transformation Improvement of Urban Transport Sustainability

- Part of the Government National Midterm Development Planning
- Urban Public Transport is one of the National Key Result Area
- Quick Win with Great Impact
- Local government, Line Ministers and Central Governments meets under Musrenbangnas (National Development Trilateral Meeting)
- Designate Ownership for programme implementation, coordinated and monitored by Coordinating Ministry of Economic Affairs (CMEA)
- The very urgent programme implementation for equitable development accelerated under Presidential Decree.
Sustainable Transportation Policies in Indonesia

**URBAN TRANSPORT**

- Construction of rail-based rapid mass transit (MRT, kite loop line railway, LRT / Monorail / Tram).
- BRT development in 34 major cities.
- PSO provision of urban mass transportation.

**Public transit systems, bus and rail orientation, with modal transfer facility**

- Enlarge ratio of urban roads minimum 10 percent of the area to the extent possible.
- Developing the capacity and quality of roads.
- Realignment of the National Road in the urban status.

**Capacity, Quality of City Road Network that good**

- Increased access to public transportation with Transport Oriented Development (TOD).
- The provision of support facilities for transfer modes such as Park and Ride.

**Transportation management that takes into account the interaction of land use**
Construction of rail-based mass transit rapidly among others MRT in Greater Jakarta and Jabodetabek railway overpass circular line, as well as LRT / Monorail / Tram.

BRT development in 34 large cities include Medan, Pekanbaru, Batam, Padang, Palembang, Bandung, Jakarta, Bogor, Semarang, Yogyakarta, Solo, Pontianak, Samarinda, Balikpapan, Makassar, Gorontalo, and Ambon.

Provision of funding subsidy / PSO is directed to the implementation of urban mass transportation.
Next Urban Transport - Land Use Interaction

- Road Transport Education, Training and Human Resource Dev.
- Public transport investment
- Facilities for pedestrian and bicycle are provided and fully maintained
- Integration between transport and land use
- People is encourage to use bicycle
- Public transport network
- Improve Access and Connectivity for Public Transport
1. *Bus Based Mass Transit* (BRT) Infrastructures
2. *Rail Based Mass Transit* Infrastructures
3. Road Network Improvement
MASS TRANSIT: INDONESIA EXPERIENCES

Pre-BRT

Palembang

Solo

Manado

BRT

Jakarta

JABODETABEK

Jabga-Solo

Medan Airport

COMMUTER RAIL
Jabodetabek Approach – for Rail and Road Based Public Mass Transit

- Debottleneck system capacity
  - Increase number of operating BRT buses
  - Increase rail capacity by adding more coaches
- Enhanced ‘Pull’ factor to draw passengers to public transport
  - Construction of first MRT line (Lebak Bulus- Kota)
  - P & R at strategic rail stations
  - Revamp common ticketing to integrated ticketing
  - Utilising ITS for stringent performance monitoring
- Relocate terminal facilities for inter-city express services
  - Integrated Transport Terminals at fringe of city centre. i.e. Pulo Gebang Inter City Bus Terminal
- Regulatory restructuring
  - New transport authority, BPTJ.
- Managing demand through “PUSH”
  - Motor Cycle Ban at Road Sections
  - Prepare for Congestion charging implementation
Case of Urban Agglomeration: JABODETABEK
Jakarta, Bogor, Depok, Tangerang dan Bekasi

- **ROAD NETWORK**
  - Road Length: 7,650 km
  - Road Area: 40.1 km² (6,2% of total area of Jakarta)
  - Growth of Road Length: ± 0.01% per year

- **VEHICLES**
  - In 2009 total vehicles in Jakarta ± 6,7 mill. unit
  - Private Cars: 6.6jt (98,5%; ) & Public Transport: 91 thousand (1,5%)
  - Average growth last 5 years: ± 8.1 % per year (2004-2009)

- **TRAVEL DEMAND**
  - Total Trip (Internal Jakarta): 20.7 mill. trip/day

- **MODAL SHARE**
  - Private Cars of 98,5%, serving 77% trips
  - Public Transport of 1,5% serving 23% trips
  (of them: 3% by Commuter Rail)

- **CONGESTION COST**
  - Operational Cost of Congestion: Rp. 17.2 Tril/ year
  - Fuel Inefficiencies: Rp. 10 Trilyun /year
Problems:

- Public Transports have not optimal to accommodate passengers Bodetabek to Jakarta.
- The lack of quality of service and security of urban mass transit, especially the capital region.
- Provision of means of mass transport railway has not been matched with adequate infrastructure.
- Passing of urban public transport in Bodetabek not yet fully integrated.

Solution: Jakarta Macro Transportation Planning

- Development of Bulk Transport (MRT, LRT, BRT)
- Traffic restrictions (ERP, parking, etc.)
- Capacity Building Network (ITS, road widening, Fly Over, etc.)

Total trips in 2003 about 37.3 mill./day* to become 59 mill./day in 2010**

* JICA 2003; URDI 2011  **JAPTraTis, 2011; MoT, 2010
Roadmap to Full BRT

Trans Jakarta BRT (current)

Target 1: MODEL CURITIBA

Target 2: MODEL GUANGZHOU

Target 3: MODEL TRANS MILENIO

- **Target 1:**
  - Model: CURITIBA
  - Capacity (PAX/HR/DIR): 13,000
  - Speed (KM/HR): 22

- **Target 2:**
  - Model: GUANGZHOU
  - Capacity (PAX/HR/DIR): 25,000
  - Speed (KM/HR): 25

- **Target 3:**
  - Model: TRANS MILENIO
  - Capacity (PAX/HR/DIR): 35,000
  - Speed (KM/HR): 27

- **Guangzhou BRT Phase I**
  - Capacity: 25,000 pphpd
  - Speed: 25 km/hr

- **Beijing BRT**
  - Capacity: 7,500 pphpd
  - Speed: 21 km/hr

- **Seoul BRT**
  - Capacity: 12,500 pphpd
  - Speed: 17 km/hr

- **Brisbane Busway**
  - Capacity: 10,000 pphpd
  - Speed: 19 km/hr

- **TransMilenio**
  - Capacity: 35,000+ pphpd
  - Speed: 25 km/hr

- **TransJakarta Busway**
  - Capacity: 5,000 pphpd
  - Speed: 21 km/hr

- **Curitiba BRT**
  - Capacity: 13,000 pphpd
  - Speed: 22 km/hr

- **Sao Paulo BRT**
  - Capacity: 15,000 pphpd
  - Speed: 16 km/hr

- **Hangzhou BRT**
  - Capacity: 1,500 pphpd
  - Speed: 23 km/hr

- **Kunming Buslanes**
  - Capacity: 8,000 pphpd
  - Speed: 19 km/hr

*(ITDP, 2010)*
Cross Section for Typical BRT

40 m ROAD WITH BUSWAYS at MID-BLOCK
Collector Road Function
Problem of BRT Services (YLKI, 2008):
- Inconvenient Air Conditioner (19.7%)
- Broken Handrail (18.7%)
- No info on bus shelter (18.5%)
- Damaged seat (17.0%)
- No fire extinguisher (13.4%)
- No glass breaking tool (5.2%)
- Bus light not lit (3.1%)
- No safety box (18.5%)

Policy Direction:
- Develop 15 BRT corridors including elevated busway at 3 latest corridors
- Improve role of feeder supported by ITS dan ticketing system

Financial Plan:
- Purchasing a new BRT buses and the articulated in total of 300 unit and elevated busway construction of Rp.750 milyar (buses) and Rp. 2.5 trillion (construction)
2017

Jakarta MRT

Jakarta MRT- Target:

- Cater: 173,000 pax per day in first operation
- Reduce travel time to 28 min (from Lebak Bulus o Bundaran HI)
- Reduce CO2 emission and fuel consumption to 30,000 ton in 2020
- Create 48,000 employment during 5 years construction period
- Reduce accident and improve socio-economy
1. Acceleration of decision making for implementation of construction of elevated loopline.
2. Revision of Perpres 83/2011 coordination with Govt of Jakarta Province and related stakeholder.
3. Reported the progress to Vice President.

Problems

F/S and DED due to end of 2013 but not yet finished.

Financial budget in 2014 is suspended due to revision of Presidential Decree (Perpes) No. 83/2011

UKP4 ask MoT to revise Perpres 83/2011

Status: Draft Revision of Perpres 83/2011 was submitted to Sec. Cabinet on February 2014.
LRT JAKARTA

LRT is planned to be built in Jakarta in 2015, LRT is to increase the capacity and coverage of existing mass transit.

LRT CORRIDOR

Capacity: 220,000 Passanger/day

Begin: 2015

Construction: Elevated
Integration: Integrated with commuterline, BRT, MRT & CBD

Source: DKI Jakarta Gov’t
2019- Jakarta MONOREL (Blue Line & Green Line)

- **Project Feasibility Issues**
  - Travel Demand
  - Routes
  - Investment & Operational Cost

- **Public - Private Partnership Issues**
  - Govt. Role
  - Sunk Cost
  - Private Role
  - Non-farebox Revenue

- **Project Sustainability Issues**
  - Compensation mechanism
  - Icon for Monorail in Indonesia
Supporting Mass Transit Development

- Park and Ride
  Case: Bogor

- Parking Meter
  Case: Bandung

- Transit Oriented Development
  Case: Bogor

- Modal Integration Facilities
  Case: Palembang
Large Cities Approach – for Rail and Road Based Public Mass Transit

- Debottleneck system capacity
  - Increase number of operating BRT buses
- Enhanced ‘Pull’ factor to draw passengers to public transport
  - Construction of LRT lines in Palembang
  - Revamp common ticketing to integrated ticketing
  - Utilising ATCS (Area Traffic Control System) for stringent performance monitoring
- Managing inter city terminal
  - Type “A” terminal at cities, handed over to central government
- Regulatory restructuring
  - Inter agencies transportation forum
- Managing demand through “PUSH”
  - Car Free Days
- Urban Transport Financing
  - Specially Allocated Fund for Transportation and Roads Safety
Sustainable Transport Implementation in Cities

1. **NMT Facilities in Nyi Raja Permas, Bogor (2012)**
   - Pendanaan fisik oleh Kemenhub (Dit. BSTP) >>> Perencanaan oleh DLLAJ Kota Bogor >>> Supervisi oleh GIZ – Sutip >>> Pembangunan dikawal oleh komunitas pejalan kaki (KPKB) Kota Bogor

2. **BRT Integration Facilities in Palembang (2012)**
   - Pendanaan oleh Kemenhub (Dit. BSTP) >>> Supervisi oleh GIZ >>> Pembangunan dikawal Pemkot Palembang

   - Pendanaan oleh Kemenhub (Dit. BSTP) >>> Supervisi oleh GIZ >>> Pembangunan dikawal Pemkot Palembang

   - Pendanaan oleh Binamarga >>> Review oleh GIZ >>> Pembangunan dikawal Pemkot Bogor

   - Pendanaan oleh Pemkot Bogor >>> Investor Swasta SPS Hungaria

6. **Bike Sharing, Bandung (2011)**
   - Sponsor IKATAN ALUMNI ITB & Inisiatif masyarakat
Urban Transport at A Glance

Existing
- Angkot
- Trans Metro
- Parking
- Bike Lane

Future
- Monorail
- Trans Metro Development
- Park and Ride
- NMT Improvement

Existing
- Angkot
- Trans Sarbagita
- NMT Improvement

Future
- Trans Sarbagita Development
- Benoa Toll
- Pedestrian Facility
- Tourist Ship
National Transport System Implementation Meeting & Guidelines

Sustainable Urban Mobility in Indonesia (Guideline and Visual 3D)

A forum to exchange experiences between the regions in the implementation of urban transport policy
Integrated Monitoring System
Peak Seasons (Idul Fitri)

- **Land Transportation** (12 Province, 43 terminals)
- **Ferry, Inland Transport** (8 routes)
- **Sea Transportation** (52 Ports)
- **Air Transportation** (32 Airports)
- **Railways Transportation** (9 operational areas and 3 Regional Divisions in Sumatera)

Source: Traffics in Idul Fitri 2014 / 1435H
Expectations from International Partners

Assistance/Grant that includes:

- Technical and analytical support in developing transport policies and planning (short, medium or long term);

- Technical Assistance on Preparation/ FS/ DED/ Masterplan in transport projects;

- Assistance on transport projects construction, particularly in sustainable transportation area.
THANK YOU

CONTACT PERSON
Bambang Prihartono
Director of Transportation,
Ministry of National Development Planning/BAPPENAS
Email: bambang@bappenas.go.id