

PROSPECTS FOR SUSTAINABLE TRANSPORT: Opportunities and Challenges in the Philippine Setting

A PRESENTATION BY THE DEPARTMENT OF TRANSPORTATION (DOTR)

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Metro Manila is the 4th largest urban area in the world



An aerial photograph of a massive crowd of people at a festival or fair. The crowd is dense and colorful, with many people wearing bright clothing. In the foreground, there are several large, colorful umbrellas in shades of blue, red, and green. A central text overlay is present, consisting of a semi-transparent green rectangle containing the number '12,877,253' in large, bold, black font, and the text '2016 population' in a smaller, bold, black font below it. To the right, a red banner with a green logo and the word 'green' is visible. The overall scene is vibrant and festive.

12,877,253

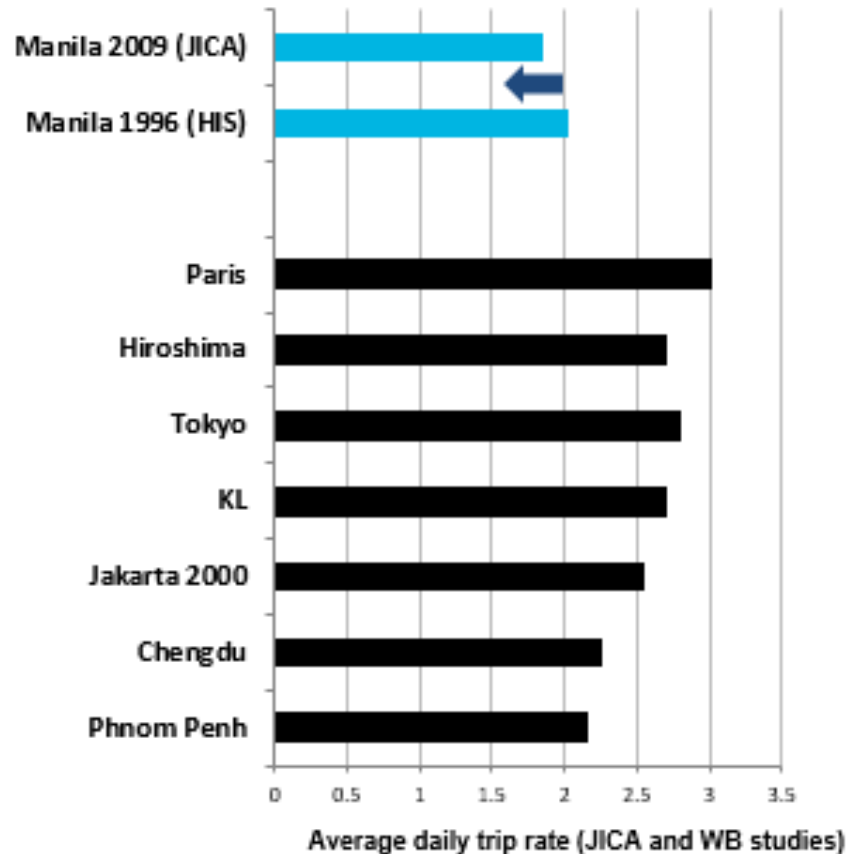
2016 population

613.9 sq.km

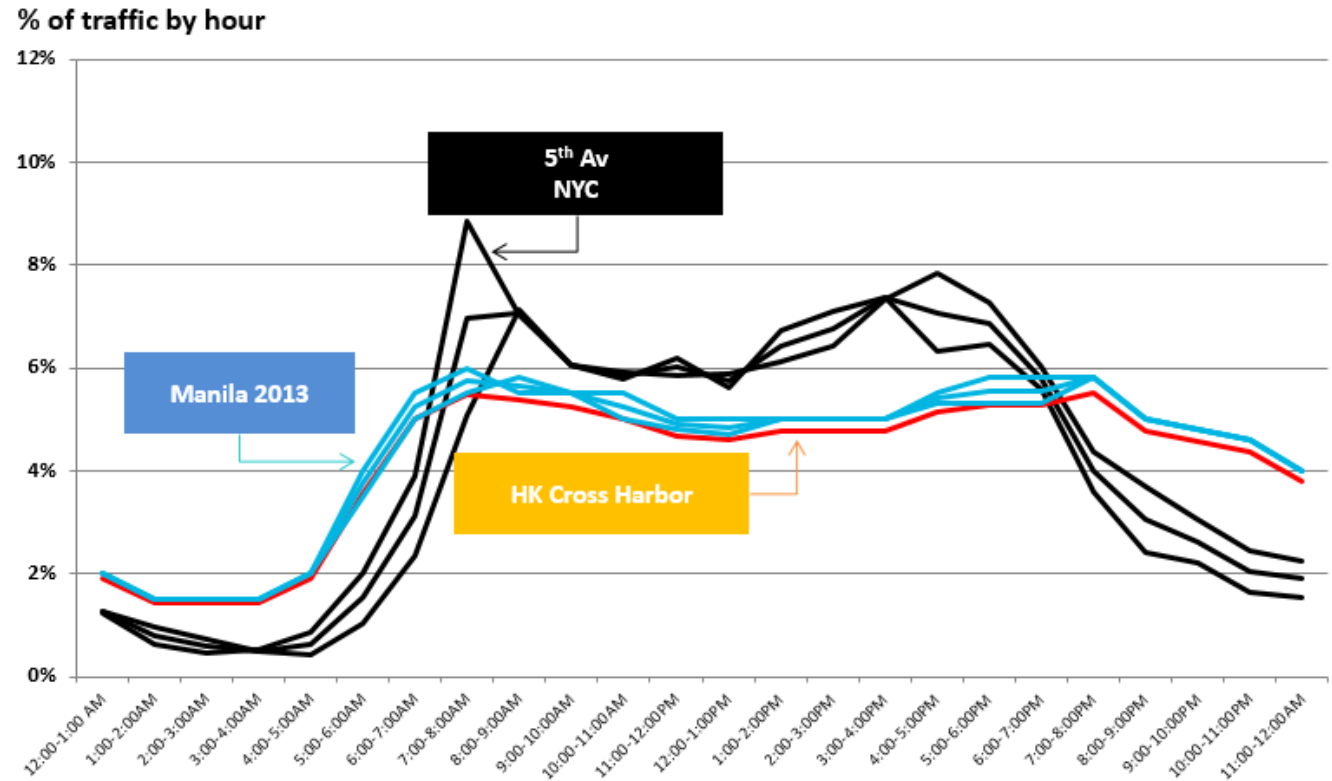


Beyond the traffic jams, a saturated transport system

Fewer trips are being made



Congestion forces commuters to travel at non-peak hours of the day; new trips are not being made because there is no space on the roads



Air Pollution in Major Asian Cities

City	Country/Area	PM	SO ₂	CO	NO ₂	O ₃	Pb
Tokyo	Japan	B	A	A	B	B	A
Beijing	China	E	D	D	D	C	B
Seoul	South Korea	D	B	A	C	B	A
Taipei	Taiwan	D	B	B	B	B	B
Bangkok	Thailand	E	B	B	B	B	C
Kuala Lumpur	Malaysia	B	B	C	C	C	C
Jakarta	Indonesia	E	C	C	B	C	D
Manila	Philippines	E	B	C	D	D	C

Source: N. Hayashi (2004) <http://mee.k.u-tokyo.ac.jp/siee/eeip/2004fy/20041025hayashiC.pdf> (in Japanese).

^{1/} Concentration level of respective materials in the atmosphere is:

A: Very low pollution: Less than half of the WHO guideline value

B: Low pollution: Within the level of WHO guideline value

C: Moderate pollution: Exceeded WHO guideline value by less than two-fold

D: Heavy pollution: Exceeded WHO guideline value by less than three-fold

E: Serious pollution: Exceeded WHO guideline value by more than three-fold

^{2/} PM: Particulate Matter, SO₂: Sulphur Dioxide, CO: Carbon Monoxide, NO₂: Nitrogen Dioxide, O₃: Ozone, Pb: Lead

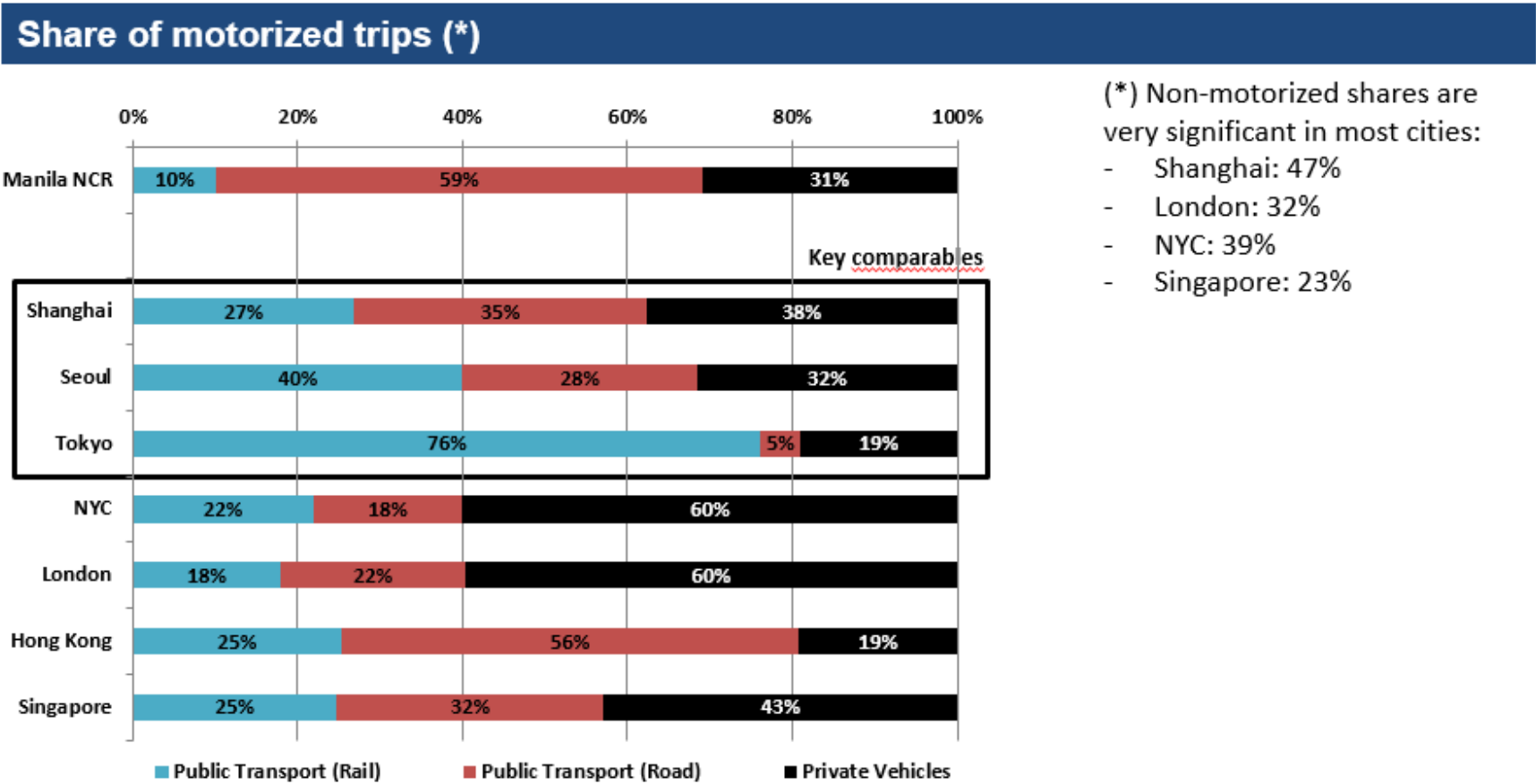
Pollution Situation v-a-v Transport

2008 Philippine National Emission Inventory

Mobile Sources	65%
Stationary Sources	21%
Area Source	14%

- Transport is the biggest contributor to pollution
- Motor vehicles are the dominant source of air pollutants in the urban area
- Jeeps, motorcycles, and tricycles are the major sources of particulate matters
- Vehicles sold
 - 2015: 323,928
 - 2014: 269,841
 - 2013: 212,281
 - 2010: 168,490

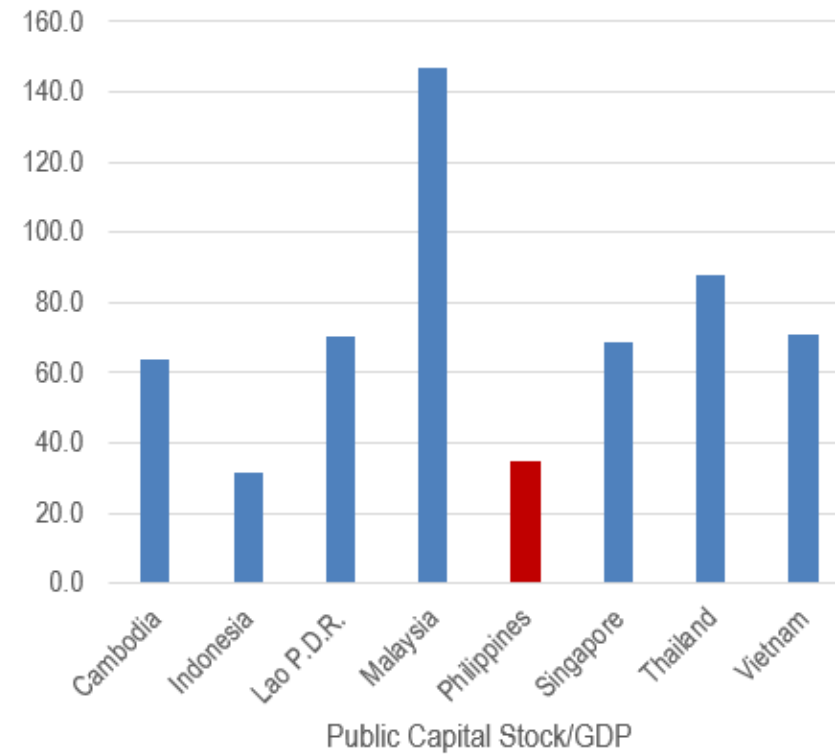
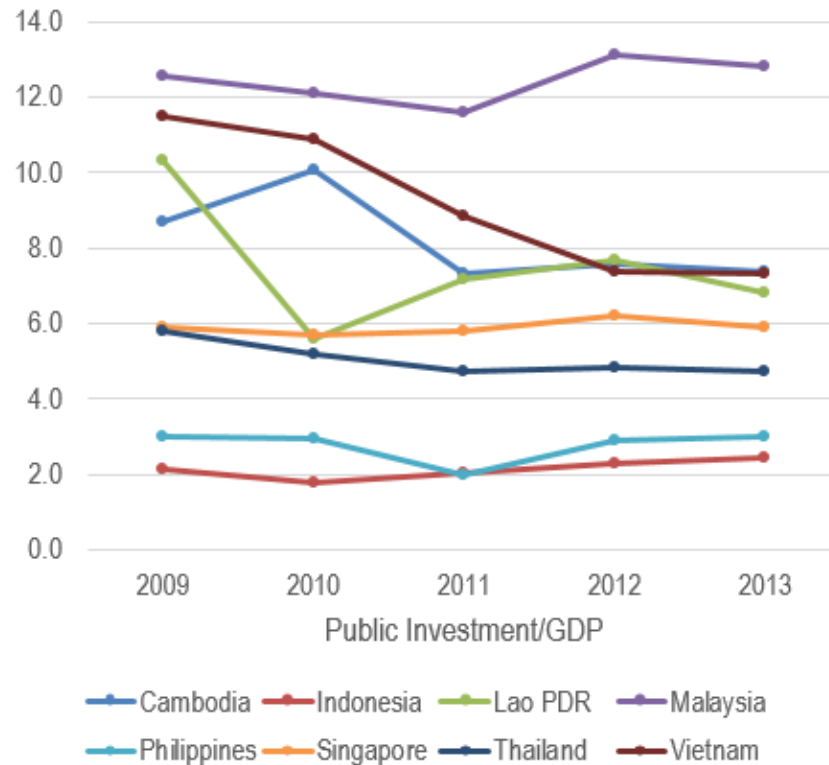
Transport Modal Share



Challenges

- Demographic
 - Population density and growth
 - Increasing purchasing power and access to credit
- Infrastructure Development
 - Government procurement
 - Government resources constraint
 - Financial
 - Manpower
 - Land use planning and allocation
 - Investor appetite
- Prioritization of sustainable transport considerations
- Behavioral preference for personal motorized transport
- Friction cost of implementing change

IMF: Public Investment in the Philippines has been sorely lacking



Opportunities

- Recognition of transport crisis
- Investment grade status (improved fiscal condition)
- Availability of more transport data for planning
- Automated Fare Collection System (AFCS)
- Track record for PPP implementation
 - Availability of advisory services (PPP Center)
- DOTr rationalization initiative
- Adoption of “moving people, not cars” paradigm

➤ Robust transport project pipeline

- Road
- Rail
- Aviation
- Maritime

* Emission measure by transport mode (g CO₂/unit/km)

- Car: 108g
- Trucks: 75g (Euro IV)
- Bus: 60g (Euro IV)
- Passenger Rail: 44g
- Freight Rail: 21g
- Airplane: 112g

Initiatives to Achieve Sustainable Transport

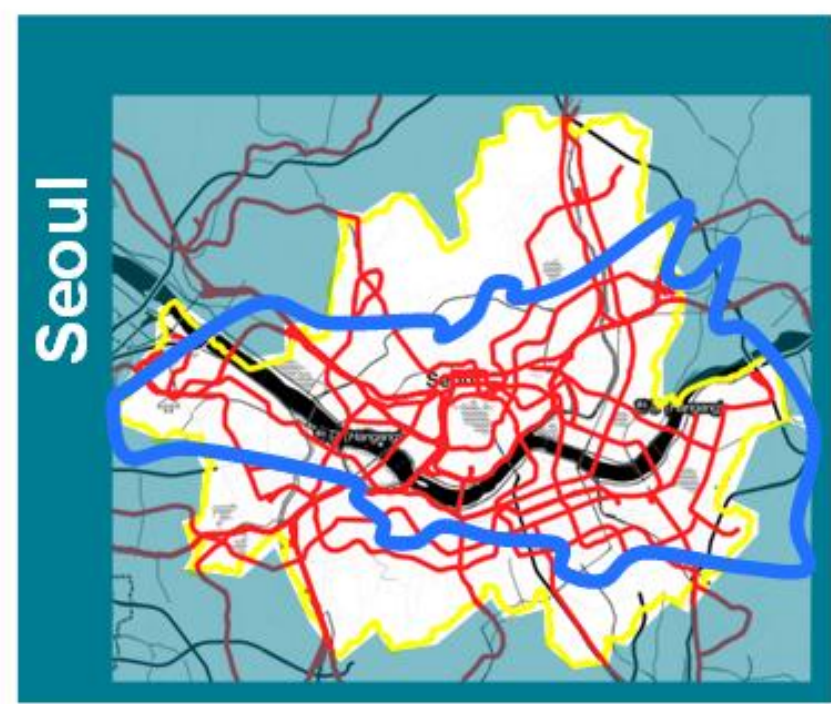
Road

- Point-to-Point Buses (P2P)
- Bus Rapid Transit (BRT)
- Bus standards (e.g., Euro IV compliance)
- Jeepney modernization
- Route rationalization
- Multi-modal transport terminals

Rail

- Integrated rail network plan
- WB: “Modern railways are a green transport alternative ... they are more energy efficient, have substantially lower environmental impacts on water and air, and are less expensive to build than other transport modes ... they are usually more energy efficient than road transport and much more environmentally friendly because they have lower emissions per traffic unit (passenger/kilometer or ton/kilometer) than nearly any other mode.”

NCR comparables	Area (sqkm)	Pop	Density (Pop/sqkm)	Km of rail	Ridership
Manila	620	12M	19,000	85 (+45) incl PNR	1.3 M
Tokyo	620	9M	14,000	700	30 M
Shanghai	500	10M	20,000	590 (+100)	8.4 M (Metro)
Seoul	605	10M	16,000	390 (+100)	7.2 M (Metro)



Objective: Modal Shift

- More convenient
- Affordable
- Last mile accessibility

Initiatives to Achieve Sustainable Transport

Aviation

- CNS/ATM Project
- Night rating of domestic airports
- Increasing efficiency of gateway airports (esp. NAIA)

Maritime

- Increasing efficiency of port operations
- Social ports
- Containerization
- RoRo network

Thank you
