Efficiency in public transit and the mitigation potential in the transport sector

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9/F GOM

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TRANSfer III
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TRANSfer: Main Outputs & Milestones

- **Objective**: Reduce GHG emissions and harness local benefits in the transport sector
- **Preparation Facility** for Transport Mitigation Actions to support NDC implementation
- **Budget**: €16m (by BMU 2010-2020); plus resources from other donors
- **Partner countries**: Colombia, Peru, Philippines, Indonesia, Thailand, Tunisia, South Africa, China
- **Philippines**: Team since Q3 2017: Melissa Cruz, Patricia Mariano, Christian Mettke; MobiliseYourCity partner country since 2017

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**Track record since 2010...**

- ✔ Several transport NAMAs at implementation stage
- ✔ Substantial financial resources mobilised
- ✔ Timeframe for measure development ~ 2 years
- ✔ Internationally recognized tools (NAMA Handbook, MRV Tools)
- ✔ MobiliseYourCity Partnership established
What does the TRANSfer Project offer?

- Preparation of transport mitigation actions
- Knowledge products, training, dialogue
- The MobiliseYourCity Partnership
Transport Sector and Emissions

- Transport is the second largest source of energy-related greenhouse gas (GHG) emissions in the Philippines: at least 30% or 28.4 MtCO₂ in 2015, with an estimated annual growth of 8.5%.
- Jeepneys, which accounts for over a third of person-trips in the Philippines, often have chassis that are 50-70 years old and engines that are more than 15 years old.
Public Transport Sector

Minibus: 2,253
TNVS: 2,784
School Service: 11,383
Filcab: 15,177
Tourist & Shuttle Trans: 14,376
PUB: 21,961
UV Express: 22,237
Taxi: 46,878
PUJ: 209,124

60% are PUJs
30% are in NCR (majority)
1.2 units per franchise on average

Slide from the DOTr, December 2017
DOTr’s PUV Modernization Program

- Large-scale transformative initiative for a restructured and environmentally sustainable transport sector aimed for Filipinos to have a pleasant commuting experience by 2022.
- Key Agencies:
  - Department of Transportation (lead)
  - Land Transportation Franchising and Regulatory Board
  - Land Transportation Office
  - Office of Transportation Cooperatives
- Partner Agencies:
  - Department of Finance
  - Department of Trade and Industry – Bureau of Product Standards
  - Climate Change Commission
GIZ Contributions to PUV Modernization

- Regulatory Reform
- LGU Local Public Transport Route Planning
- Route Rationalization
- Fleet Modernization
- Industry Consolidation
- Financing PUV Modernization
- Vehicle Useful Life Program
- Pilot Implementation
- Stakeholder Support Mechanism
- Communication
**OBJECTIVE:**
Appropriate mode based on Passenger Demand and Road Heirarchy

**BASIC POLICY:**
Higher capacity PUVs assigned to high demand routes

**Legend**
- EDSA BRT
- Quezon Avenue BRT
- Corridor Demand
- Passenger Per Hour Per Direction (PPHPD)
  - Up to 500
  - 501 - 1,000
  - 1,001 - 5,000
  - More than 5,000
- Metro Manila Roads
- MUCEP Zones
Contribution: Route Rationalization

- Review of existing routes and actual demand to optimize public transport routes depending on passenger demand
- Road Transit Rationalization Studies 1 and 2 were completed in 2014 and 2015 for Metro Manila funded by World Bank
- Provision of continued support in more detailed data gathering, by giving guidance on survey requirements, survey forms, and computations

- Rationalized routes mean:
  - Minimization of unnecessary kilometers traveled → less emissions
  - Optimization of number of vehicles → less congestion
  - Overall simpler travel for passengers
Tokyo’s “Maze” of Public Transport Routes
Melbourne’s Bicycle Grid Map
Mitigation Potential of the Transport Sector
4.9 million tons → 2.8 million tons

ANNUAL CARBON DIOXIDE EMISSIONS

43%

Source: GIZ, Jeepney Market Transformation Programme
PUV MODERNIZATION PROGRAM

BENEFITS

ANNUAL PARTICULATE MATTER EMISSIONS

4,879 tons → 79% → 1,019 tons

Source: GIZ, Jeepney Market Transformation Programme
Potential Mitigation Actions to be included in the NDC
Cumulative Mitigation Potential 2000-2030 (millions tons CO2e)

- PUV Modernization Program: 22.36
- Motor Vehicle Inspection System: 11.40
- Bus Rapid Transit System: 6.87
- Railways and Mass Transit: 2.69
Next Steps:
Proposal: Jeepney+ NAMA

Proposed Project: Jeepney+ NAMA, building on PUV Modernization Program

Vision: To create a professional, consolidated public transport industry in the Philippines that enables constant fleet renewal, improves operational and traffic efficiency and promotes an upgrade of service levels to mitigate a) rapid motorization and b) shift of trips to carbon intense use of cars.
Proposal: Jeepney+ NAMA

Objectives:

1. **Reduction of GHG emissions** from outdated public transport system;

2. Creation of co-benefits, such as almost **elimination of local air pollutants**, **improvement of road safety**, **improvement of economic situation** and **time savings** for operators and commuters;

3. **Enabling of Government** to plan, regulate and monitor public transport provision.

4. And therefore **mitigate the current rapid motorisation trend** in the Philippines
Proposal: Jeepney+ NAMA

**Measures:**
1. Improvement of *policy framework*, e.g., National Transport Policy, Omnibus Franchising Guidelines
2. Re-organization of *institutional set-up*
3. Building of *institutional capacities*, including route rationalization, new planning and franchising process, scrapping scheme, utilization of digital tools
4. Interventions to *unlock (private) investments* into fleet renewal, fleet management, and new technologies
5. *Financial incentives* to enable fleet modernization and consolidation
Proposal: Jeepney+ NAMA

**Potential Benefits:**

**Direct benefit for NDC**
- GHG reduction of 11.16 to 15.69 MtCO$_2$e (over 10 years)
  - Annual reduction of up to 1.57 MtCO$_2$e

**Co-benefit for NDC**
- On-road diesel savings of 528 - 754 million liters (up to 2026), equal to USD 310 - 443 million
- Reductions of up to 47% of PM, 52% of CO, 30% of NOx, 9% of SOx, 52% of hydrocarbons
- Reduced human toxicity impacts by as much as 53%
- Annual health value of reduced air pollutants estimated at USD 83 - 119 million (Metro Manila) and USD 220 - 316 million (PH)

*Monetized values estimated using monetized health impact factors based on Biona et al (2017), which represent aggregate costs associated with a ton of a certain type of pollutant (limited to PM, SOx, NOx)*
Proposal: Jeepney+ NAMA

**Proposed Funding:**
- **EUR 6-8 million** for technical cooperation (through GIZ)
- **EUR 12-14 million** for financial cooperation (through ADB)

**Project Implementation Duration:** 48 months
NATIONAL URBAN MOBILITY PROGRAMME/POLICY (NUMPS)

The Philippines, through DOTr, was validated as a partner country by the MYC Steering Committee this May 2017, and has highlighted the NUMP as a priority of the department.

Further support is crucial for the implementation of the NUMP.
MYC focuses on Sustainable Urban Mobility Planning. It supports cities and national governments in emerging and developing countries to plan sustainable urban mobility.

**MYC is a global partnership** launched at COP21. It is one of 17 international transport initiatives under the UNFCCC action agenda (GCAA). MYC assists beneficiaries in achieving their National Determined Contributions (NDCs).

**MYC contributes** to the New Urban Agenda and UN’s 2030 Agenda, specifically Sustainable Development Goal (SDG) 11: Make cities inclusive, safe, resilient and sustainable.
Paradigm shift of urban mobility planning

„If you plan for cars and traffic, you get cars and traffic.“

„If you plan for people and places, you get people and places.“

<table>
<thead>
<tr>
<th>Traditional Transport Planning</th>
<th>⇄</th>
<th>Sustainable Urban Mobility Planning</th>
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</thead>
<tbody>
<tr>
<td>Focus on traffic</td>
<td>⇄</td>
<td>Focus on people</td>
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<tr>
<td>Primary objective:</td>
<td>⇄</td>
<td>Primary objectives:</td>
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<td>Traffic flow capacity and speed</td>
<td>⇄</td>
<td>Accessibility and quality of life</td>
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<tr>
<td>Political mandates and planning by experts</td>
<td>⇄</td>
<td>Important stakeholders are actively involved</td>
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<td>Domain of traffic engineers</td>
<td>⇄</td>
<td>Interdisciplinary planning</td>
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<td>Infrastructure as the main topic</td>
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<td>Combination of infrastructure, market, services, information, and promotion</td>
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<td>Investment-guided planning</td>
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<td>Cost efficient achievement of goals</td>
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<td>Focus on large and costly projects</td>
<td>⇄</td>
<td>Gradual efficiency increase and optimisation</td>
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<td>Limited impact assessment</td>
<td>⇄</td>
<td>Intensive evaluation of impacts and shaping of a learning process</td>
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Source: Rupprecht Consult, quotations by Fred Kent, President of „Project for Public Space“: www.pps.org
Workshop participants after the presentation of the MobiliseYourCity Certificate.
Thank you!

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