



Indonesia Electric Mobility

**National Workshop on
Accelerating Battery
Electric Vehicles**

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Presentation Structure

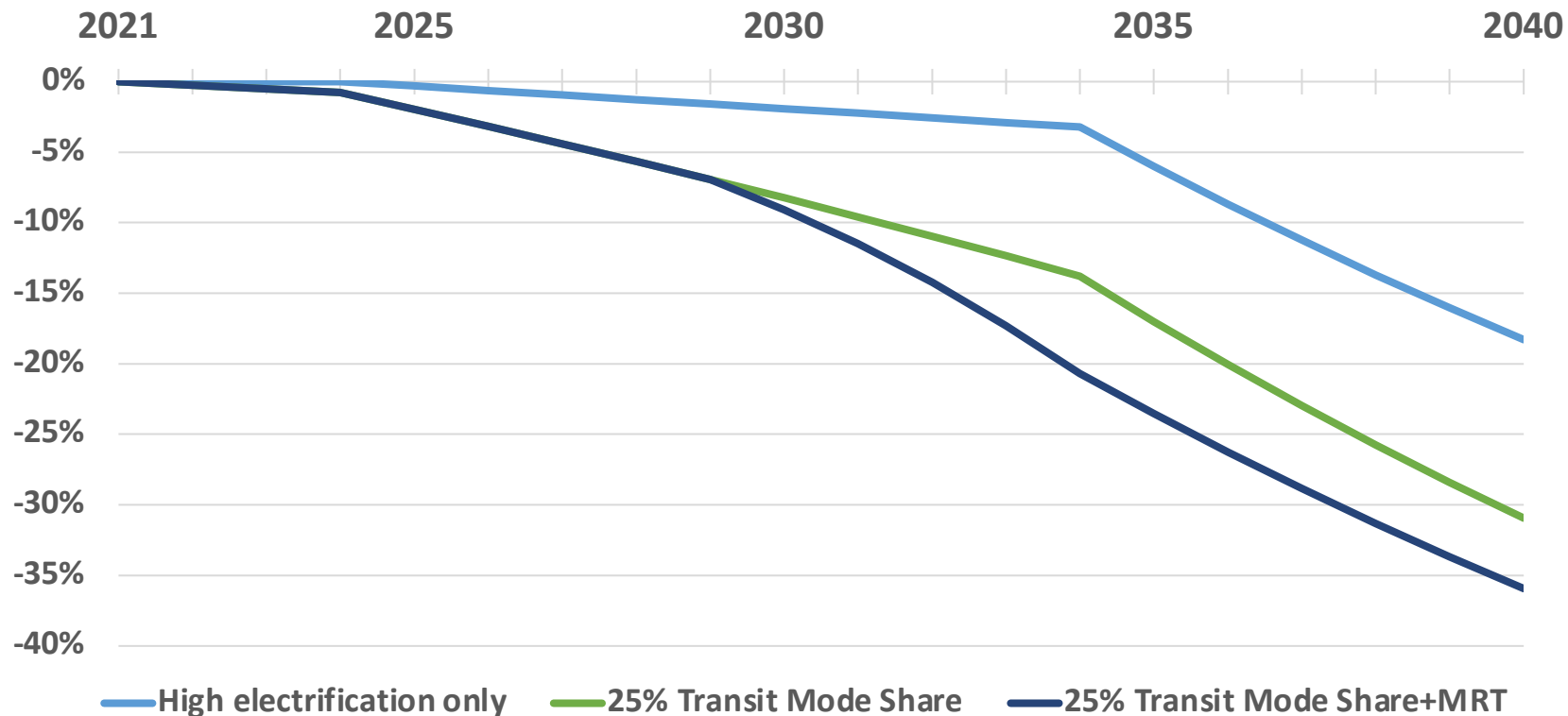
- World Bank Analysis
- World Bank Engagement
- Key Takeaways

World Bank Research & Analysis ...

- *Electric Mobility offers a range of advantages and opportunities for development and is one of a range of options for decarbonizing the transport sector for LMICs*
 - Primary decarbonization option for OECD's and not LMIC's
 - 'Avoid' (travel) and 'Shift' (to cleaner modes such as transit) strategies offer significant opportunities in LMICs
- *Countries should pursue electric mobility as soon as it becomes economically viable, initially targeting the most promising segments – e-Buses and e-2 wheelers/ e-3 wheelers*
 - e-Buses and public fleets will probably reach parity by 2030
 - e-2 wheelers have already reached cost parity in most countries
- *Coordinated action on both Transport and Energy crucial*

World Bank Analysis ... Indonesia

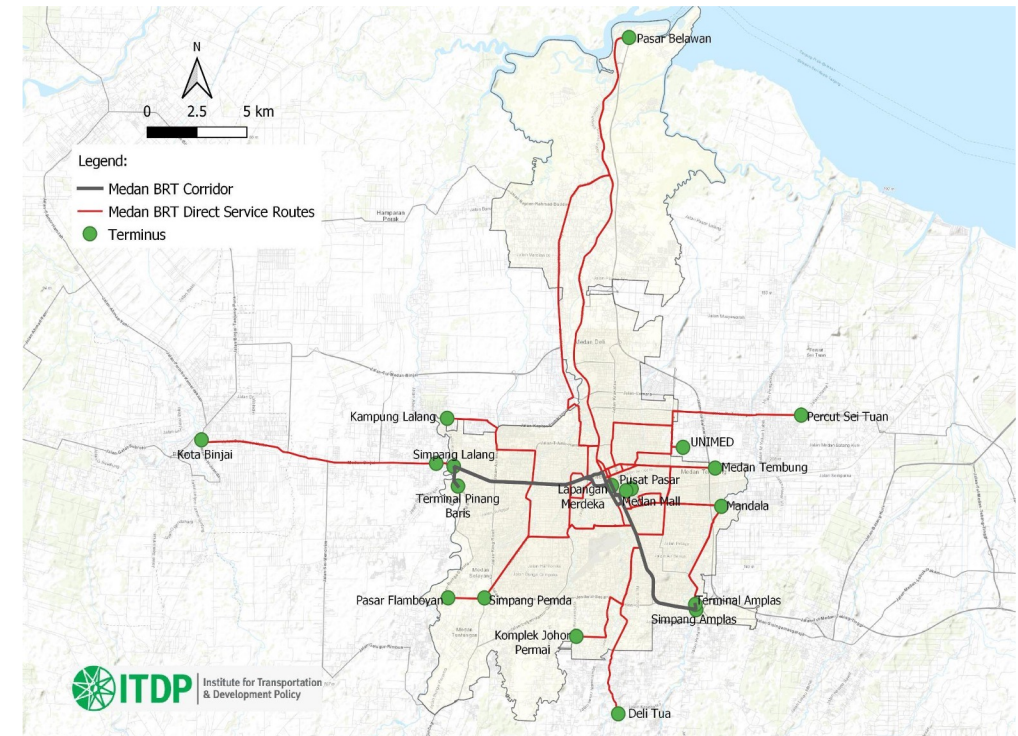
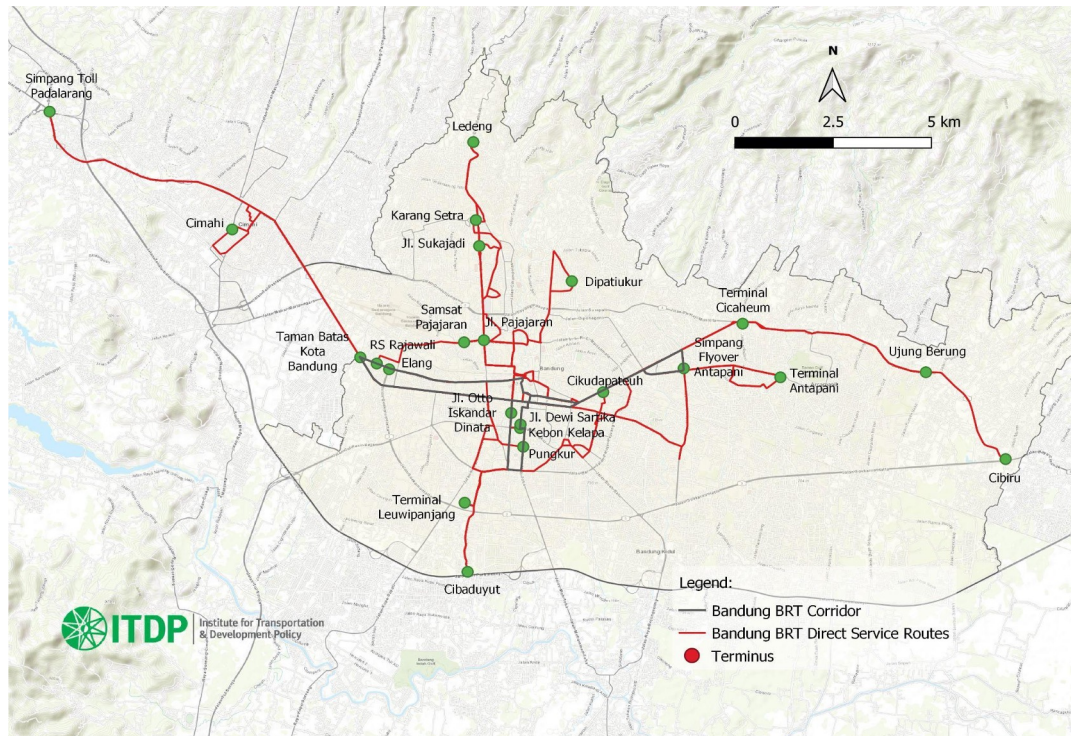
Reduction in urban transport GHG from BAU assuming significant vehicle electrification by 2034 (PT 100%, car 25%, motorcycle 50%)



GHG emission reductions in the high electrification scenario could be significantly enhanced to 31% and 36% respectively by 2040, by targeting an increase in transit mode share and further investment in sophisticated mass rapid transit systems in larger cities.

Bank Engagement – Lending Operation

- The World Bank is currently supporting the Indonesia Mass Transit Project (MASTRAN) to help develop a national program of assistance for road based mass transit and to enhance urban mobility and accessibility on high priority corridors in Greater Medan and Greater Bandung.
- Diesel is the default fuel for the proposed bus rapid transit (BRT) systems.



Technical Assistance

- **TA title:** E-Mobility Adoption Roadmap for Mass Transit in Indonesian Cities

Hired firms: ITDP and ICCT

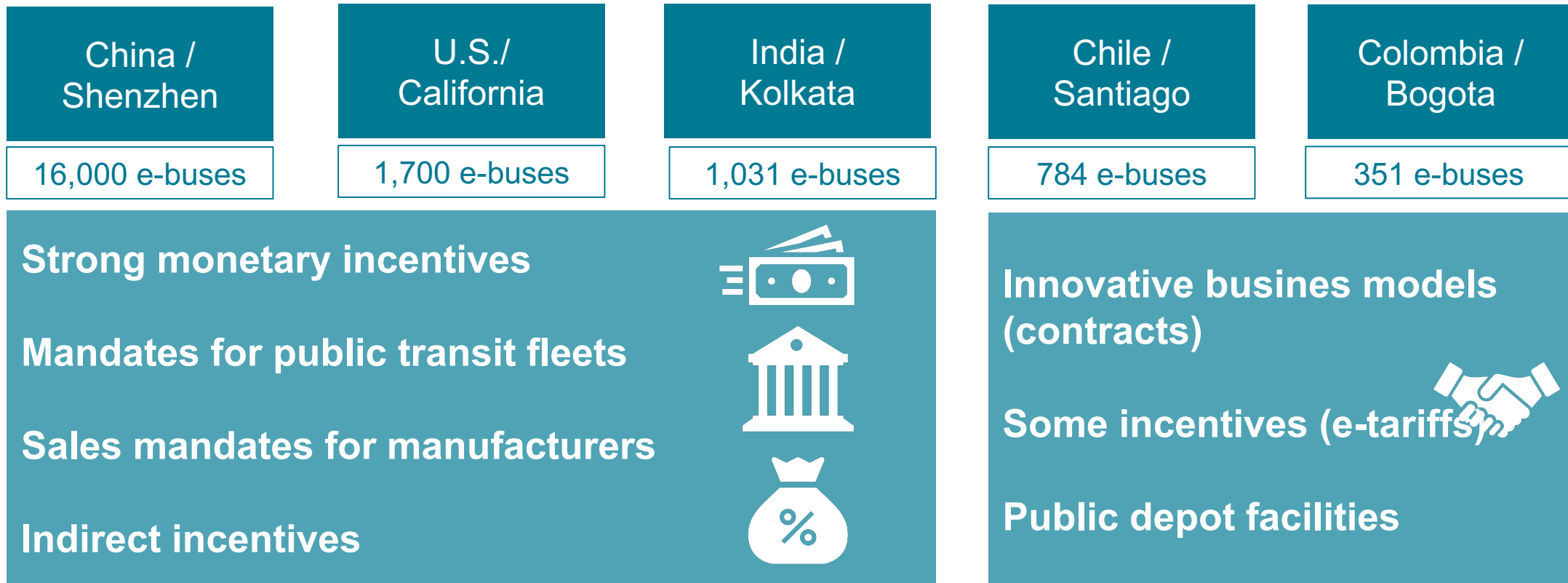
Funding: Mobility and Logistics (MOLO) Trust Fund and the Energy Sector Management Assistance Program (ESMAP)

TA objectives and outputs:

Provide technical advice and practical recommendations to assist the Government of Indonesia to develop a roadmap to adopt e-mobility in mass transit systems in **Greater Medan and Greater Bandung**, which are supported by MASTRAN. The key actions that will help to achieve this goal are to:

- review the **e-mobility global trends** and conduct a **market and regulatory/policy assessment** of e-mobility in Indonesia (including transport and energy aspects);
- develop and recommend implementation **roadmap** to adopt e-mobility in mass transit systems in Greater Medan and Bandung; and
- prepare and deliver **capacity building and knowledge exchange actions** to raise awareness of the benefits of adopting e-mobility in mass transit systems.

E-Mobility Global Case Studies



Learning from the e-mobility growth journey in other countries would help Indonesia find its own pathway

BBMA and Mebidang BRT e-Bus Roadmap

BRT
Electrification
Plan (depots,
routes, fleets)

Charging
Strategy & Grid
Analysis

Institutional &
Business
Models

Financial
Analysis

GHG Emissions
Analysis

Plans to start with e-buses in one of the four depots in each city. Technical assistance for business model development and transaction advisory embedded into Project. Issues: **high costs of e-buses, depot land, limited contract duration of multi-year contracts**



Policy Gap Analysis

Policy type	Current polices	Gap analysis
Direct incentives for consumers	Ministry of Home affairs reduced the vehicle tax and transfer fee for BEVs. Local governments also adopting reduced transfer fees.	Only few provinces have adopted local transfer fee and vehicle registration schemes that favor electric vehicles . A national level policy for vehicle registration and transfer taxes is required.
Indirect incentives for consumers	PR 55/2019 establishes several regulatory pathways for indirect (non-fiscal) incentives.	Non-fiscal incentives are typically managed at the local level. Only Bali and Jakarta seems to be regulating preferential parking access and mobility flexibilities for BEVs. A more robust set of non-fiscal measures is required. Ministry of Home affairs could lead that regulatory development and allow for different levels of implementation at the local level.
Infrastructure development polices	Ministry of Energy has issued technical regulations for charging stations and battery swap stations.	The BEV program has already been included on the Medium-Term National Development Plan (RPJMN) 2020-2024. This document is focused on charging infrastructure development in Indonesia, and the development of the battery industry in Indonesia.
Public fleet vehicle mandates	None in place.	Indonesia could adopt e-bus and taxi mandates for key cities with serious air quality challenges, and expand over time to all cities
Adopting Innovative Business models	Innovative business models now open for electric chargers and battery swapping stations	The GoI could consider adopting innovative business and financing models to reduce the burden of upfront investments on the operator. Also, expand contract periods to reflect the financial needs of e-bus costs, which could extend upto 15 years.
Backward Industry linkages		Very few models for buses available at present resulting in much higher purchase prices. Important also to focus on development of parts industry

e-2 wheelers market constraints

- Large market and strong economics but several regulatory and financing issues curtailing uptake
 - Separate driver license required
 - Current financing structure makes e-2w purchase less attractive
 - Under-developed charging infrastructure (also linked to slow market development)

Key Messages

- **Electric Mobility strategy integrated with sustainable Urban mobility objectives**, and not in isolation as congestion, road safety externalities not addressed
- **Vehicle/ Mode focus** on high potential areas i.e. buses, fleets, 2w can serve as a major lever for development
- Combine focus with a **dedicated Roadmap** which outlines the comprehensive policy package for the vehicle type (direct-indirect incentives, backstream linkages and model availability, innovative contracting and financing options etc.) and addresses bottlenecks systematically

World Bank remains committed to supporting GOI in its development initiatives

Thank You

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Summary of e-Bus Recommendations

An Indonesia Roadmap for e-Bus Adoption need of the hour

- Mass transit and government fleet electrification mandates to create demand reduce risk of investing from manufacturers.
- Strong monetary incentives for electrification of mass transit (make use of Buy the Service).
- Stronger fiscal incentives for EVs and disincentives for ICEs (eliminate diesel incentives and tax breaks).
- Strategic use of indirect incentives like Low Emission Zones.
- Revise current mass transit contracting practices to extend contract periods for EV, especially e-buses (10-15 years).
- Study the possibility of adopting a split business model and financial leasing options for public transit buses within the local Indonesia context.
- Ensure proper upstream linkages at the manufacturing stage

