From Santiago to Shenzhen:
Strategies on contracting and the procurement of electric buses

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Battery Electric Buses (BEBs)

- Battery Electric Buses impact:
  - Environment
  - Health & Safety
  - Efficiency
  - Equity

- Why BEBs and why now?
  - Longer range
  - Cheaper
  - Improved understanding & decisions
  - More financing opportunities

Passengers wait for a bus in Rio de Janeiro, Brazil. SOURCE: Stefano Aguilar ITDP Brazil, Flickr.
The report investigates the planning and implementation of BEBs from the following aspects:

- Existing technology
- Charging
- Pilots
- **Contracts**
- Financing & Funding
- Operations and maintenance
- Supportive Strategies
- E-bus implementation is an iterative process that will involve traditional and new stakeholders.
Bus Operations Background

- **Common Types of Operations Contracts**
  - Service Contracts
  - Area Contracts (gross/net)
  - Route Contracts (gross/net)
  - Design Build Operate (DBO) Forms
  - Profit Sharing

An Olectra-BYD electric bus in Pune, India. SOURCE: ITDP India
E-bus Adoption

● E-bus Adoption:
  ○ Add Adoption incentives in contracts
  ○ Consider creating different contract timelines for different Bus operations
E-bus Performance & Protection:

- Tie cost and Life cycle guarantees to bus and battery performance
- Tie battery-life degradation to vendor payment or battery replacement
- Stipulate data collection and sharing requirements

An electric bus charging station in Gothenburg, Sweden. SOURCE: Andrzej Otrębski, CC BY-SA 4.0, Wikimedia commons
E-bus Environmental Goals

- Ebus Environmental Goals:
  - Align environmental legislation and create environmental requirements
  - Monitor and Evaluate Environmental Impacts
  - Create Clear penalties for not meeting environmental requirements

A cyclist rides next to an e-bus in Shanghai, China. SOURCE: Flickr, Ludger Heide
E-bus Infrastructure & Operability

- Ebus Infrastructure and Operability
  - Include charging infrastructure to interoperability requirements
  - Outline Bus depot requirements

An electric bus and plug-in charger in Shenzhen, China. SOURCE: ITDP China.
E-bus Care & Battery Life

- Ebus Care and Battery Life:
  - Include specific training requirements for operators using Battery Electric Buses
  - Include Maintenance Incentives

Driver training in China. SOURCE: Linuxthink, CC BY-SA 3.0, Wikimedia Commons
Thank you