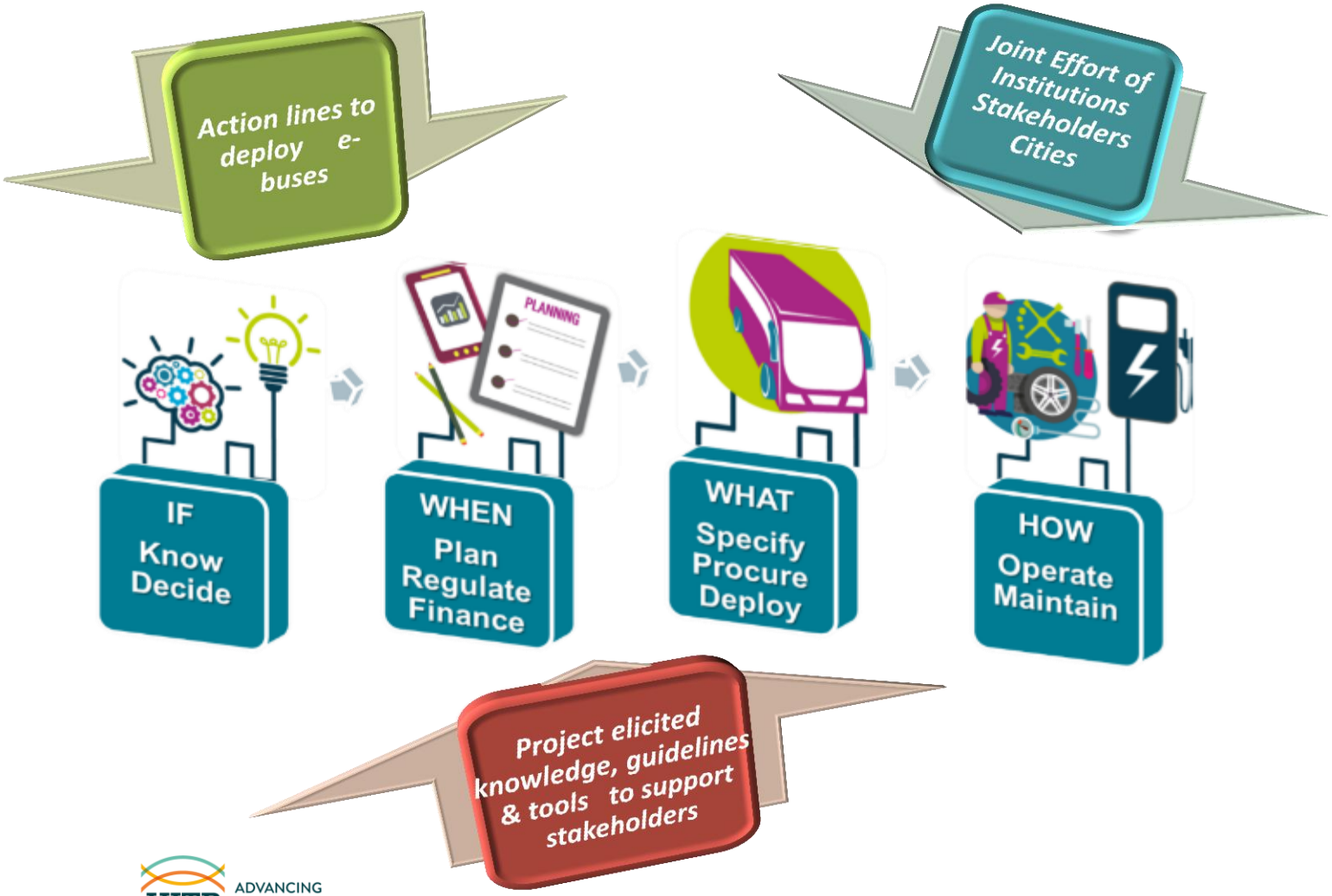
ADVANCING PUBLIC TRANSPORT

OUTCOME OF ZEEUS PROJECT ON E-BUS IMPLEMENTATION

PHASED APPROACH FOR E-BUS DEPLOYMENT



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PHASE 1

IF: Know & Decide

- Define a global & integrated **mobility vision.**
- Exchanges **experiences** and **knowledge.**
- **Feasibility study with all stakeholders.**
- Define **own operational needs** for Clean Buses.
- Solve **trade offs** in own scenario to ensure needed operational capability.
- Develop **LCC / TCO** model suitable for the operational scenari.

Start from the needs not from the solution

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PHASE 2

WHEN: Plan, Regulate, Finance

- **Ensure support** from competent Authorities.
- Assess the **impact of legislations** applicable to the specific scenario.
- Look for the **most suitable funding & financing scheme.**
- Set up **project governance.**
- Embrace **system approach.**

Don’t rush, it is all about planning

…and speak with your tram/trolley colleagues…

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PHASE 3

WHAT: Specify, Procure, Deploy

- Define **risk sharing** schemes between Municipalities, Authorities and Operators according to their role.
- Open table with industry, procuring entity, regulators and financing actors – **Develop partnerships.**
- Stimulate and support procuring entities to **adapt tender process** to e-buses peculiarities.
- Follow carefully the **processes** for **infrastructure deployment.**

Expect the unexpected!

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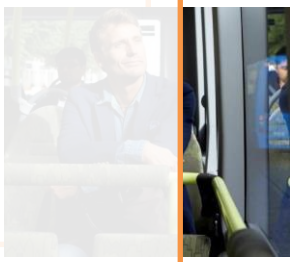
PHASE 4

"If you compare the noise level with that of other buses, it's an enormous difference". Kristina Book, driver on route 55.

HOW – Operate & Maintain

- Changes in the **bus depot.**
- Continuously **optimise the service.**
- **Optimisation of charging** operation (operation vs costs).
- **Training**: new skills for all category of workers.
- Evaluate operations including staff and passengers' satisfaction.



Don't forget the PEOPLE!

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UITP ACTIVITIES IN INDIA

THE BUS BENCHMARKING MODEL – BANGALORE AND CHANDIGARH

The model ***reviews*** various costs incurred by bus operators and ***classifies*** them according to various common activities identified across operators.

Model Definition:

Compares costs spent on various activities involved in operating a bus system across operators, not in absolute numbers, but in terms of their relative importance.

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ELECTRIC BUSES PROCUREMENT IN INDIA – INDIAN CITIES GOT THE VIABLE RATES

1. Introduction

Last 2 months has witnessed a greater action in the space of electric buses. Department of Heavy Industries (DHI), Government of India sanctioned INR 4.37 billion (US$ 67 million) for the procurement of electric buses, e-taxis and e-autos in December 2017. The department has selected 11 cities with one million-plus population for the procurement of 390 electric buses, and is providing funds to the tune of INR 10 million (US$ 150,000) per bus.

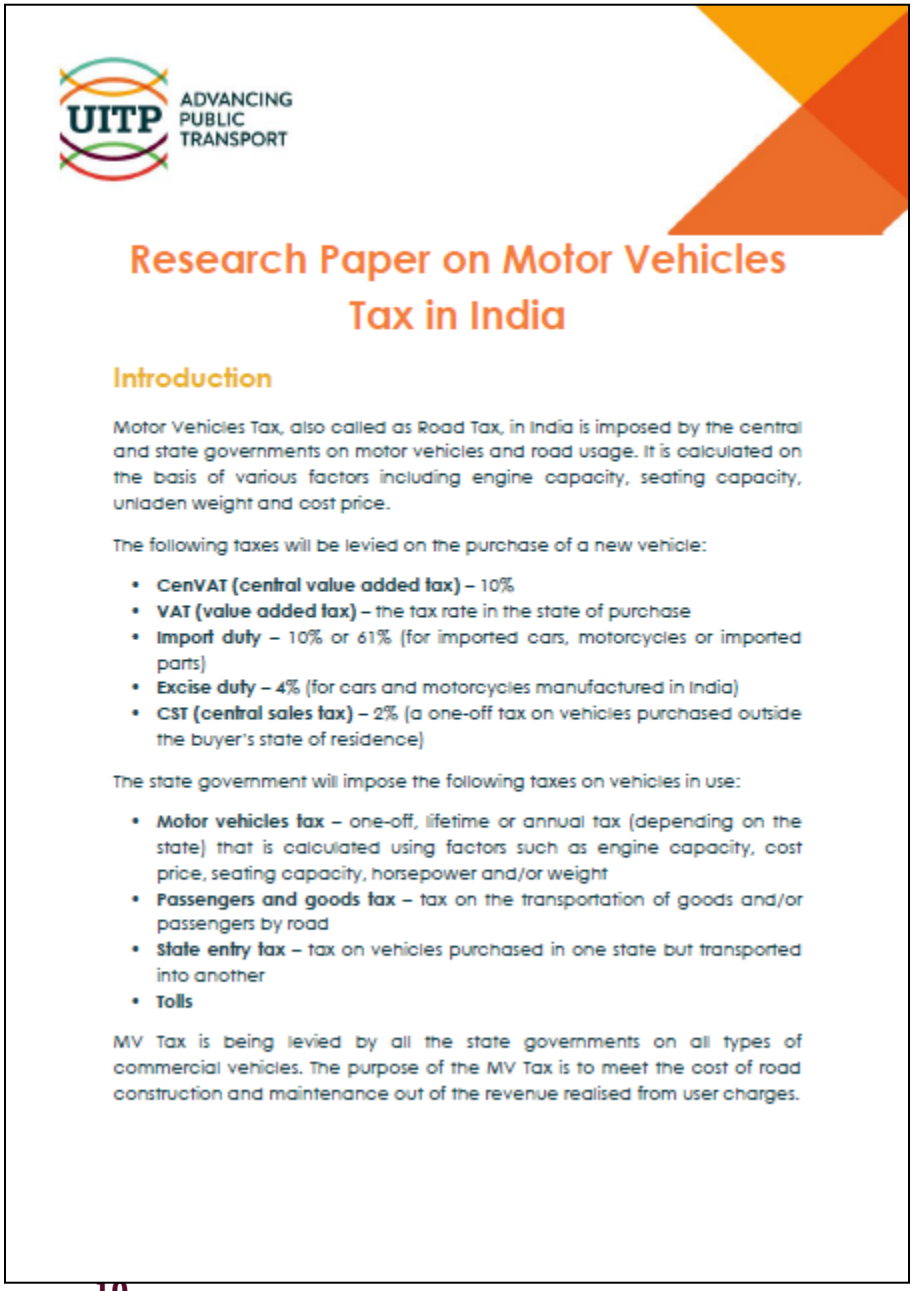
The department has sanctioned 40 buses for every city under the pilot project, except 15 buses each for Guwahati and Jammu. However, BMTC (Bengaluru Metropolitan Transport Corporation) in Bengaluru is considering 150 buses and TSRTC (Telangana State Road Transport Corporation) in Hyderabad has decided to take 100 buses. 10 out of 11 cities floated the tender within 15 days, except Delhi which is planning to procure 700 e-buses separately using state budget. Interestingly, all 10 cities completed the tender process within one month and received good response from the industry.

The department allowed the cities to choose the procurement method from the options of Outright Purchase or Gross Cost Contract (GCC).

- In case of outright purchase, DHI provides 60 percent subsidy and the rest is provided by the State road transport corporations. 5 cities (Indore, Lucknow, Kolkata, Jammu and Guwahati) released tenders under outright purchase model.

- On the other hand, the buses would be operated and maintained by the supplier at a fixed cost per km under GCC. Under the FAME Scheme, the city expects to receive subsidy of upto 60% of the capital cost of Electric Bus over a period 3 years in three instalments of 20% each in each fiscal starting from the current fiscal year of 2017-18. 5 cities (Bangalore, Mumbai, Hyderabad, Ahmedabad, and Jaipur) have decided to invite bids under GCC.

Paper on Electric Bus Procurement in India



Research Paper on Motor Vehicles Tax in India

Introduction

Motor Vehicles Tax, also called as Road Tax, in India is imposed by the central and state governments on motor vehicles and road usage. It is calculated on the basis of various factors including engine capacity, seating capacity, unladen weight and cost price.

The following taxes will be levied on the purchase of a new vehicle:

- **CenVAT (central value added tax)** – 10%
- **VAT (value added tax)** – the tax rate in the state of purchase
- **Import duty** – 10% or 61% (for imported cars, motorcycles or imported parts)
- **Excise duty** – 4% (for cars and motorcycles manufactured in India)
- **CST (central sales tax)** – 2% (a one-off tax on vehicles purchased outside the buyer's state of residence)

The state government will impose the following taxes on vehicles in use:

- **Motor vehicles tax** – one-off, lifetime or annual tax (depending on the state) that is calculated using factors such as engine capacity, cost price, seating capacity, horsepower and/or weight
- **Passengers and goods tax** – tax on the transportation of goods and/or passengers by road
- **State entry tax** – tax on vehicles purchased in one state but transported into another
- **Tolls**

MV Tax is being levied by all the state governments on all types of commercial vehicles. The purpose of the MV Tax is to meet the cost of road construction and maintenance out of the revenue realised from user charges.

Paper on Motor Vehicles Tax in India