

# ELECTRIC MOBILITY

## EVALUATION METRICS



**Smart City**  
MISSION TRANSFORM-NATION



**Ministry of Housing and Urban Affairs**  
Government of India





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Government of India

**ABOUT MINISTRY OF HOUSING AND URBAN AFFAIRS (MoHUA)**

The Ministry of Housing and Urban Affairs is the apex authority of Government of India to formulate policies, coordinate the activities of various central ministries, state governments and other nodal authorities and monitor programs related to issues of housing and urban affairs in the country. The Smart Cities Mission was launched by the Ministry in 2015 to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of ‘Smart’ Solutions.

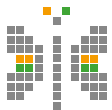


**ABOUT ROCKY MOUNTAIN INSTITUTE (RMI)**

Rocky Mountain Institute (RMI)—an independent nonprofit founded in 1982—transforms global energy use to create a clean, prosperous, and secure low-carbon future. It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of market-based solutions that cost-effectively shift from fossil fuels to efficiency and renewables. RMI has offices in Basalt and Boulder, Colorado; New York City; Washington, D.C.; and Beijing. RMI has been supporting India’s mobility and energy transformation since 2016.

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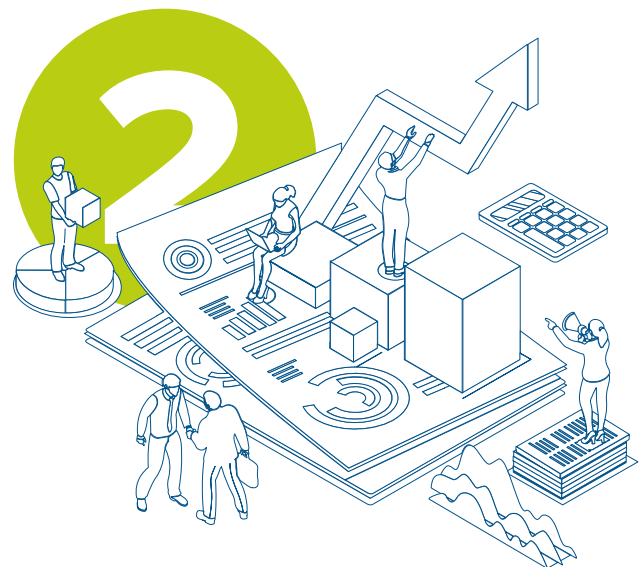


# Measuring progress through KPIs

Periodic evaluation is critical to the successful implementation of policies and programs. The evaluation matrix is the third document in line among the series of documents under the electric mobility component. The intent of the earlier documents was to develop capacity of city managers to implement electric mobility in their respective cities. This document is focused on enabling the city managers to evaluate the performance of electric mobility solutions. This document specifically aims at helping the city managers and interested stakeholders in:

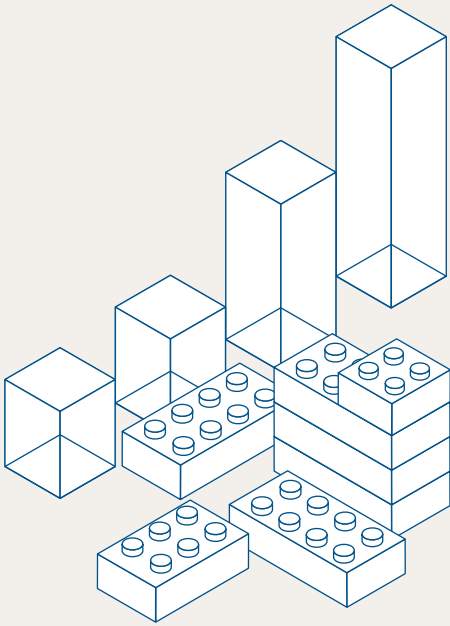


**Mapping their city's progress with respect to implementation of electric mobility solutions**



**Undertaking comparison of performance across cities and encouraging regular evaluation and course correction in cities**

City managers are encouraged to undertake periodic evaluation and it is recommended that they establish annual targets. Cities should then compare annual performances against annual targets. In case of a lag in achieving the set targets, the city should devise a strategy for course correction and implement the same. The following table suggests the Key Performance Indices (KPIs) that can be used by cities for evaluating their progress and identifying corrective measures to achieve the set objectives and targets for e-mobility.



**Setting up annual targets**



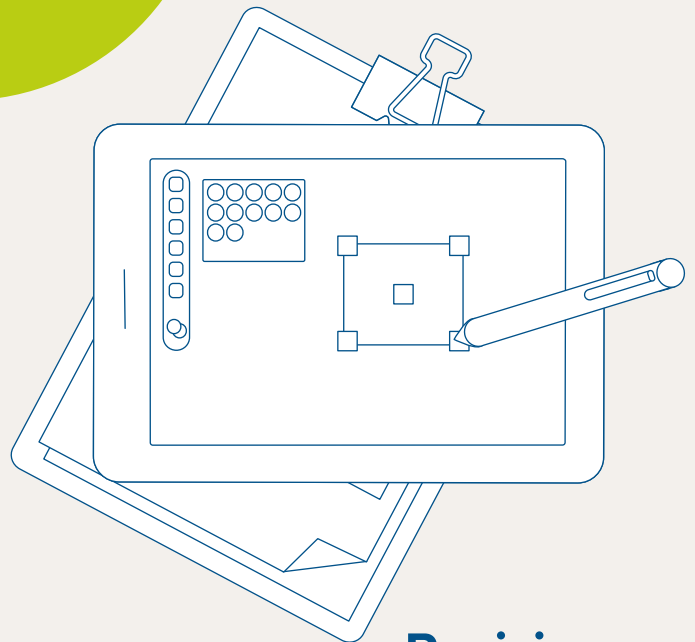
**Monitoring annual (actual) growth**



**Suggested evaluation and monitoring mechanism**



**Preparing corrective actions**



**Revising targets in case of lag**

## Number of EVs in the city:

### Parameters

- » Buses
- » Mini buses
- » Standard

### Measure

- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions



## Number of EVs in the city:

### Parameters

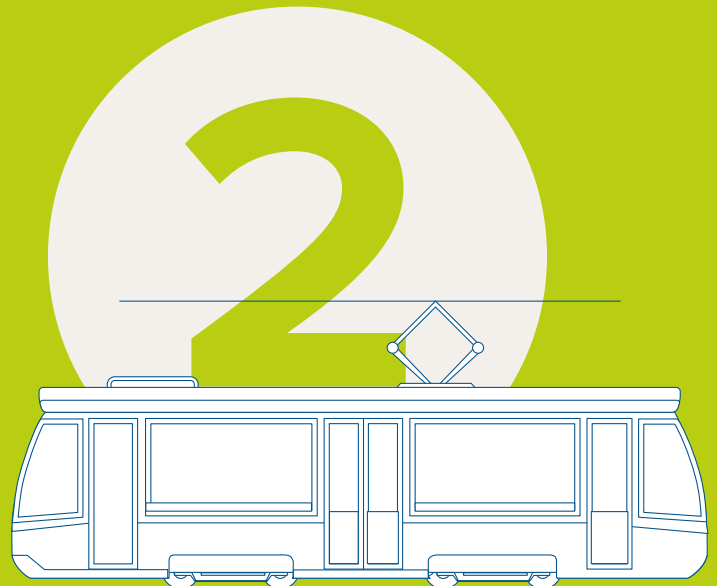
- » Rail

### Measure

- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions



## Number of EVs in the city:

### Parameters

- » IPT
- » E-autorickshaw
- » E-rickshaw
- » E-taxis

### Measure

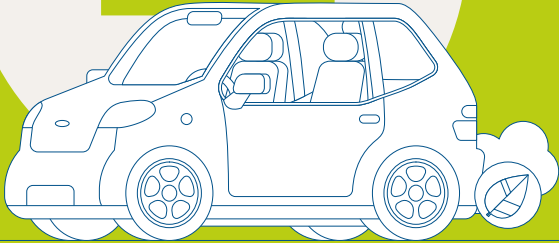
- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions



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## Number of EVs in the city:

### Parameters

- » Personal vehicles
- » E-cars
- » LCVs
- » E-2-wheelers
- » E-bicycles

### Measure

- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions

## Number of electric fleet operators:

### Parameters

- » Buses
- » Mini buses
- » Standard

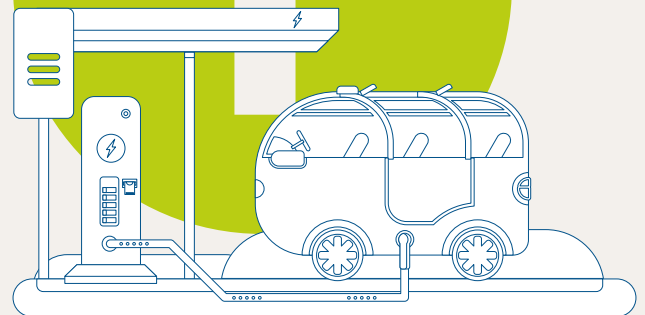
### Measure

- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions

1



## Number of electric fleet operators:

### Parameters

- » Rail

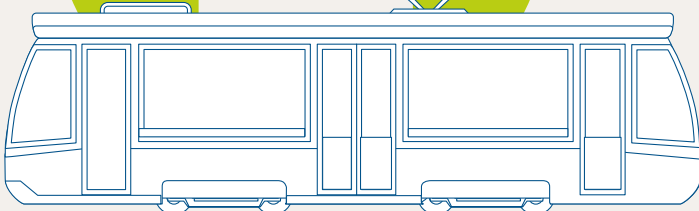
### Measure

- » Actual numbers/estimated numbers/qualitative indicators

### Data sources

- » RTO, fleet operators, fleet operator unions

2







## Number of electric fleet operators:

### Parameters

» IPT » E-autorickshaw » E-rickshaw » E-taxis

### Measure

» Actual numbers/estimated numbers/  
qualitative indicators

### Data sources

» RTO, fleet operators, fleet operator unions

## Electric PKM:

### Parameters

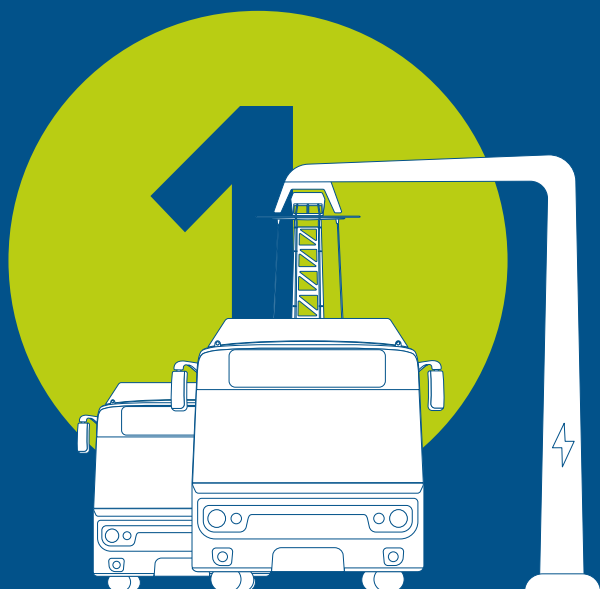
» Buses » Mini buses » Standard

### Measure

» Actual numbers/estimated numbers

### Data sources

» RTO, fleet operators, fleet operator unions



## Electric PKM:

### Parameters

» Rail

### Measure

» Actual numbers/estimated numbers

### Data sources

» RTO, fleet operators, fleet operator unions





## Electric PKM:

### Parameters

- » IPT
- » E-autorickshaw
- » E-rickshaw

### Measure

- » Actual numbers/estimated numbers

### Data sources

- » RTO, fleet operators, fleet operator unions

## Electric PKM:

### Parameters

- » Personal vehicles
- » E-cars
- » LCVs
- » E-2-wheelers
- » E-bicycles

### Measure

- » Actual numbers/estimated numbers

### Data sources

- » RTO, fleet operators, fleet operator unions



## Number of public EV charging points in the city:

### Parameters

- » Level 1

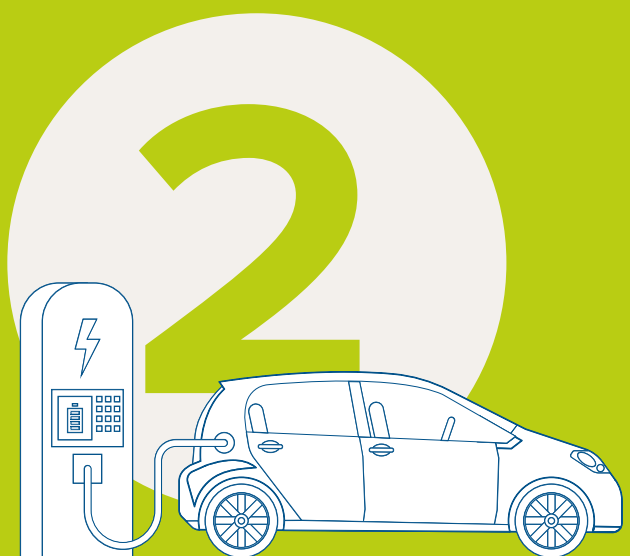
### Measure

- » Number and location

### Data sources

- » DISCOM





## Number of public EV charging points in the city:

### Parameters

» Level 2

### Measure

» Number and location

### Data sources

» DISCOM

## Number of public EV charging points in the city:

### Parameters

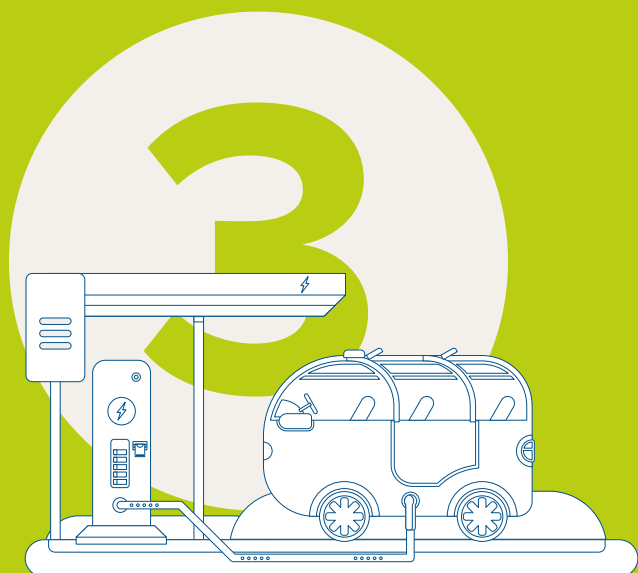
» Level 3

### Measure

» Number and location

### Data sources

» DISCOM



## Investment made on promoting EVs:

### Parameters

- » Investment on deploying charging infrastructure
- » Purchase of EVs
- » Deploying monitoring infrastructure such as CCTCs, sensors, etc.

### Measure

» Investment made

### Data sources

» Municipal body, urban development agency, Department of Transport, Department of Finance, traffic police department

## Air quality level:

### Parameters

- » PM, NO<sub>2</sub>, SO<sub>2</sub> levels

### Measure

- » Air quality levels

### Data sources

- » Pollution Control Board, Department of Environment



## Recognition for e-mobility initiatives:

### Parameters

- » National

### Measure

- » Describe

### Data sources

- » Municipal body, urban development agency, Department of Transportation, Department of Environment, fleet operators

## Recognition for e-mobility initiatives:

### Parameters

- » International

### Measure

- » Describe

### Data sources

- » Municipal body, urban development agency, Department of Transportation, Department of Environment, fleet operators







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