

# Smart City Sweden - In India



Teknikföretagen

# Agenda

- What is the Smart City Sweden Platform / SIBC
- What do you need to know about India today?
- What is a smart city? And what does this mean for you?
- Overview of key developments in Railways



Smart City Sweden - Swedish best practice

Financed by the Swedish Energy Agency and Managed by Swedish Environmental Research Institute

Objective is to – through evidence based showcasing – create stronger international partnerships and business.

Smart City Sweden – In India; is the physical export arm of the platform.

# OBJECTIVE

Promote ***sustainable business partnerships*** between India and Sweden with a focus on SME engagement and system solutions

Develop dialogue on ***innovation in technology and technique*** in the areas of; waste and water, ICT, transport, and energy

Contribute to ***Global Goals*** sustainable development commitments

# Smart City Sweden – In India Enabling Ecosystem

Strategic  
Level

**Bilateral MoU Sustainable Urban Development June 2015**– Planning and land use, sustainable transport, watsan, solid waste

**National SmartCity Mission** – Proposal based project delivery at the city level. 100 cities to be selected between 2015 - 2020

**SmartCity Steering Committee –CII project partners;** Germany, Japan, UK, USA, Sweden, Spain

Support  
Level

**Smart City Sweden – in India** – Objective; Provide structured opportunities for Swedish based companies to engage in Indian marketplace

Cities of Interest

**Confederation of Indian Industries (CII)** – Will act as local partner for project communication. Delhi office as HQ but relevant city offices to also engage

Communication and Delegation

Project  
Level

Project Management Team  
Sweden: Teknikföretagen, IVL, SIBC  
India:CII HQ, CII City Office

Delegation Visit

Project 1.0

# What do you need to know about India today?

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Smart City Sweden - In India

By The Association of Swedish Engineering Industries – **Secretariat:** Sweden-India Business Council



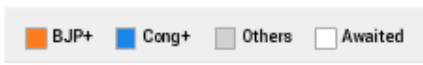
- 2017 Vibrant Gujarat re-confirmed private sector support for Modi's Government and actions taken in the past two years;

- Over \$366 million commitment in investment

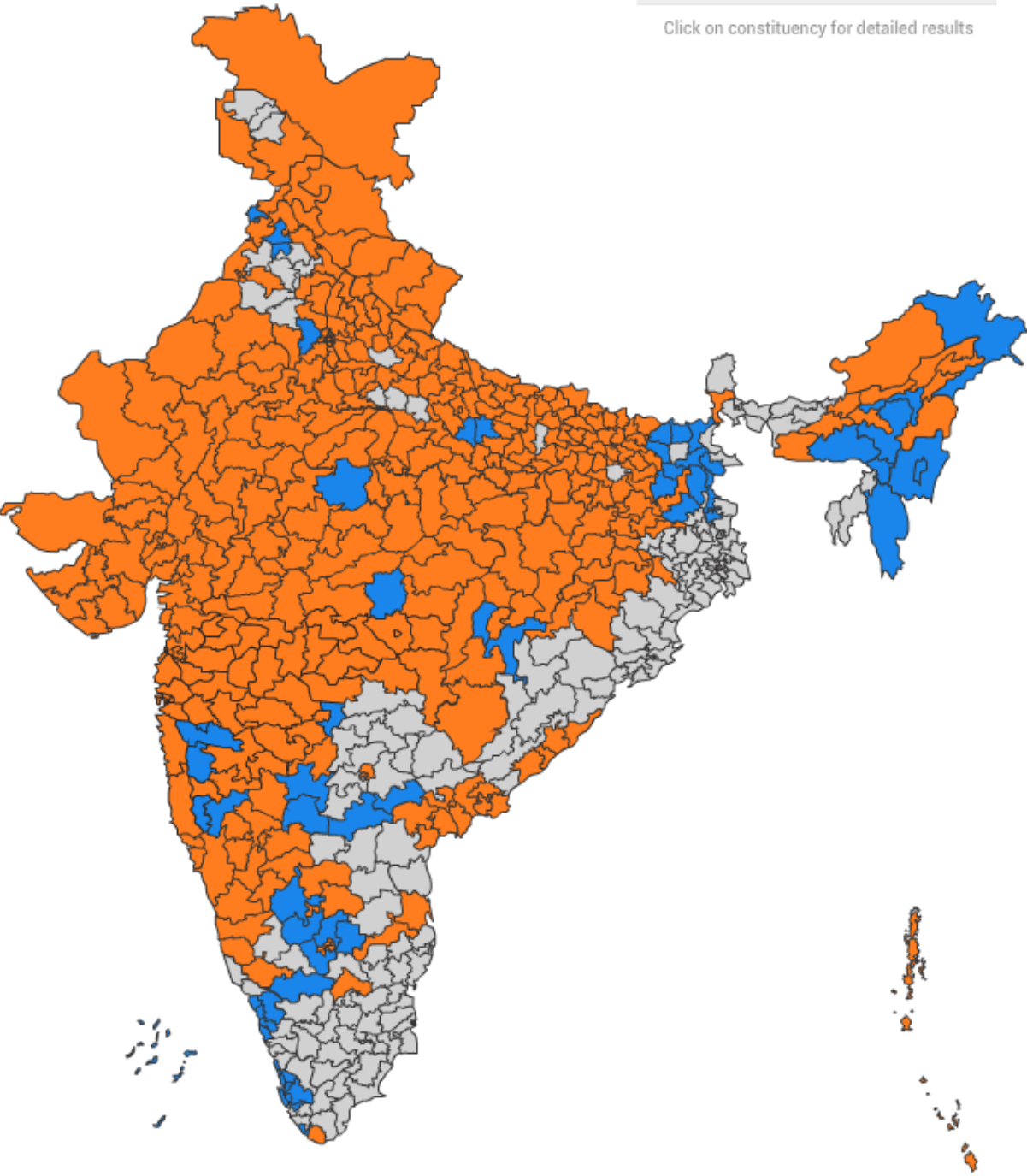
- FDI inflows \$ 130 billion since 2014, and under Modi's reform agenda

- Digitization strong focus of new government and demonitization being a first step to bringing India within the system





Click on constituency for detailed results



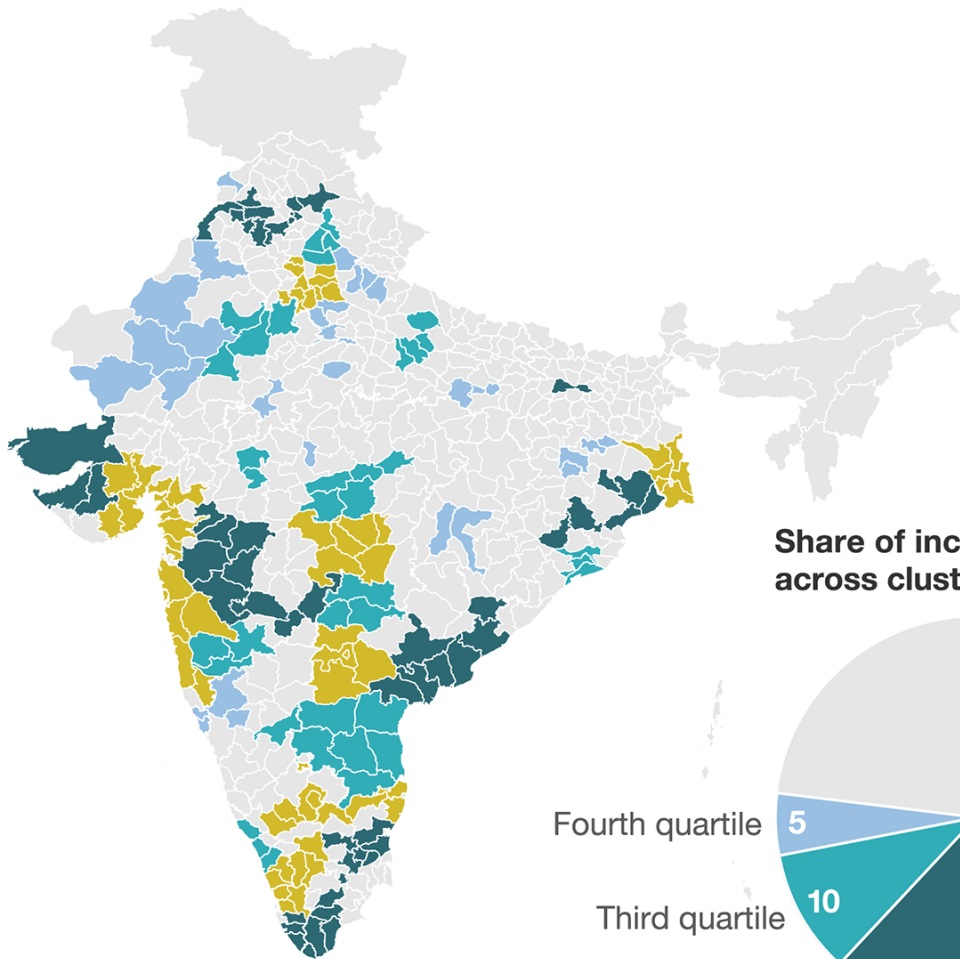
- 1.2 billion people
- 29 states / 7 UTs
- 69 cities with 1 million plus accounting, by 2030, for up to 80 percent of GDP

- By 2050; 70 percent in cities, 500 new cities required

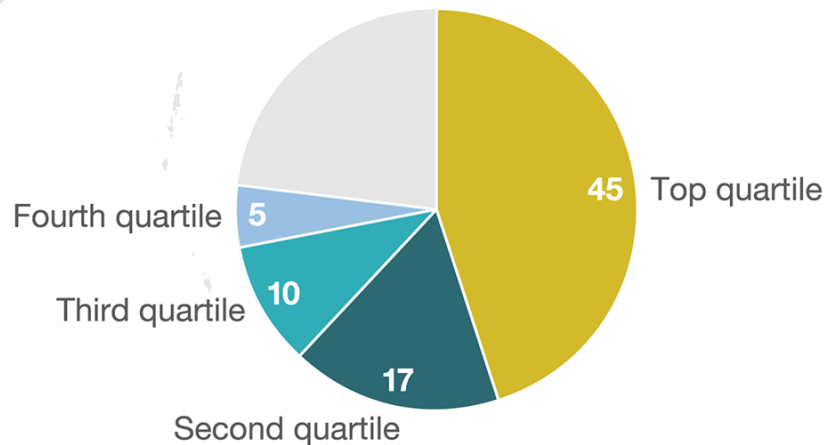
- 460 million internet subscribers (July 2016)







**Share of incremental GDP across clusters by quartile**



<sup>1</sup>Cluster is defined as a cohort of 183 high-potential districts, with the metropolitan district acting as the nucleus. Each of these districts is contiguous, so that they represent serviceable markets. Quartiles are based on clusters' GDP rank in 2025.

Source: McKinsey analysis

# India's Smart City Mission



2015 – Mission launched - 100 cities selected but competitive applications to be approved by independent financial audits

City plans to be **citizen led**

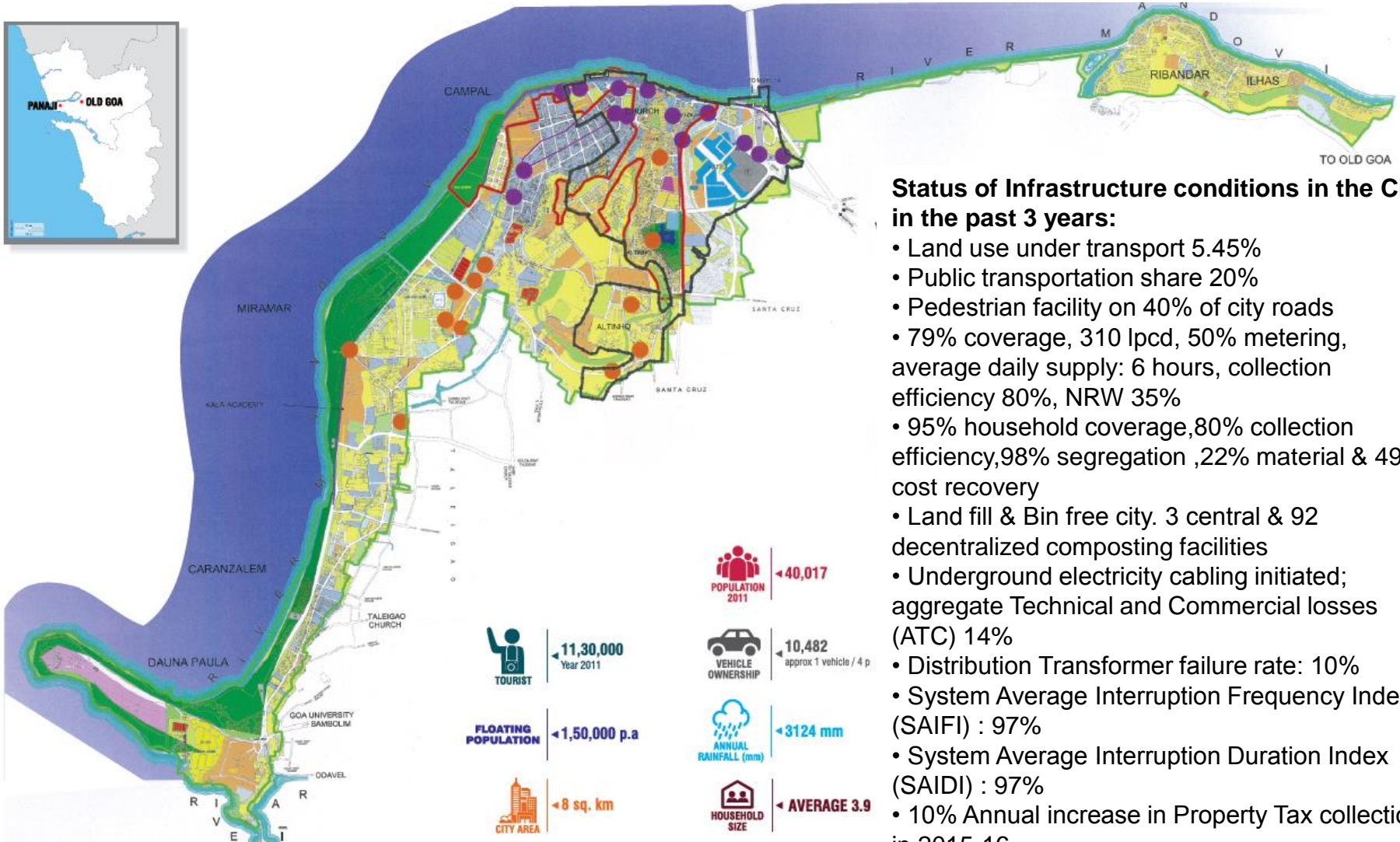
SPVs to lead budgeting and project development. Each SPV to be led by a CEO from either the public or private sector – **Business Focused**

PPP 2.0 – BOT – BOOT – DBFOT

Unlocking an investment potential of \$150 billion



# CITY PROFILE



## LEGEND

R1	RESIDENTIAL	Pockets of Urban Poor	SUB-DIV OPEN SPACE
R2	RESIDENTIAL WITH HEIGHT RESTRICTION 7.6M MTS. GR + 1	WATER BODIES	PARKING AREA
R3	RESIDENTIAL (CONSERVATION)	TRAFFIC CONGESTION POINTS/STRETCHES	BURIAL GROUND
C1	COMMERCIAL	COMMERCIAL	PRESERVATION AREA
C2	COMMERCIAL (CONSERVATION)	PUBLIC/SEMI-PUBLIC GOVT INSTITUTIONAL/RELIGIOUS CONSERVATION	CONSERVATION ZONE
Boundary of Area Based Dev	BOUNDARY OF AREA BASED DEV.	PUBLIC/SEMI-PUBLIC GOVT	MUNICIPAL BOUNDARY
Environmentally Fragile Areas	ENVIRONMENTALLY FRAGILE AREAS	AGRICULTURE	

**TOURIST**  
 11,30,000  
 Year 2011

**FLOATING POPULATION**  
 1,50,000 p.a

**CITY AREA**  
 8 sq. km

**CONSERVATION ZONE**  
 5 sq. km  
 Campal, Mandovi, Riverfront, Fontainhas, Mala, Portals, Alinho, Fonduverm & Ribandar

**HOUSEHOLDS**  
 17,807 (2011)

**POPULATION 2011**  
 40,017

**VEHICLE OWNERSHIP**  
 10,482  
 approx 1 vehicle / 4 p

**ANNUAL RAINFALL (mm)**  
 3124 mm

**HOUSEHOLD SIZE**  
 AVERAGE 3.9

**NO. OF BUSES**  
 72

**WASTE COLLECTION**  
 100%  
 Landfill-free. 100% segregation at source

**SCALE**

## Status of Infrastructure conditions in the City in the past 3 years:

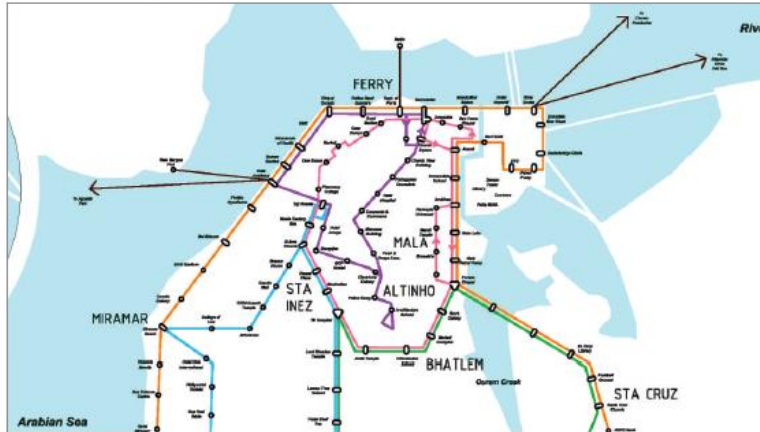
- Land use under transport 5.45%
- Public transportation share 20%
- Pedestrian facility on 40% of city roads
- 79% coverage, 310 lpcd, 50% metering, average daily supply: 6 hours, collection efficiency 80%, NRW 35%
- 95% household coverage, 80% collection efficiency, 98% segregation, 22% material & 49% cost recovery
- Land fill & Bin free city. 3 central & 92 decentralized composting facilities
- Underground electricity cabling initiated; aggregate Technical and Commercial losses (ATC) 14%
- Distribution Transformer failure rate: 10%
- System Average Interruption Frequency Index (SAIFI) : 97%
- System Average Interruption Duration Index (SAIDI) : 97%
- 10% Annual increase in Property Tax collection in 2015-16
- 32% annual decrease in reported cases.

# PAN CITY - SMART TRANSPORT & ECO MOBILITY

## RE-ORGANISATION OF TRAFFIC FOR LIGHT BRT & BIKE-SHARING



## PROPOSED BUS ROUTES



KPIs ADDRESSED	ESSENTIAL FEATURES ADDRESSED	SUB- COMPONENTS	COST (Cr.)
<ul style="list-style-type: none"> <li>Walkable</li> <li>Transport</li> <li>Compact</li> <li>ICT enabled government services</li> <li>Safety and security</li> <li>Energy Efficiency</li> <li>Air Quality</li> </ul>	<ul style="list-style-type: none"> <li>Accessible and affordable transportation infrastructure</li> <li>Pedestrian friendly core business district</li> <li>Increasing use of public transportation and non motorized transportation</li> <li>Multi modal seamless integration of traffic and transportation</li> <li>Smart Parking</li> <li>Decongestion and reduction in trip time</li> <li>Improved Air Quality</li> </ul>	<ul style="list-style-type: none"> <li>Smart components for public bikes, buses and ferry</li> <li>Central command and control centre for integrated and intelligent transportation system</li> <li>Smart Parking</li> <li>Air quality monitoring stations</li> <li>Improved Air Quality</li> </ul>	<p><b>38.30</b></p>



Smart Transportation and Eco Mobility

### STATISTICS/ KEY INDICATORS

**55,406 tCO2e (2013-14)**  
Transport Sector GHG Emission

**10482 (2012-13)**  
Private & Commercial Registered vehicles

**228 tCO2e**  
GHG emission reduction from intelligent parking management system

**95 tCo2e**  
GHG emission reduction from PBS

### SUSTAINABLE DEVELOPMENT GOALS & TARGETS ADDRESSED



By 2020, halve the number of global deaths and injuries from road traffic accidents



Develop quality, reliable, sustainable and resilient infrastructure



By 2030, provide access to safe, affordable, accessible & sustainable transport systems for all  
By 2030, enhance inclusive and sustainable urbanization



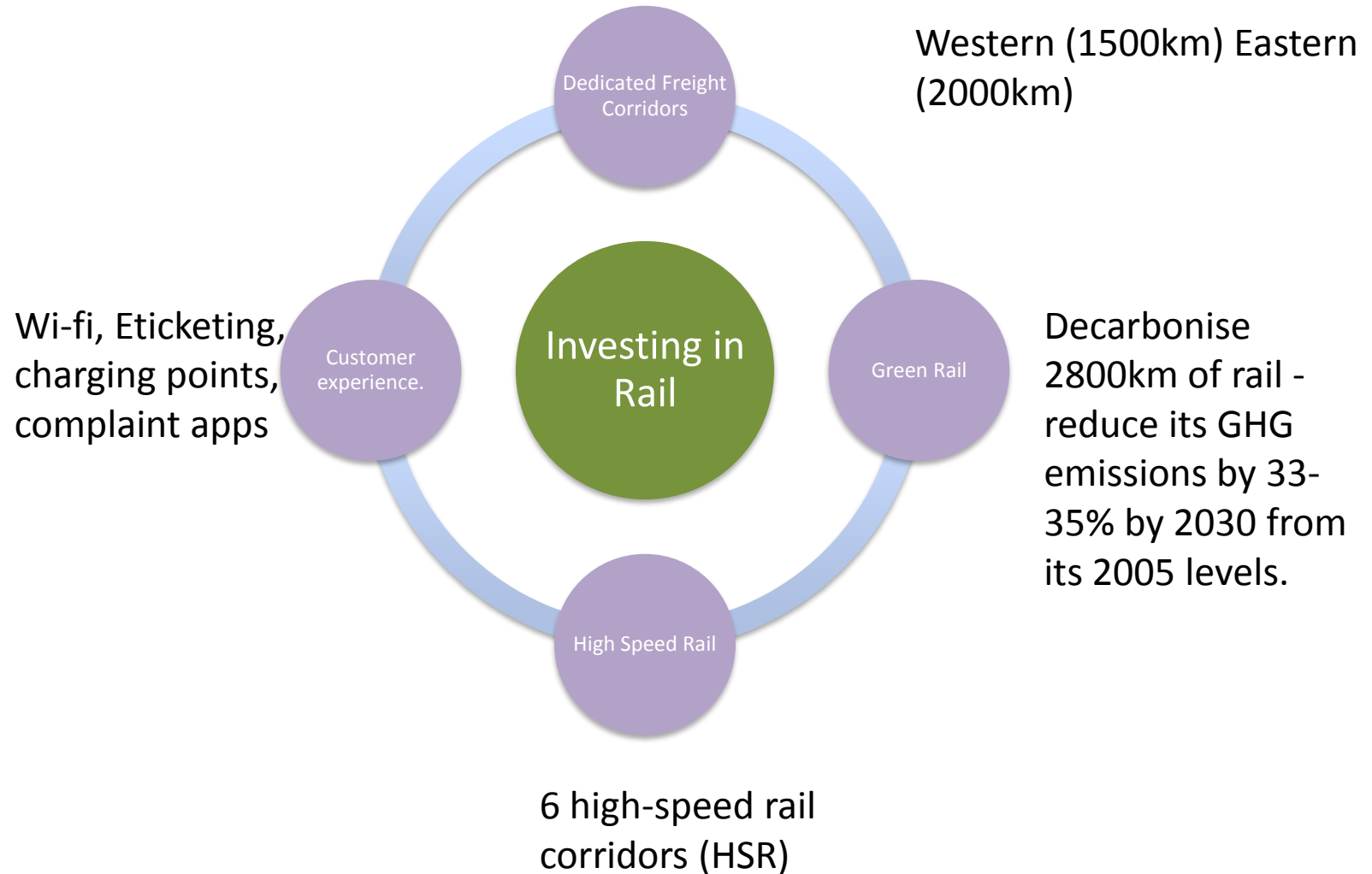
Strengthen resilience and adaptive capacity

# Smart Railways

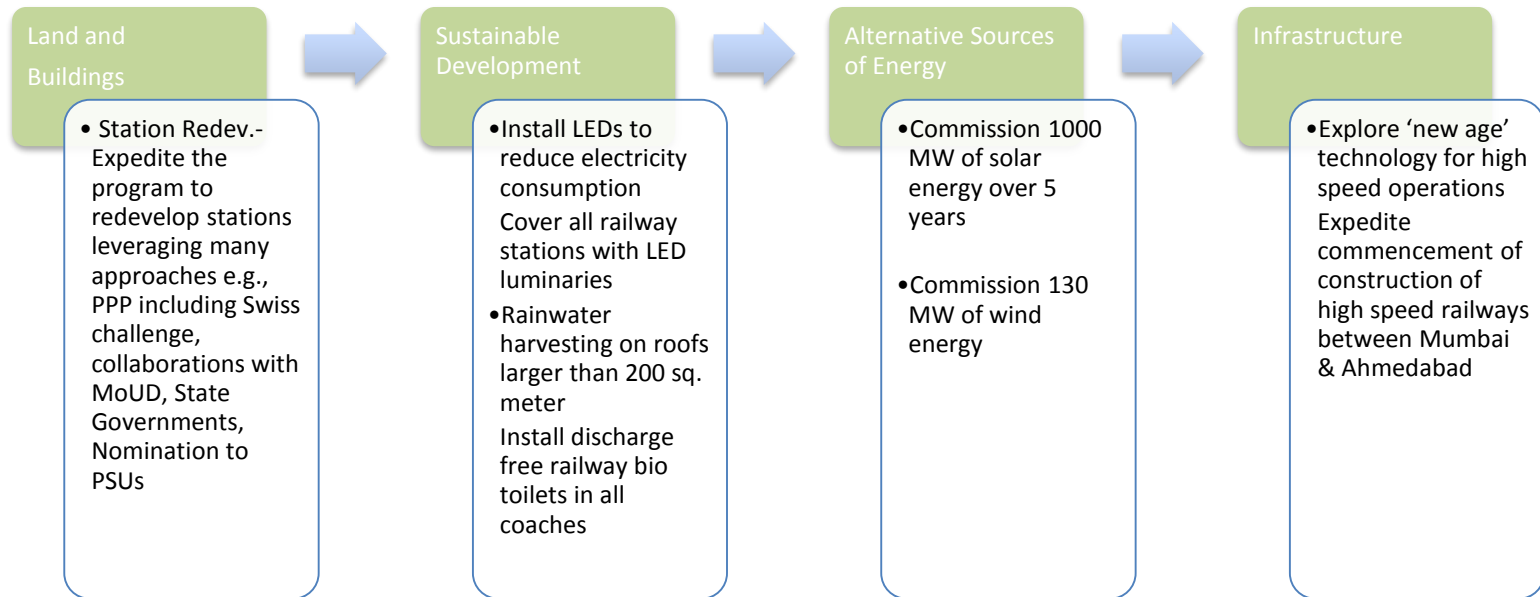


- i) Third largest rail network with 66000 km and 21,000 trains daily and 20 million people daily
- ii) Railways has been losing ground to road transport, and new business model was needed to recapture market share
- iii) Aging infrastructure resulted in 27, 500 deaths in 2015
- iv) Subsidized train fares has led to chronically stressed system

# Smart Rail



# Smart Rail - milestones





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11 May 2017

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