

# Low Carbon Action Plan for Urban Freight in Panaji

## Daring Cities Cornerstone Event



Supported by:



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety

based on a decision of the German Bundestag

### EcoLogistics

Low carbon freight for sustainable cities



Local Governments  
for Sustainability  
SOUTH ASIA

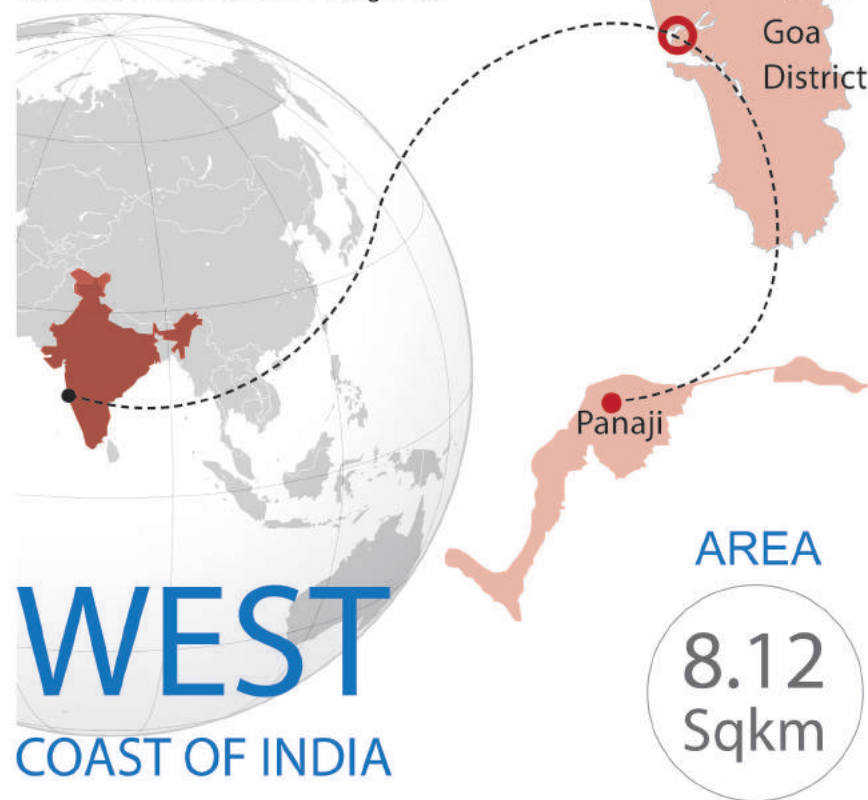


PANAJI



## LOCATION

15.29° N Latitude & 73.49° E Longitude



## DEMOGRAPHIC STUDIES



Estimated population

Projected population

**2011**  
40017

**2021**  
1,00,012

**2031**  
1,31,201

**2041**  
1,73,756

## TOURISM - ATTRACTS FREIGHT

**2008 TO 2015**

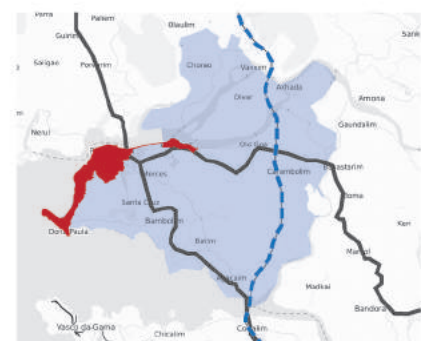
**126% INCREASE**  
5,48,117 to 12,37,019

FOREIGN  
DOMESTIC

**66% INCREASE**  
83,292 to 1,38,504

**33% OF THE STATE GDP**

## CONNECTIVITY



Nearest Railway Station - 14km away

National Highways - NH4 and NH17

## EXISTING TRANSPORT STATUS

**VEHICULAR GROWTH RATE ALMOST DOUBLED IN 10 YEARS (2008 TO 2019)**

**98.6% DECADAL**

GROWTH RATE (APPROX)

**8.4% AVERAGE**

**PUBLIC TRANSPORT**

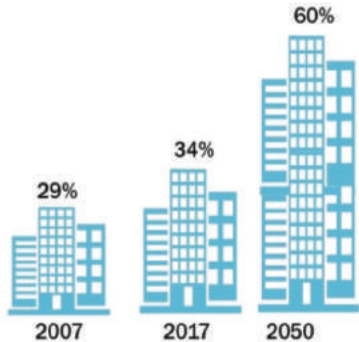


SERVICE LEVEL BENCHMARK

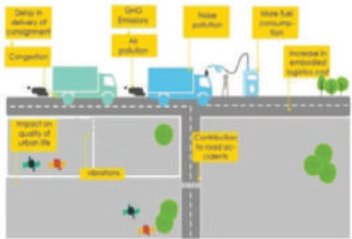
**2%**



Last mile delivery accounts to approximately 53% of total logistics costs



Freight demand rising with increase in urbanisation which is projected to reach 60% the by 2050



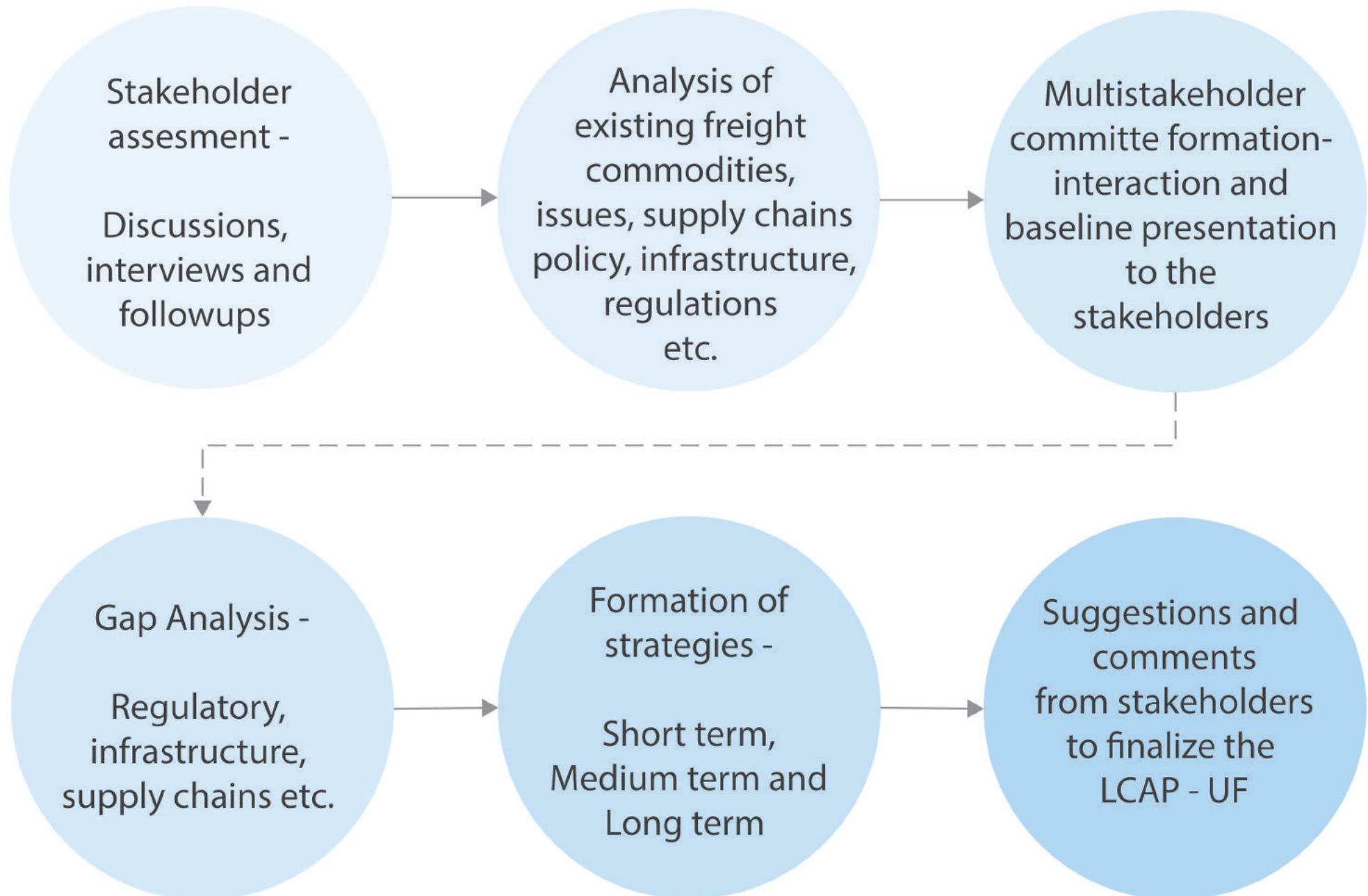
Contributes extensively to the negative externalities of congestion, air pollution.

The Corporation of the City of Panaji in collaboration with ICLEI South Asia started working on the project EcoLogistics in 2018 to build strategies and plans to develop and promote Low Carbon Urban Freight in Panaji

Logistics is an important component of the urban mobility system







Approximate number of freight vehicles moving in the city (Daily)



Heavy Goods Vehicles

30 to 40



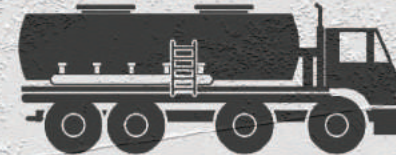
Light Commercial Vehicles

130 - 150



Van/ Rickshaws/ Tempo/ Pick up

270 - 300



Water Tankers + Night Soil Tankers

110 - 130



Two Wheelers

500 - 600

Bicycles

10 to 15

Urban Freight Hotspots

3 to 4

Freight Parking Stands

2 - 3

Loading - unloading bays

5 (Market)



HCV



LCV



SMALL SIZE FREIGHT VEHICLES

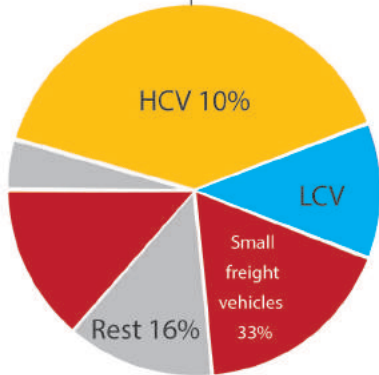


TWO WHEELERS



Highest in terms of total freight delivery by weight in Panaji

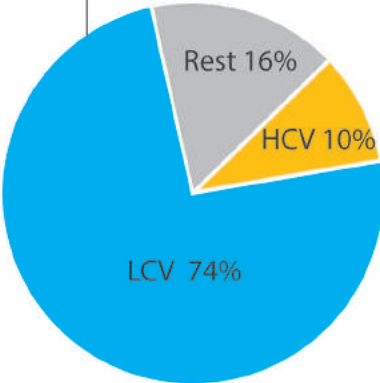
Second highest in terms of freight delivery by tonne-km in Panaji – for total trip length



Total freight delivery by weight in Panaji

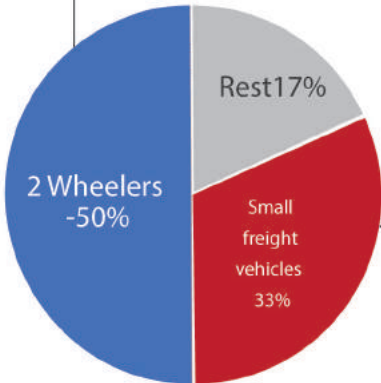
Highest in terms of freight delivery by tonne-km in Panaji – for total trip length

Third highest in terms of total freight delivery by weight in Panaji



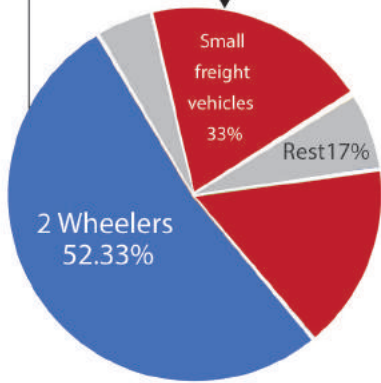
Total freight delivery by tonne-km in Panaji – for total trip length

Second highest in terms of total freight delivery by weight in Panaji and total freight delivery by number of trips in Panaji



Total freight delivery by number of trips in Panaji

Highest in terms of total freight delivery by number of trips in Panaji and total distance covered inside the city boundary



Total distance covered inside the city boundary



PANAJI CO2 AND EMISSIONS  
FOR TRIP LENGTH WITHIN  
CITY BOUNDARY

0.01 T

0.59 T

0.44 T



0.01 T



MULTI-AXLE



HCV



LCV



4 W RICKSHAW



CAR



PICKUP



VAN



TWO WHEELERS



TOTAL EMISSIONS  
(CO2) PER DAY

PANAJI CO2 AND  
EMISSIONS FOR TOTAL  
TRIP LENGTH

0.01 T

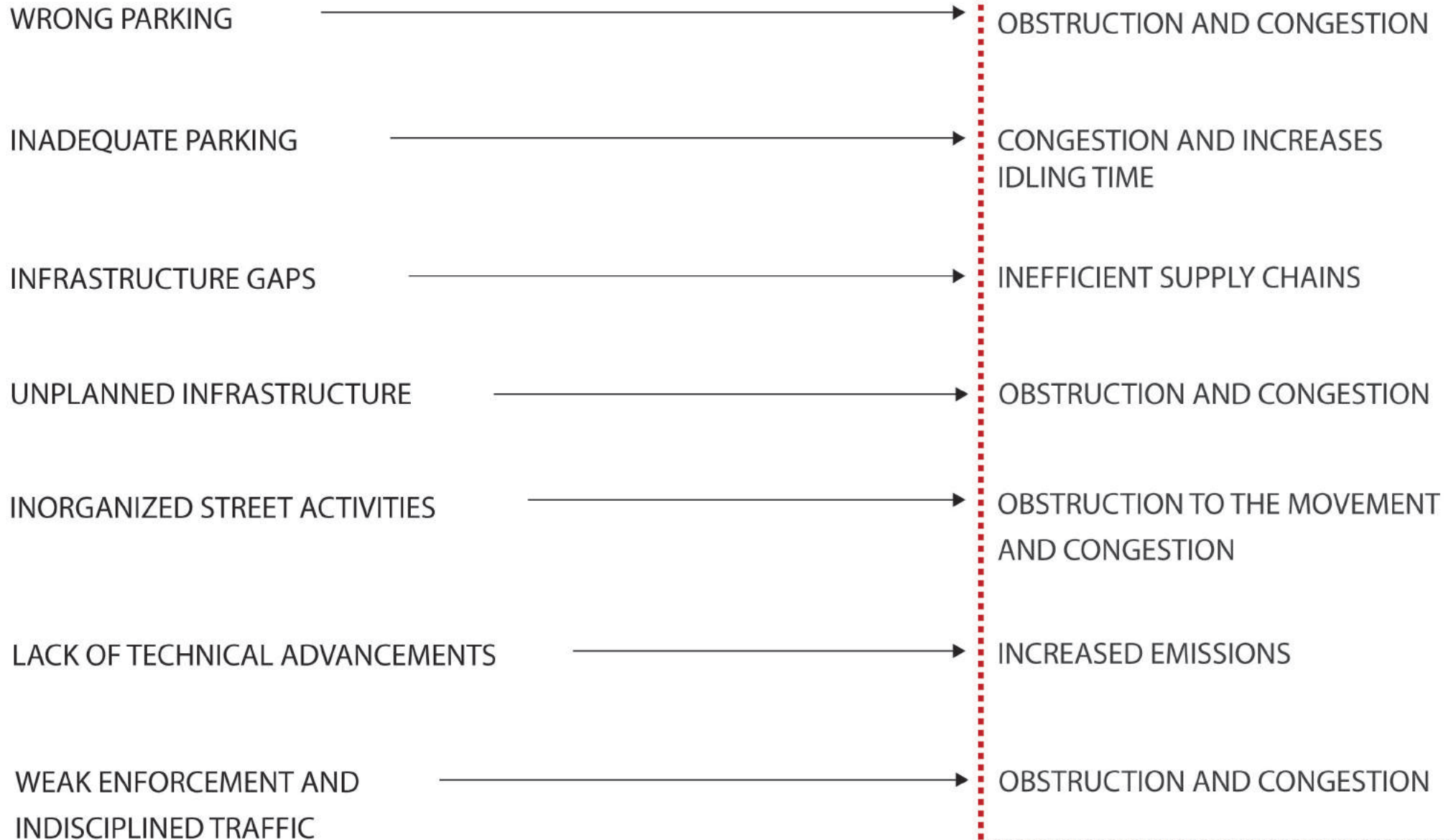
6.68 T

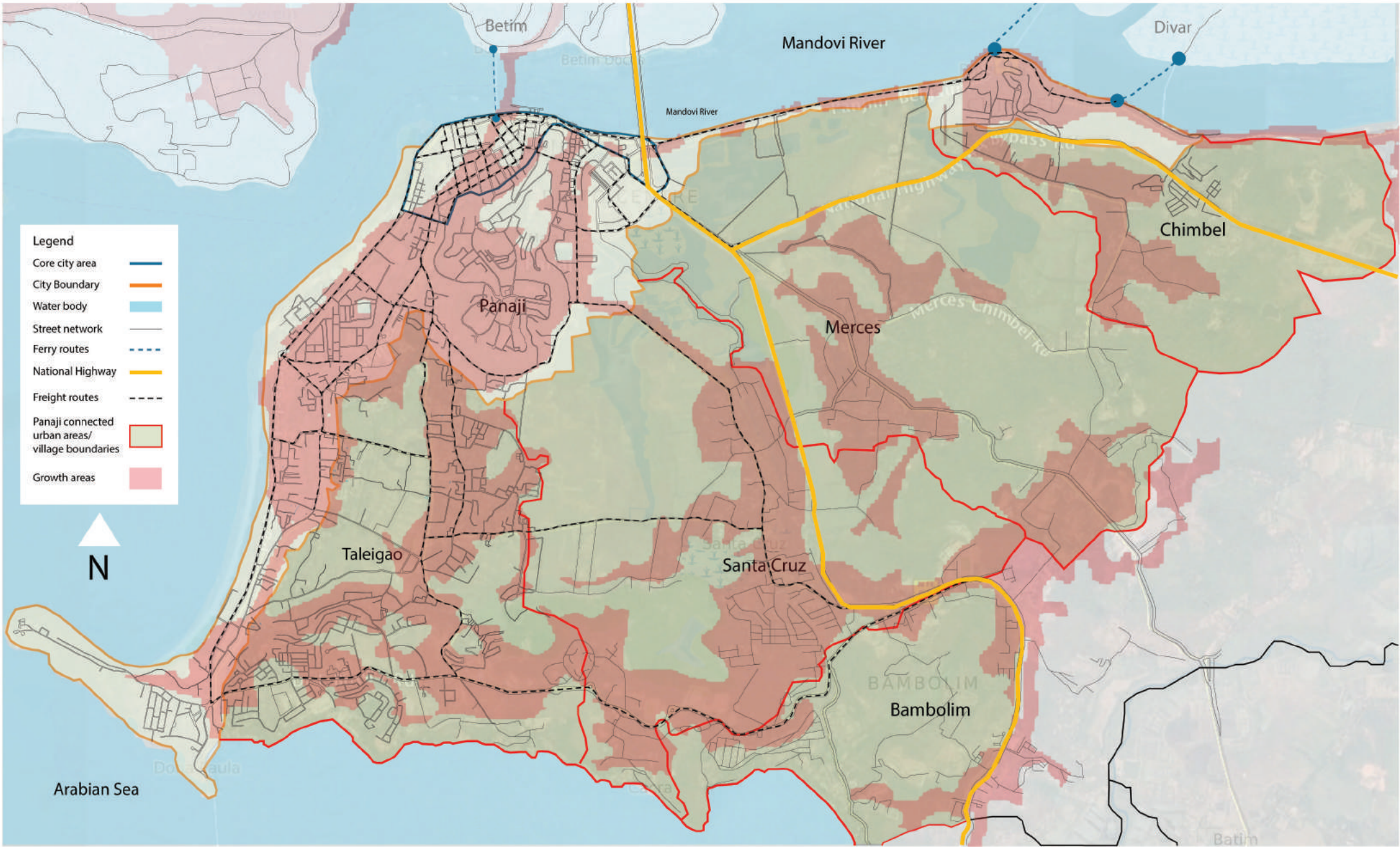


2.33 T











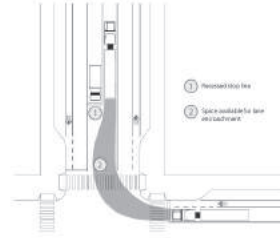
## Street design + Traffic management + Traffic laws + Policy + Regulations + Road Safety + Infrastructure



Conflict of street activities



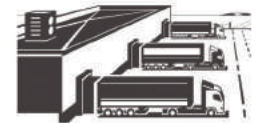
Conflict between freight and cars



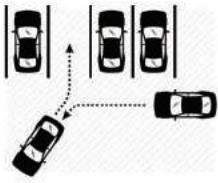
Unsuitable road geometry for freight vehicles



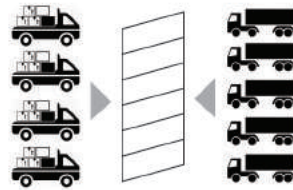
Portable Generator vehicles- ideal parking on the roads



Absence of truck terminal



Encroachment on freight parking by cars



Absence of sufficient parking/ unloading bays at the Panaji Municipal Market



Congestion due to onroad unloading at Panaji Fish Market



Absence of sophisticated unloading equipments



Irresponsible Driving



Inadequate freight signages



Missing Landing / Birthing facility



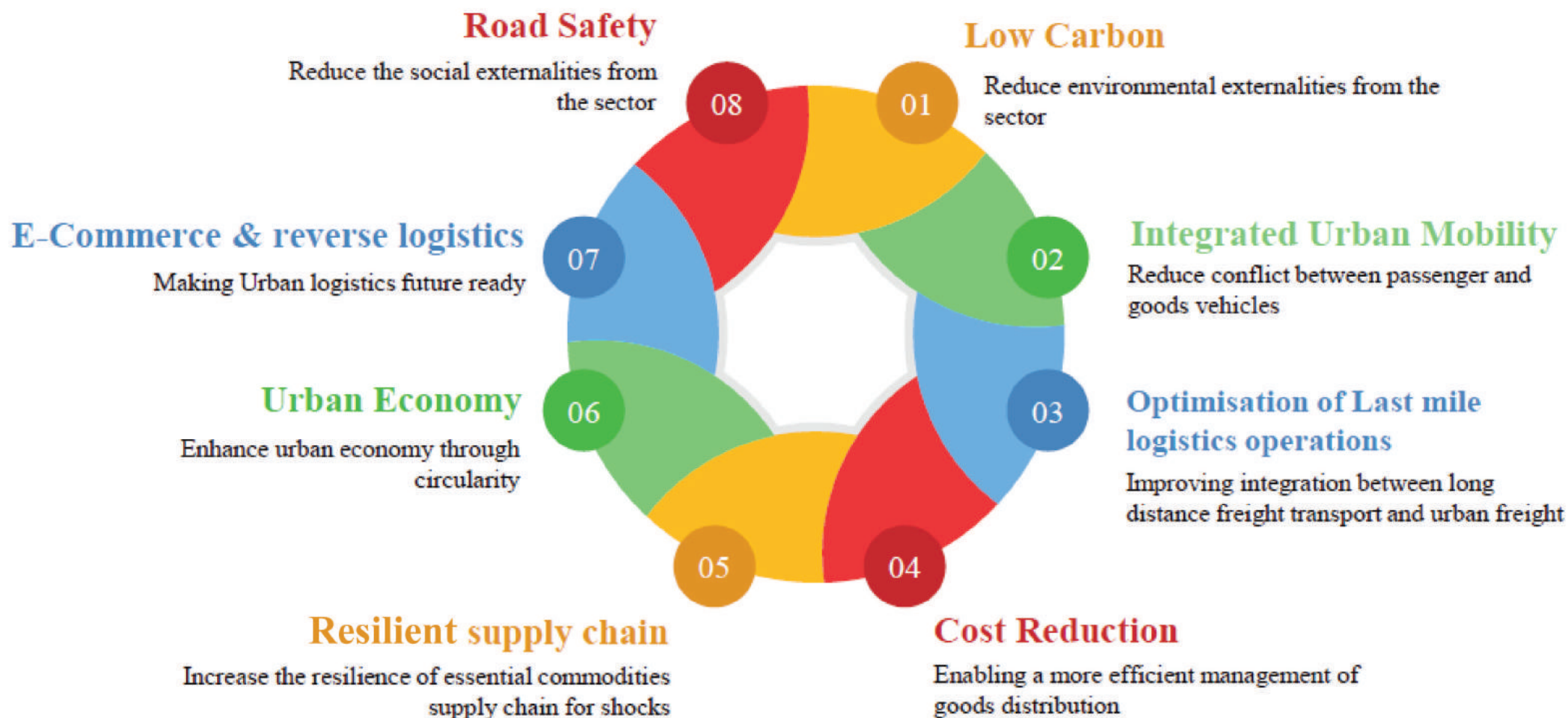
Unplanned and unsignalized junctions



Absence of Traffic Barriers



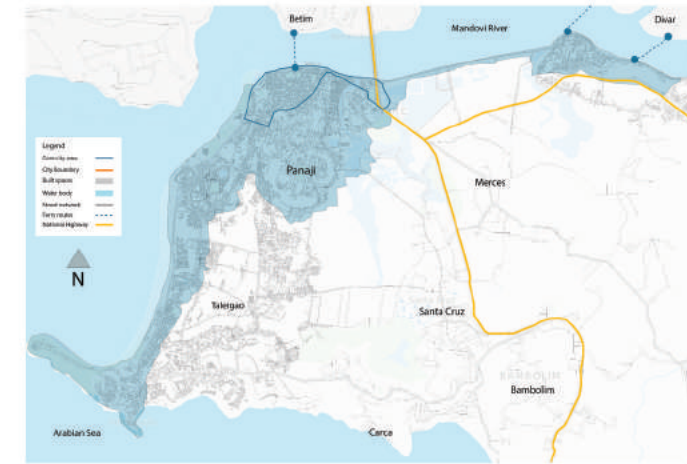
Traffic congestion due to on road loading - unloading activity

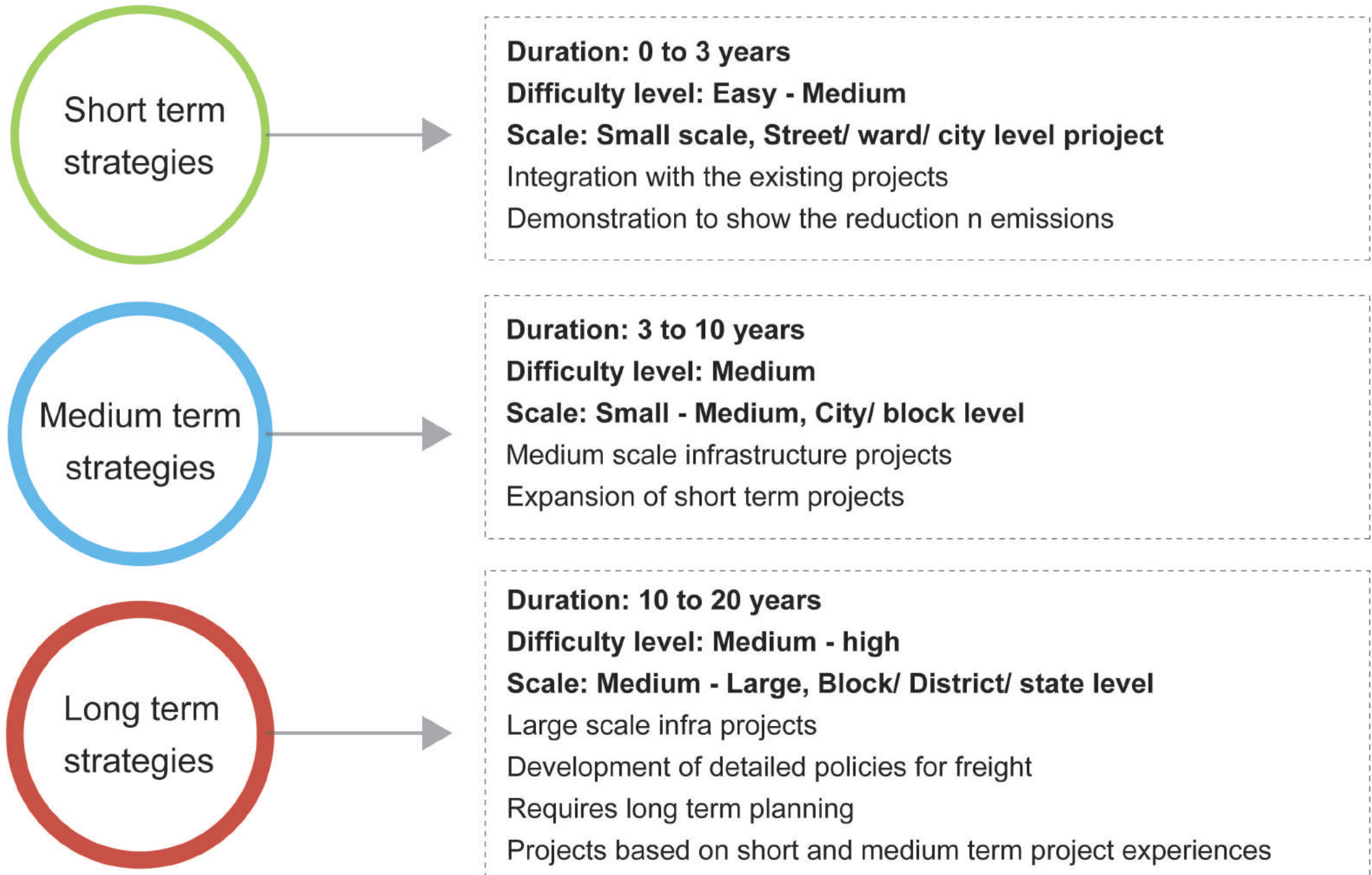




## EcoLogistics

Low carbon freight for sustainable cities







## Proposed strategies

Infrastructure + Regulatory/ Policy/ management + Planning + Technology

### Short term strategies



Easy loading -  
unloading



Improved freight  
parking availability



Electric bicycles  
for last mile



Street Management  
Plan for freight



Freight vehicle  
management



Route optimization plan  
for Solid Waste vehicles



Freight  
Signages

### Medium term strategies



Redesign  
intersection



Landing/ Birthing  
facility for ferries



CNG



Integrated planning  
for the market cluster



Electrification



Amendments to the  
existing freight policy



Freight aggregator

### Long term strategies



City/ State level  
logistics Policy



Truck  
Terminal



Integration of freight into  
regional and development plans



Consolidation  
centre



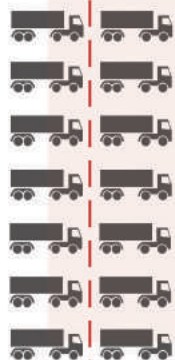
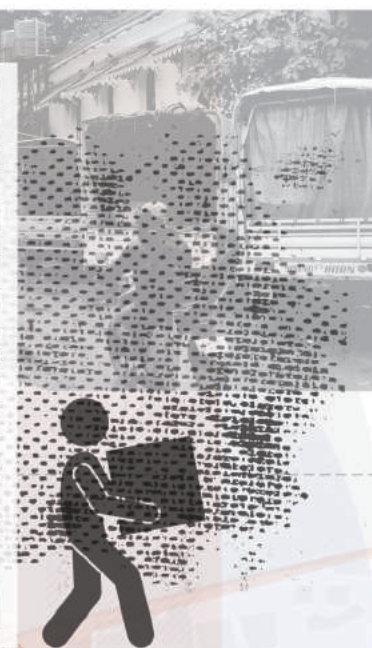
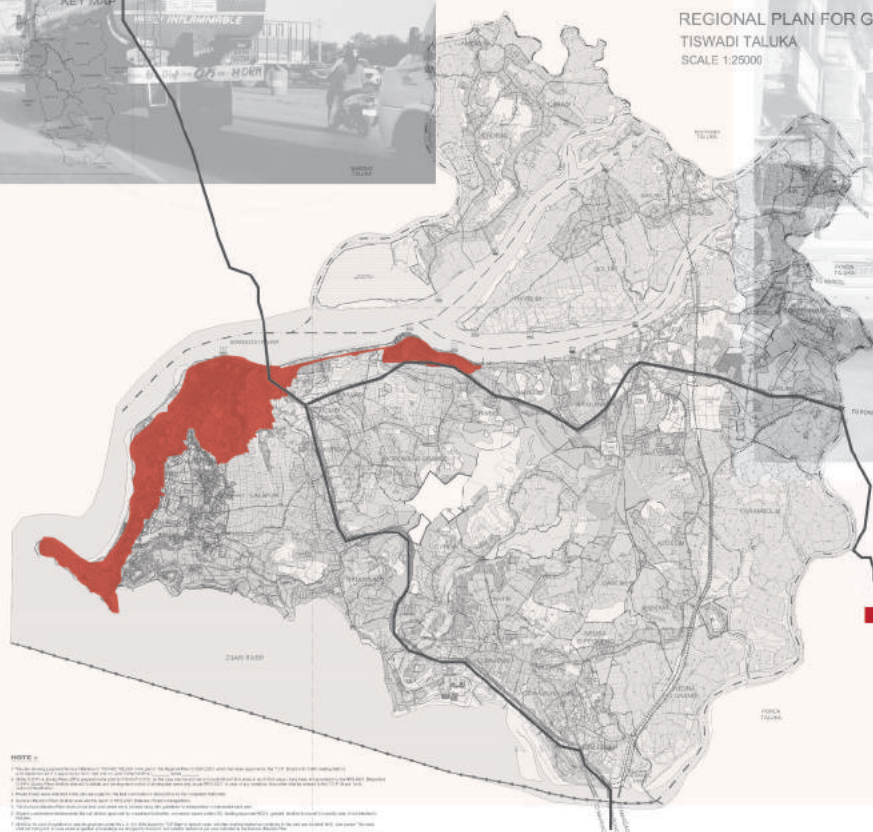
Low carbon zones  
for the city



Regulating on street  
unloading - loading



REGIONAL PLAN FOR GOA-2021  
TISWADI TALUKA  
SCALE 1:25000



# THANK YOU

IN INDIA, FREIGHT TRANSPORT VOLUMES WILL GROW BY 6%  
ANNUALLY BETWEEN 2015 AND 2030

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