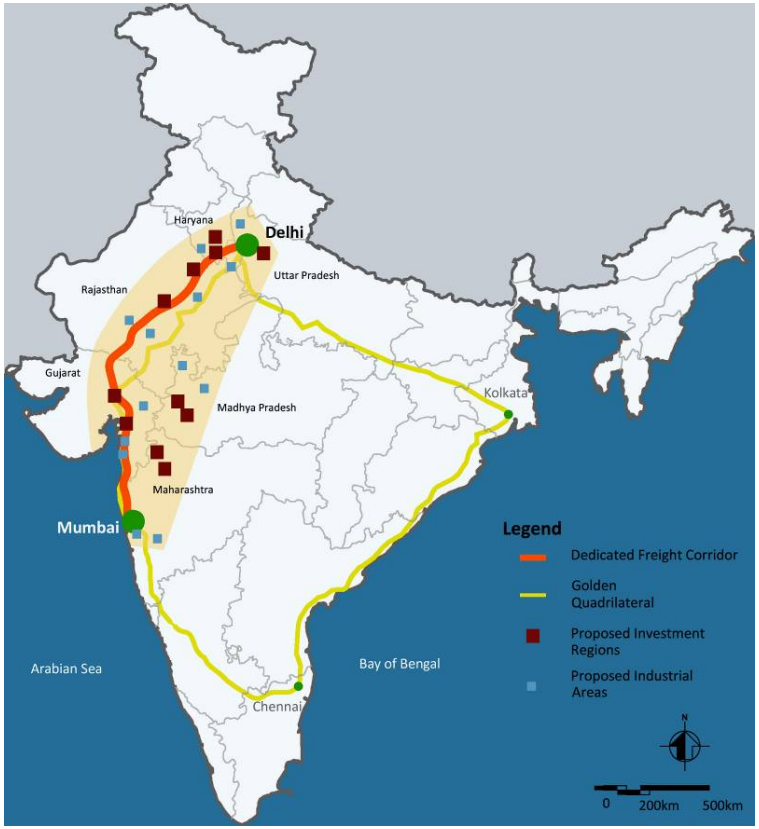
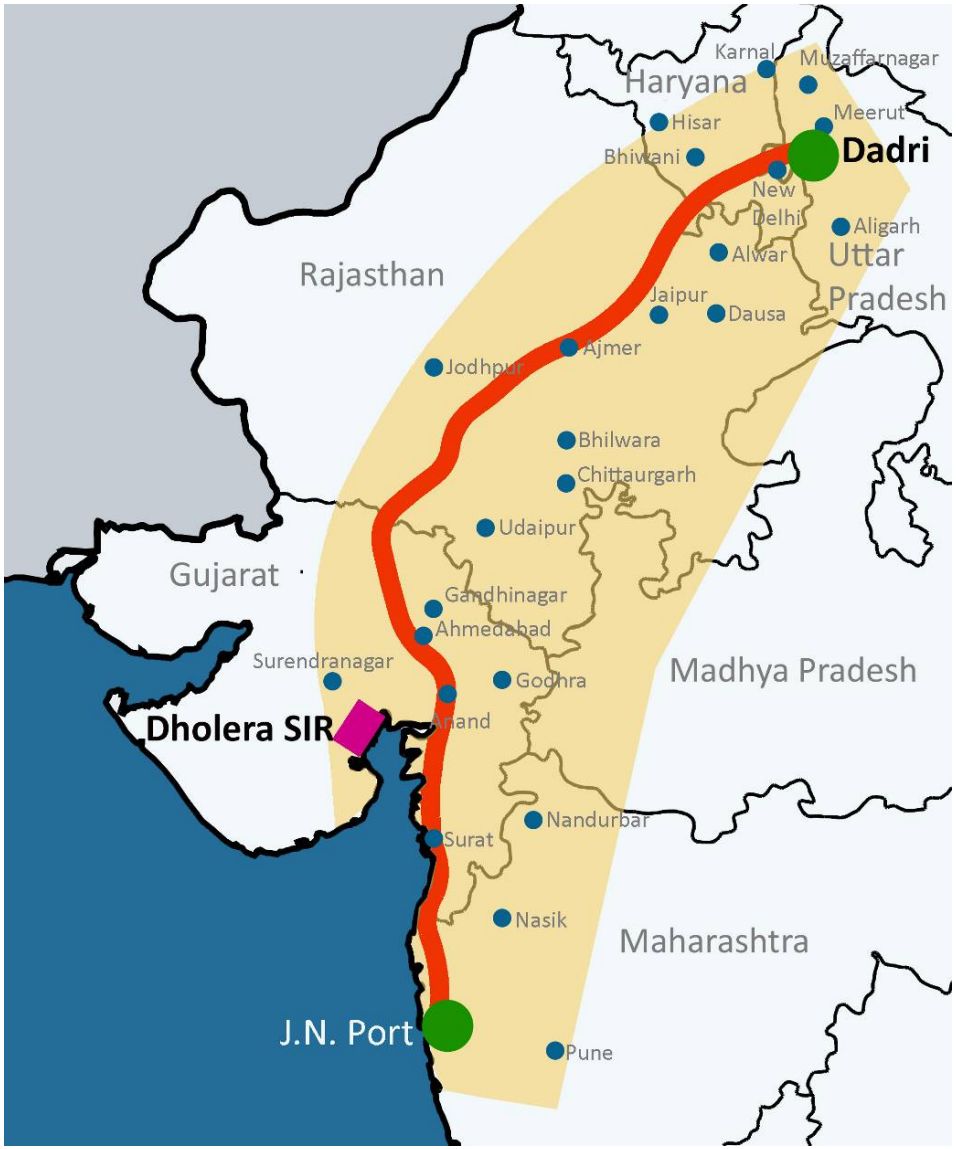
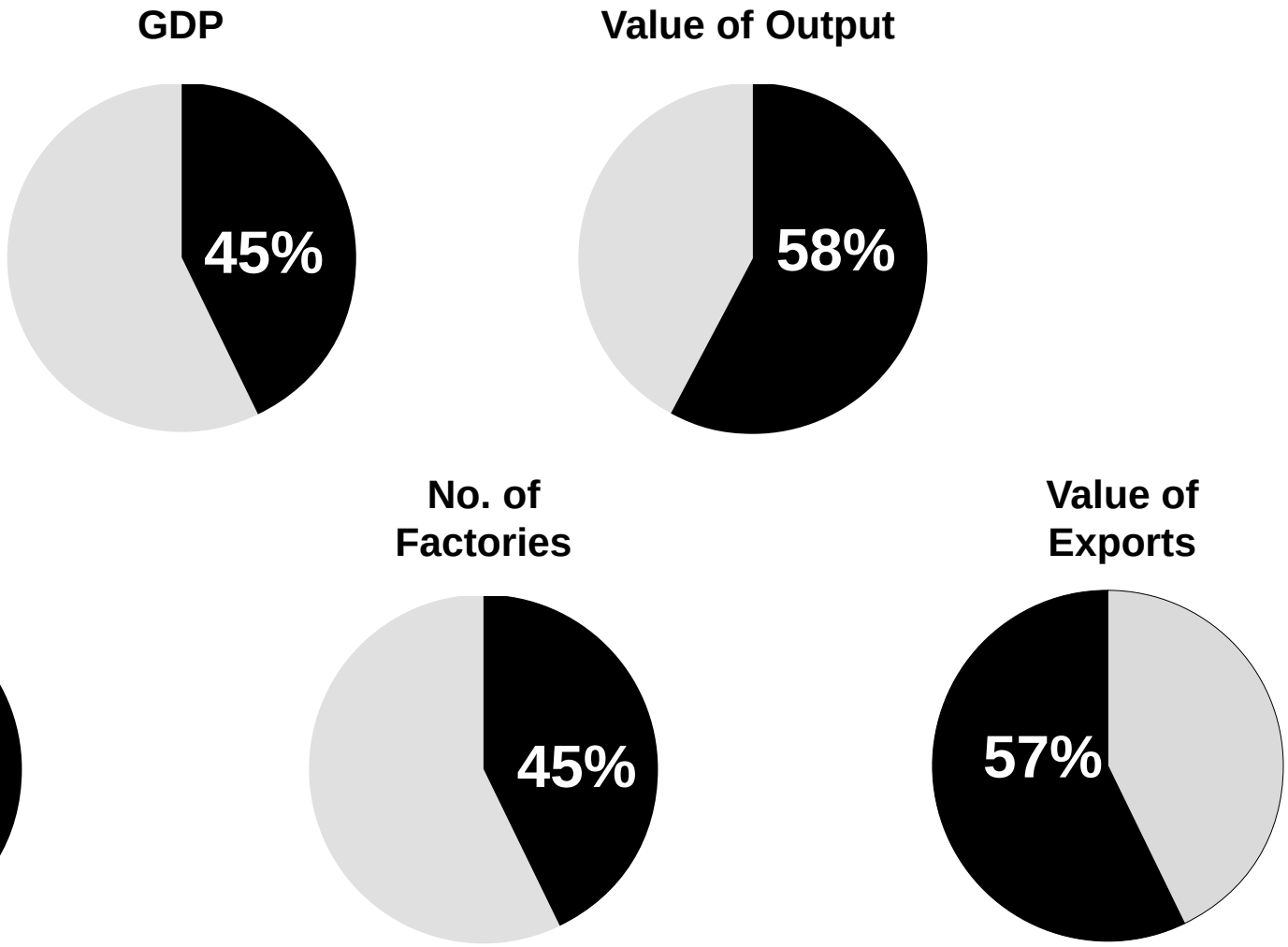
Delhi Mumbai Industrial Corridor Project

The DMIC Corridor

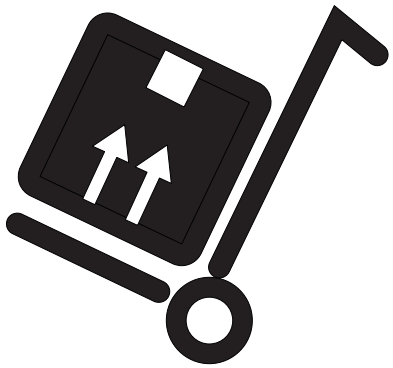




Contribution of DMIC States



Source: Ministry of Statistics & Programme Implementation, ASI, Labour Bureau



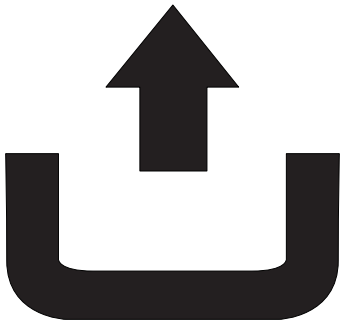
Exports

4

In 9 years

USD 720 billion

INR 43,20,000 crores



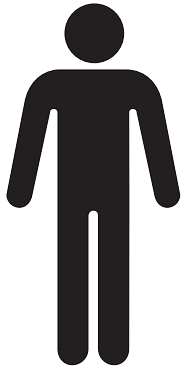
Value of Output

3

In 9 years

USD 3.3 trillion

INR 1,98,00,000 crores



Employment

2

In 7 years

25.5 million

2,55,00,000 lacs

1 USD = INR 60

Cities will account for nearly 70% of India's GDP by 2030

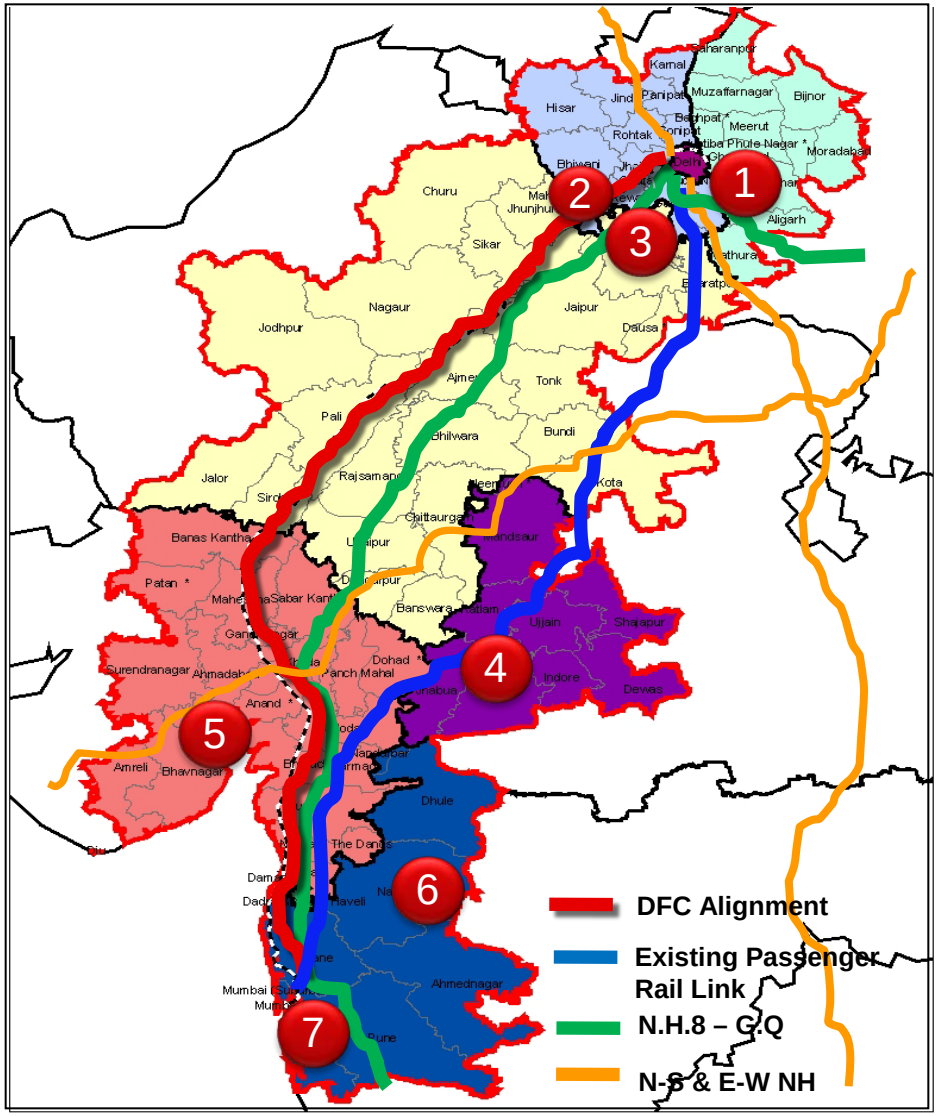
Share of India's GDP %; rupees billion, real 2008

Compound annual growth rate (%)	7.4	5.9	8.3
Share of growth (%)	100	28	72

New DMIC Cities will help to meet pressures of urbanisation and also lead India's economic growth for the next 20 years

Source: India's Urban Awakening: Building inclusive cities, sustaining economic growth - McKinsey Global Institute, April 2010

7 Nodes being developed in DMIC Phase 1



1 Dadri – Noida Ghaziabad IR, UP

2 Manesar – Bawal IR, Haryana

3 Neemrana – Khushkhera – Bhiwadi IR, Rajasthan

4 Pithampur- Dhar - Mhow IR, MP

5 Ahmedabad – Dholera IR, Gujarat

6 Shendra - Bidkin Industrial Park, Maharashtra

7 Dighi Port IA, Maharashtra

Best practices in Master Planning being brought in through international consultants

Node	Consultants	Area (sq. km)
Ahmedabad-Dholera Investment Region, Gujarat	**Consortium led by M/s Halcrow, UK**	**920**
Manesar-Bawal Investment Region, Haryana	**Consortium led by M/s Jurong, Singapore**	**402**
Khushkhera-Bhiwadi-Neemrana Investment Region, Rajasthan	**Consortium led by M/s Kuiper Compagnons, Holland**	**165**
Pithampur-Dhar-Mhow Investment Region, Madhya Pradesh	**Consortium led by M/s Lea Associates South Asia**	**372.4**
Dadri-Noida-Ghaziabad Investment Region, Uttar Pradesh	**Consortium led by M/s Halcrow, UK**	**200**
Dighi Port Industrial Area, Maharashtra	**M/s AECOM, Hong Kong**	**253**
Shendra Bidkin Industrial Park Maharashtra	**M/s AECOM, Hong Kong**	**84**

Master Planning - Key sustainable dev. concepts

- **Reduction of commuting needs for the workforce**
  - Polycentric structure – with multiple CBDs and Industrial zones
  - Integration of land uses encouraging mixed-use
  - Affordable Workers Housing located near the industrial zones

- **Neighborhoods distributed around High access Mass Transit Corridors**
  - Encouraging cycling & pedestrian modes over cars

- **Recycling and Reuse of water and solid wastes**

Master Planning - Key sustainable dev.concepts

- Energy sufficiency through use of renewables
- Conservation of better agricultural land & Protection of sensitive natural environment (Coastal zones, forests, sanctuaries)
- Integration of existing villages into the new city
- SMART City - IT based real time Control and Governance

Housing is an integral enabler of DMIC's vision of sustainable industrial development; we have taken some steps to conceptualize and plan towards fulfillment of this vision

Objective of DMIC for housing

- **Housing** is an **integral enabler of the DMIC vision** to **boost industrial activity,** and **build 24 cities** with **world-class infrastructure by 2040**
- **Vision of "slum-free housing development"** with **inclusive, equitable and sustainable housing townships**, in which every citizen has **access to basic civic infrastructure, social amenities and quality shelter**

Initiatives underway by DMICDC

PERMANENT HOUSING

1
- Formulate an Affordable Housing "policy" for DMIC as a whole; this would leverage learnings from international and domestic housing development models and bear in mind prevalent government policies
- Contextualize this policy for each node of DMIC, focused on its unique characteristics

2
- Develop a "concessions package" for housing; this would be aimed at a "win-win" to all stakeholders involved, including government, funding agencies and private developers

3
- Define housing elements (amenities, O&M-related aspects etc.), which will ensure that quality standards are adhered to, also enable the creation of an optimal eco-system

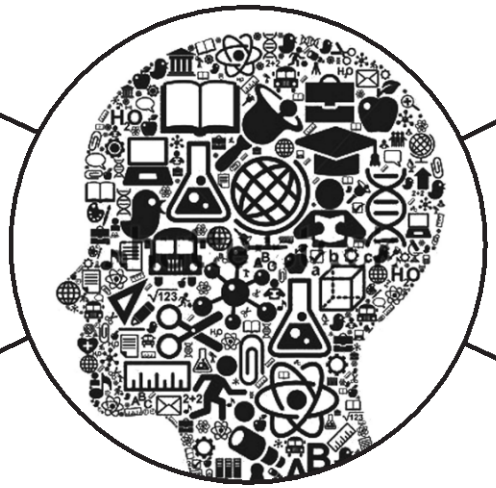
TEMPORARY HOUSING

4
- Develop construction guidelines with appropriate quality parameters set out, to be included as part of the bid package of the anchor tenant/ sub-contractor

Availability of skilled workforce – imperative for the envisaged growth in DMIC

50 Skill development centers on hub and spoke model are being established for providing training to farmers, villagers etc.

Locations have been identified in consultation with the State Government (s) for establishment of Skill development Centres



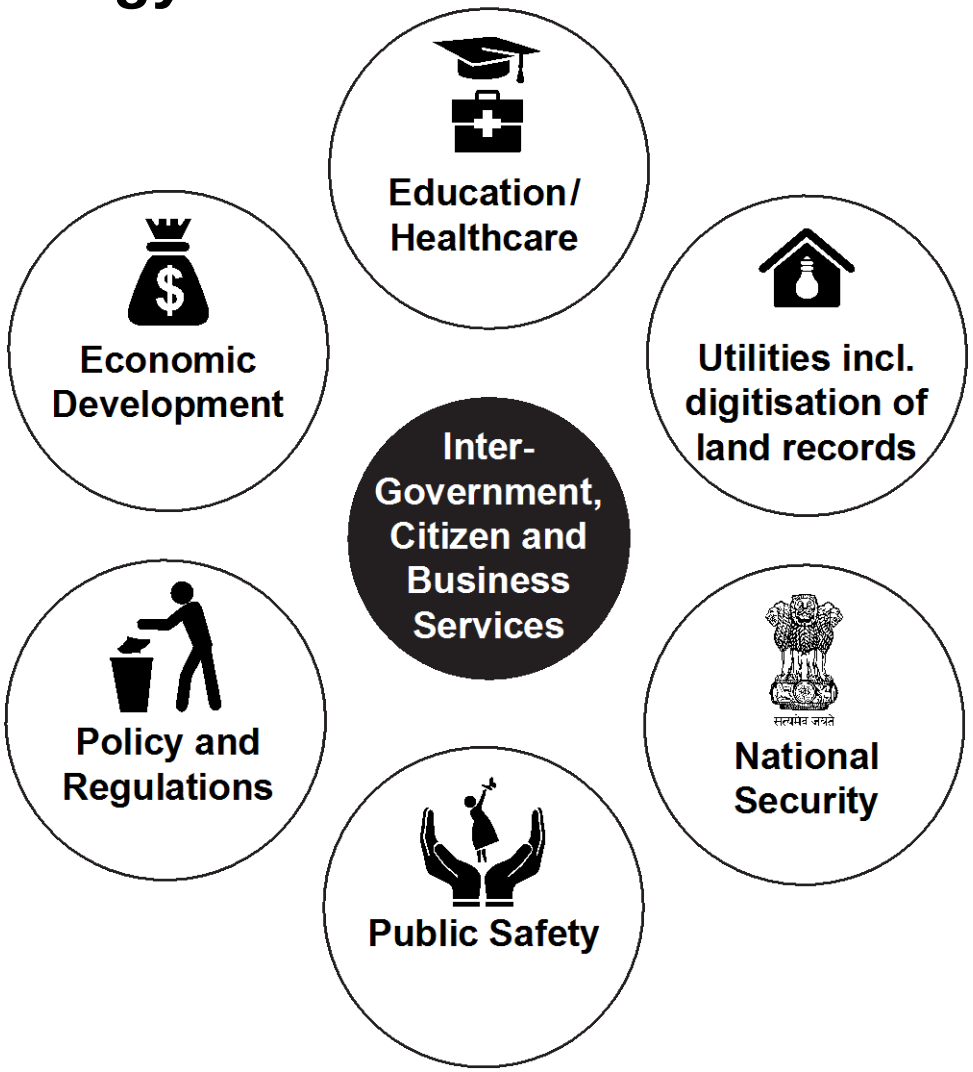
Skill Gaps have been identified and mapping has been complete

Different skill sets need to be imparted for different states based on the industries likely to be located in that region

Technology (Skill Gap) Matrix

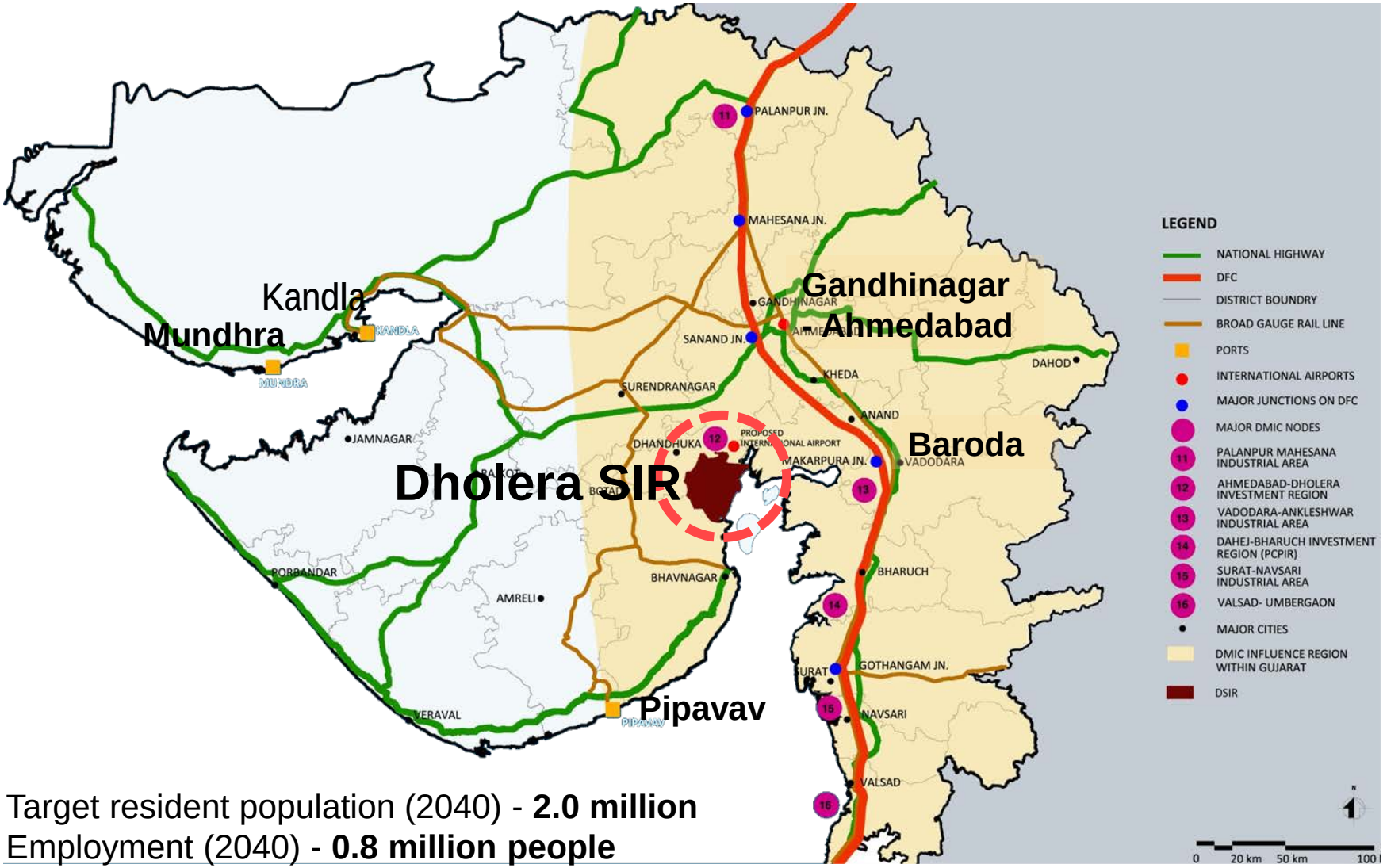
Investment Region **Technical Areas**	Manesar-Bawal IR	Pithampur-Dhar-Mhow IR	Dholera Special IR	Dadri-Noida-Ghaziabad IR	Khushkhea-Bhiwadi-Neemrana IR	Igatpuri-Nashik-Sinnar IR
Industrial automation & Process Control	√		√	√	√	
Design and Manufacturing	√	√		√	√	√
Automobile mechatronics	√	√		√		√
Hydraulics & pneumatic control	√		√	√	√	√
Electrical & Mechanical Maint.	√	√	√	√	√	√
Networking & Information Technology	√	√			√	√
Infrastructure and construction technology	√	√	√	√	√	√
Welding and fabrication	√	√	√	√	√	√
Garments- design and construction	√	√	√			
Food processing	√	√	√	√	√	√
Chemical and Pharma		√				
Environmental engineering	√		√			
Testing and Calibration	√	√	√	√	√	√
Soft Skills	√	√	√	√	√	√

Cities are being developed as Smart Cities with use of Digital Technology



Information & Communications Technology

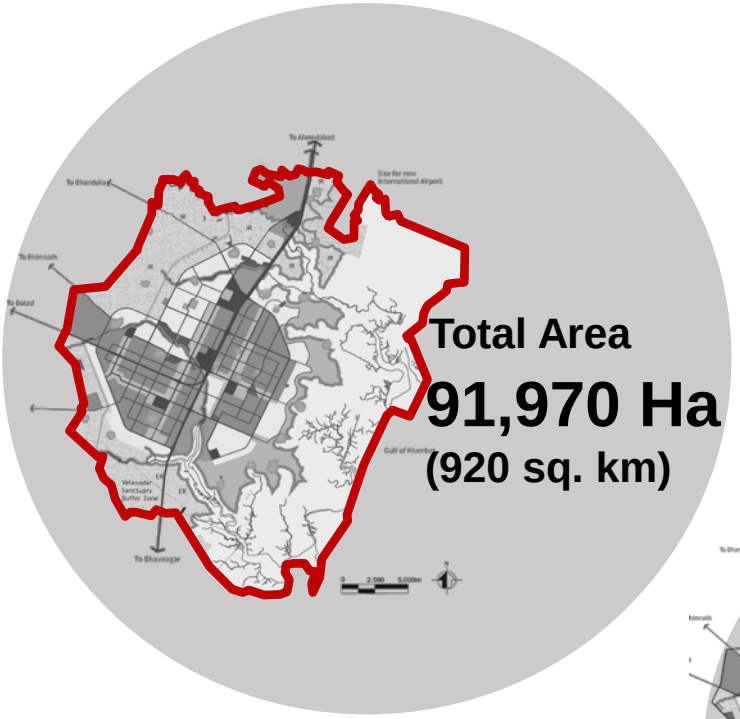
Dholera Special Investment Region



Target resident population (2040) - **2.0 million**
Employment (2040) - **0.8 million people**

Dholera SIR: Key Indicators

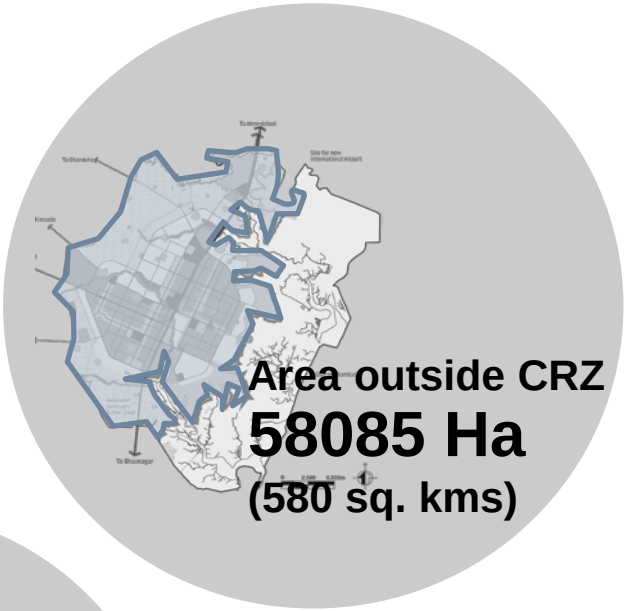
As per Development Plan



Total Area

91,970 Ha

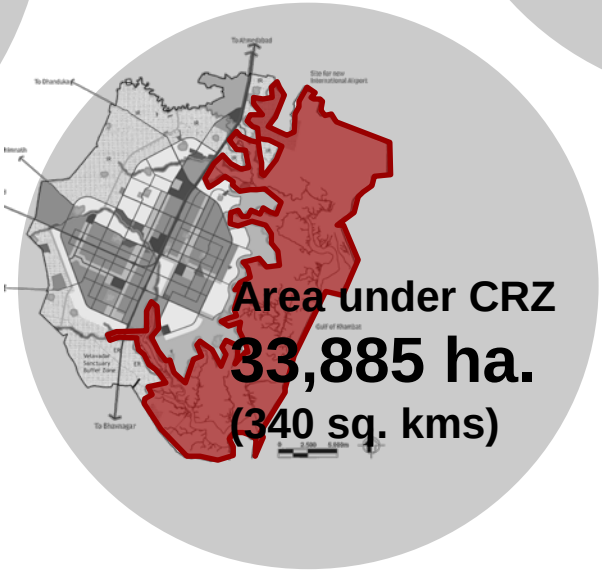
(920 sq. km)



Area outside CRZ

58085 Ha

(580 sq. kms)

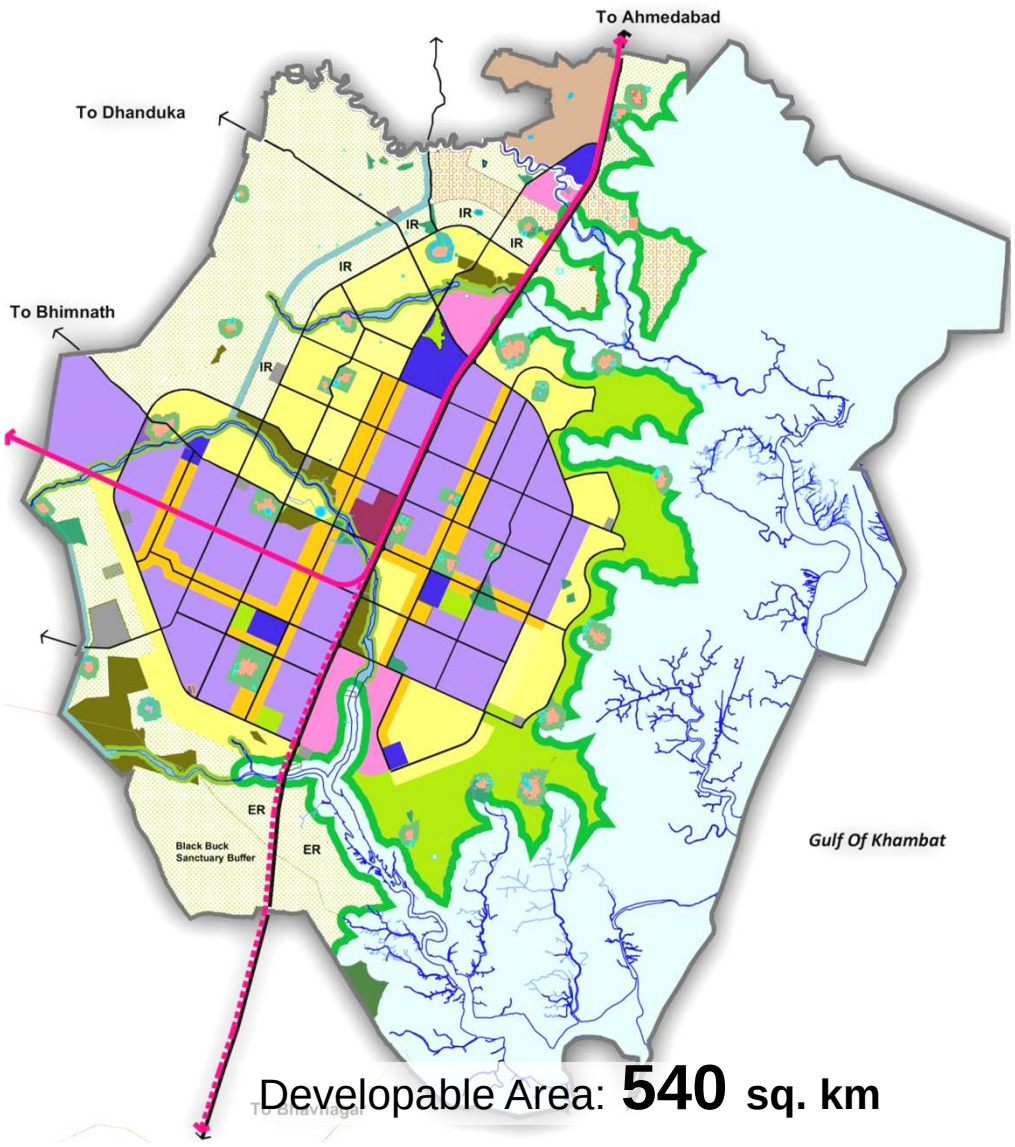


Area under CRZ

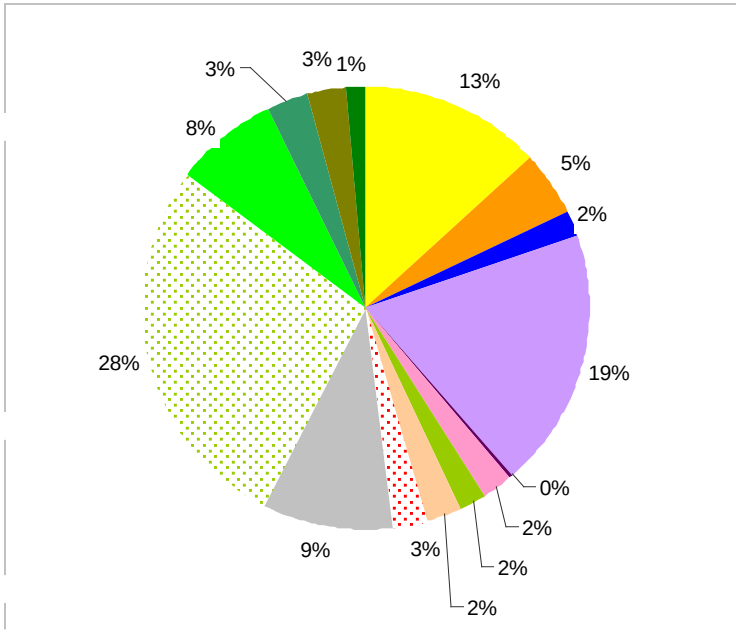
33,885 ha.

(340 sq. kms)

Master Plan



Developable Area: **540** **sq. km**



Key

LAND USE

- Residential
- High Access Corridor
- City Centre
- Industrial
- Logistics
- Knowledge and IT
- Entertainment
- Village Buffer
- Green Parkland & Canals
- Recreation & Sports
- Resorts
- Solar Energy Park
- Strategic Infrastructure
- Forest
- Agriculture

OTHER

- DSIR Boundary
- Broad Gauge Railway
- Roads
- Land Under CRZ-I
- Canal
- Village Settlement
- Black Buck Sanctuary Buffer
- Rivers and Streams

Dholera SIR: Projections

Industrial, Tourism & other Jobs

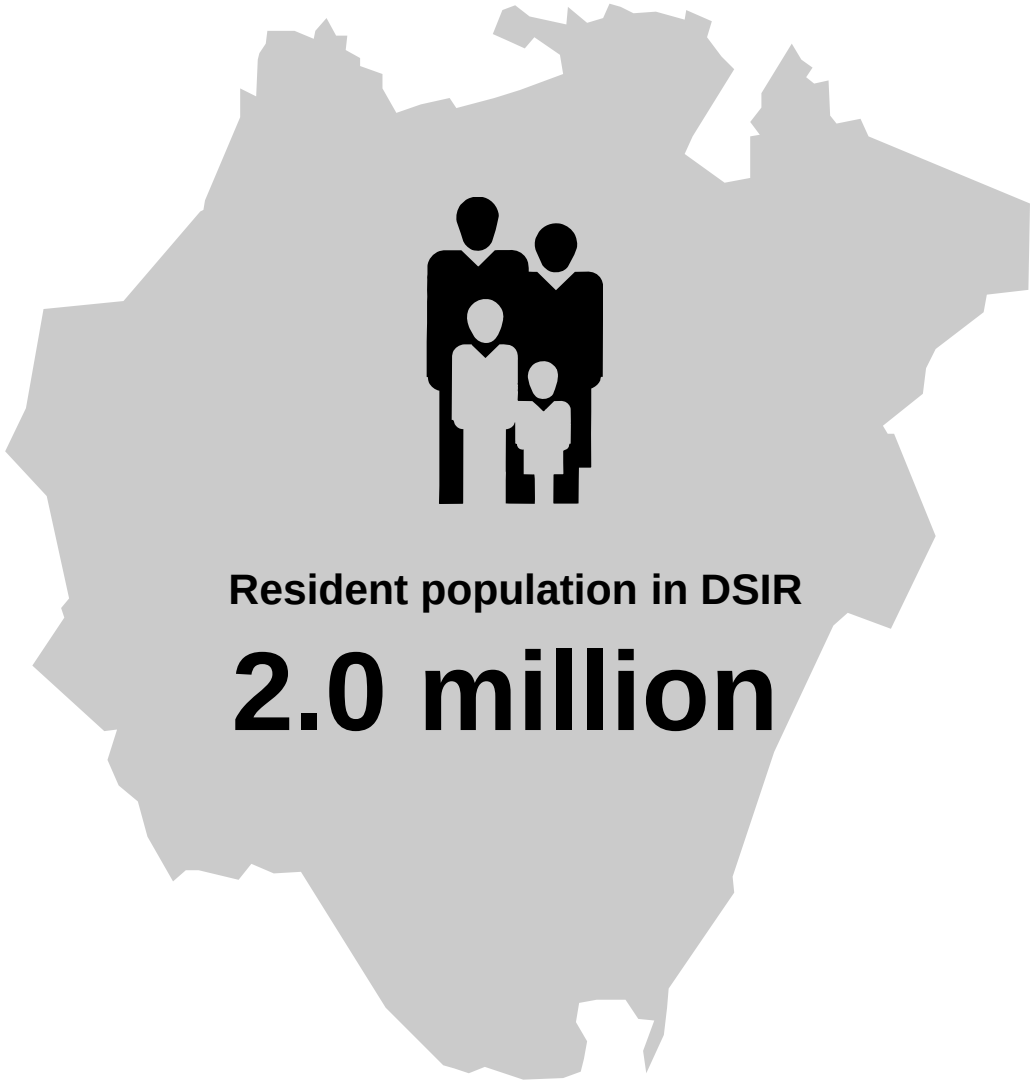
343,000

Supported Jobs

484,000

Total Jobs

827,000



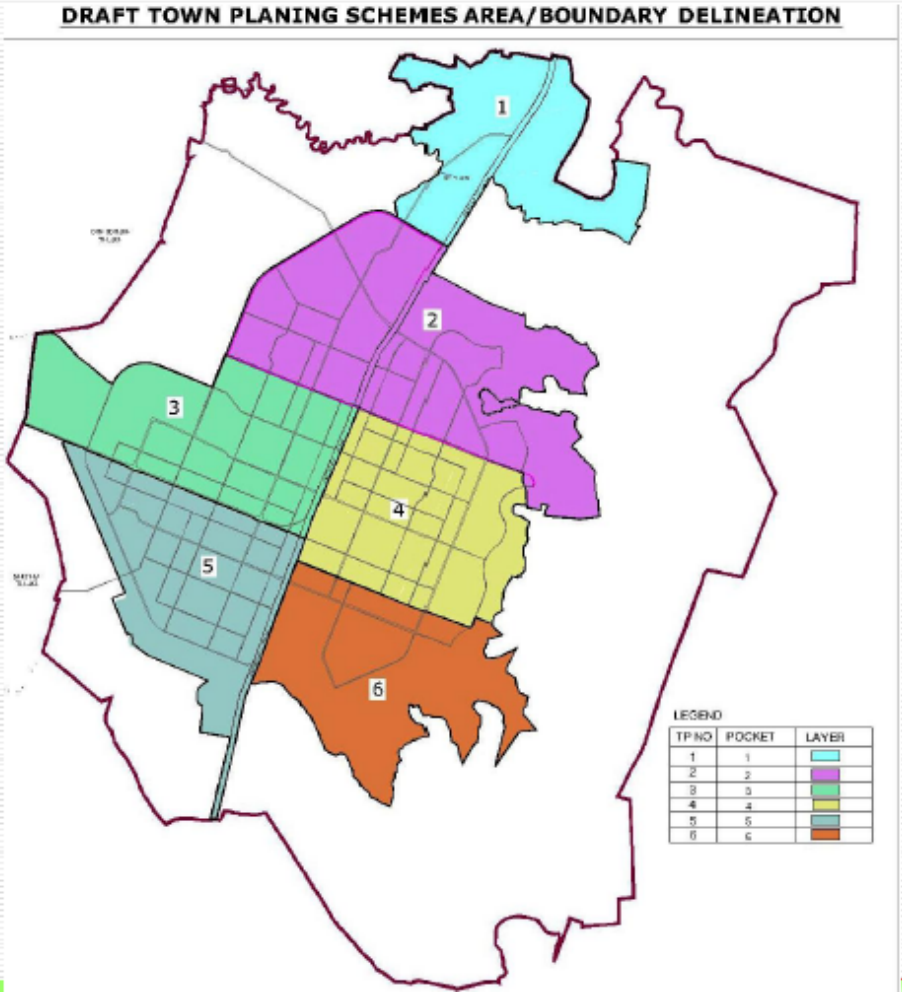

Ecology


Settlement


T P roads

Draft Town Planning Scheme

DRAFT TOWN PLANNING SCHEME NO. 1 TO 6



Draft Town Planning Scheme Area Table

SR. NO	T.P.S NO.	AREA IN SQ. KM
1	1	51.28
2	2	103.00
3	3	67.06
4	4	59.85
5	5	63.00
6	6	62.40
Total		406.59

Owners' meeting in Dholera Village to discuss Town Planning Schemes

Consultative meeting for Town Planning Scheme 2





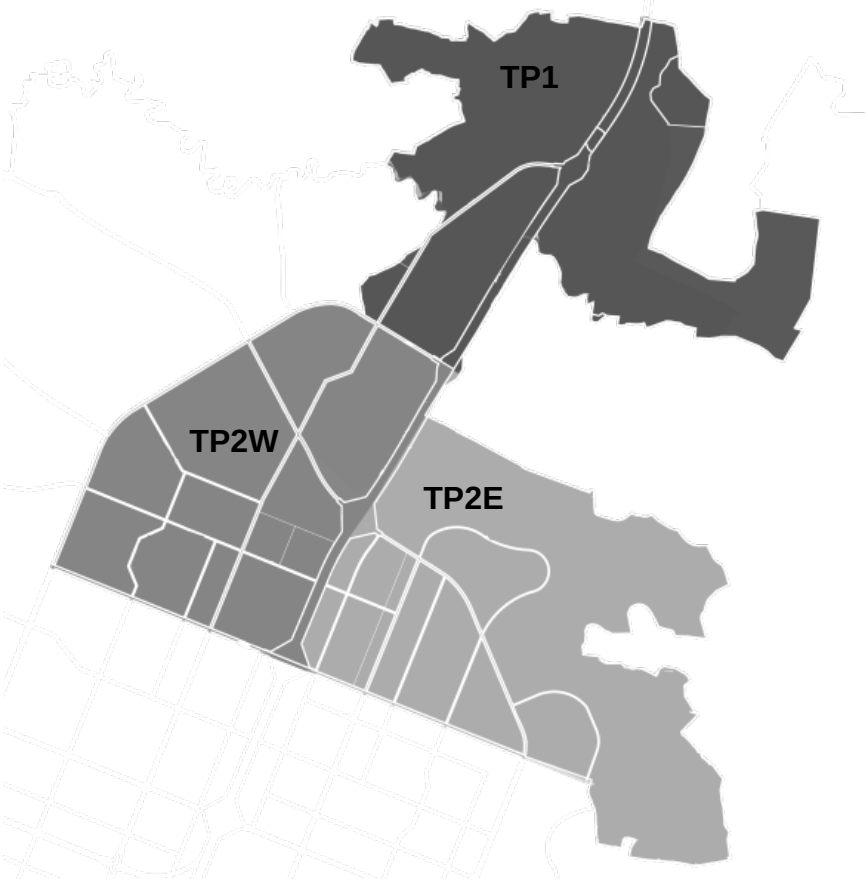




Phase -1 of Dholera

Area to be developed in phase 1a-
154 sq. kms

Validated Construction Cost (2013) ~
INR **20,000** Crores (USD 3333 million)

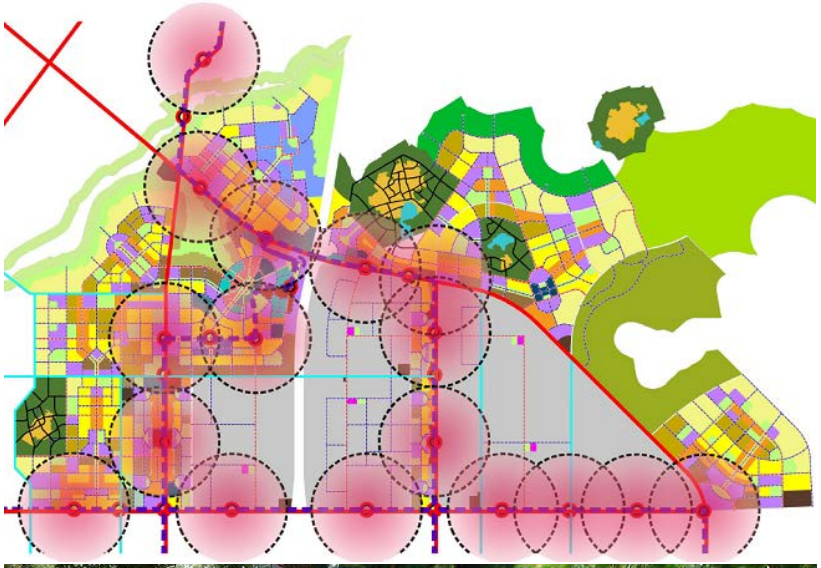


Base (Flat) Infrastructure Include:

- Roads and Utilities (TP 1 & 2) : 550 kms
- Potable Water: Raw Water Pipeline from Periej Dam and Water Treatment
- Sewage: CETP and STP (RecyclePlants)
- Industrial Water: Effluent Pipeline from AMC & Tertiary Treatment Plant
- Stormwater: Collection and Treatment
- Flood: River Training and Bunding
- Solid waste: Transfer and Treatment
- Power: Transmission and Distribution
- ICT: Networks
- Related Projects (RRTS/MRTS, Airport)

Transit and Walkability

A Compact city that promotes the creation of neighborhoods and walkable places connected by transit

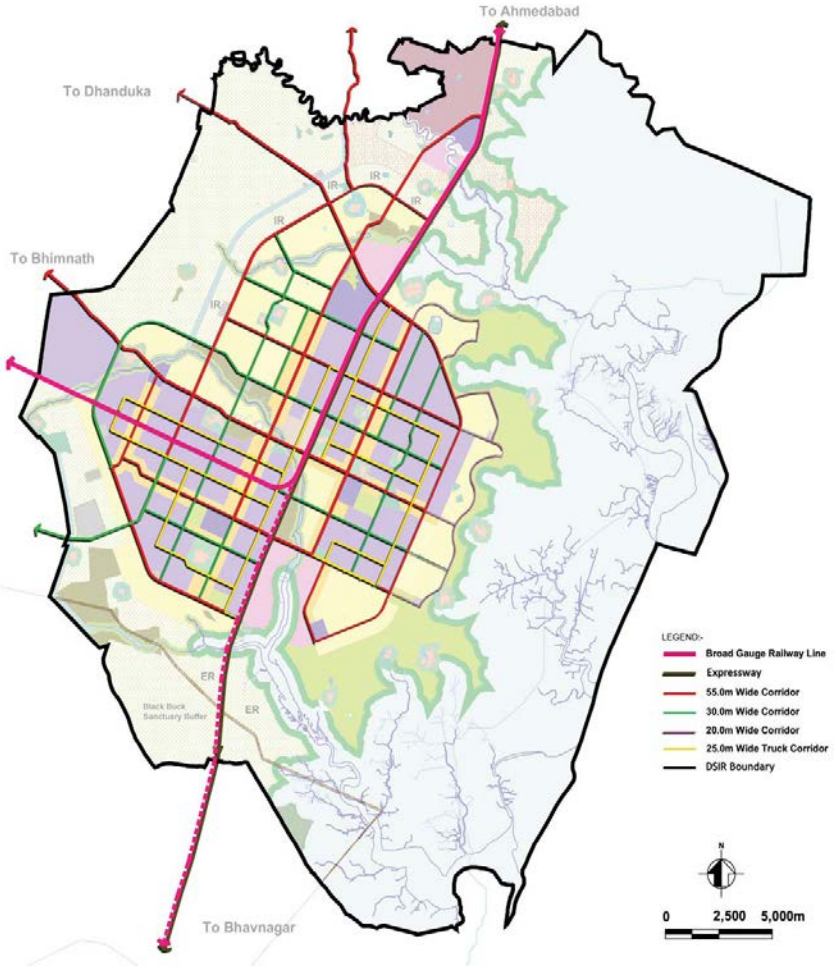


10 min walking distance

Proposed BRT In Phase I and…

LRT In the later phases

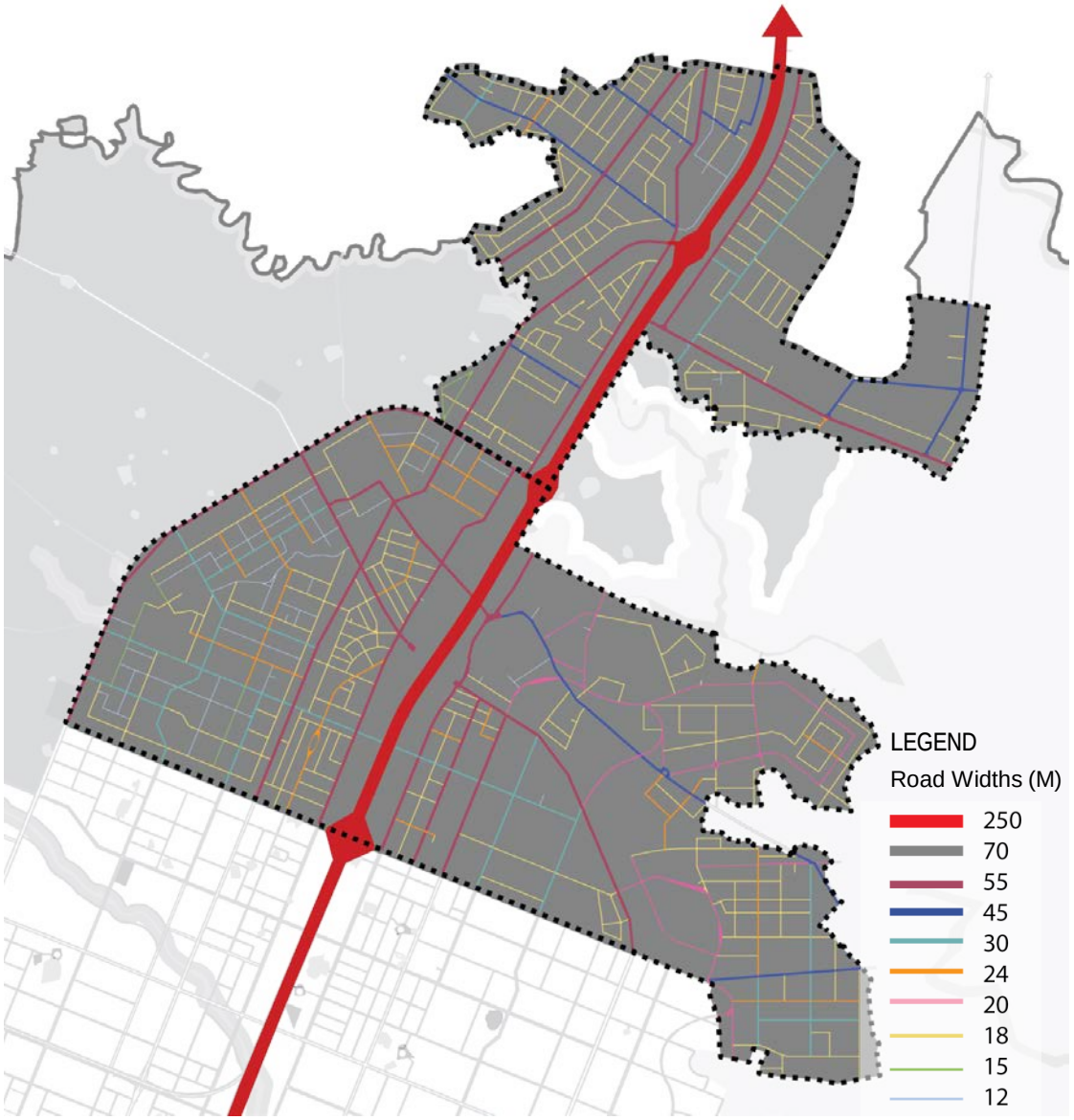
Building world-class infrastructure

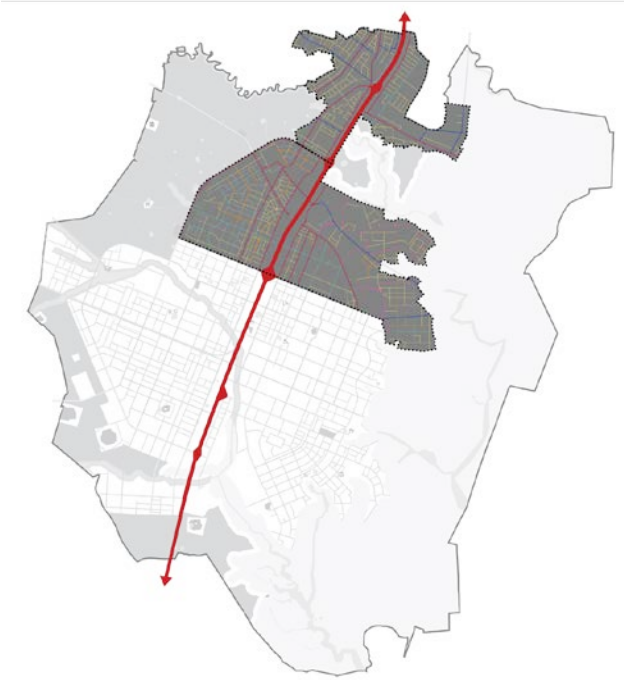


Roads

Hierarchy of Arterial and other Roads with dedicated lanes for Public Transport, Cycling, Walking

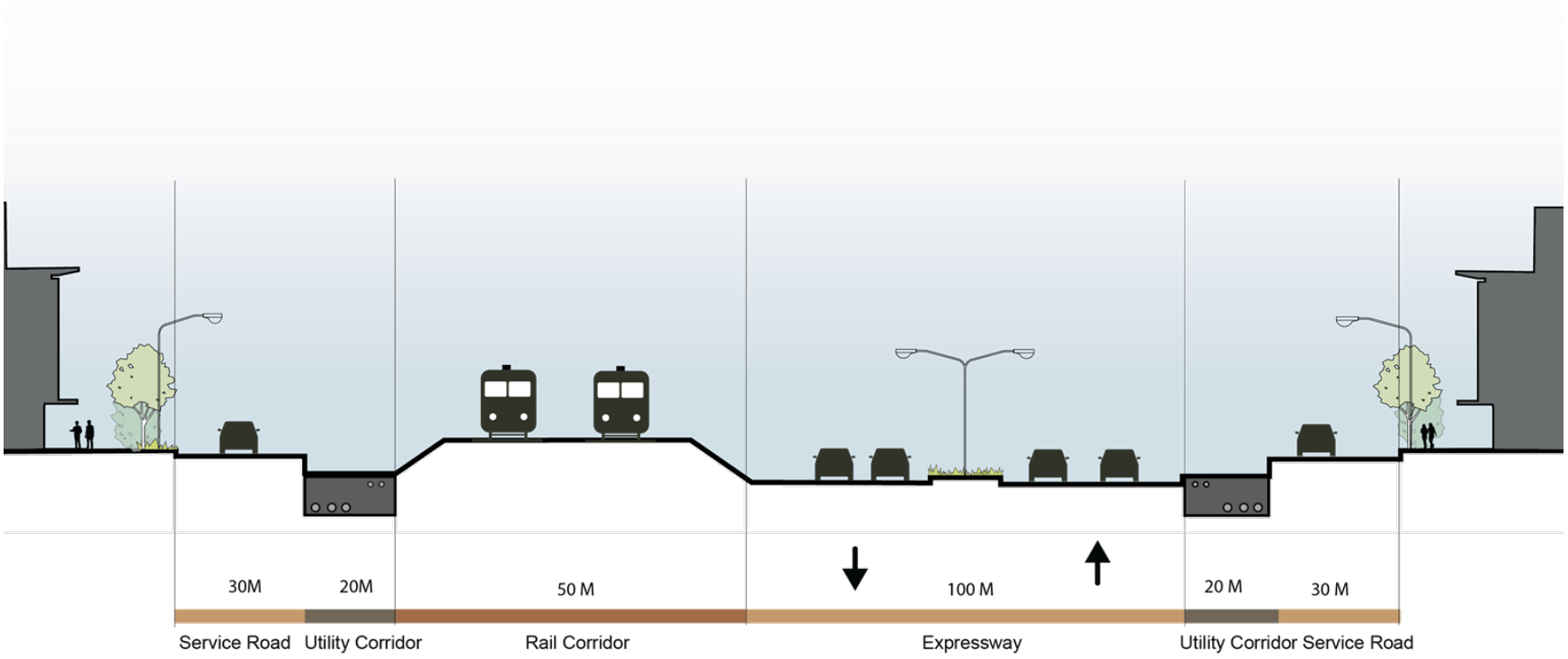
DSIR Road Network Hierarchy – TP Scheme 1&2





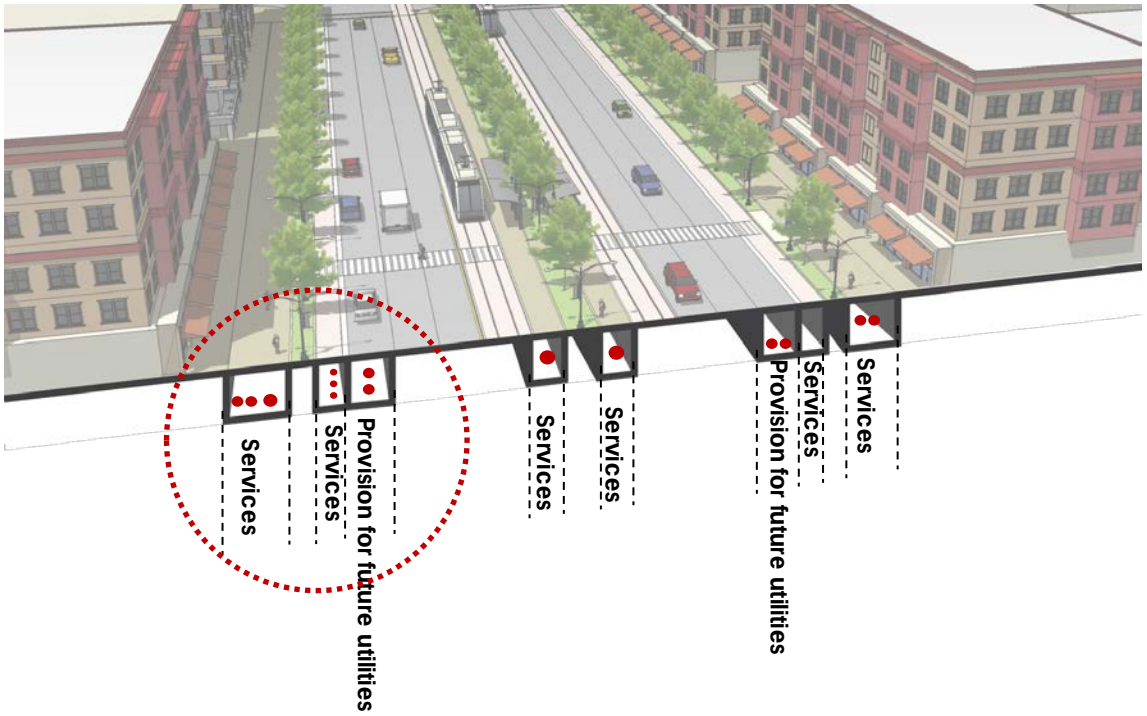
DSIR ROAD NETWORK HIERARCHY

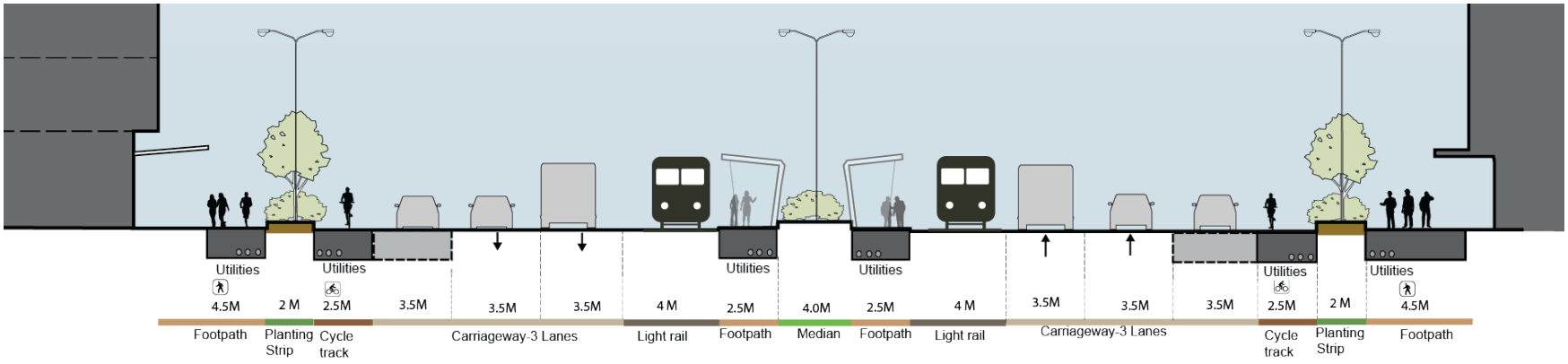
SPINE Road - SH-6 Road Section and Utility Corridor



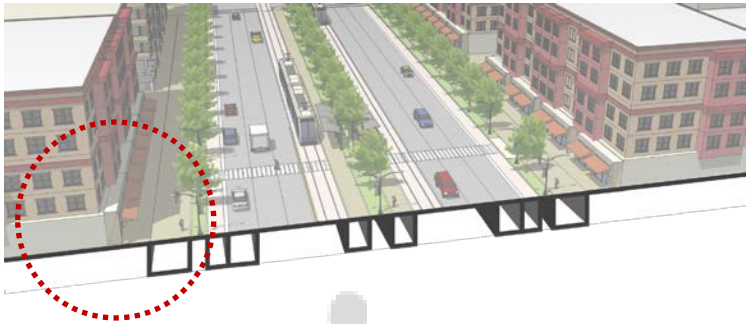
Not to scale

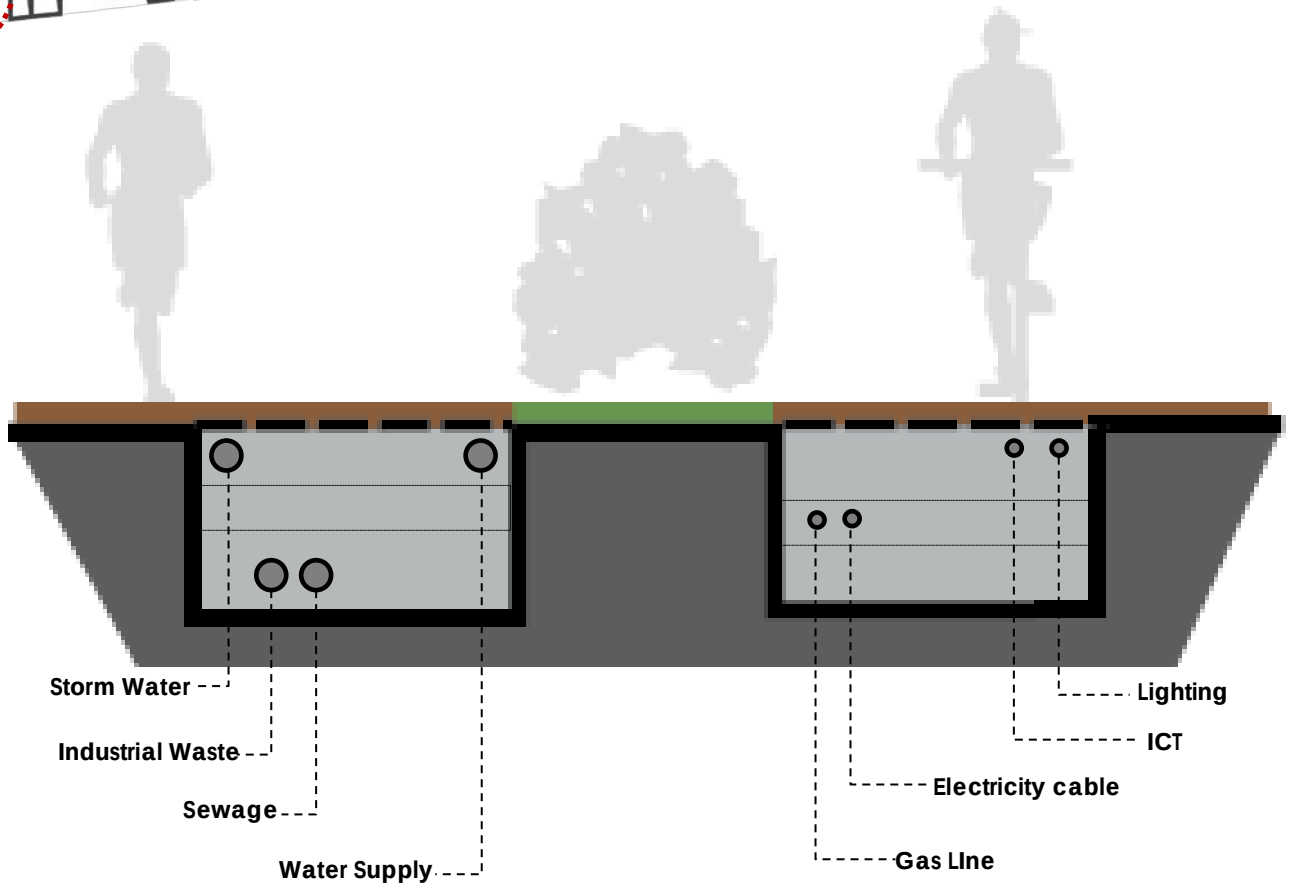
Typical Road Section (55 M & 70 M) with Utility Corridor



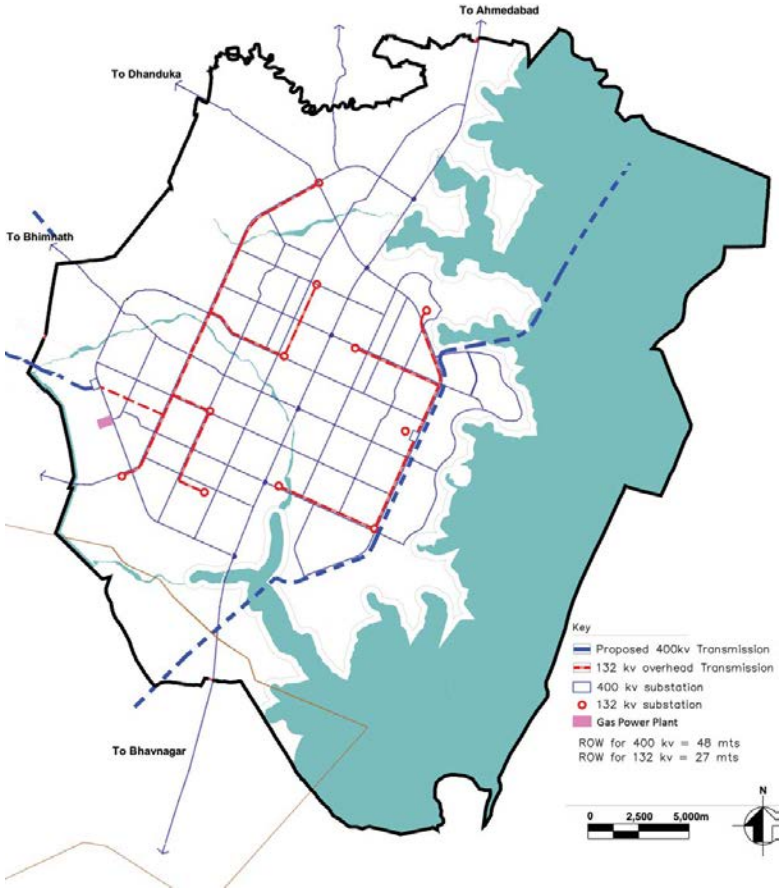


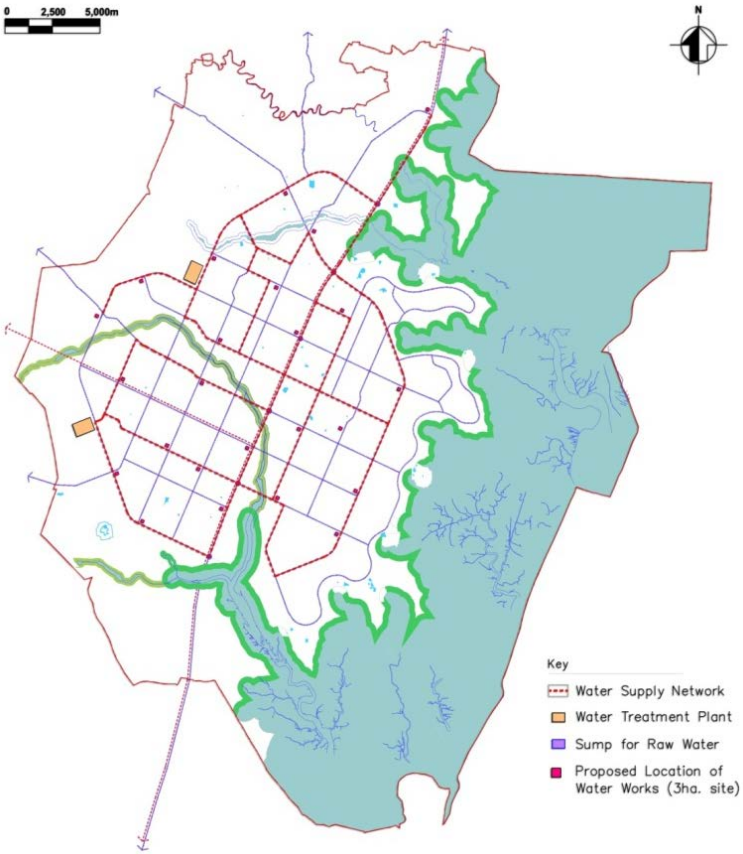
Typical detail of Utility Corridor





Building world-class infrastructure





Power

Total Requirement: **1,700 MW**

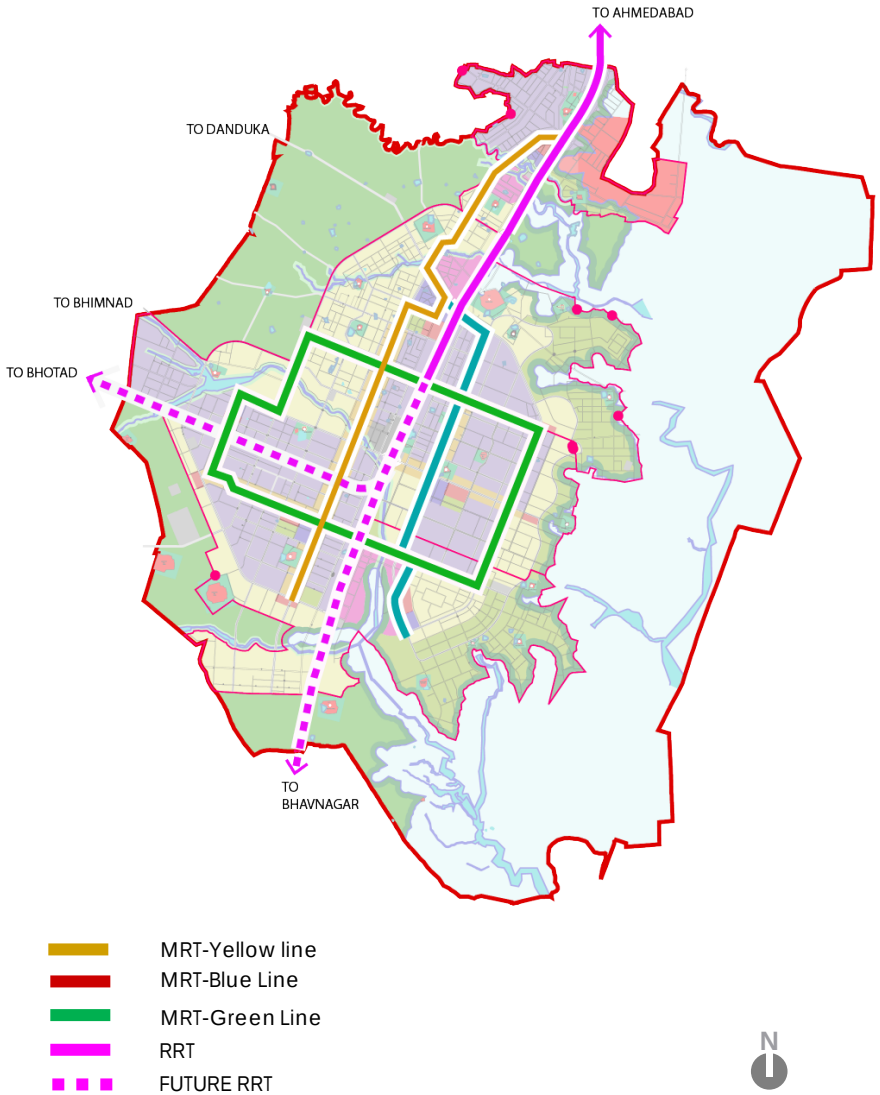
Phase I: **400 MW**

Water

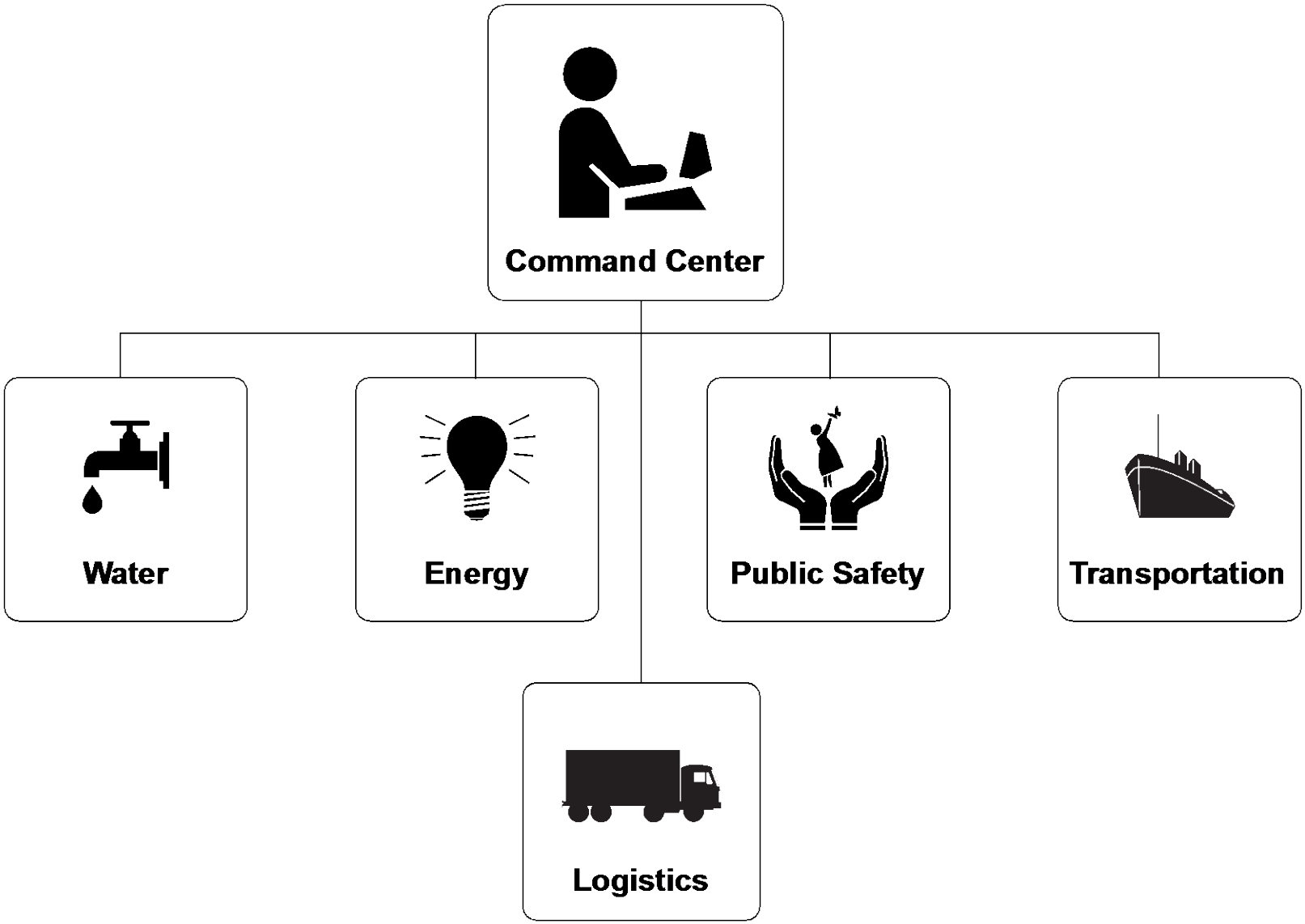
Total Demand = **950 mld**

Phase I = **260 mld**

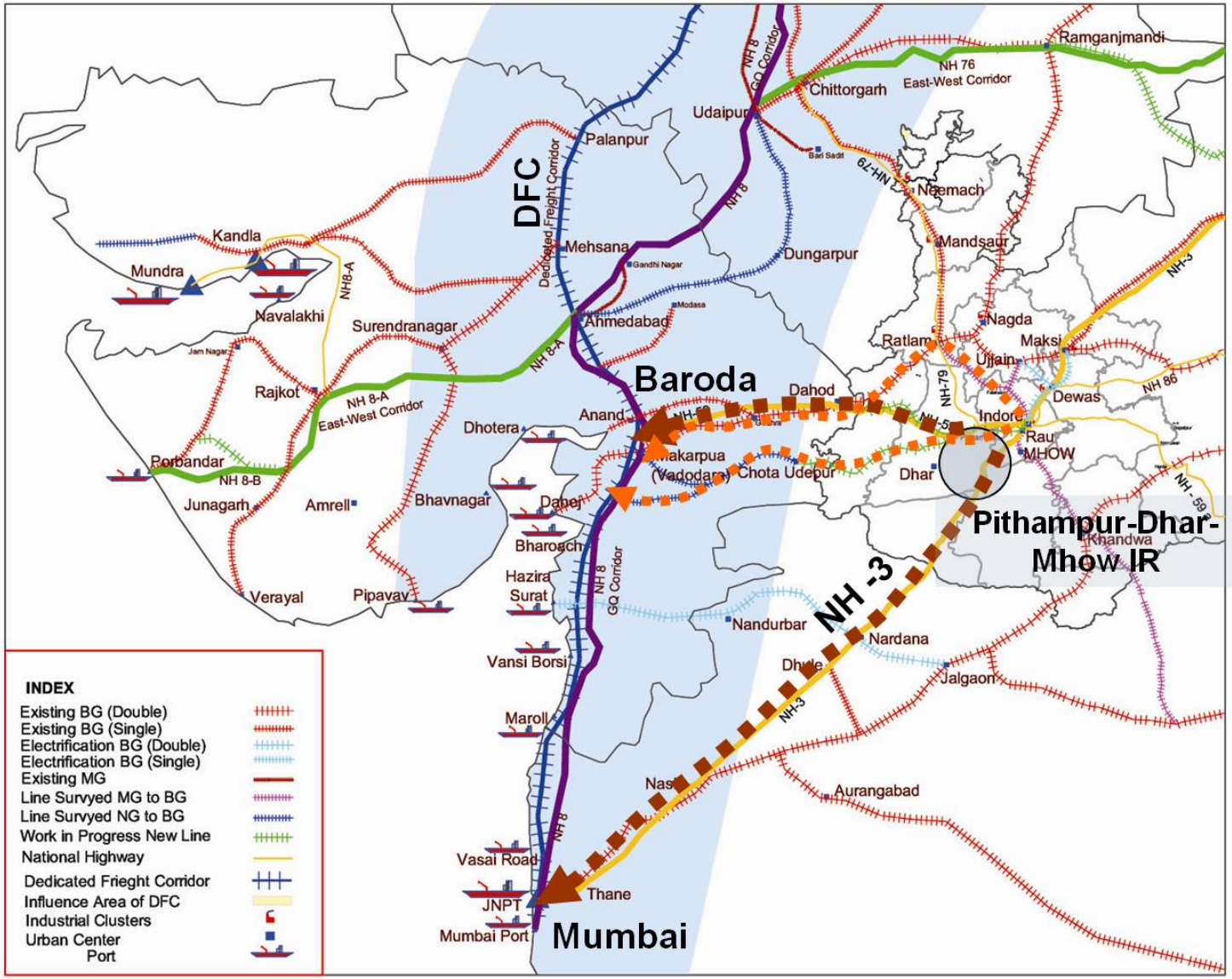
MRTS/RRTS from Ahmedabad to Dholera



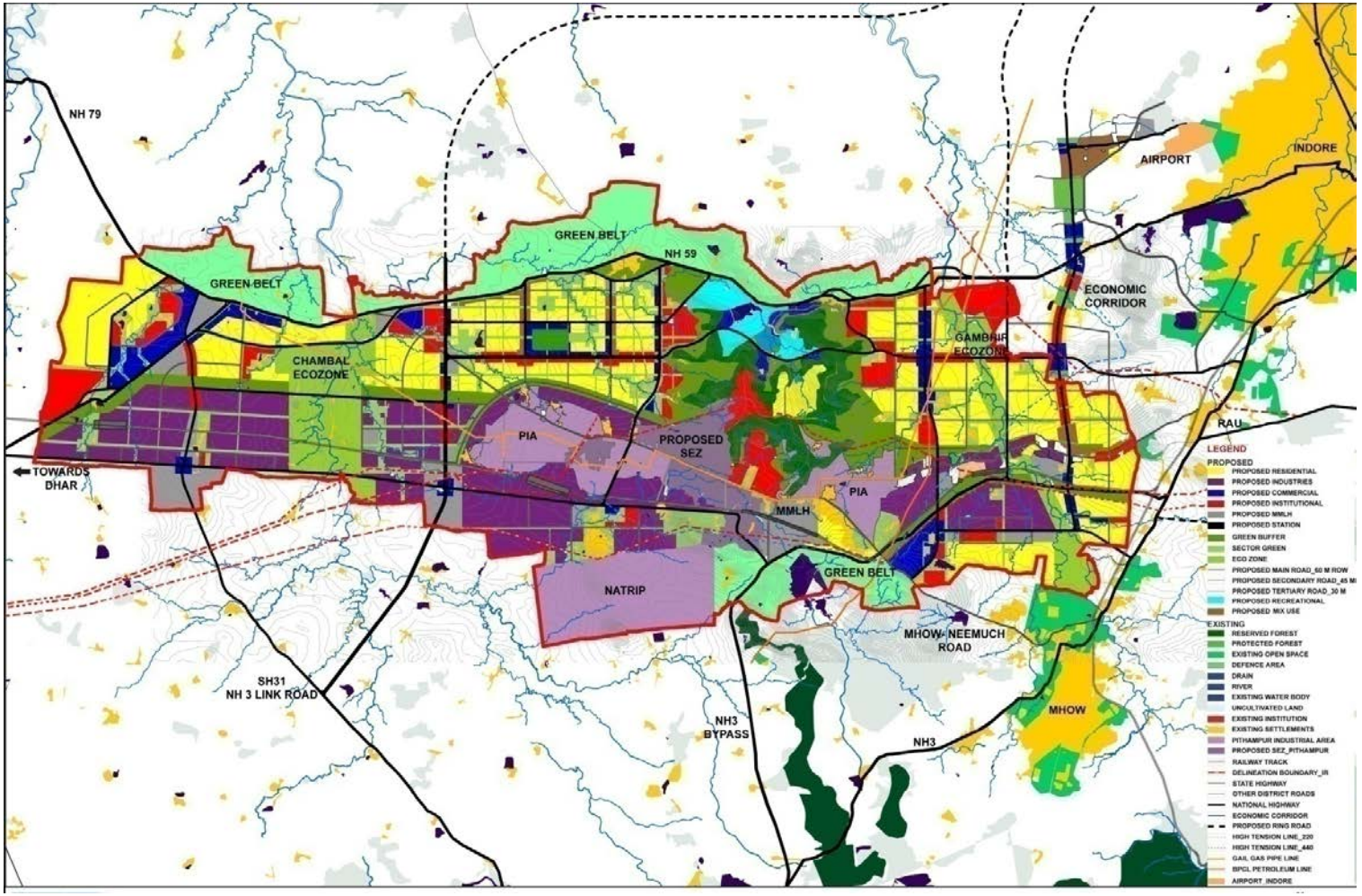
IT Based City Operations & Governance Platform



Pithampur-Dhar- Mhow IR



Pithampur-Dhar- Mhow – Master Plan



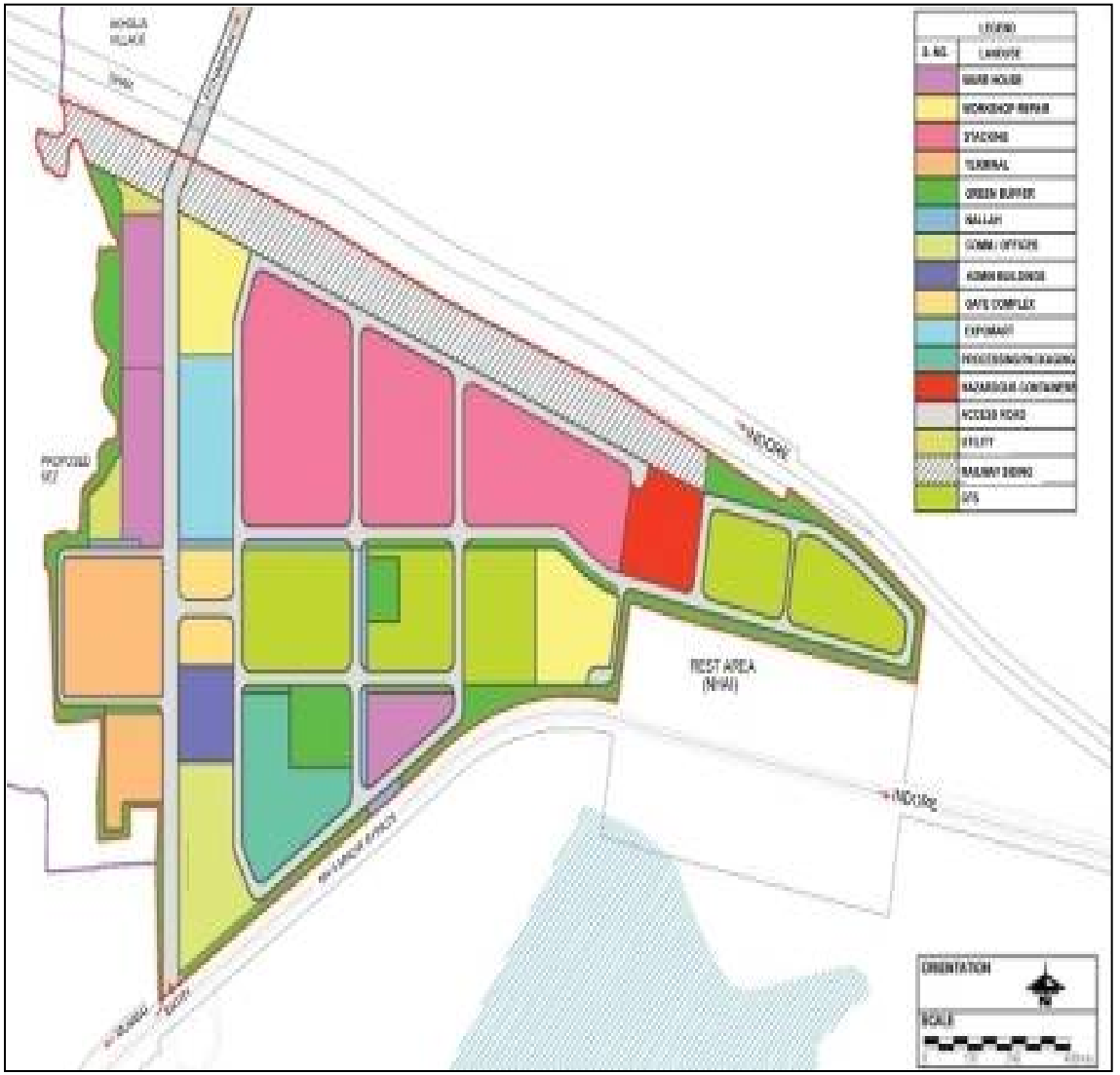
Total Area – **372.4 sq. km** Population – **1.16 million**

Vikram Udyogpuri

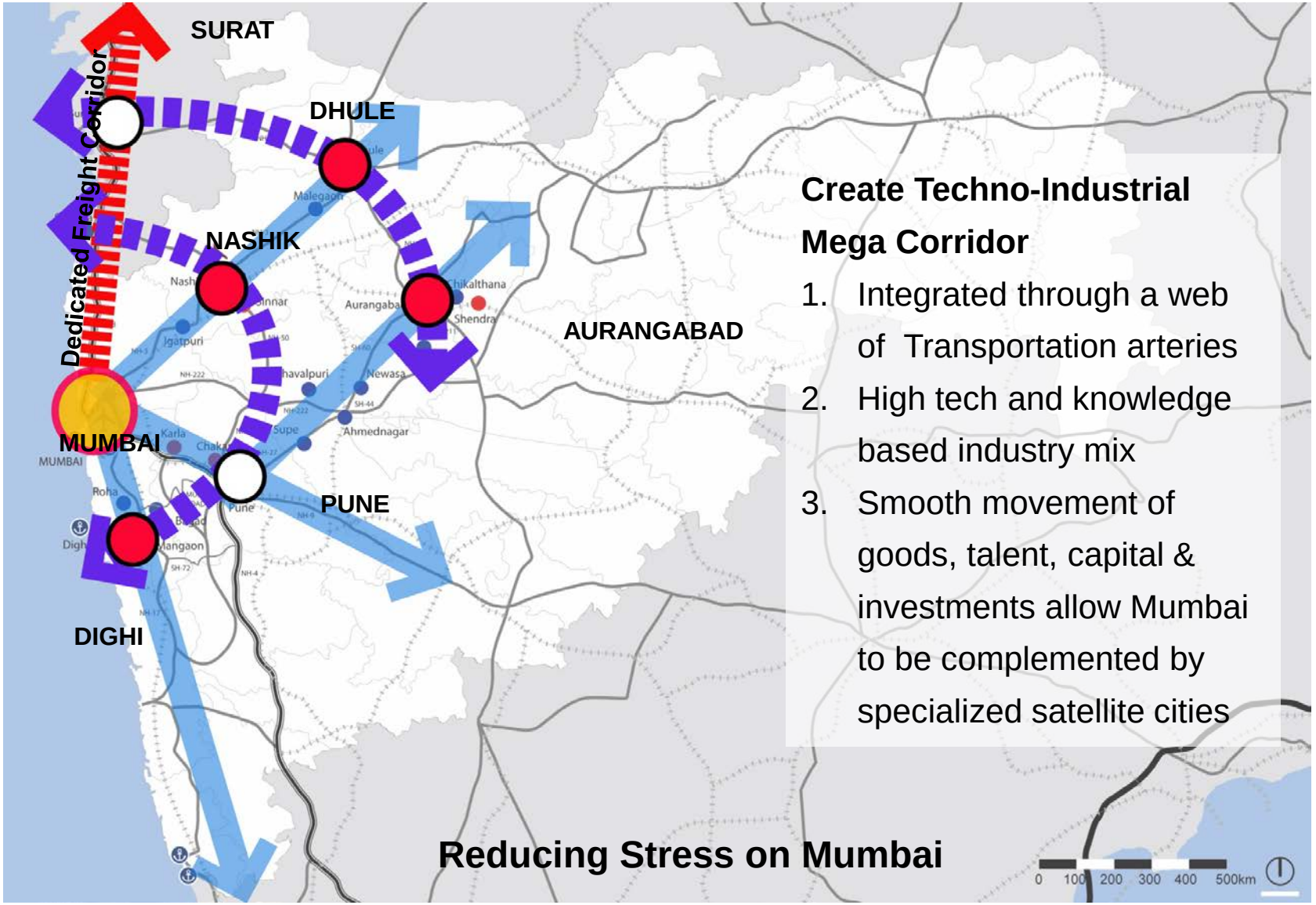
- Integrated Industrial Township (IIT) is an Early Bird Project to initiate industrial development for the takeoff of the Pithampur-Dhar-Mhow Investment Region while providing essential infrastructure and services to support establishment of institutions that would create a skilled and employable workforce
- The project is located about 8km from Ujjain and 12km from Dewas and has a total area of 443.79 Ha (1096.63 acres)

Multimodal Logistics Hub at Pithampur

- Site Area : ~**1.8 sq. km**
- Design Capacity: **0.63 million** TEUs
- Indore-Dahod railway link under implementation will connect it to the DFC

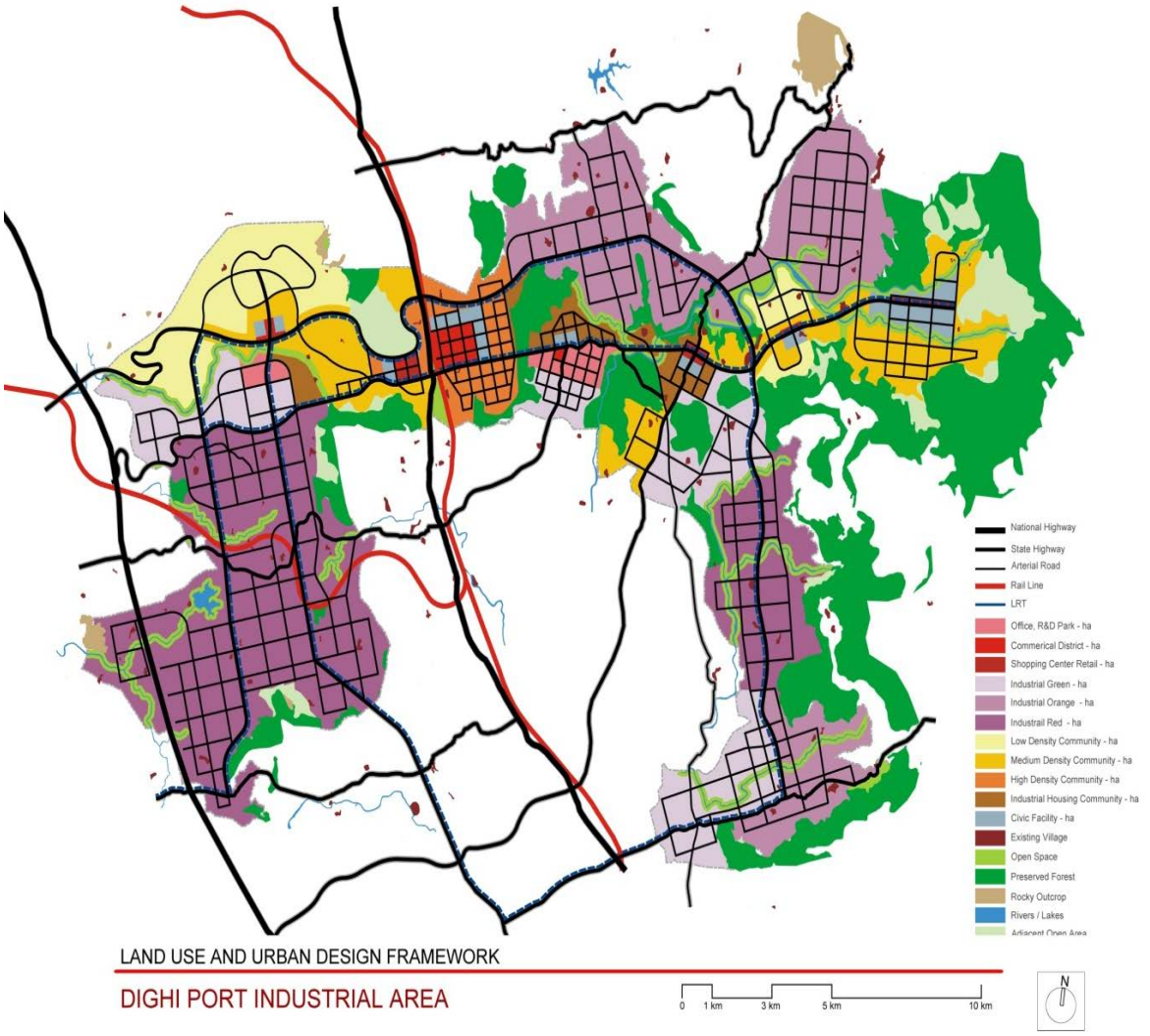


Philosophy - Decentralised Regional Development



Dighi Port Industrial Area

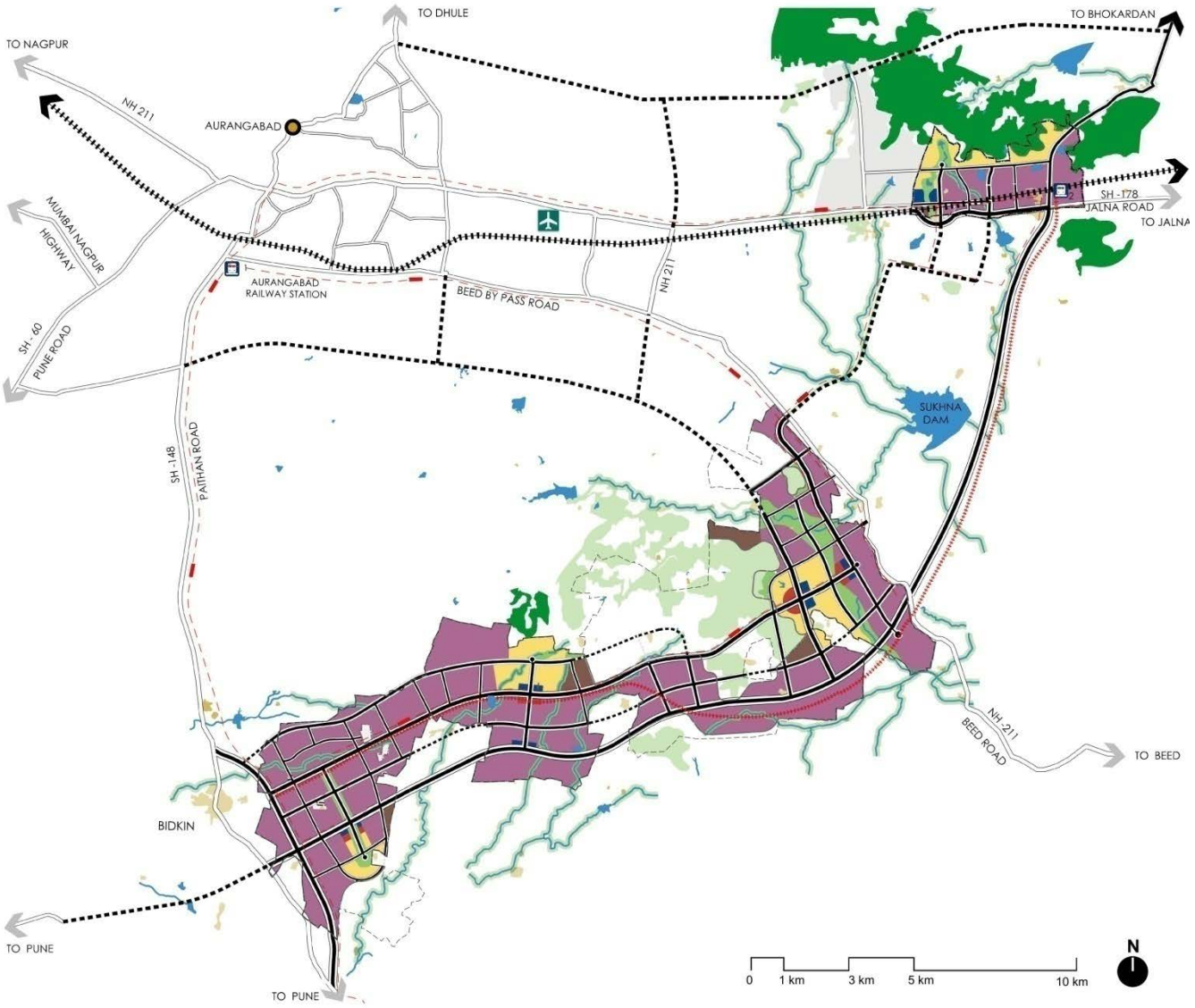
- Population (2042): **1.6** mn
- Total area: **253** sq. km
- Phase **1:50** Sq. km
- New integrated industrial and township enclave
  - 71% area under industries
  - Balance - residential & commercial use.
- Three major industrial clusters,
  - Engineering, Heavy Industry and Food Processing Park.
- Smaller, mixed-use centres in between



Shendra-Bidkin Industrial Park

Area: **84** sq. km

Population: **0.5** mn



Phase – 1 of new industrial city at Shendra, Maharashtra (24 sq. kms)

Multi Modal Logistics Park at Karmad (125 acres)

Water Supply Scheme for Shendra

Mixed used development over an area of 50 acres

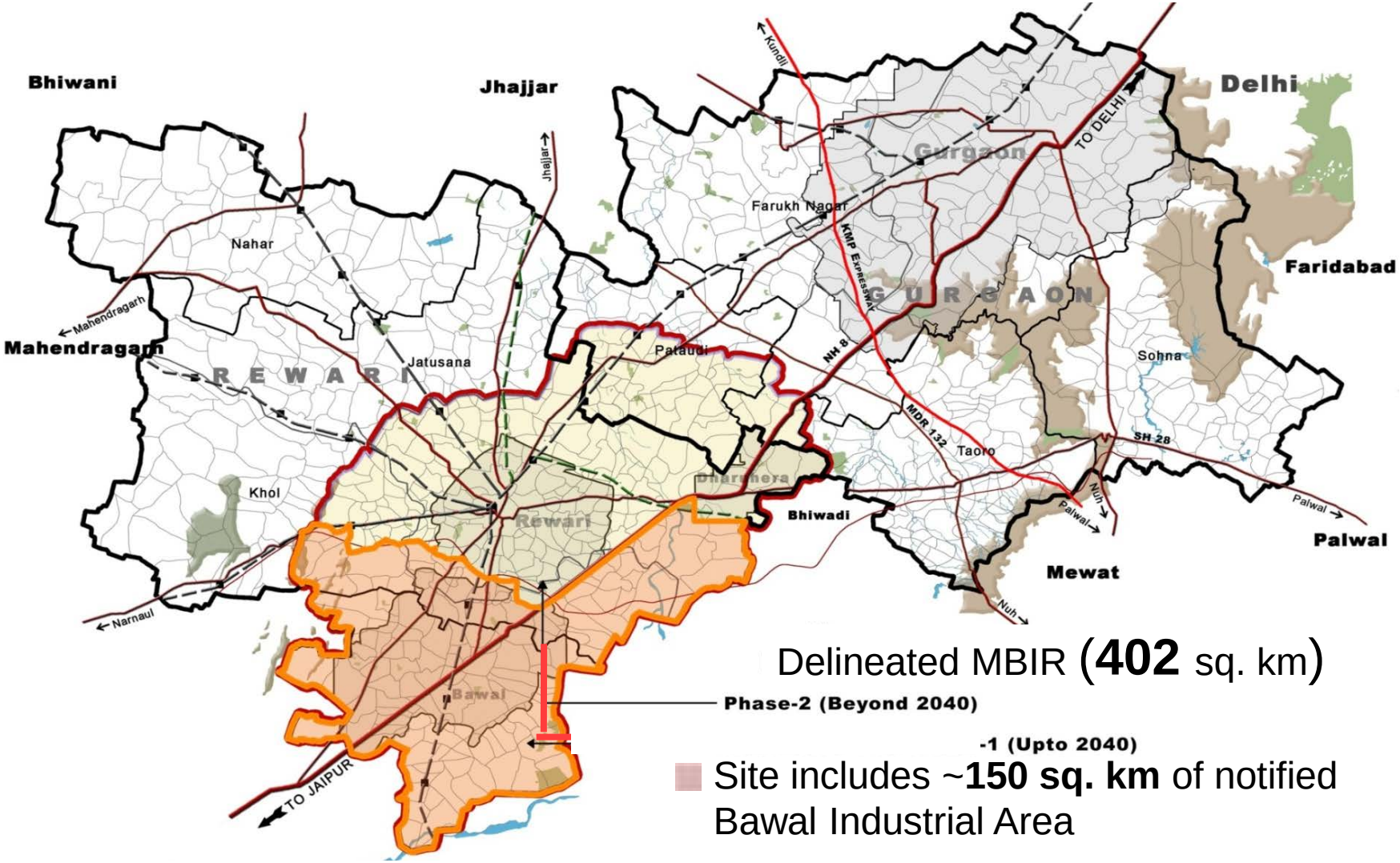

MIDC
ADDITIONAL
SHENDRA

Exhibition cum Convention Centre, Aurangabad

- Early Bird Project
- Site: **50 acres**
- Built up area: ECC:

  30,000 sq. m

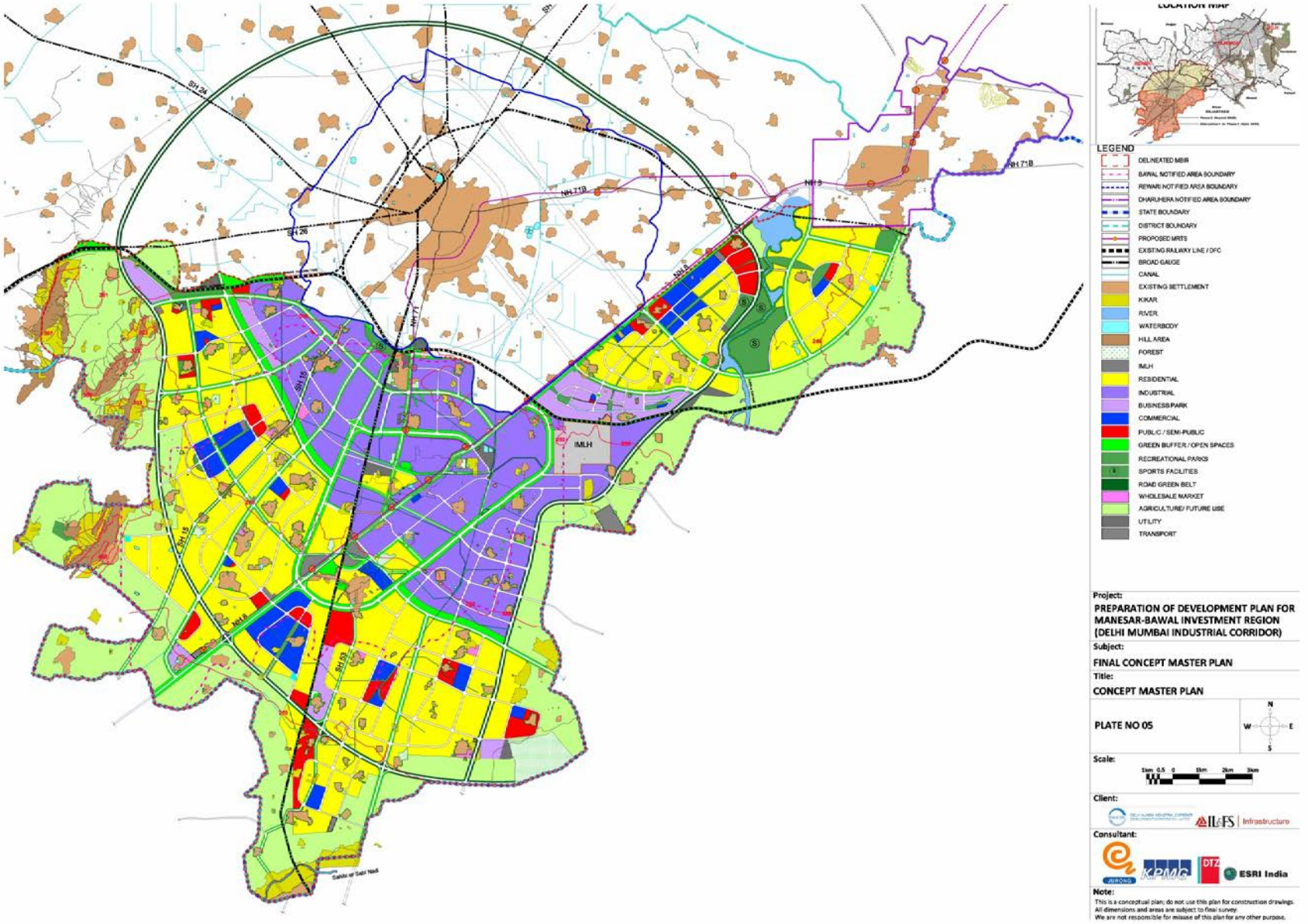
Manesar – Bawal Investment Region



Delineated MBIR (**402** sq. km)

- Site includes ~**150 sq. km** of notified Bawal Industrial Area

The Concept Master Plan



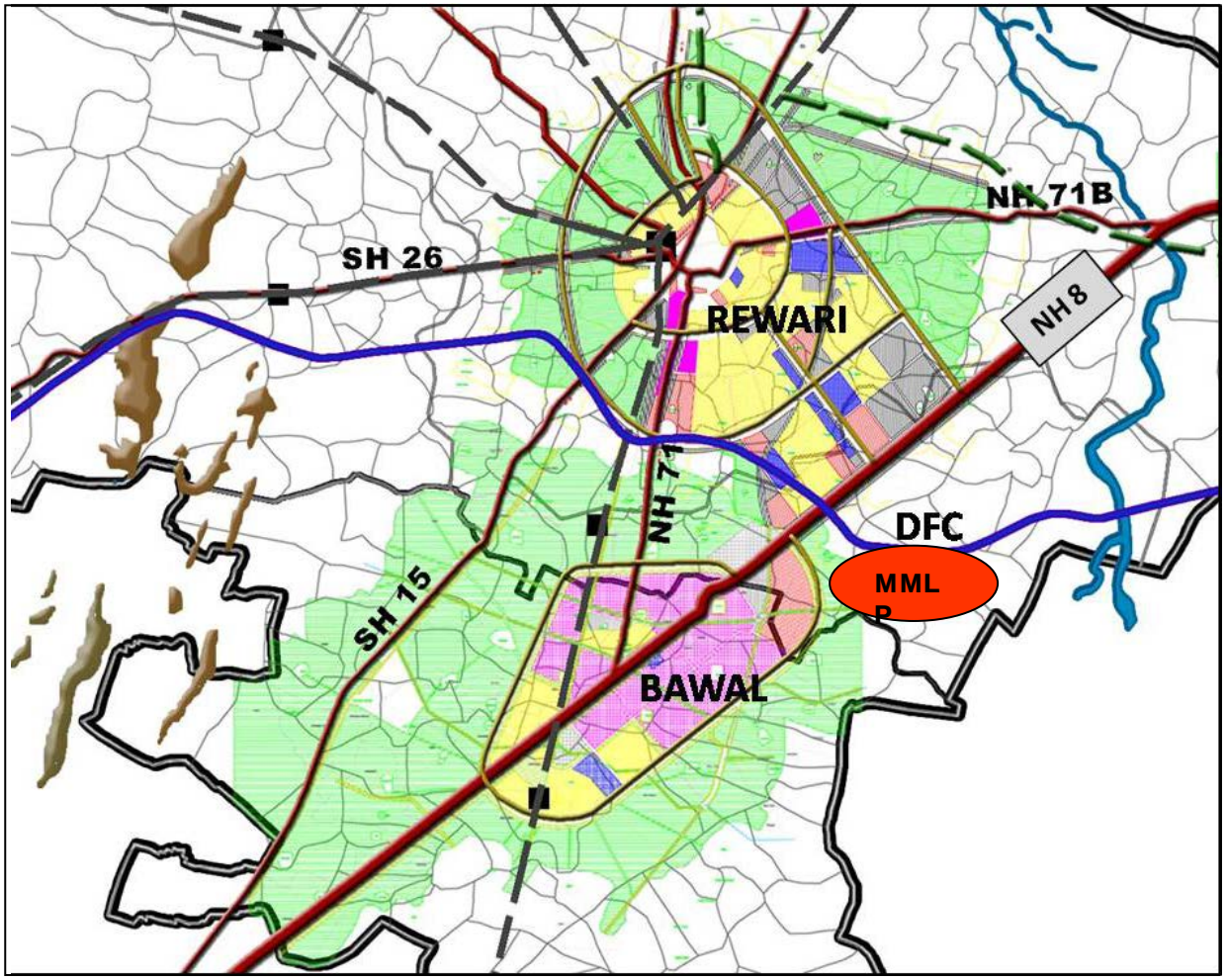
Global City project, Haryana

- Spread over an area of **1100** acres close to Gurgaon
- Has the potential to generate **25%** more GDP than that of Gurgaon
- Will generate over to **200000** jobs

Festive & Leisure (ECC) + **High value Innovation & Knowledge Industries** + **Central Business Distric** + **Township** = **Global City Haryana**



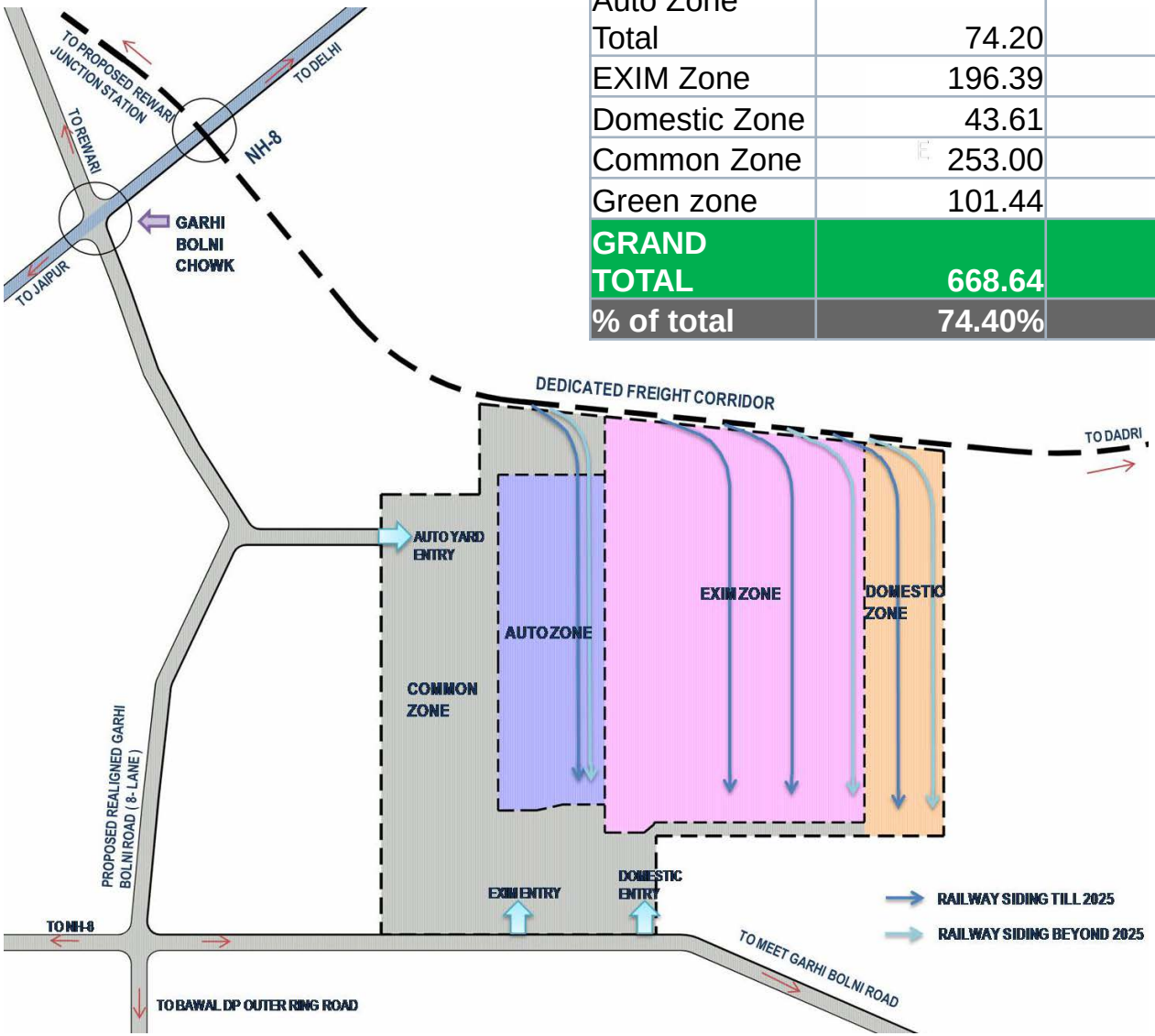
Multi Modal Logistics City at Rewari



- Strategically located at intersection of National Highway 8 and DFC
- Potential to become a Regional Hub serving NCR, especially Gurgaon, Bhiwadi and DMIC Manesar-Bawal & Neemrana Investment Regions
- Capacity: >**1.39 mn** TEUs per yr plus Automobile traffic
- Site: ~ **900 acres**

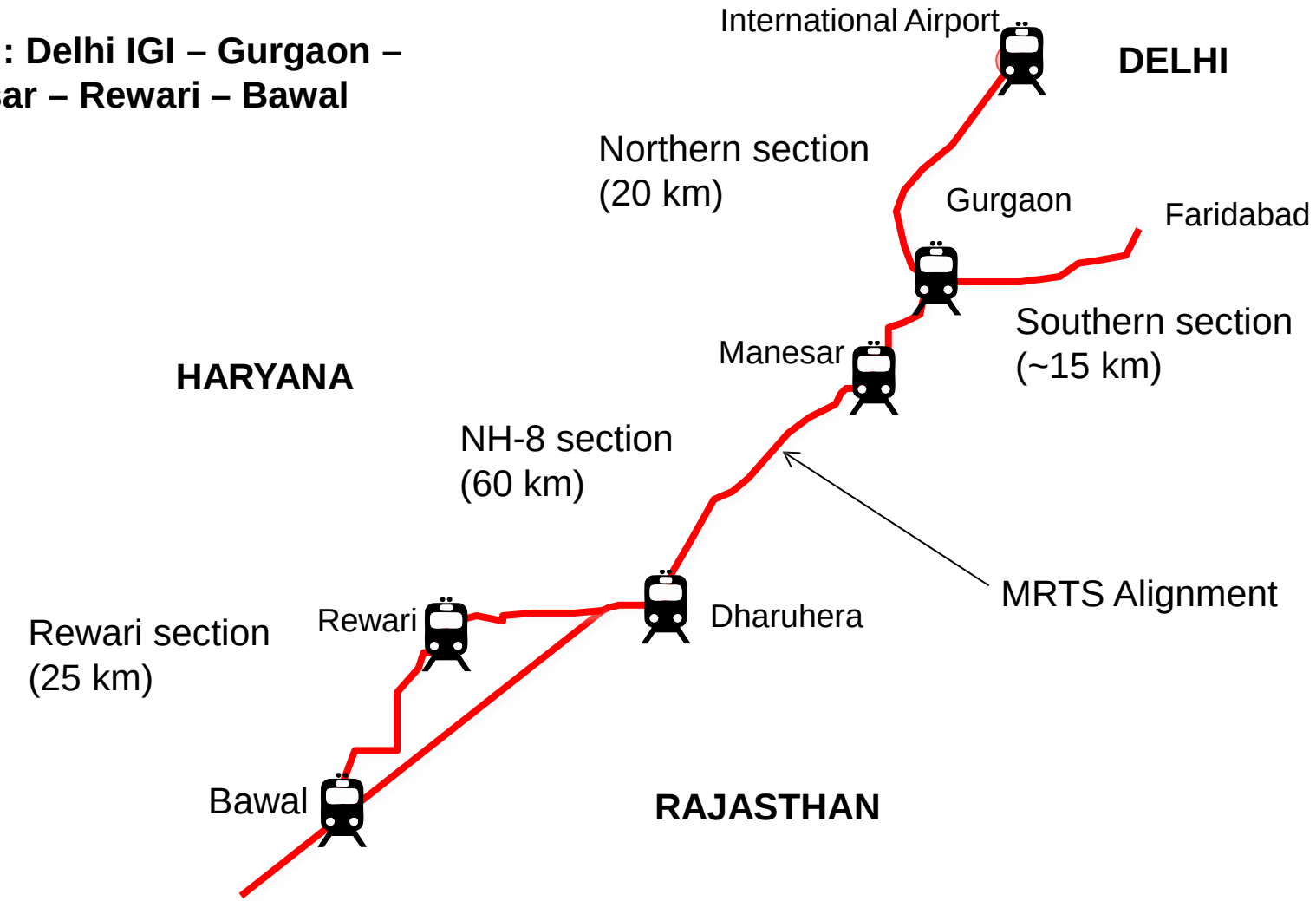
Zoning Plan

Description	2025 (Acre)	Beyond 2025	Total Area	%
Auto Zone Total	74.20	52.56	126.76	14.11%
EXIM Zone	196.39	118.62	315.01	35.05%
Domestic Zone	43.61	44.28	87.88	9.78%
Common Zone	253.00	14.58	267.58	29.77%
Green zone	101.44	0.00	101.44	11.29%
GRAND TOTAL	**668.64**	**230.04**	**898.67**	**100.00 %**
% of total	**74.40%**	**25.60%**	**100.00%**	



MRTS: Delhi IGI – Bawal

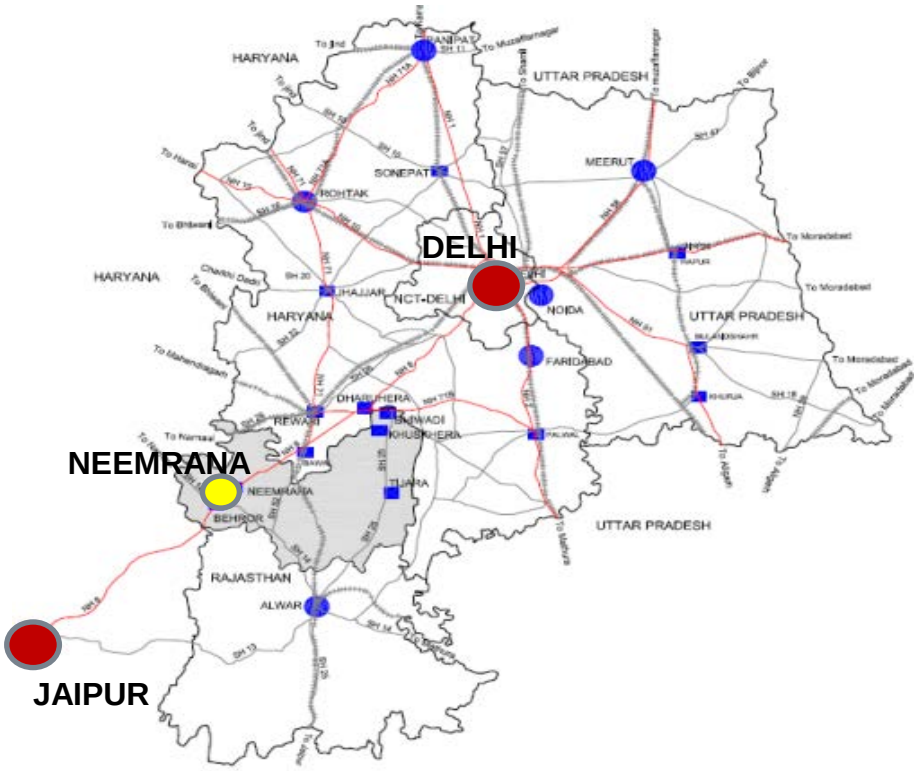
Route : Delhi IGI – Gurgaon – Manesar – Rewari – Bawal



Total route length ~**120** **km**

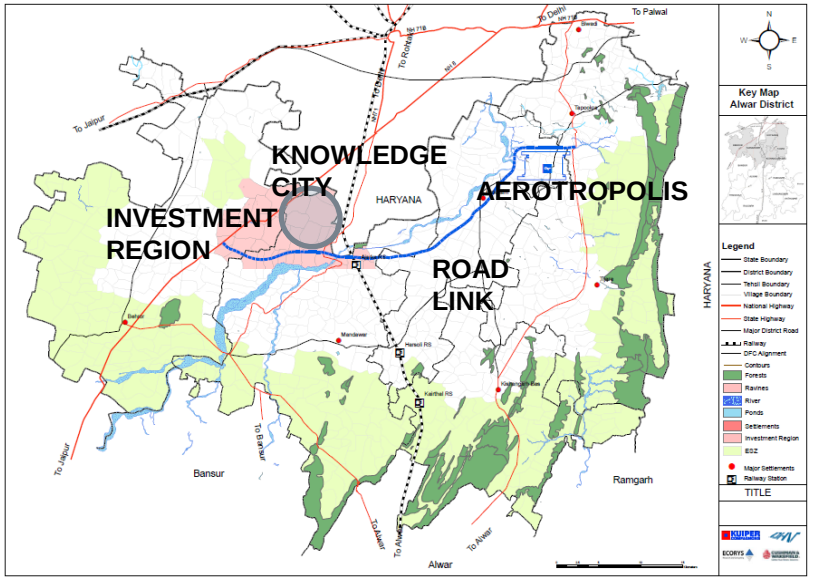
Can be extended upto Neemrana Node in Rajasthan

Khushkhera-Bhiwadi-Neemrana IR



Early Bird Projects:

- Aerotropolis
- Knowledge city
- Neemrana - Bhiwadi Road link (50 km)



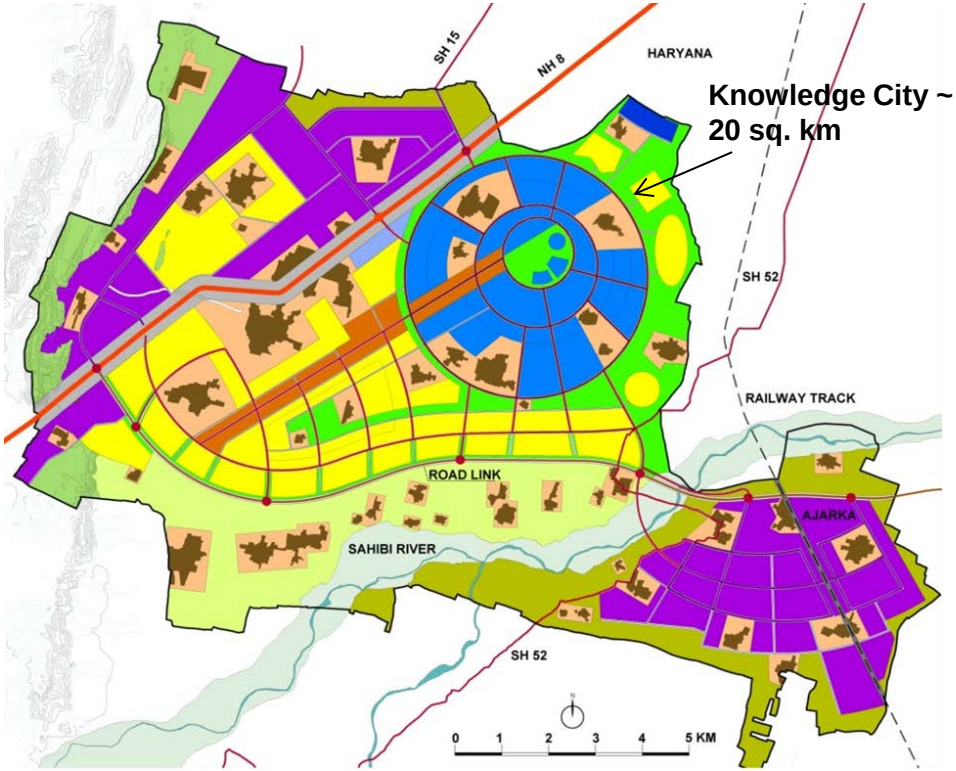
Concept Master Plan for KBN Investment Region

Area: **165 sq. km**
Urbanisable Area – **101 sq. km**

Target Population: **1.3 million**

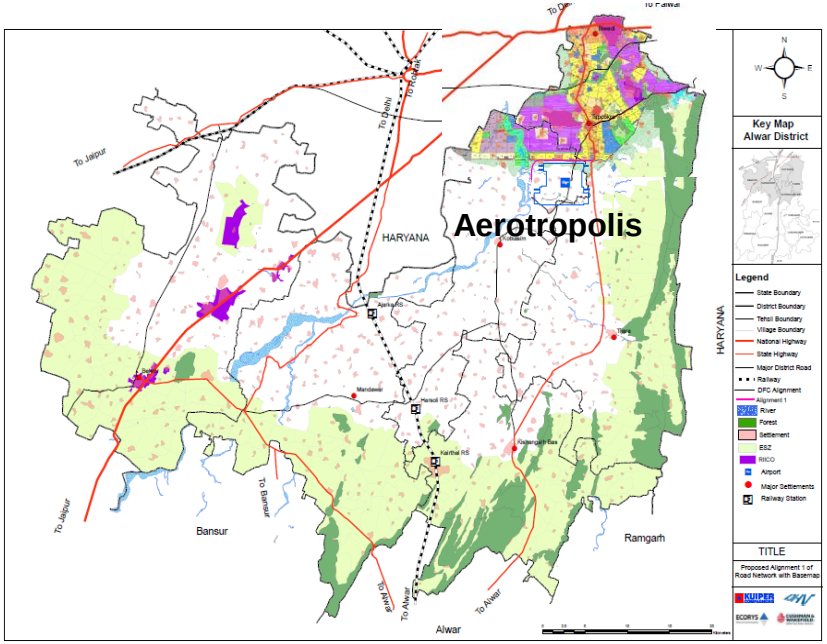
Projected Employment – **0.55 mn**

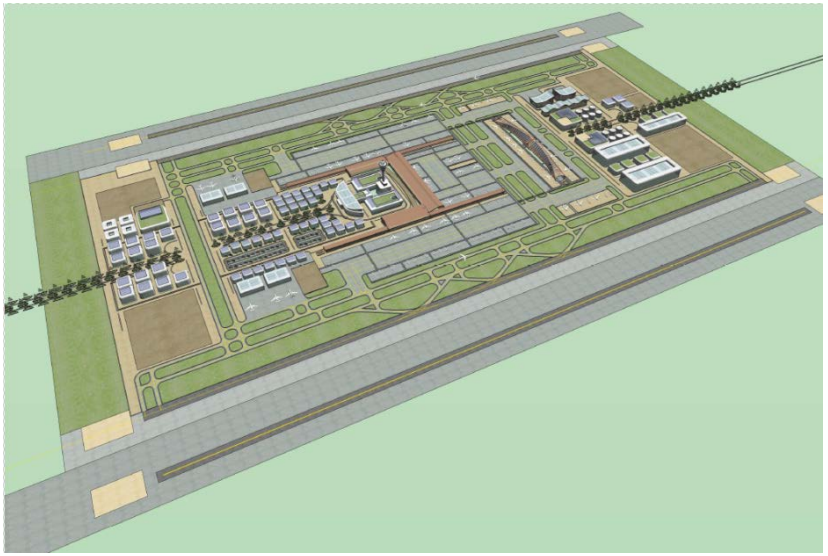
Investment Region target industries - Electronic, Automotive, Pharmaceuticals, Bio- tech and ICT



Aerotropolis

- **Strategically located between Delhi and Jaipur , south of Bhiwadi Master Plan Area**
- **Total Area: 24 sq. km**
- **Total Cost: Rs. 4000 crores**
- **Components:**
  - Passenger & Cargo traffic handling
  - Non aviation - Business Parks, Hotels, Distribution centers etc.
  - Maintenance Repair Overhaul (MRO)





Integrated Water Resource Management (IWRM) Study

Study Objective

- To conduct a holistic analysis of available water resources for water stressed area having competitive demands for limited sources of water expected from stakeholders of various developments being planned for.
- Project objective is to develop a resilient water strategy for this region through preparation of a comprehensive sustainable Integrated Water Resource Management (IWRM) Plan that will also support social and environment goals.

Study Process

- Adopt methodologies that are focused on the overall process, creating participatory organizations, building institutional capacity, financing programs, developing legal frameworks, and management instruments, while giving due attention to ecologic, economic and social conditions.
- Use systems-level simulation to prepare IWRM strategies and alternatives for implementation, including a framework for the future operating model based on an integrated decision support system.

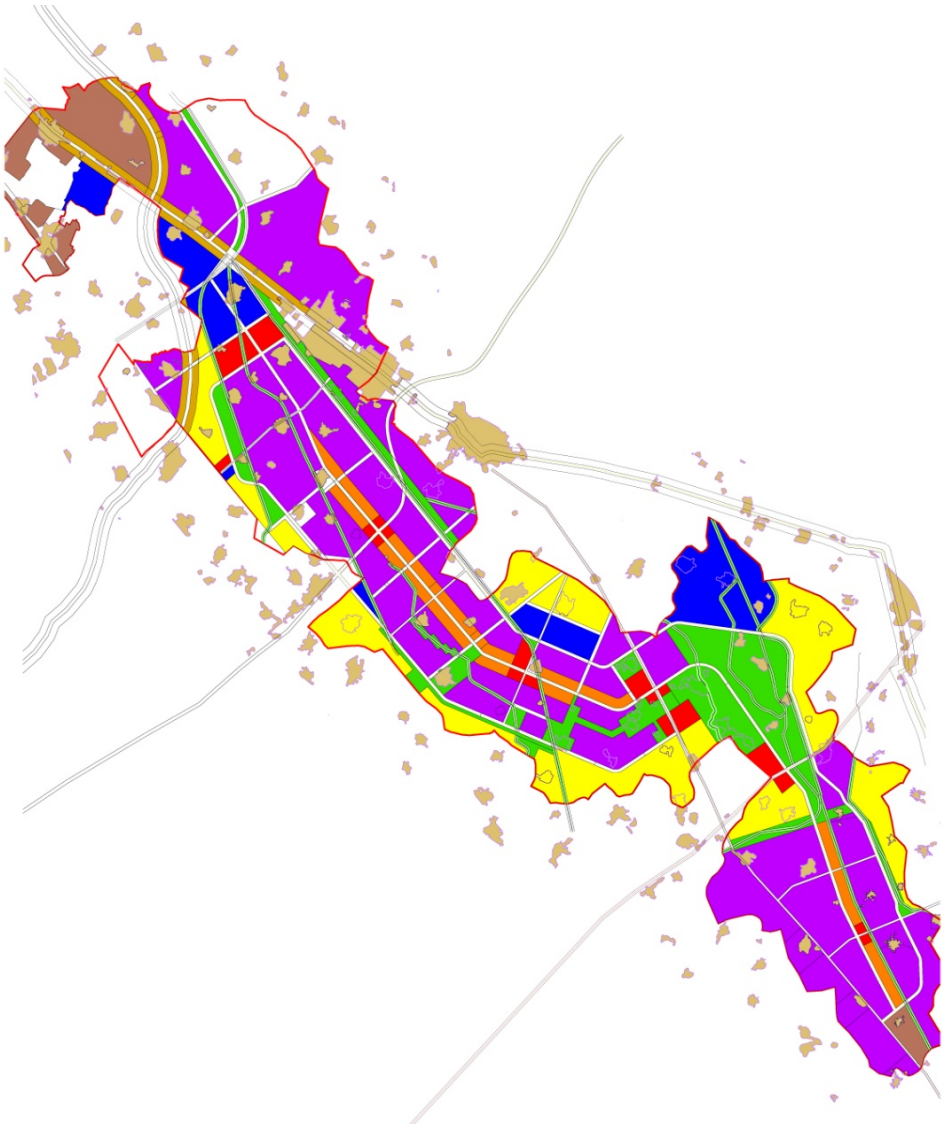
Outcomes

- Develop a flexible operating framework and tools that can support the analysis of water resource conditions and evaluating sustainable solutions in the IWRM process
- Develop an implementable plan for near-term projects identified under the Integrated Water Resources Management Plan, such as recycle and reuse of treated wastewater to be delivered on a PPP/EPC or other basis.

Way Forward

- Projects that promote sustainable development of water resources through implementation of the Integrated Water Resource Management (IWRM) Plan.
- Projects that achieves efficient use of water, as well as a balanced approach to water usage across different economic sectors and important social and environmental sustainability objectives.

Dadri Noida Ghaziabad Investment Region – Master Plan

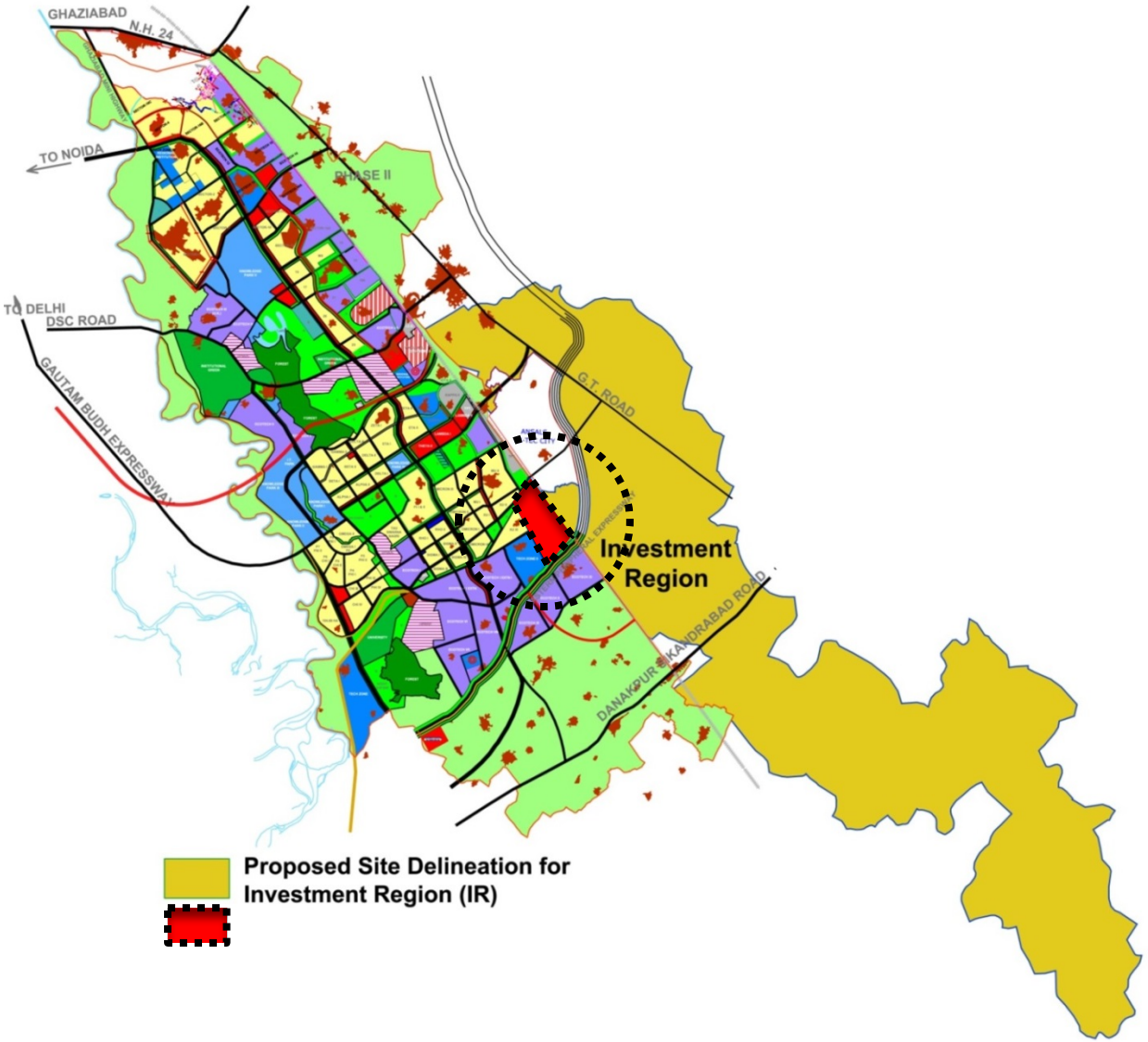


Total Area: Approx 210 sq kms

Land Use	%
Industrial Area	37
Residential	14
Commercial	4
Public - Semi Public Facilities	6
Utilities	1
Transportation	14
Green Areas / Agriculture	17
Non Developable area	7
Total	**100**

Integrated Industrial Township- Site Location

Hi Tech Integrated Township



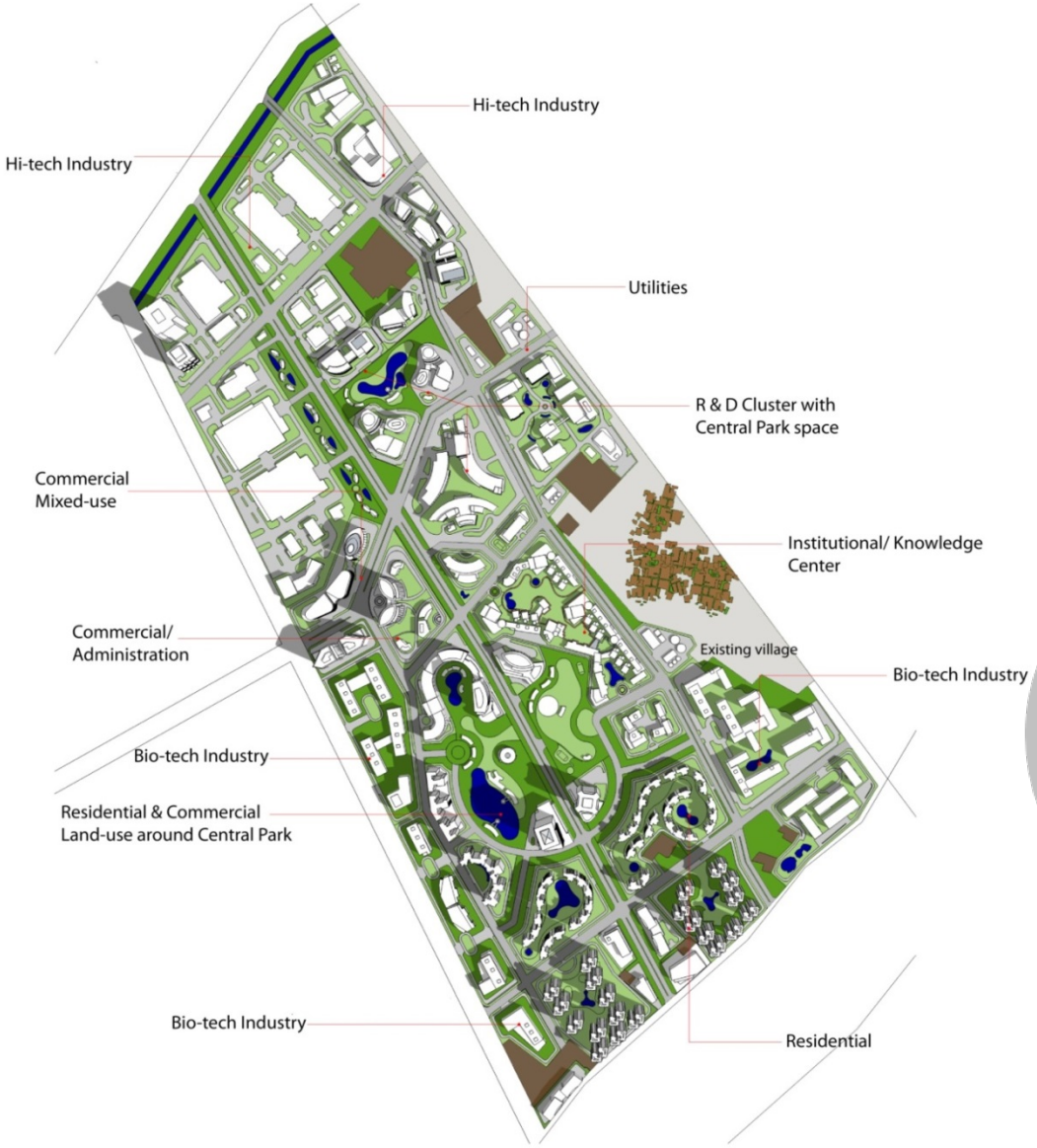
Located in Greater Noida
Spread over an area of
747.5 acres

Villages :

1. Rithori,
2. Raipur Bangar,
3. Dhabra,
4. Gohri Bachera
5. Ajaibpur
6. Maycha

Integrated Industrial Township-Project Components

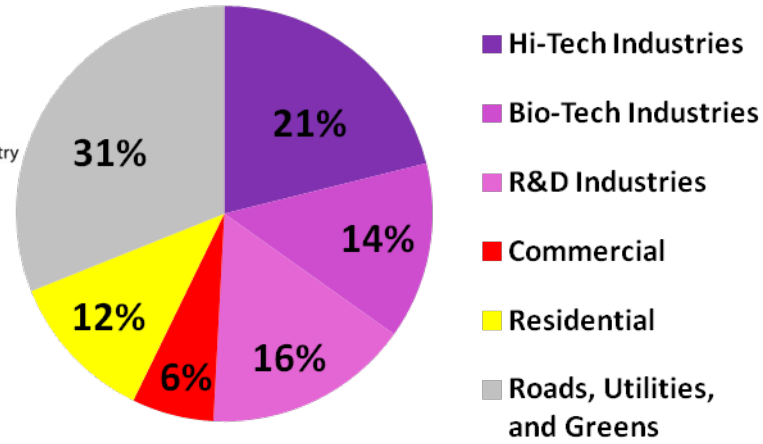
Promoting Knowledge – based Hi-tech Industries



New age industry sectors

R&D Services
Auto, Electronics, ICT
Hi-tech Industries
Fabrication (semiconductors) industries, Nanotechnology, Optoelectronics

Bio-technology
Bio-Pharma, Bio-Services (clinical research), Bio-Agri, Bio-Industrial, Bio Informatics

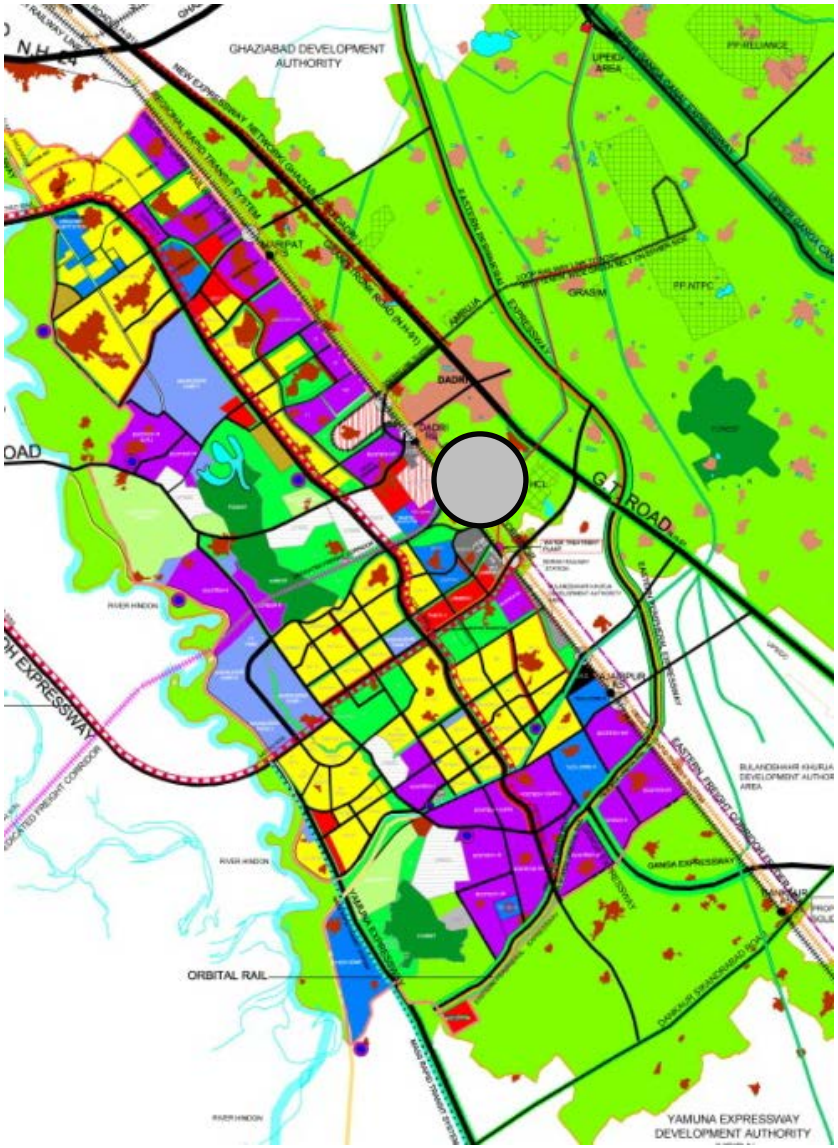


51% Industrial Land Use

Total Built-up- **6 Million sq. m**

Total Employment- **58,000**

Multi-Modal Logistics Hub- Site Location



Located in Greater Noida

Located on NH-91 and Delhi-Howrah BG Line

Power Plants

Gas based Power Plants

Capacity: **1000-1200** MW each.

Sites:

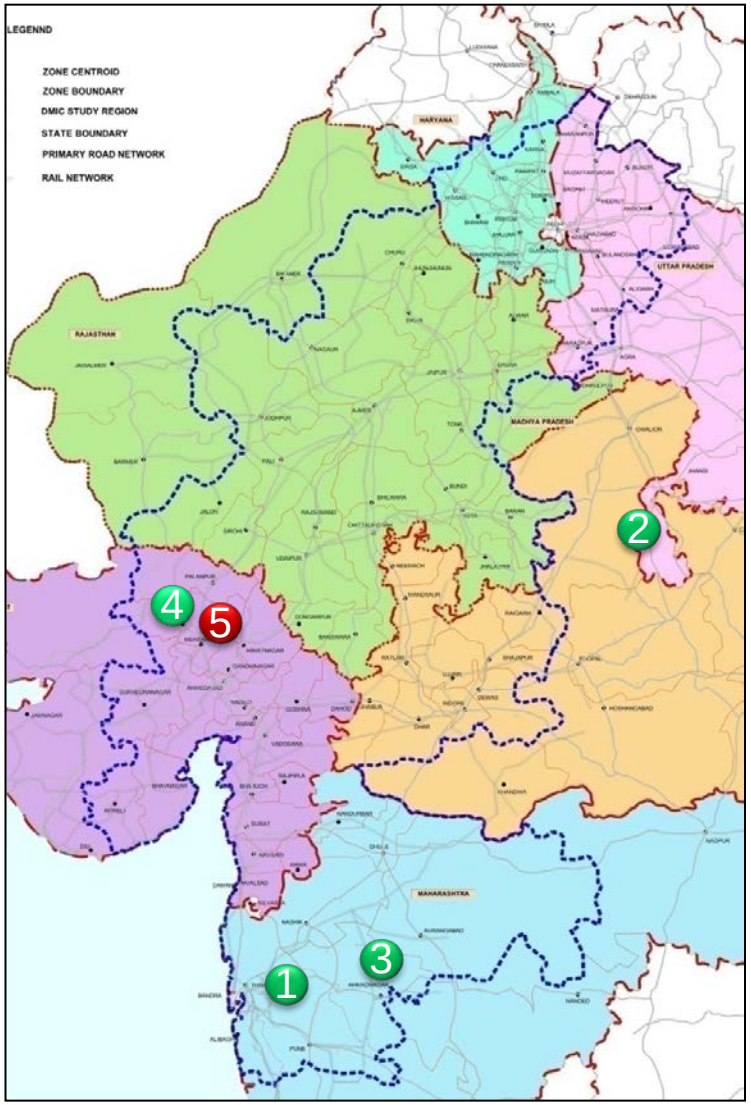
Ville Bhagad, District Raigad, Maharashtra

Chainpura, District Guna, Madhya Pradesh

Indapur, District Pune, Maharashtra

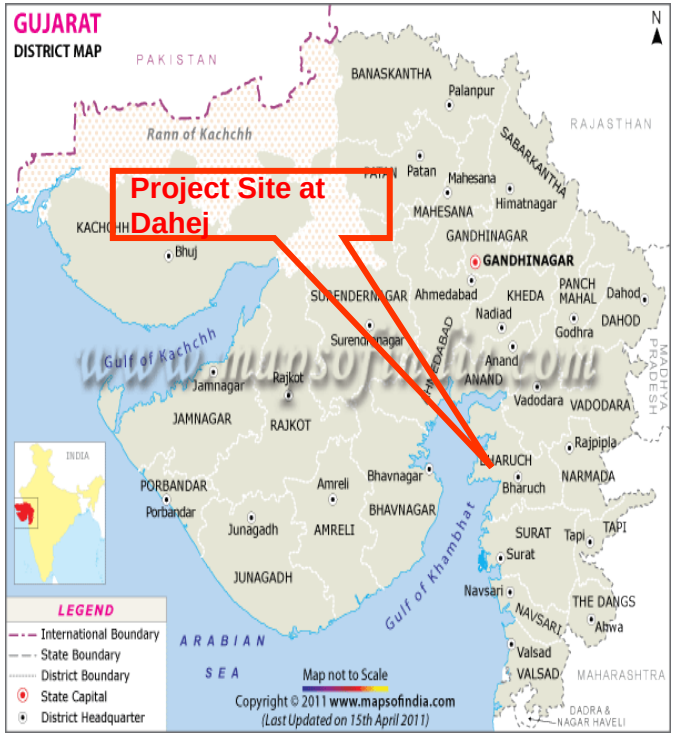
Vaghel, District Patan, Gujarat

Rajpur-Shahpur, District Mehsana, Gujarat



Dahej Desalination Project

Project	Construction of a sea water reverse osmosis ("**SWRO**") desalination plant in Dahej, Gujarat.
Sponsors	Hitachi, Hyflux and Itochu
Production Volume	75 million gallons per day ("**MGD**") / 336 MLD
Total Project Cost	USD [606] Million*
Offtaker	Dahej Special Economic Zone Ltd. ("**DSL**"), a JV of ONGC Petro Additions Ltd ("**OPaL**") and Gujarat Industrial Development Corporation
Water Purchase Agreement ("WPA")	[30]-year WPA with DSL on 100% take or pay guarantee backed by GIDC
Tariff	INR [37]* per cum +6.25%* p.a. Escalation + WPI on the variable costs



*Indicative only

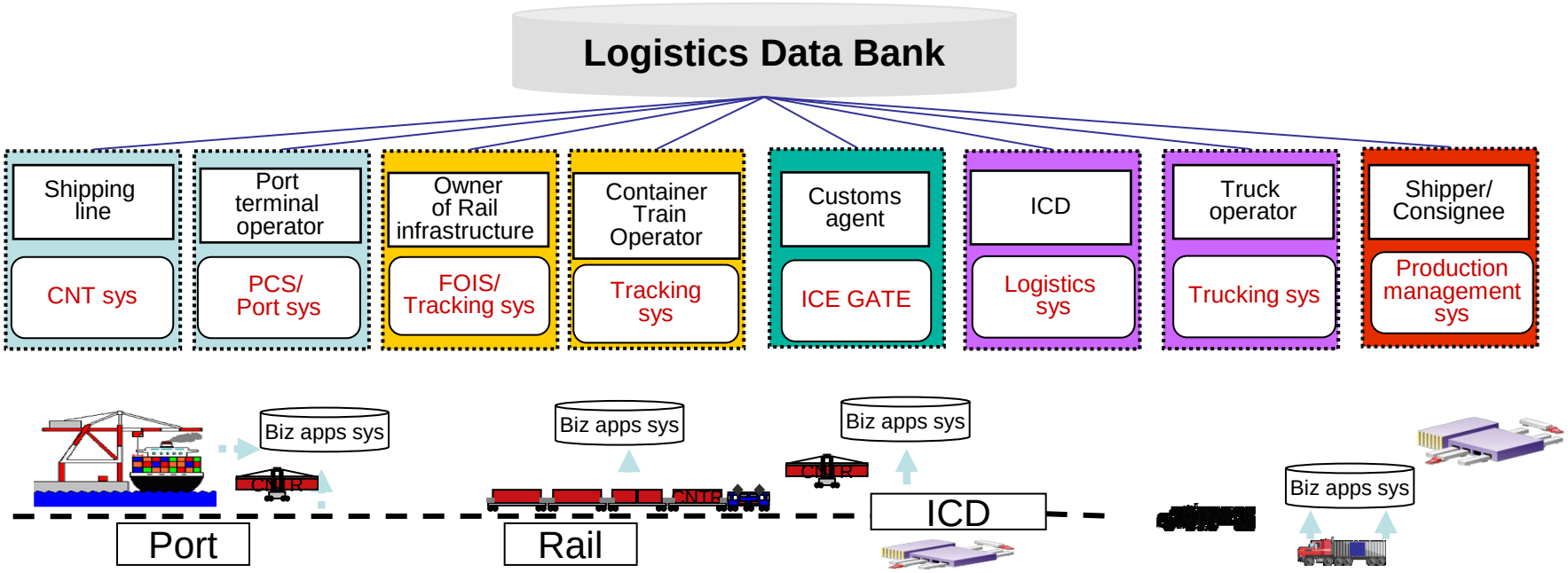
Model Solar Project-Neemrana

- **MoU:** New Energy & Industrial Technology Development Organization (NEDO), Ministry of New & Renewable Energy (MNRE), Ministry of Finance (MoF) and DMICDC dated April 30, 2012
- **Location:** Neemrana Industrial Park, Japanese Zone, Rajasthan, INDIA
- **Project Scheme:** 6.00 MWp Solar PV & 1.6 MW DG Power
  - 5.00 MWp Solar Power Project Feeding Power to the Commercial Grid under JNNSM scheme
  - 1.00 MWp Solar Power Project and 1.60 MW Diesel Generator Set integrated with Smart Micro Grid, Feeding Power to Industrial Consumers in Neemrana Industrial Park

DMIC Logistics Data Bank

Aimed at improving competition, reducing transportation lead time and cost by **sharing container movement information on real time basis among all agencies in the Supply Chain using an IT based platform**.

Necessary to create an extensive database at an early stage to generate rapid changes in supply chain.



Exhibition cum Convention centre at Dwarka, New Delhi

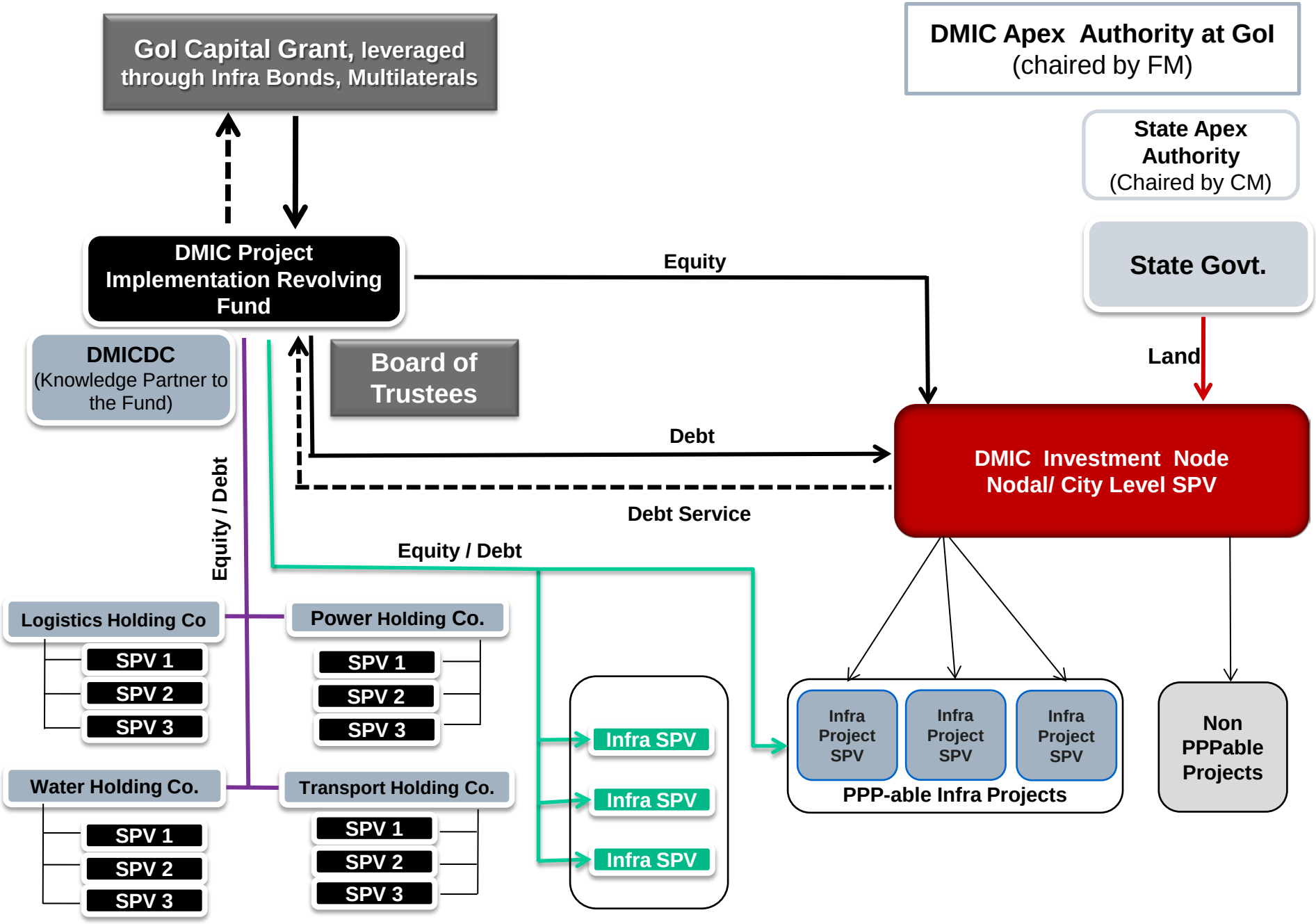
- Strategically located in Sec 25-26, Dwarka near Delhi IGI Airport
- Will generate approx 200,000 jobs by 2040

ECC & IFC at Dwarka- Concept Plan

Total Site Area- 154 Ha (380.53 acres)

- **Exhibition halls** – 2 million square feet
- **Convention centre**- 6000 fixed seating capacity
- **Multi-purpose Arena**- 18,000 capacity
- **3500 hotel keys**- 4-5 star, business hotels, service apartments
- **Commercial office space**
- **Multi-level parking**
- **Green open space**
- **IFC –** to be developed as Air Cargo Complex

Institutional & Financing Structure approved by the Cabinet



Opportunities across the value chain…1/2

PPP

- The policy and regulatory frameworks (concession agreements) are well established
- Substantial scale-up in the last 5 years which has created opportunities for various companies to venture as “Project Developers

Contractors/ Consultants

- Business Opportunities from implementing agencies who will sub contract construction
- Skilled manpower and sophisticated construction technology available
- Mega projects like Delhi Metro, Highway, airports, ports projects have already showcased business opportunities for contractors

O&M Operators

- Emerging area of opportunity and has few players
- Going forward, the sectors will require equipments, systems and software

Opportunities across the value chain…2/2

Equipment Suppliers

- Consistent demand of equipment due to mega infrastructure development across sectors
- Huge business potential for overseas players to enter the market

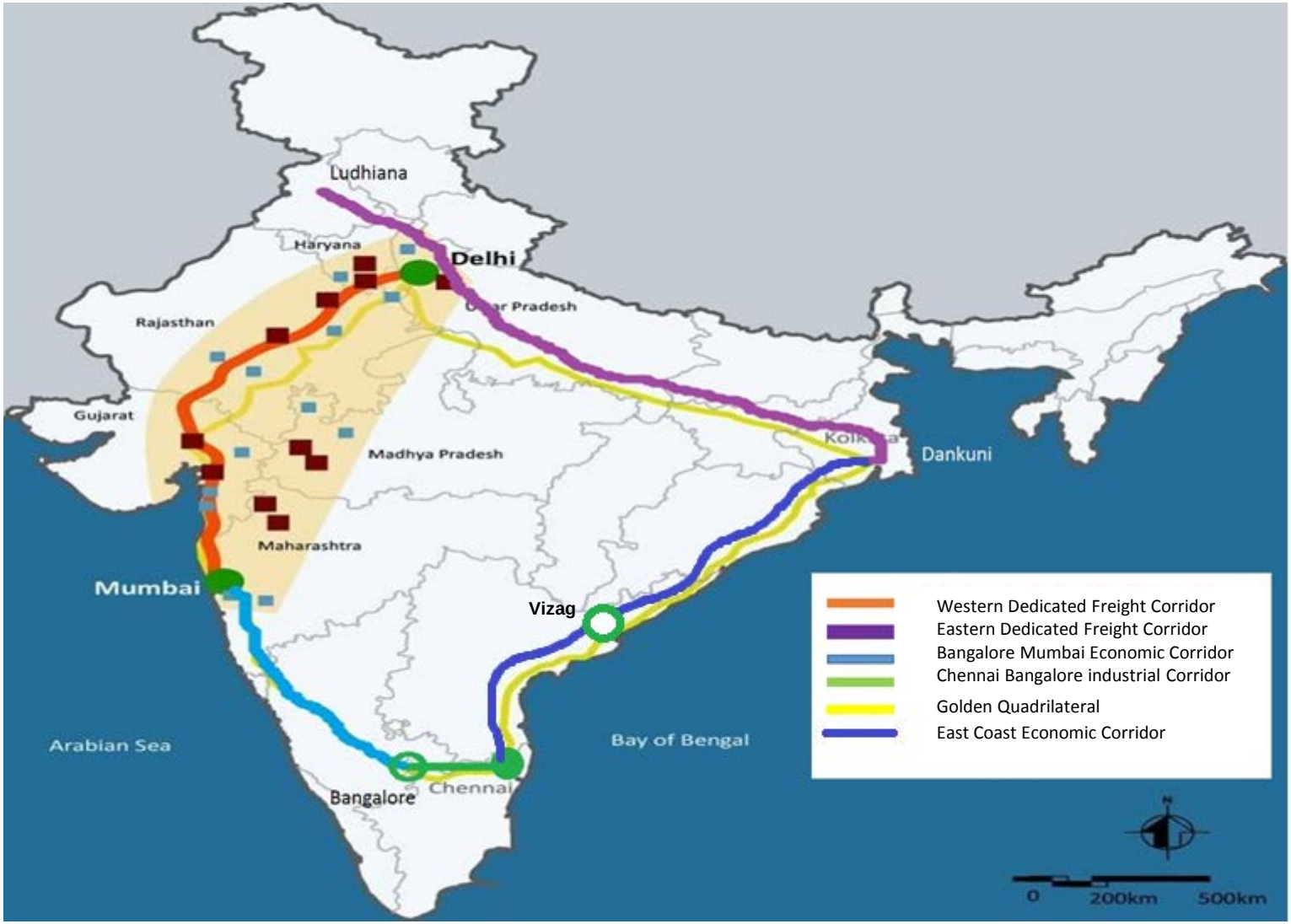
Rolling Stock Suppliers

- Increasing demand for various types of passenger & freight rolling stock
- Current domestic capacity caters half the demand and hence increasing imports
- Attractive opportunity exists for private players

Financing

- Various Financial Institutions and PE firms have already entered into the development area, incl. several Japanese banks
- Attractive opportunity exists for FIs, PE firms, private investors

Other Industrial Corridors being planned in India



These corridors will transform India as a manufacturing hub in next one decade.

Thank you