

INTEGRATED MASS TRANSIT SYSTEM



AN INITIATIVE OF
SURAT MUNICIPAL CORPORATION



Surat City



8th Largest in India as per population



4th fastest growing city globally



Termed as Economic Capital of Gujarat



9/10 Diamonds in the world are cut and polished here



40% of nations total man-made fabric & 28% of nation's total man-made fiber production



- Surat dates back to 300 BC
- Municipality Established in 1852
- Municipal Corporation Formed in 1966

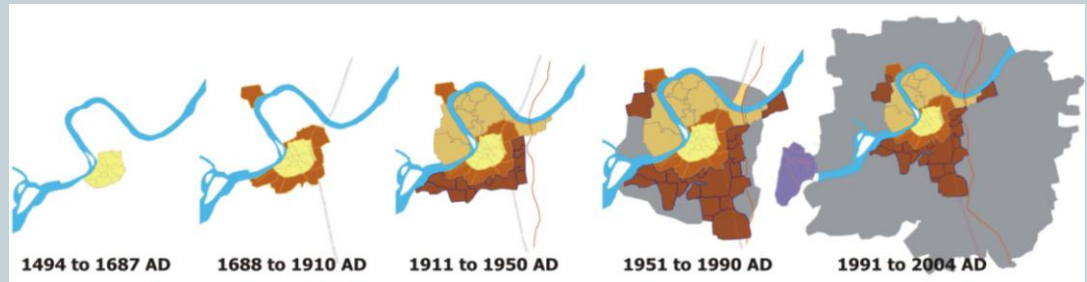


Surat Municipal Corporation

Surat City

• Demographics

- Population - 4.6Million (2011)
- Municipal Area – 326 sqkm
- High Density – 12750/sq.km
- 8th largest city in India
- Large Migrant Population 56%



Area	1951	1961	1971	1981	1991	2001	2011
Surat Municipal Area							
Area (sq.km)	8.18	8.18	33.90	55.70	111.16	112.27	326.52
Population	223182	288026	471656	776583	1498817	2433785	44,62002
Decadal Growth Rate (%)	-	29.05	63.75	64.65	93.0	62.38	83
Pop. Density (per sq.Km)	27284	35211	13934	13977	13489	21677	13835
Sex ratio	916	915	887	857	839	774	756
Surat Urban Development Area (Including SMC)							
Area				715	715	715	715
Population	-	-	-	985077	1786566	3090686	4,591246
Decadal Growth Rate (%)	-	-	-	-	81%	73%	69%

Surat City

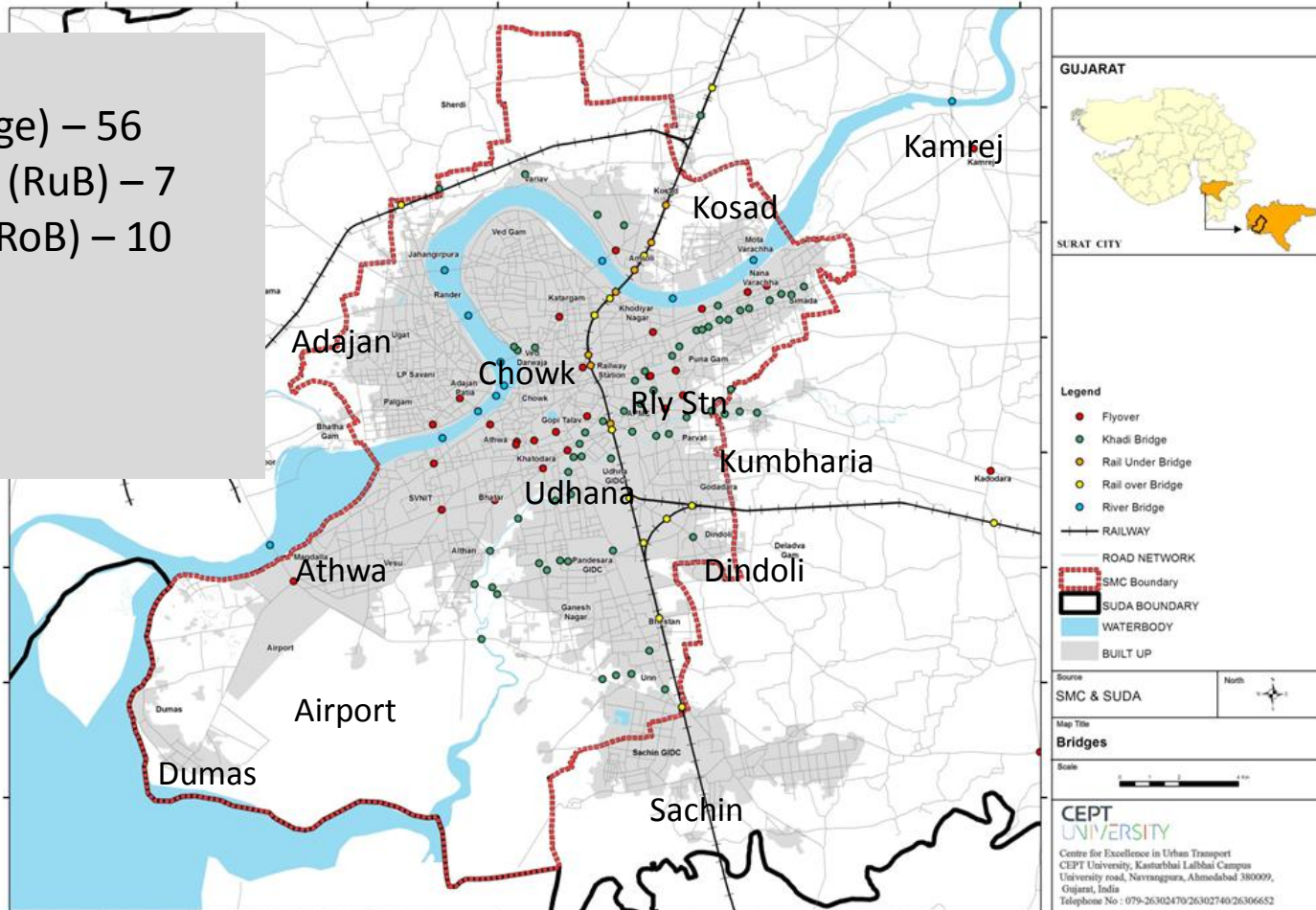
Surat Basic Urban Services

- **1994- (20 lakh people & 111 sq. kms)**
 - Piped Water – 34% area, 60% Popn,
 - UGD -29% area, 61% popn
 - % Solid waste – 40% area, 90% popn
- **2015 (55 lakh people; 320 Sq.km)**
 - Water Supply Coverage: 95% maintained at 150L per day per person
 - Solid waste management: 100% door to door
 - Affordable Housing units: 80,000+
 - Renewable Energy: 18MW; 25% of Municipal Energy Consumption
 - Security: 604 CCTV cameras for social safety
 - Property Tax collection: 92%
 - Sells 50 mld treated sewage (tertiary) to industries
 - GDP Rate 12-13% consistent over past 3 years
 - Unemployment Rate: about zero percent

Surat City

Flyover – 26
 Creek (Khadi Bridge) – 56
 Rail Under Bridge (RuB) – 7
 Rail Over Bridge (RoB) – 10
 River Bridge – 10

Total – 109
 *by June 2016



Surat Existing Transport System

» **BRTS**

- » BRTS routes – 6 route
- » Operational Network – 60km
- » Fleet Size – 53 buses
- » Ridership – approx 38,000 passengers/day

» **City Buses**

- » Bus routes – 28 routes
- » Fleet size – 125 buses
- » Ridership – approx 40,000 passengers/day

» **Auto-rickshaws functioning as shared autos**

- » Auto Routes – 37 major routes
- » No. of autos – around 60-80,000 nos.
- » Ridership - approx 6-8 lakh passengers/day

BRTS - Mass Transit Market Development

To promote sustainable mobility in Surat, SMC has adopted multi prong approach. It has built / building 102 km of BRT network.

Infrastructure cost resource:

Phase 1: 30km under JnNURM (50% Centre, 20% State & 30% SMC funds)

Phase 2: 72km + 30km 100% SMC's own funds

- **Bus Rapid Transit**

Planned: 102km

Operational: 65km

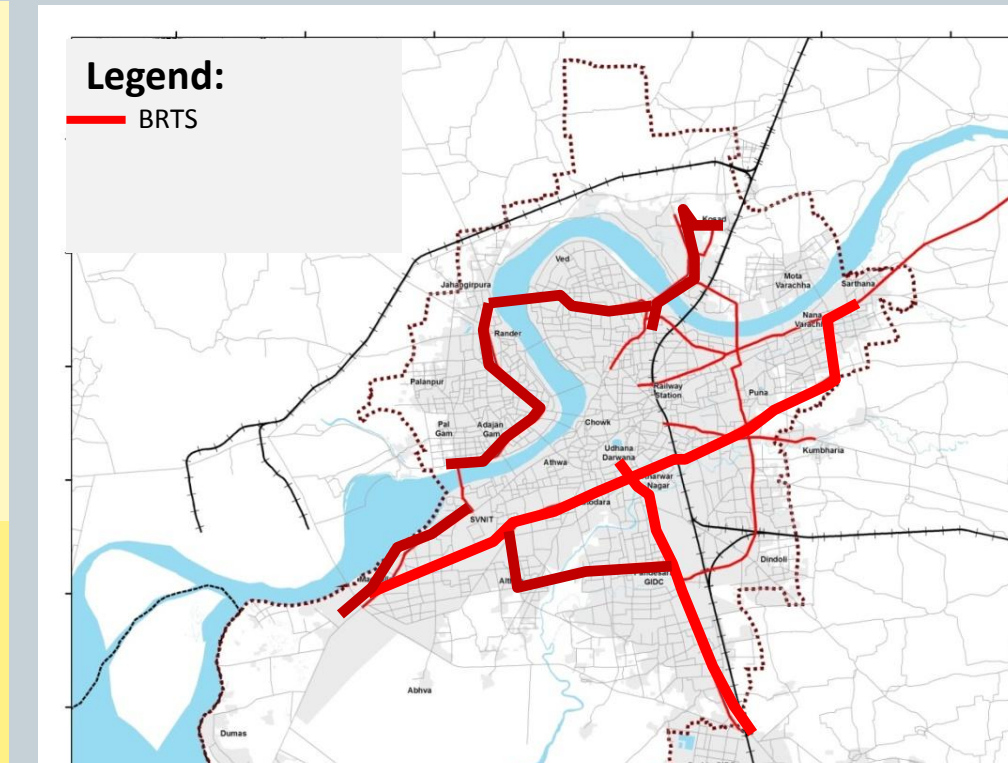
Planned Stations: 184

Operational Stations: 102

Planned Fleet: 116 (AC)

Operational Fleet: 48 (AC)

Pax per day: 40,000-45,000



- Mass Transit initiative to develop transit market
- Reserving space for Public Transit
- Developing Transit Ready Streets

Source SMC & SUDA	North
Map Title Bus Route & Terminal	
Scale 	
CEPT UNIVERSITY Centre for Excellence in Urban Transport CEPT University, Kasturba Lalbhai Campus University road, Navrangpura, Ahmedabad 380009, Gujarat, India Telephone No : 079-26302470/26302740/26306652	

High Mobility Corridor - Supporting Economy

To support economic activities concentrated in the heart of the city, a ring corridor – High Mobility Corridor is being built at SMC's own fund

High Mobility Corridor

Planned: 12km

Stations: 22

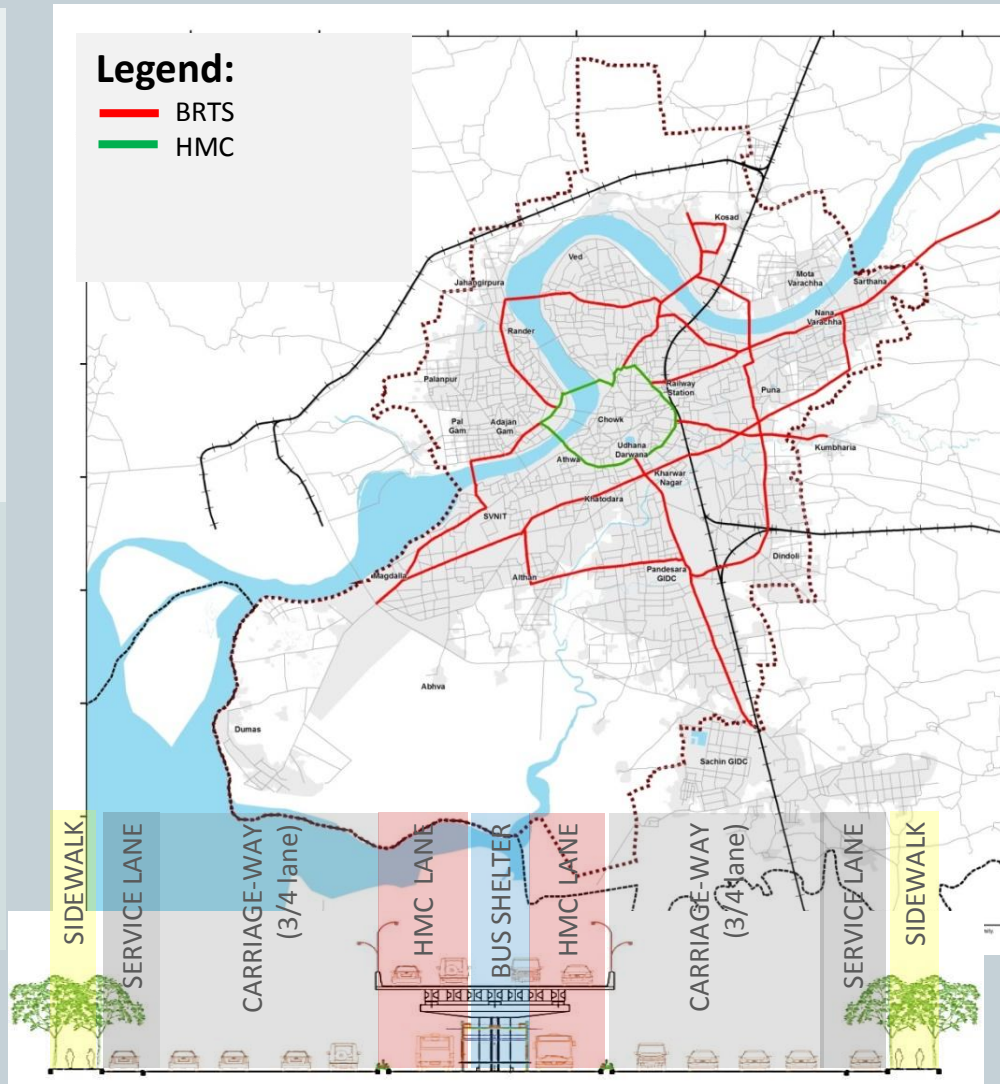
Headway (peak): 3-4min

Headway (off-peak): 5-6min

Headway (night): 15min

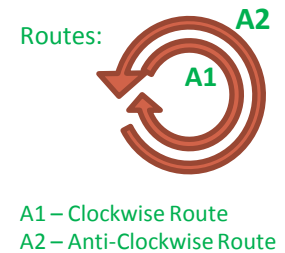
Fare: Rs 2 & Rs 5

Service: 24 hours



Surat Walled City acts as Urban Economic center – CBD

5% Urban Area;
15-20% Population;
26-30% Employment,
8-10% City GDP



34 High Quality Bus Service every 3 minutes

Surat City Bus – Connecting the Last Mile

To connect the last mile a city bus system with 515km network, covering 94% urbanized area, 690 stops locations, served by 44 routes and 875 buses is under procurement

City Bus Service

Planned: 515km (total)
234km (SMC)
Planned Stops: 690 locations (520 in SMC)

998 stops in SMC under construction

Coverage 94%

Routes: 44 (inc.14 sub-urban)

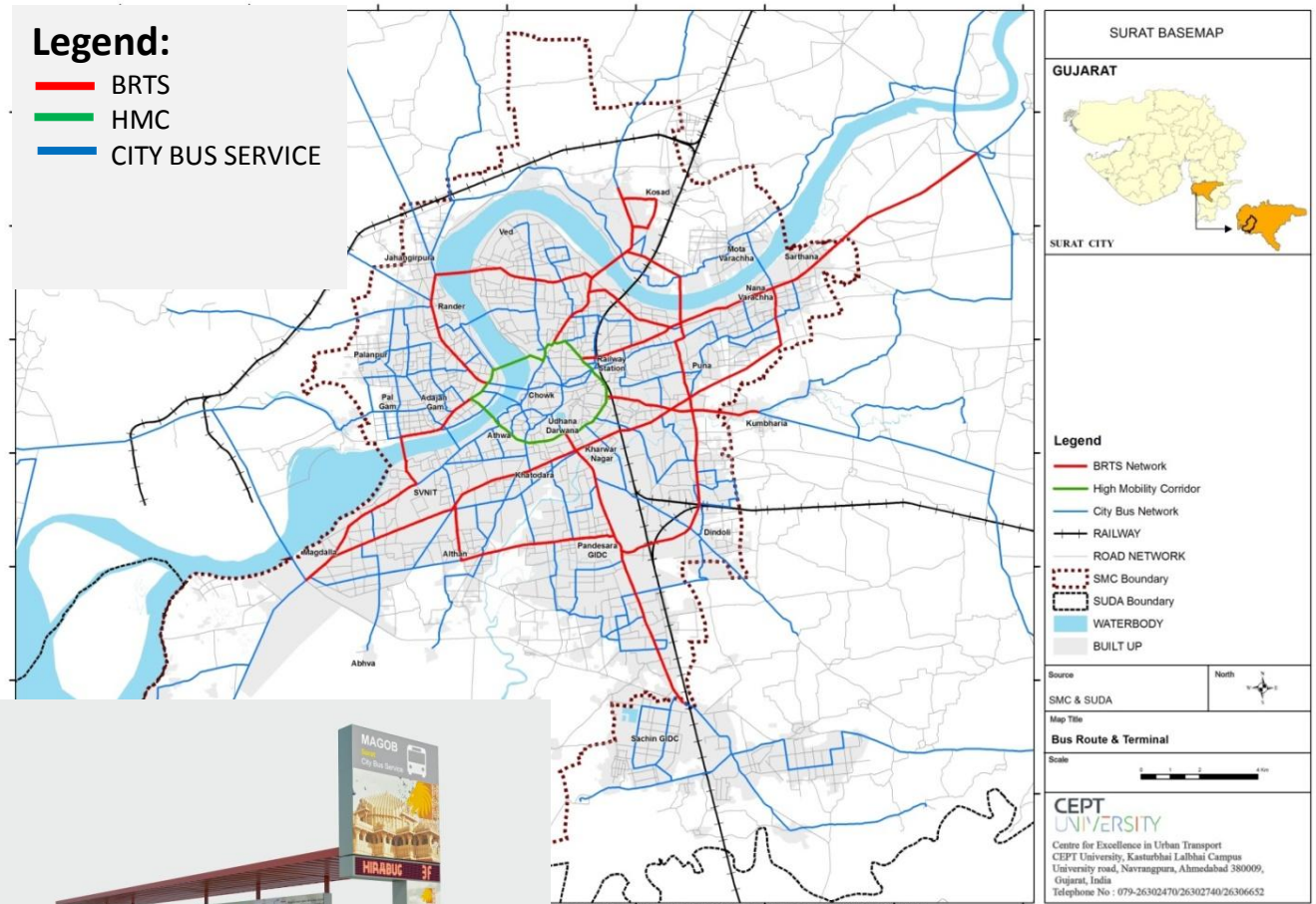
Headway: 6/8/10/12/15mins

Fleet Size: 875

275 in procurement + 600 tendered

Terminal-Depot: 12 planned

6 in tendering process



Interchanges – Integrated Approach

To promote sustainable mobility in Surat, Surat Municipal Corporation has adopted multi prong To facilitate seamless transfer 5 interchanges have been built (10 more under construction). The buses have both side central door so that buses can access bus stations for all 3 types of services.

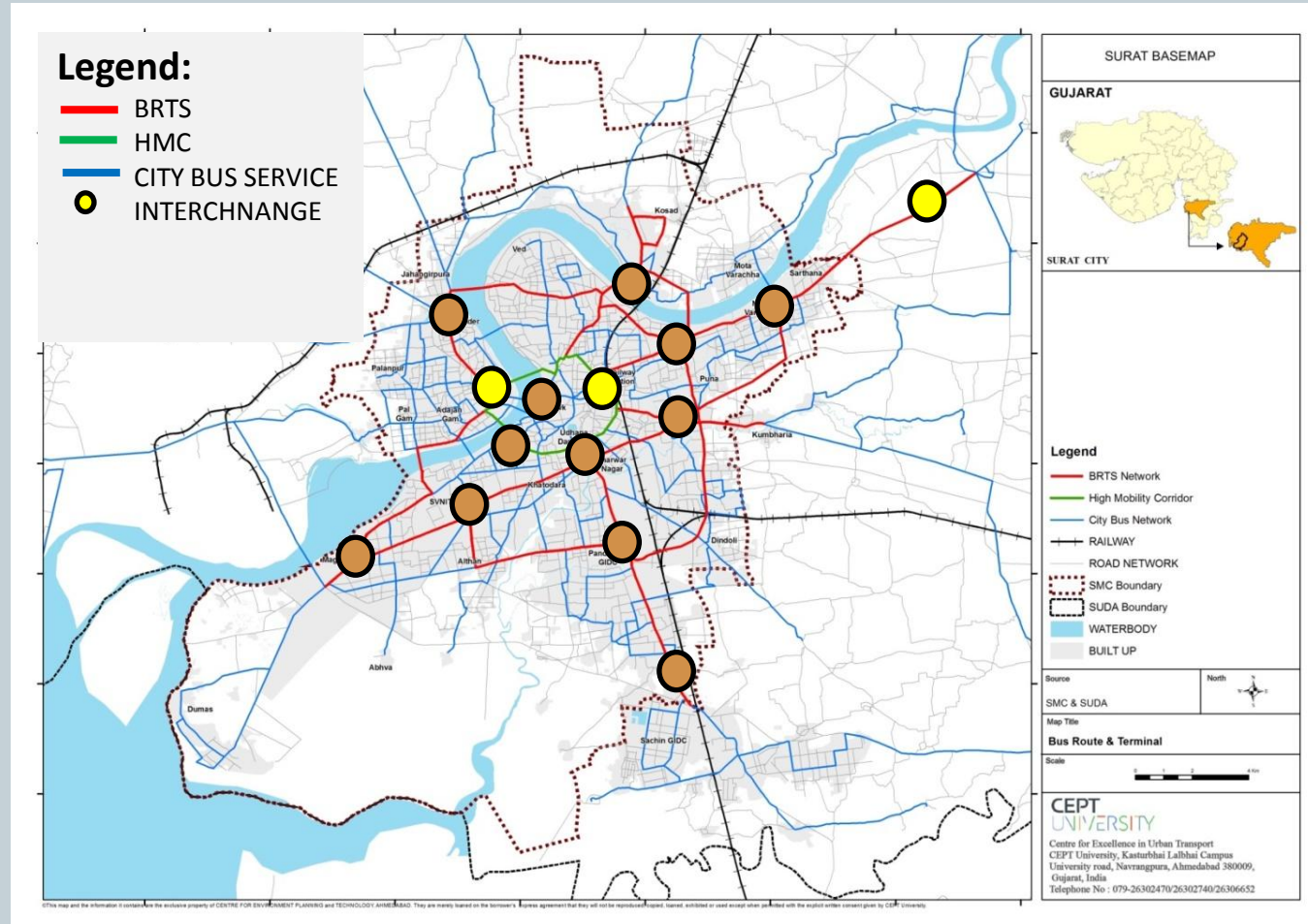
Interchange Infrastructure

Planned: 15 locations

Regional: 3

Urban: 12

More interchanges shall develop with upcoming MRTS



Transit Infrastructure

To support the operations of the bus systems – interchanges, terminals and depots are being built (1 depot complete & 6 terminal-Depot tendered). The depots and the terminal shall create urban nodes around the transit facilities. 26 parcels of

Transit Infrastructure

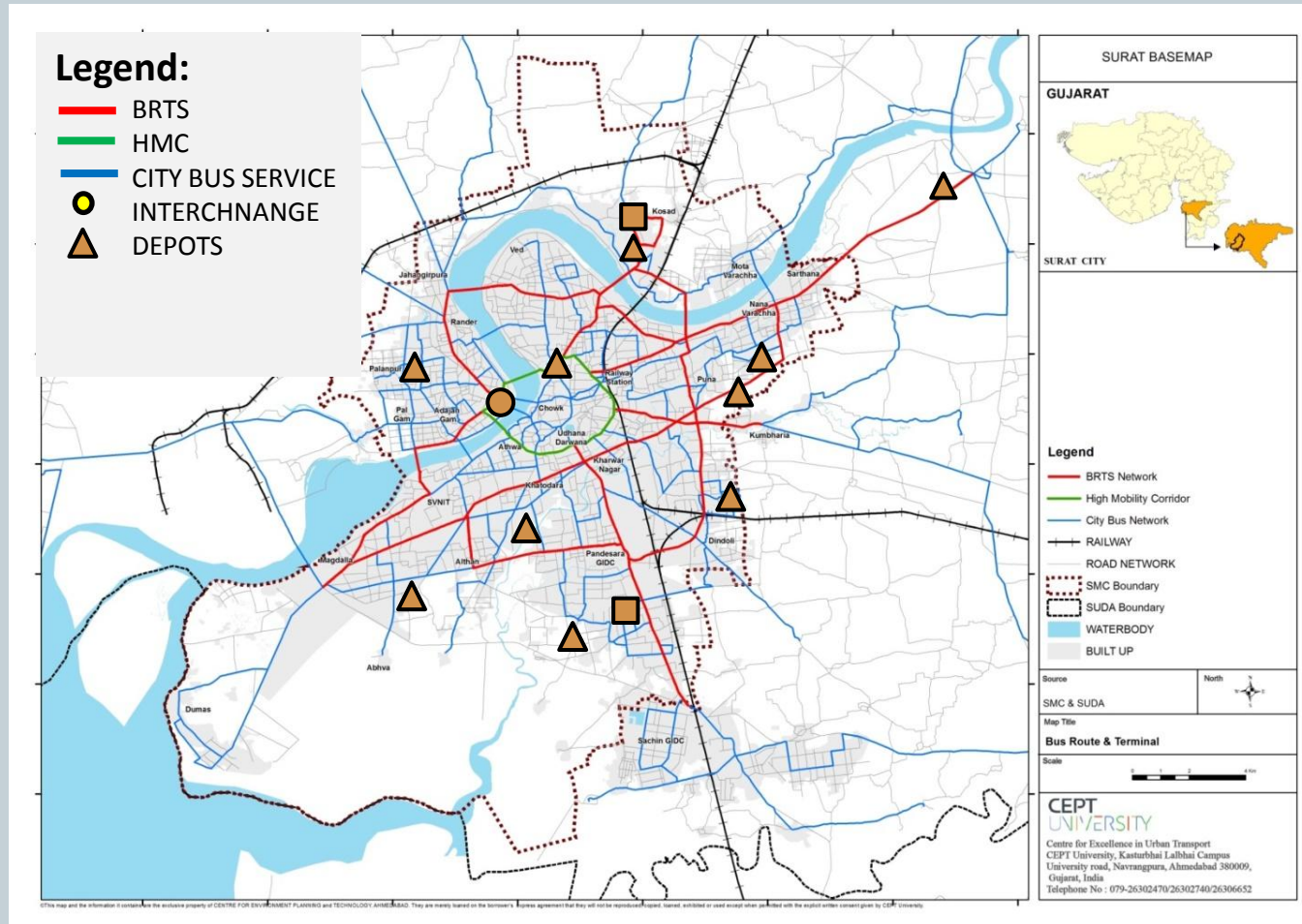
Planned: 14 locations

BRTS Depot - 2

(1-operational, 1-under construction)

HMC Depot – 1 (design stage)

City Bus Depot – 11 (6 tendered)



Bus Fleet

- Bus system is designed keeping current market size and targeted ridership the facility as well as the fleet acquisition has been planned.
- Surat will be the first BRT system to run midi-buses as part of its fleet (customers require frequency, operators expect occupancy)



- **High Quality Buses**
BRTS Buses

- 66 AC Premium standard Buses
- 50 AC midi Buses

- **HMC Buses**

- 34 AC midi Buses (planned – Stage 1)
-

- **City Buses**

- 875 Total non-AC midi buses
- 275 under procurement
- 300+300 tendered

ITMS

Surat city exploits technology to facilitate rapid mobility of buses through IT-System proving passenger information system, as well as easy and reliable of fare payment through AFCS.

System Features:

- Integrated Automated Vehicle Location Monitoring System
- Passenger Information System with ETA Prediction System
- Vehicle Scheduling & Dispatch System
- Depot Management System
- Business Intelligence System
- Incident Management System
- Enterprise Management System
- Enterprise Security Management System
- Call Centre Management System
- City Transportation Control Centre



ITMS Footprint

Vehicle Tracking

- 160 BRT Buses
- 875 City Buses
- School Bus (in pipeline)

Passenger Information

- 184 BRT Stations
- 998 City Bus Stops
- 07 interchanges
- 26 Terminals

Depot Management

- 14 Depot/Workshop

Control Centre

- 01 City Mobility Centre

SMC Vehicles

- 585 SMC Vehicles (emergency, SWD, engg, administrative)

S-Connect Card Overview



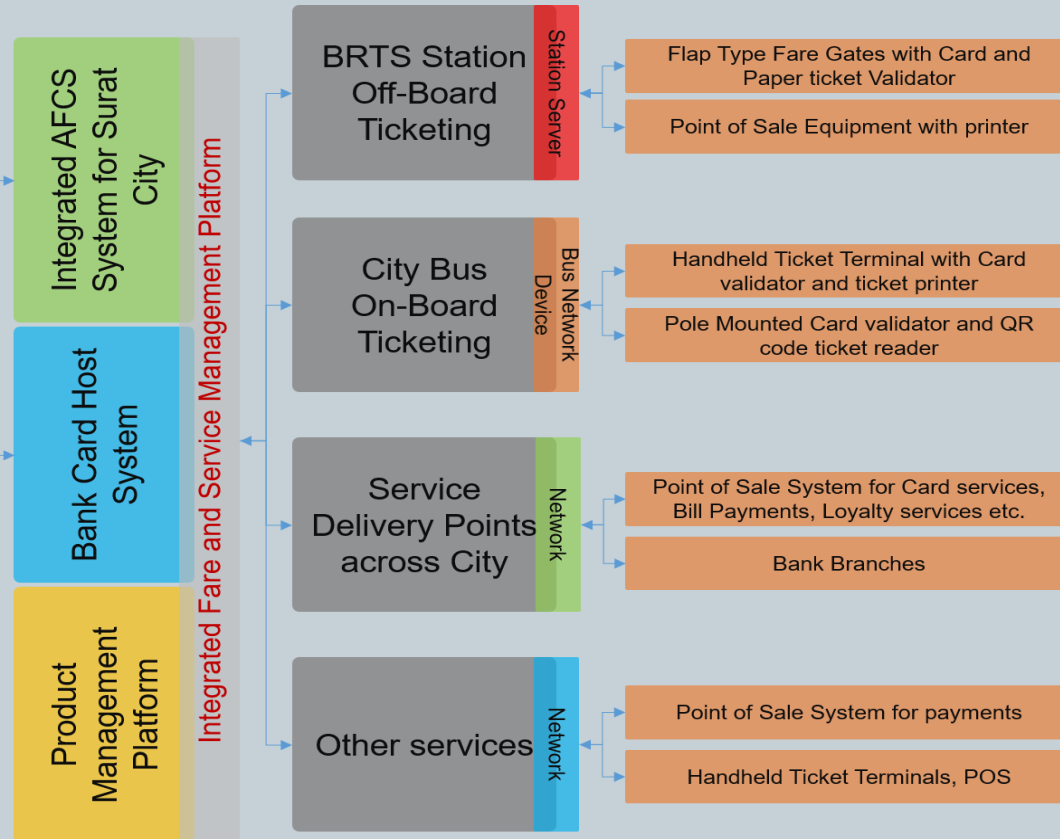
- SMC intends to implement citywide common fare media
- Integration Challenge shall be met by providing APIs and Interfacing Protocols with each other

- AFC for Transit – BRTS and City Buses.
- Bank - Clearing House and Other Applications for Municipal Services.
- Card Management Services - Card Initialization, Personalization etc.



Automatic Fare Collection

Bank managed Central Clearing house and Card Host System

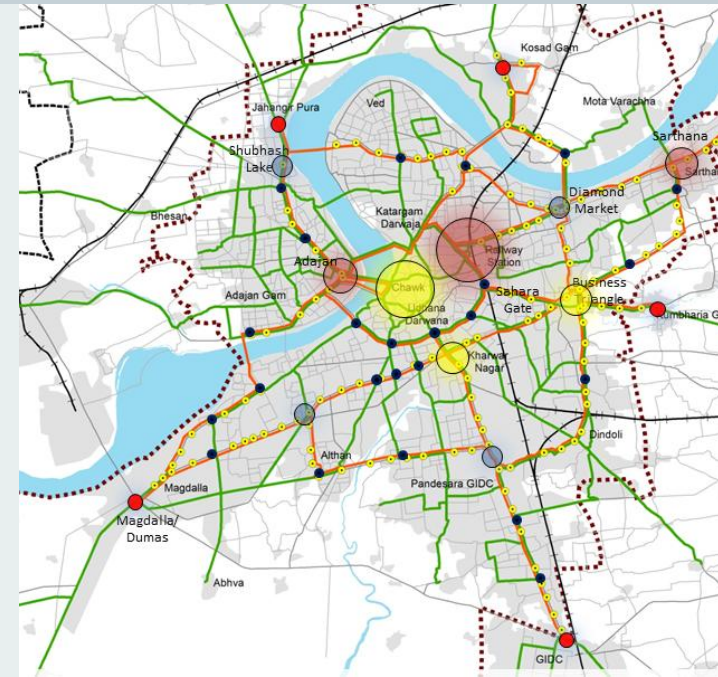


- 7 Years AFCS Contract between SMC & Vendor
- Upfront payment for Supply and Installation
- Monthly O&M Payment

- Integration of Smart card is responsibility of AFCS vendor and Bank with SMC as regulator
- SMC exploring alternate of fare collection system as distance fare or zonal fare system

Plans for Integrated Mobility

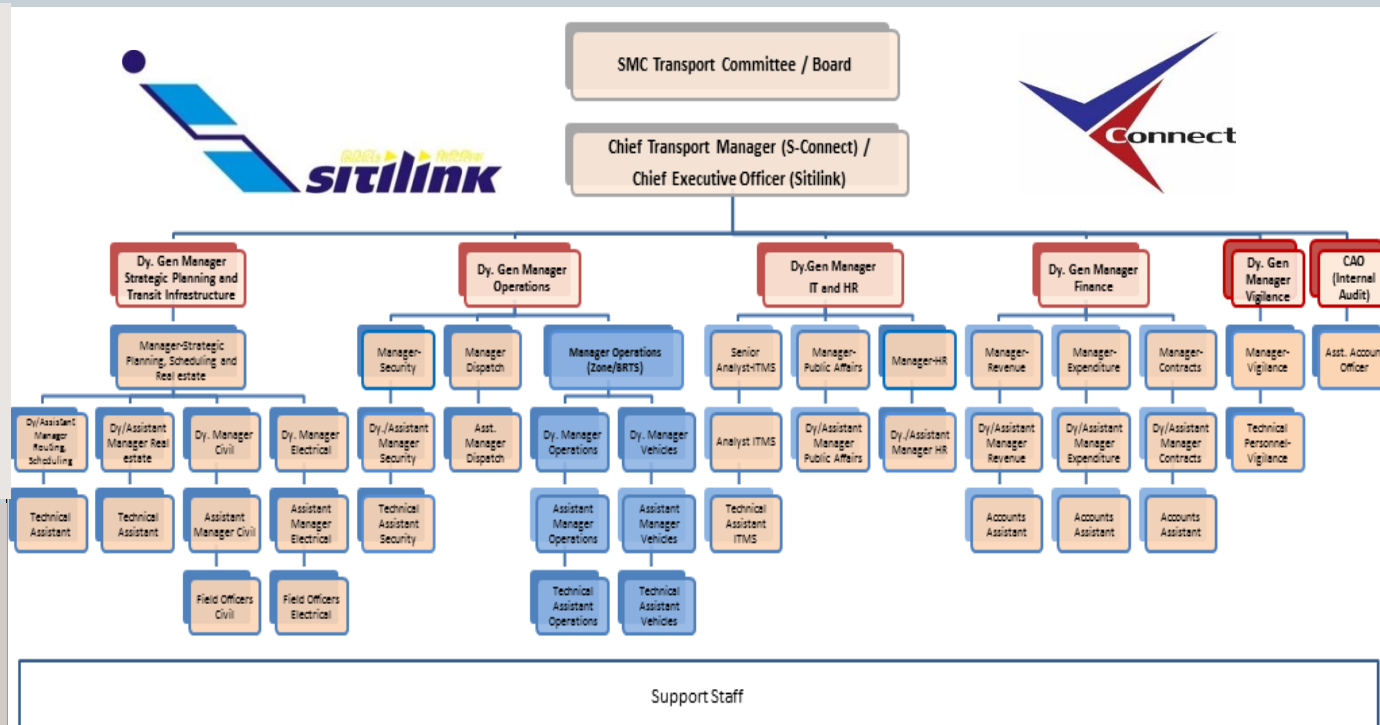
- Surat is 8th largest municipal corporation in India and desire for high quality public transit system. SMC in association with MEGA & DMRC are working on **Detail Feasibility Report for Urban Metro Rail services**.
- Transit is an ongoing process. Operation and Management is key towards successful public transport system. SMC is developing a **Operational Plan** focusing operation efficiency of all three type of bus services.
- To support economy transit accessibility and mobility is important. SMC is already in a process of development of **Surat Comprehensive Mobility Plan**.



Organizing Structure

For the first time Surat has established a municipal transport board under BPMC which will oversee the operations of all the bus transport system. To take advantage of company format Sitalink – a special purpose vehicle is created under companies act

A coordinated organization structure is created such that functioning, executives / officers of these two systems work under same head holding two positions and officers are transferred between two systems.



*Note:

- BRTS Manager shall have 2/3 zonal offices
- Manager Dispatch shall perform his office duties from Control Centre

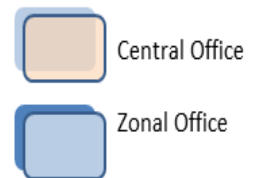


Photo Gallery



Photo Gallery

BRTS Interchange facility



Kharwarnagar Interchange (outer view)



Kharwarnagar Interchange (from inside)

Photo Gallery

State of Art - Workshop Depot Facility



Workshop Depot, Worker's facility and bus parking



Service pits for buses

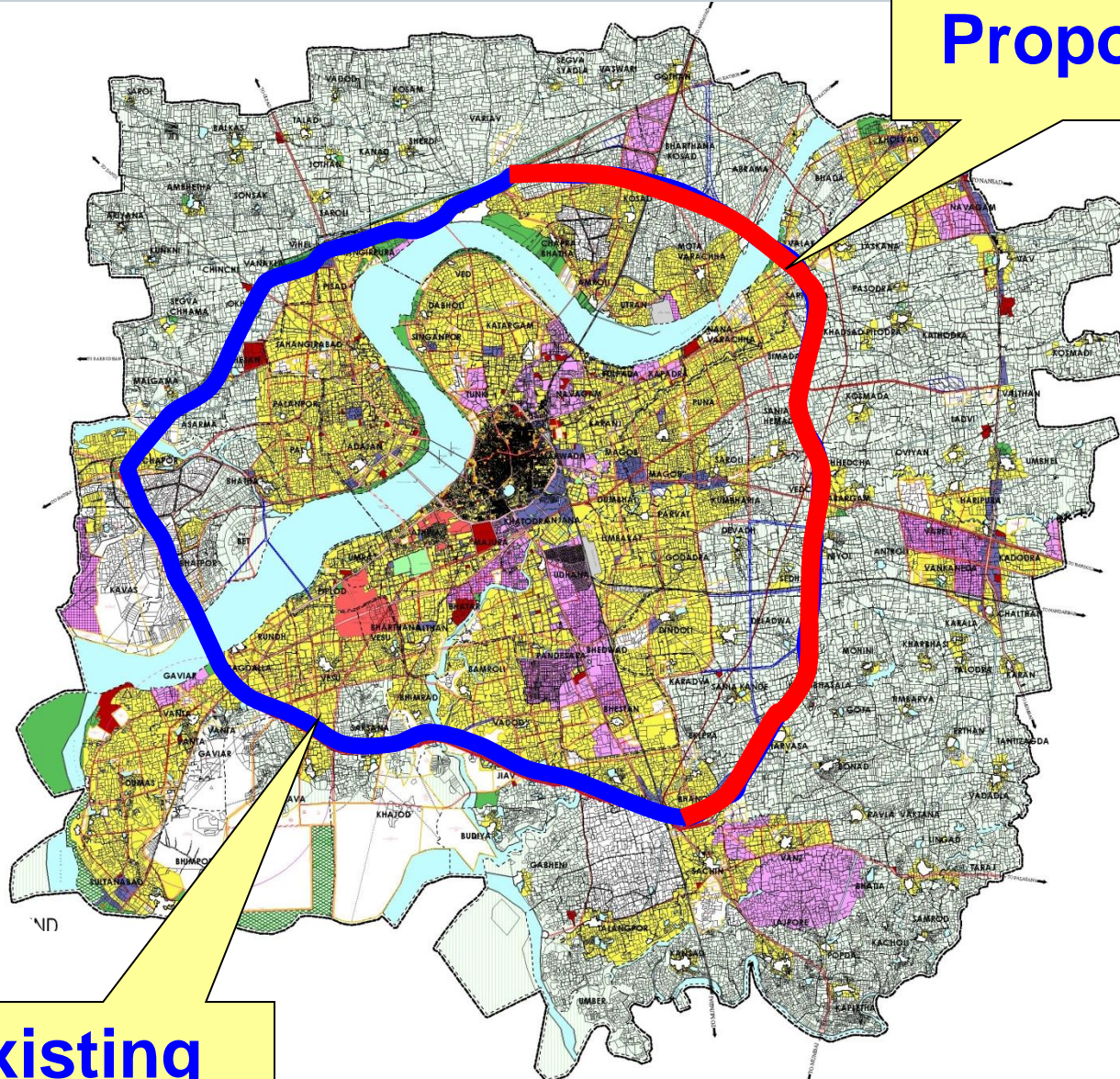
TRANSIT ORIENTED DEVELOPMENT

90 mt. wide & 66 Km long

OUTER RING ROAD SURAT

90 mt. wide & 66 Km long

Proposed



Existing

Proposal

- Proposed Width **90 mt.**
- Proposed Length **66 Km. (29 Km. – New Road)**
- **500 mts** wide Residential Zone on both the sides of the ring road
- FSI upto **4** (1.8 in other area)
- FSI from **0.6 to 4** shall be permitted by levying additional infrastructure charge @ **40%** of Jantri rate
- Max. Height Permissible is **70m** (40m in other area)
- 11 TP schemes proposed for implementation
- Implementation through SPV

Project Status

Sr. No.	Study	Status
1	Proposal u/s 19 for road alignment - sanctioned	30.03.2012
2	Proposal u/s 19 for zone variation - sanctioned	03.10.2012
3	Proposal u/s 19 for variation in GDCR - sanctioned	12.03.2015
4	Feasibility Report	Completed
5	Incorporation of Urban Ring Development Corporation Limited	2-7-2015
6	Draft TP Schemes sanctioned	2-3-1016
7	Demarcation of Road alignment	Complete
8	Possession taken	90%

SURAT METRO RAIL PROJECT

STATUS TIMELINE

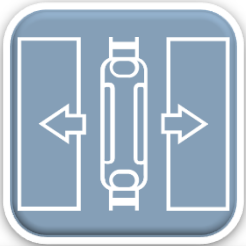
#	DATE	PROGRESS
1	13.01.16	High Powered Committee (HPC), Gujarat State decided to prepare DPR for Metro Rail Project for Surat City and directed MEGA to coordinate.
2	27.01.16	MEGA sent letter to DMRC (Delhi Metro Rail Corporation) to submit offer for preparing DPR for Surat Metro Rail project
3	02.02.16	DMRC submitted offer to SMC with TOR for approval through MEGA.
4	17.02.16	SMC gave work-order to DMRC for preparation of DPR as per approved TOR.
5	17.03.16	Based on previous sanction Dtd.21-08-12 by General Board of SMC, offer of DMRC was sanctioned by Standing Committee of SMC.
6	18.03.16	DMRC started the work. Time Limit (8 Months)- Work is in progress

SURAT MULTI MODAL TRANSPORTATION (MMTH) DEVELOPMENT

SURAT RAILWAY STATION MMTH

SALIENT FEATURES	Land parcels of Railways, GSRTC & SMC to be pooled	
	Joint Venture SPV to be formed for Development and O&M of MMTH.	
	Rs. 645 Cr.	Total cost of MMTH including infrastructure improvement
	61 storey	Height of tower that is to be commercially developed
	Consultants	Transaction Advisor - M/s aXYKno Capital Services Ltd & Architect - M/s Blackink
PRESENT STATUS & TARGET DATES	11 Apr 16	Broad contours of MOU to be signed between IRSDC, GSRTC & SMC discussed
	13 Apr 2016	EoI invited as per the suggestion of GoG
	12 May 2016	GoG comments on MoU sent to MoR. 90 years lease, equity share to be finalized by MoR.
	03 & 13 May 2016	1 st & 2 nd Pre application meetings held. 9 applications recd on 26.5.16
	17 Aug' 2016	MOU Signed by IRSDC (IR), GSRTC & SMC
	28 Sept., 2016	Draft RFQ FOR DEVELOPMENT OF A MULTI MODAL TRANSPORTATION HUB AT SURAT, GUJARAT ON DBFOT BASIS

FEATURES OF MMTH



ICONIC RAILWAY
STATION



BUS TERMINAL OF
INTERNATIONAL
STANDARDS



STATE OF THE ART
GREEN BUILDINGS



LATEST, SELF
EXPLANATORY
SIGNAGES



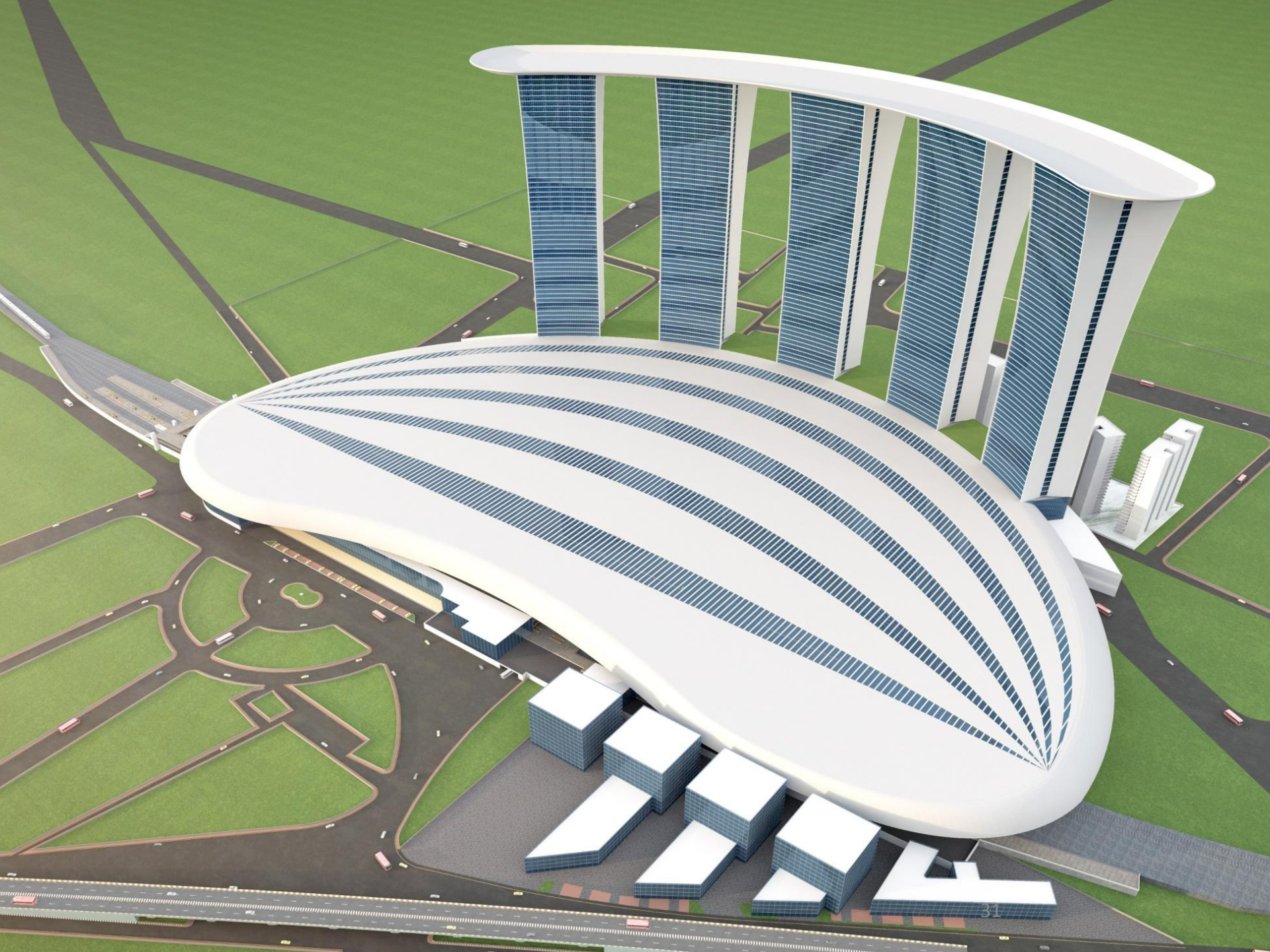
SEAMLESS,
MULTIMODAL
CONNECTIVITY



SEGREGATING
ARRIVAL, DEPARTURE
PASSENGERS



ACCESSIBILITY
ENABLED

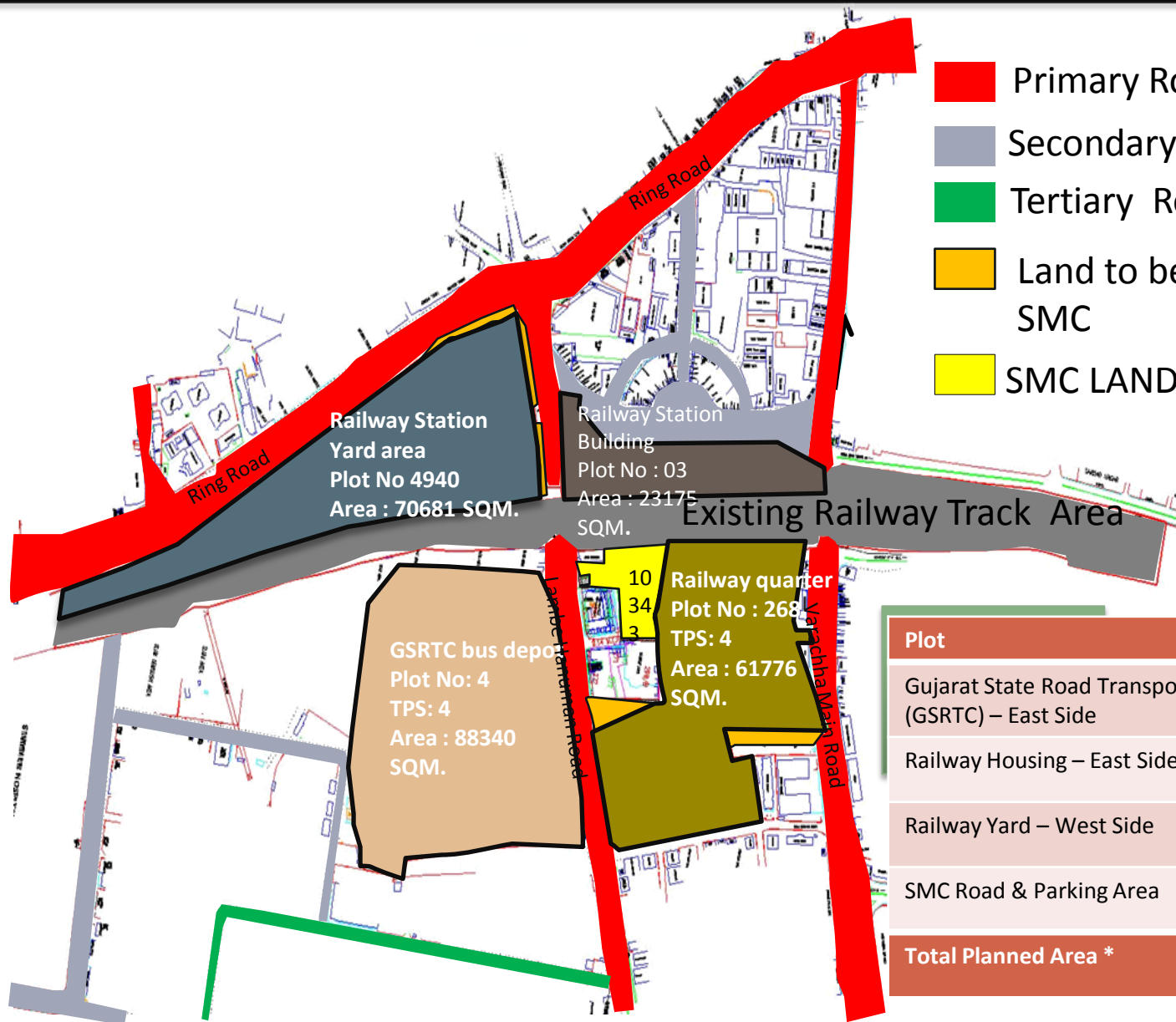
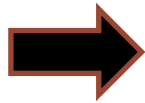




Benefits of the project to city of Surat

- Development of large commercial space will boost economic activities for Surat.
- Development will attract plenty of job opportunities in & around Surat.
- Development will act as a catalyst to tourism promotion for Surat city.
- No congestion around railway station area due to adequate approach and seamless integration.
- Ample parking facility for private & public modes of transport.
- Balanced utilization of East & west side of railway station.
- Seamless mobility between different modes with approach for passengers at a walkable distance.
- Convenient shopping & recreation facility for commuters.
- Issue of single ticket connecting different modes of transport
- A world class Transit system with Multi Modal Hub, which is Affordable, Efficient & Sustainable

PROPOSED SITE AREA DETAILS



- Primary Road
- Secondary Road
- Tertiary Road
- Land to be acquired by SMC
- SMC LAND.

Plot	Area (sqmt)
Gujarat State Road Transport (GSRTC) – East Side	88,340
Railway Housing – East Side	61,776
Railway Yard – West Side	70,416
SMC Road & Parking Area	6865
Total Planned Area *	2,27,397

Railway Station
Yard area
Plot No 4940
Area : 70681 SQM.

Railway Station
Building
Plot No : 03
Area : 23175
SQM.

Existing Railway Track Area

GSRTC bus depot
Plot No: 4
TPS: 4
Area : 88340
SQM.

10
34
3
Railway quarter
Plot No : 268
TPS: 4
Area : 61776
SQM.

MMTH COST BREAK UP

(Rs. Cr.)

Cost	IRSDC	GSRTC	Total
Station Amenities Internal Road + office + Parking+ d+ Platform modification+ Utility	236.10	51.26	287.36
Cost of Staff Quarter Area	62.00	20.67	82.67
Hospital for Railway Staff	8.07	0.00	8.07
Common Area (interchange) concourse + Lift & Escalators	51.36	51.36	102.72
BRTS+ local bus + land reserve for Metro(At no cost to SMC)	25.00	0.00	25.00
Water Supply, Sewerage, SWD, Road Network Upgrade (At no cost to SMC)	83.40	55.60	139.00
Total Cost MMTH (A) (INR in Cr.)	465.93	178.89	644.82
Total Cost MMTH (A) (USD in million)	69.5	26.7	96.2

LOGISTIC PARK SURAT

Logistic Park

- Background

- ✓ Logistic park is likely to give a boost to the Surat city's industrial competitiveness.
- ✓ The proposed logistic park will include facilities like warehouses, distribution centres, storage areas, offices, truck services, parking lots, truck terminals, container rail terminal, container handling facilities, cold storages, distribution centers, air cargo points, lorries, maintenance points, service stations, hospitals and restaurants.
- ✓ In addition, logistic park would be equipped with weighbridges, telecommunication facilities, banks, health awareness units and recreation centers
- ✓ The proposed logistic park is planned to integrate with the logistic park planned by GIDB for Surat city.

Logistic Park

- Site Details

- ✓ The proposed site is located on national highway and it is 9-10 km outside SMC limit.
- ✓ Site Area: 1,65,000 sq.mt.
- ✓ Project Cost – Rs. 50 Cr. (As per SCP) i.e. about USD 7.5 million

Logistic park Site Map

● Site



National
Highway No: 8

Surat-Bardoli
Road

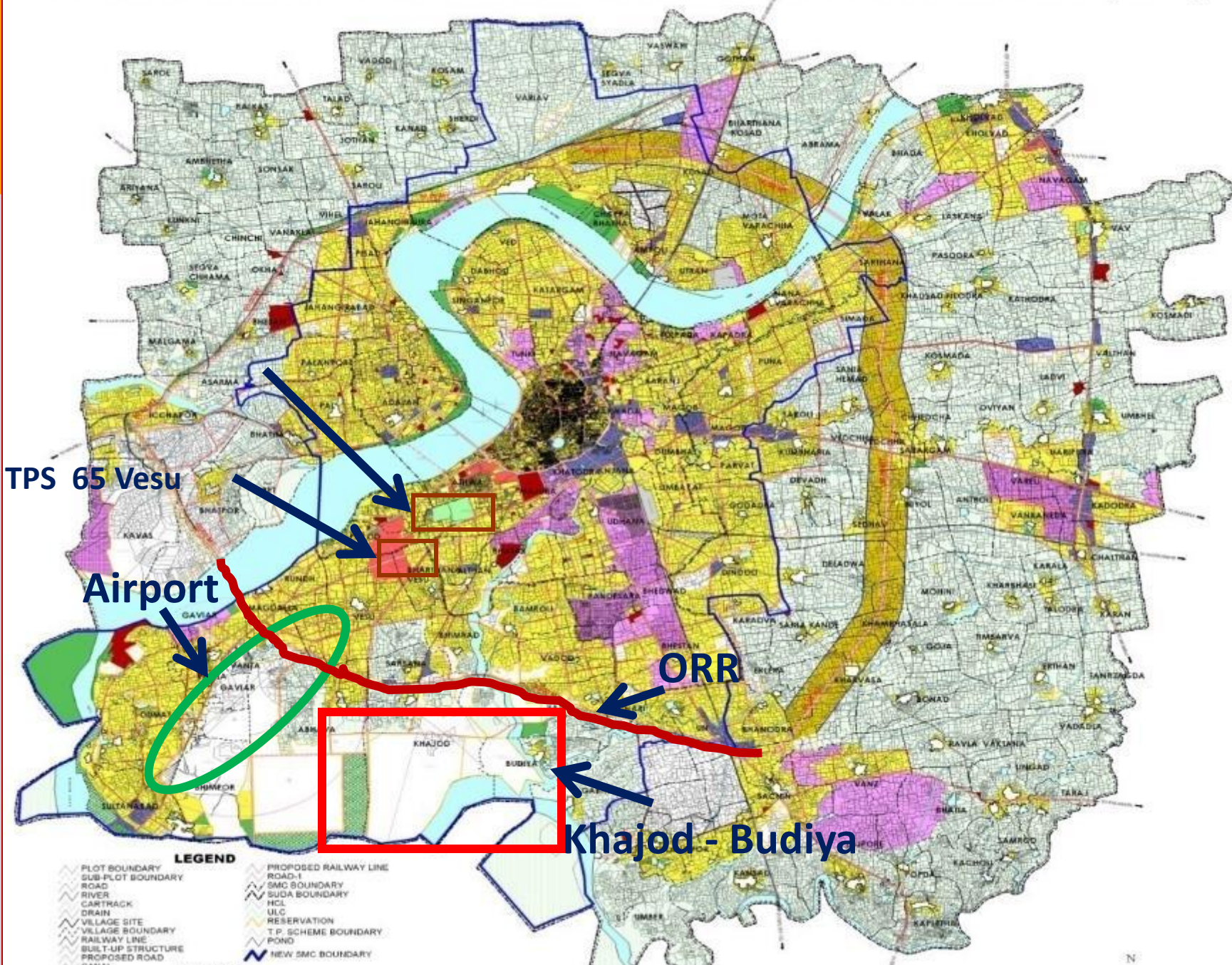
DREAM CITY

Diamond Research and Mercantile (DREAM) City

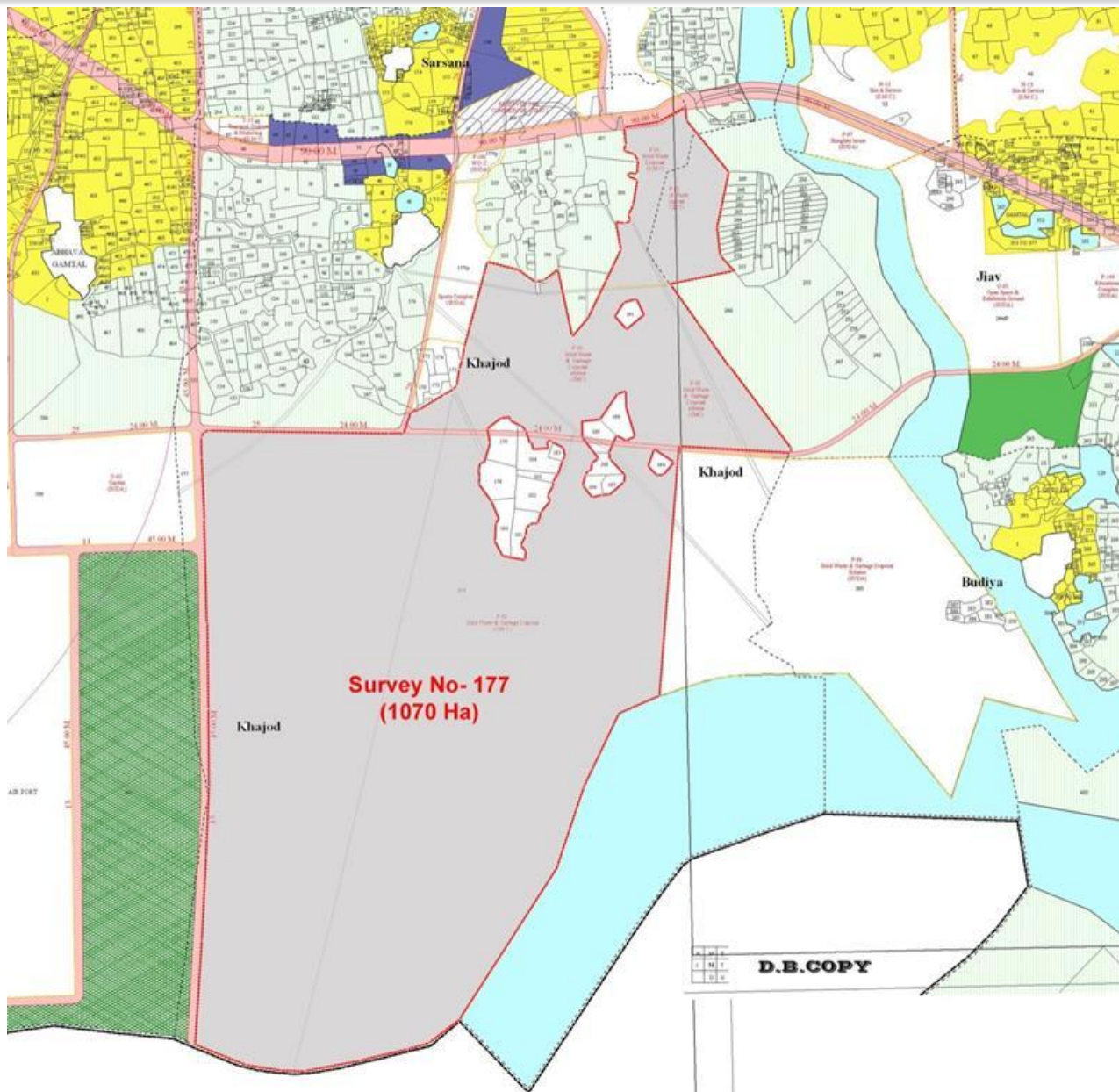
Project Conceptualization

- Surat Diamond Bourse (SDB) requested Government to setup DREAM City at Surat to initiate trading of diamond and extend activities in supply chain.
- To develop International Trading, Research and Service Hub, with a focus on Diamond Bourse, to allow non polluting activities and to extend the supply value chain for high end trading.
- Surat Diamond Association (SDA) will become an Anchor Tenant for this project and around 100 acres area out of the total area being identified by the consultant, will be offered, to develop as Core Area of DREAM city.
- Implementation of the project through SPV

SANCTIONED REVISED DEVELOPMENT PLAN OF SURAT URBAN DEVELOPMENT AUTHORITY. (SUDA)



Site Appreciation



Project Status

Sr. No.	Study	Status
1	Real Estate Market/ Assessment and Pre-feasibility Study	Completed
2	Topography Survey and Geo tech Investigations	Completed
3	Demarcation of High Tide Line and CRZ	Completed
4	Feasibility Report with Land Monetization	Completed
5	Incorporation of of DREAM Company Limited	10-7-2015
6	Master Planning and DPR Preparation by International Consultant for DREAM City Project	In process
7	Allotment of government land to the Company	29-5-2015
8	Govt. ratification for the rate of Development rights	5-7-2016
9	Formation of Khajod Urban Development Authority	19-7-2016

Thank You



Presented By:

Shri. M. Thennarasan, IAS
Surat Municipal Commissioner