INTEGRATED MASS TRANSIT SYSTEM

AN INITIATIVE OF

SURAT MUNICIPAL CORPORATION

Technical Support:
Centre of Excellence in Urban Transport, CEPT University
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 City

Demographics

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

### Surat Municipal Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (sq.km)</td>
<td>8.18</td>
<td>8.18</td>
<td>33.90</td>
<td>55.70</td>
<td>111.16</td>
<td>112.27</td>
<td>326.52</td>
</tr>
<tr>
<td>Population</td>
<td>223182</td>
<td>288026</td>
<td>471656</td>
<td>776583</td>
<td>1498817</td>
<td>2433785</td>
<td>44,62002</td>
</tr>
<tr>
<td>Decadal Growth Rate (%)</td>
<td>-</td>
<td>29.05</td>
<td>63.75</td>
<td>64.65</td>
<td>93.0</td>
<td>62.38</td>
<td>83</td>
</tr>
<tr>
<td>Pop. Density (per sq.Km)</td>
<td>27284</td>
<td>35211</td>
<td>13934</td>
<td>13977</td>
<td>13489</td>
<td>21677</td>
<td>13835</td>
</tr>
<tr>
<td>Sex ratio</td>
<td>916</td>
<td>915</td>
<td>887</td>
<td>857</td>
<td>839</td>
<td>774</td>
<td>756</td>
</tr>
</tbody>
</table>

### Surat Urban Development Area (Including SMC)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>715</td>
<td>715</td>
<td>715</td>
</tr>
<tr>
<td>Population</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>985077</td>
<td>1786566</td>
<td>3090686</td>
</tr>
<tr>
<td>Decadal Growth Rate (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>81%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Surat Municipal Corporation
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
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
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

Routes:
- A1 – Clockwise Route
- A2 – Anti-Clockwise Route

34 High Quality Bus Service every 3 minutes
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
To promote sustainable mobility in Surat, Surat Municipal Corporation has adopted multi-pronged efforts. To facilitate seamless transfer, 5 interchanges have been built (10 more under construction). The buses have both side central doors 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
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.

**Transport Service**
- BRT Service
- City Bus Service
- Pay & Park Facility

**Recreational Facilities**
- Science Center
- Nature Park
- Aquarium

**Membership based facilities**
- Sports Center
- Swimming Pool
- Library

**Other Services**
- Hospitals & Health Centers
- Students
- Anganwadi
- EWS/LIG Houses
- Reading Room
- SAFAL Reg.
Automatic Fare Collection

- 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.**
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.

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 Sitilink – a special purpose vehicle is created under companies act.
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
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

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Study</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Proposal u/s 19 for road alignment - sanctioned</td>
<td>30.03.2012</td>
</tr>
<tr>
<td>2</td>
<td>Proposal u/s 19 for zone variation - sanctioned</td>
<td>03.10.2012</td>
</tr>
<tr>
<td>3</td>
<td>Proposal u/s 19 for variation in GDCR - sanctioned</td>
<td>12.03.2015</td>
</tr>
<tr>
<td>4</td>
<td>Feasibility Report</td>
<td>Completed</td>
</tr>
<tr>
<td>5</td>
<td>Incorporation of Urban Ring Development Corporation Limited</td>
<td>2-7-2015</td>
</tr>
<tr>
<td>6</td>
<td>Draft TP Schemes sanctioned</td>
<td>2-3-1016</td>
</tr>
<tr>
<td>7</td>
<td>Demarcation of Road alignment</td>
<td>Complete</td>
</tr>
<tr>
<td>8</td>
<td>Possession taken</td>
<td>90%</td>
</tr>
</tbody>
</table>
SURAT METRO RAIL PROJECT
# STATUS TIMELINE

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

#### Salient Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land parcels</td>
<td>Railways, GSRTC &amp; SMC to be pooled</td>
</tr>
<tr>
<td>Joint Venture SPV</td>
<td>To be formed for Development and O&amp;M of MMTH.</td>
</tr>
<tr>
<td>Total cost of MMTH</td>
<td>Including infrastructure improvement</td>
</tr>
<tr>
<td>Height of tower</td>
<td>61 storey</td>
</tr>
<tr>
<td>Consultants</td>
<td>Transaction Advisor - M/s aXYKno Capital Services Ltd &amp; Architect - M/s Blackink</td>
</tr>
</tbody>
</table>

#### Present Status & Target Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Apr 16</td>
<td>Broad contours of MOU to be signed between IRSDC, GSRTC &amp; SMC discussed</td>
</tr>
<tr>
<td>13 Apr 2016</td>
<td>EoI invited as per the suggestion of GoG</td>
</tr>
<tr>
<td>12 May 2016</td>
<td>GoG comments on MoU sent to MoR. 90 years lease, equity share to be finalized by MoR.</td>
</tr>
<tr>
<td>03 &amp; 13 May 2016</td>
<td>1st &amp; 2nd Pre application meetings held. 9 applications recd on 26.5.16</td>
</tr>
<tr>
<td>17 Aug’ 2016</td>
<td>MOU Signed by IRSDC (IR), GSRTC &amp; SMC</td>
</tr>
<tr>
<td>28 Sept., 2016</td>
<td>Draft RFQ FOR DEVELOPMENT OF A MULTI MODAL TRANSPORTATION HUB AT SURAT, GUJARAT ON DBFOT BASIS</td>
</tr>
</tbody>
</table>
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

Existing Railway Track Area

- Existing Railway Track Area
  - Plot No 4940
    - Area: 70,681 SQM
- Railway Station
  - Plot No: 03
    - Area: 23,175 SQM
- GSRTC bus depot
  - Plot No: 4
    - TPS: 4
    - Area: 88,340 SQM
- Railway Yard
  - Plot No: 268
    - TPS: 4
    - Area: 61,776 SQM
- SMC Road & Parking Area
  - Plot No: 10
    - TPS: 3
    - Area: 6865 SQM

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

<table>
<thead>
<tr>
<th>Plot</th>
<th>Area (sqmt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gujarat State Road Transport (GSRTC) – East Side</td>
<td>88,340</td>
</tr>
<tr>
<td>Railway Housing – East Side</td>
<td>61,776</td>
</tr>
<tr>
<td>Railway Yard – West Side</td>
<td>70,416</td>
</tr>
<tr>
<td>SMC Road &amp; Parking Area</td>
<td>6865</td>
</tr>
<tr>
<td><strong>Total Planned Area</strong></td>
<td><strong>2,27,397</strong></td>
</tr>
</tbody>
</table>
## MMTH COST BREAK UP

<table>
<thead>
<tr>
<th>Cost</th>
<th>IRSDC</th>
<th>GSRTC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Amenities Internal Road + office + Parking + Platform modification + Utility</td>
<td>236.10</td>
<td>51.26</td>
<td>287.36</td>
</tr>
<tr>
<td>Cost of Staff Quarter Area</td>
<td>62.00</td>
<td>20.67</td>
<td>82.67</td>
</tr>
<tr>
<td>Hospital for Railway Staff</td>
<td>8.07</td>
<td>0.00</td>
<td>8.07</td>
</tr>
<tr>
<td>Common Area (interchange ) concourse + Lift &amp; Escalators</td>
<td>51.36</td>
<td>51.36</td>
<td>102.72</td>
</tr>
<tr>
<td>BRTS + local bus + land reserve for Metro (At no cost to SMC)</td>
<td>25.00</td>
<td>0.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Water Supply, Sewerage, SWD, Road Network Upgrade (At no cost to SMC)</td>
<td>83.40</td>
<td>55.60</td>
<td>139.00</td>
</tr>
</tbody>
</table>

### Total Cost MMTH (A) (INR in Cr.)

| Total Cost MMTH (A) (INR in Cr.) | 465.93 | 178.89 | 644.82 |

### Total Cost MMTH (A) (USD in million)

| 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
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
Survey No. 177
(1070 Ha)
## Project Status

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

Presented By:

Shri. M. Thennarasan, IAS
Surat Municipal Commissioner