



SMART
CITY
BHOPAL

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BHOPAL –Lighthouse city with a difference



1. Only lighthouse city that envisions **REDEVELOPMENT** driven urban overhaul by unlocking the value of sub optimally utilized land parcels.
2. ICT to drive Citizen Centric innovations as pan city interventions
3. Eco friendly & connected communities



BHOPAL – SMART CITY VISION



Transforming Bhopal, a City of Lakes, Tradition & Heritage
into a leading destination for
Smart, Connected and Eco Friendly Communities
focused on
Education, Research, Entrepreneurship and Tourism

PAN CITY INITIATIVES

Bundle of smart city governance, public services and infrastructure projects.



Smart poles & Street Lighting

... as a multi- application platform

REVENUE GENERATING

MULTI-APPLICATION

AESTHETICALLY UNIQUE



SMART POLES – Multi - application



1. Converting 20000 traditional street lights to LED based intelligent lights
2. 400 Smart poles with capability to accommodate multi operator telecom Base Stations for 2G/3G/LTE to reduce mobile call drops
3. 400 Surveillance cameras inbuilt into smart poles
4. Wi-Fi hotspots - 100
5. Interactive Digital Signage for traffic & business - 400
6. Environment sensors – 100
7. 48 core , 200 km of citywide Optical Fiber Cable network to enable connected communities
8. Network/cloud controlled EV Charging at 100 poles
9. State of the art control and command center for the O&M of services for 15 years

SMART POLES – Revenue Generating

1. Induced investment of 600 crs
2. No cost to city
3. Additional revenue of Rs 47 crores to BSCDCL

Consortium Parters

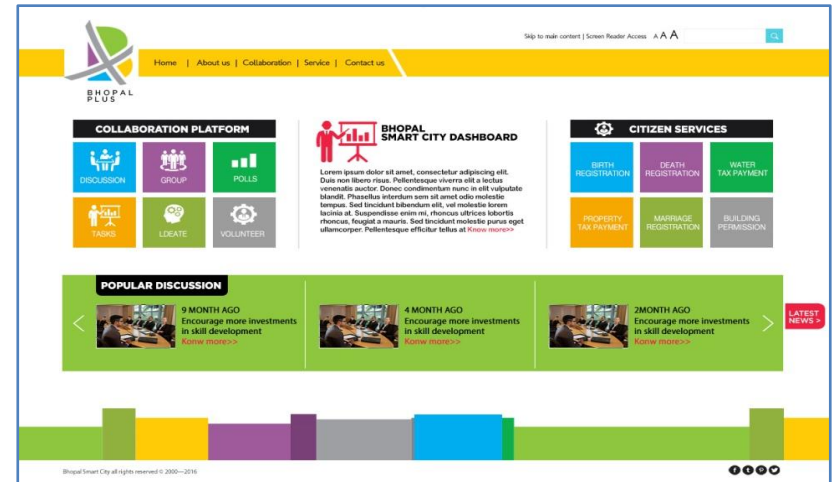
Bharti-Infratel, Ericsson, SmartX and HPL



BHOPAL PLUS - THE SMART CITY APP



- Collaboration platform
- Citizen services (G2C & B2C)
- Smart city dashboard
- Grievance Redressal
- Integration with external apps (Dynamic market place, women safety application, etc.)

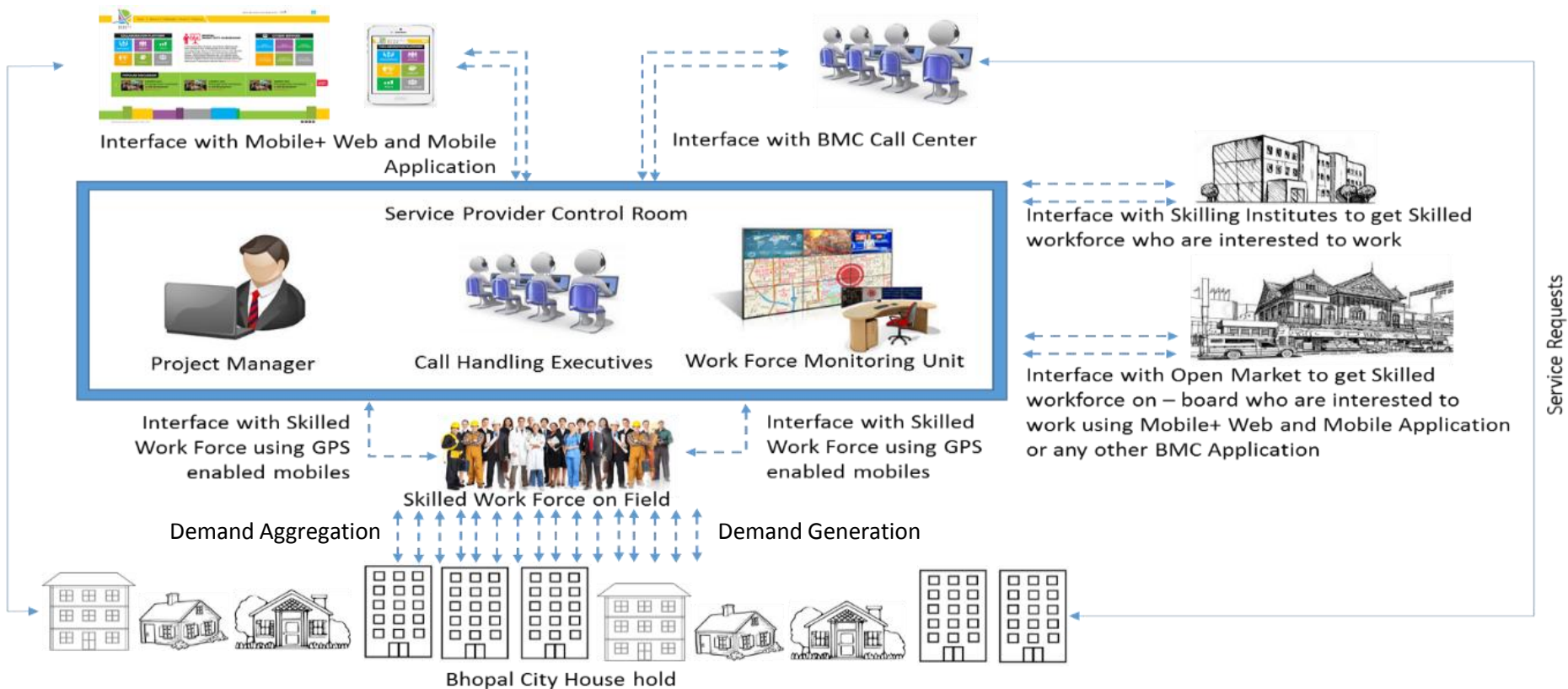


An integrated platform enabling and promoting
“**Collaborative and Participatory Governance**”.

BHOPAL DYNAMIC MARKET PLACE

Common platform on Bhopal Plus application for the citizens of Bhopal to avail various kinds of domestic and house hold services with quality and efficiency

The services include- Electrician, Plumber, Carpenter, Mason, Driver, Gardener, Painter, Accountant, Air Conditioner Servicing, Baby Sitter, Beautician, Car Cleaner, Cook, Dish Washer, Domestic Maid, House Cleaning, Pest Control, Photographer, etc.



BHOPAL SMART MAP



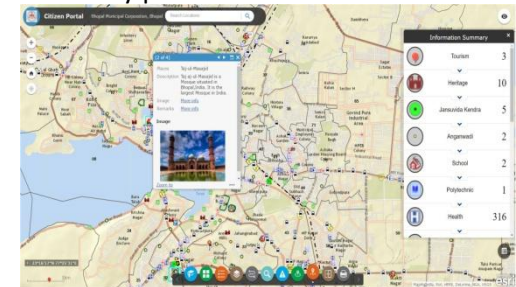
56 layered GIS cutting across departments.

- Citizen portal - Map visualization module, Query module, and location based information module, education, health services, public feedback, transport, cultural and community events.
- Property and other taxes.

Facilities



Near by places



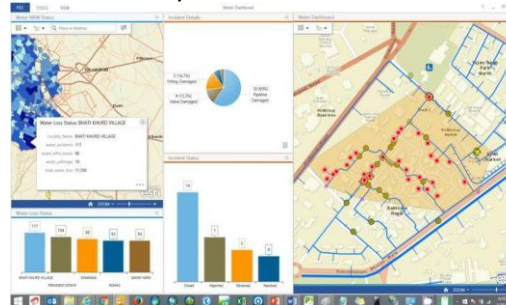
Driving Directions



Transport Planning and Analysis



Incident Analysis



Urban Planning and Analysis



BHOPAL SMART PARKING

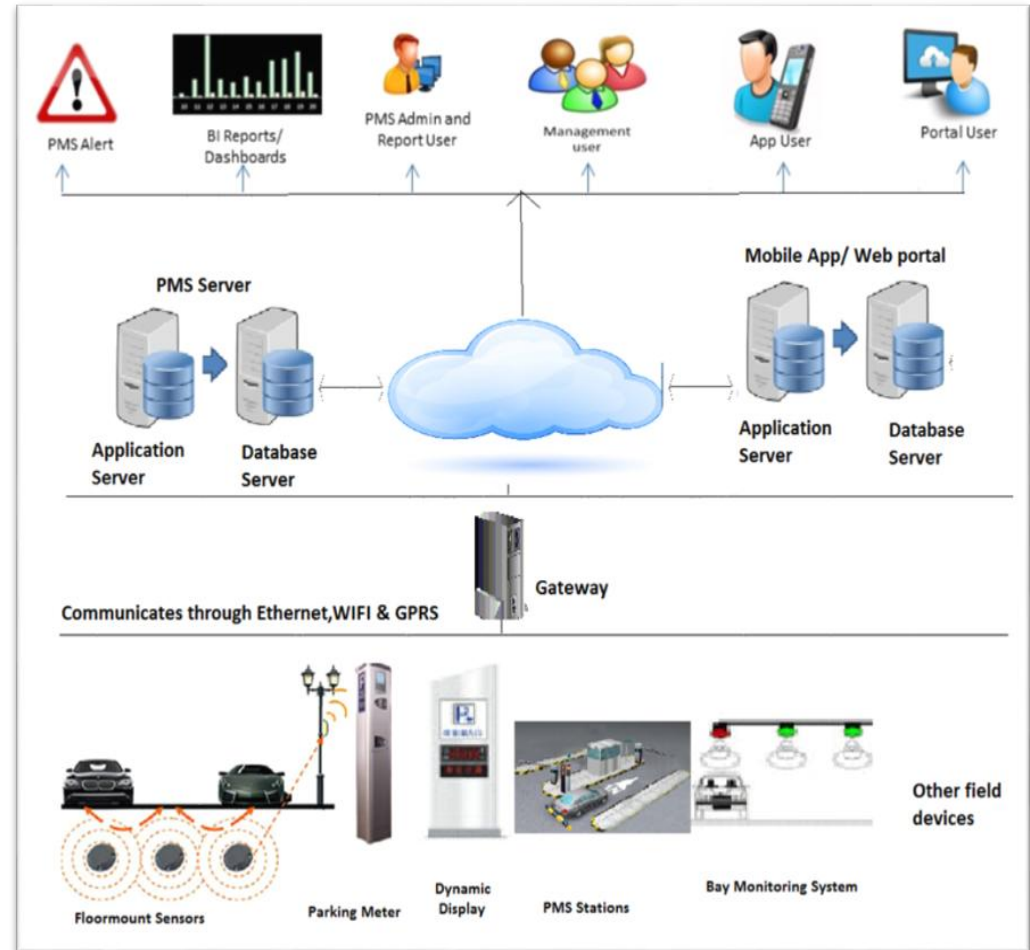


To City municipal corporation /Managements Team/ Clients:

- Enhanced quality of life for the citizen.
- Improvement in their parking experience & satisfaction
- More efficient use of parking and increased revenue
- Reduces illegal parking
- Reduces revenue leakages
- Reduces Man power cost in operation.

Citizens:

- Reduces travel time and traffic congestion
- Easy & Faster to locate a slot, park and exit
- Multiple modes of payments with simple process
- Assured parking with pre booking facility
- Enhanced experience



PUBLIC BIKE SHARING



- **Design, Procurement, Installation, Operation and Maintenance.**
- **50 Docking Stations, 500 Smart Bikes**
- **integrated with the fare collection system of the BRT system to aid the multimodal integration.**

SMART BIKE



- Board computer with NFC card reader
- GPS and WiFi Localisation
- GSM communication
- Fork lock
- Parking function
- APP
- Aadhar enabled smart cards



Rental via NFC
or App



Rental with
Smart Cards



PIN code
entry

BICYCLE TRACK



5 meter wide, 10 km long cycle track integrating BRTS and Public bike sharing Electric Vehicles

INTELLIGENT TRANSPORT SYSTEM

- All buses equipped with GPS based Automatic Vehicle Location System (AVLS) connected with Central Control and Command Center.
- Real time tracking and monitoring of Bus Operations.
- 16 Ft X 6 Ft Video Wall comprising of 08 Nos. of High Resolution LED Panels.
- Bus Stops are connected with Command Center reflecting Expected Time of Arrival (ETA) on Passenger Information System (PIS)
- All the buses are equipped with 04 Nos. of PIS in buses and PAS in buses. .
- Signal Priority for BRTS buses
- Automatic Fare Collection



SMART MOBILITY

a INTELLIGENT TRANSPORT SYSTEM (PIS/PAS/REAL TIME MONITORING)

Buses equipped with GPS based AVLS connected with Central Control and Command Centre. A 16 ft x 6 ft Video Wall comprising of 8 Nos. of High Resolution LED Panels tracks and monitors the movement in real time. Additionally, the Bus Stops are connected with Command Centre reflecting Expected Time of Arrival (ETA) on Passenger Information System (PIS)

All the buses are equipped with 4 Nos. of PIS in buses and passenger announcement system. Destination and next bus stop information, Public messages and announcement.

b AUTOMATIC FARE COLLECTION



Automatic Fare Collection System installed at the bus stops to automate the integrated ticketing system

BUS PRIORITY SYSTEM



Installed at the intersection to improve service, enhance safety and reduce delays

c INTELLIGENT STREET POLES

Wi-Fi zoning through Wifi Hot Spots

Safety of citizens

Energy efficient Solar based LED Street lighting

Environmental Sensors for quality, temperature, humidity

Electronic Vehicle charging points

d E-RICKSHAW (LAST MILE CONNECTIVITY)

E-rickshaws with docking station facilities provides last mile connectivity in environmentally sustainable and cost effective manner

e PUBLIC BICYCLE SHARING

500 Light weight modern Cycles at 50 fully Automated Bicycles in first phase
The Cycle sharing system will also be integrated with the fare collection through the ITS system.

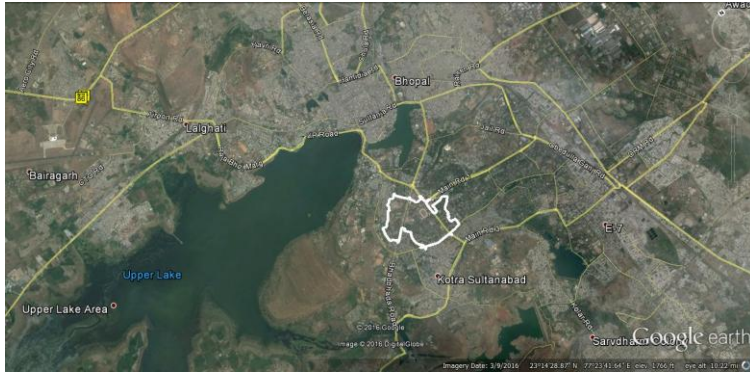
f DEDICATED CYCLE LANE

Providing a safe and welcoming cycling environment with proper markings and biking surface

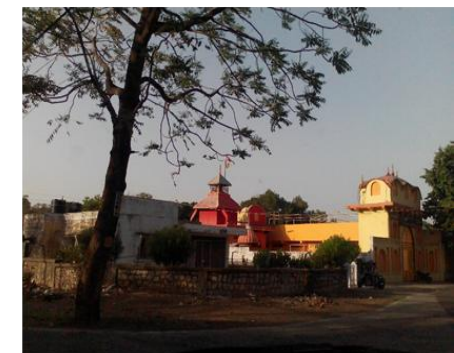


SMART CITY BHOPAL

(AREA BASED DEVELOPMENT)- Project Site



The Proposed Site for
Redevelopment is located in CBD of
Bhopal with area of 350 acres.
Master Planner -
Tata Consulting Engineers



CONCEPT MASTER PLAN



100 % Green buildings and neighborhood

SERVICES COMPONENT



1. Energy – 15% renewable with underground cabling and indoor substations.
2. Waste water reuse and recycling
3. Solid Waste Management system (automatic collection and transportation system)
4. District cooling system (centralized air conditioning system)
5. Water systems (dual piping)
6. ICT infra (as required for IOT)
7. Domestic gas distribution
8. Urban transport infrastructure, promotion of NMT (Walkability & Bicycling)
9. Transit Stations and plazas
10. Segregating motorized and non motorized transport to maximum
11. Underground integrated service trenches
12. External and underground Parking hubs (integrated management)

PPP FOR SERVICE
INFRASTRUCTURE

ROOF TOP SOLAR

1. Bhopal Smart City proposal envisages 10% of its energy requirement to be fulfilled with Solar Energy.
2. To start with, A 3.1 MW solar roof top energy project has been approved by Government of India.
3. Agreement signed with SECI and Renewable Energy Development Corporation of MP



BHOPAL LIVING LABS



(as Atal Incubation Centre)

Support

MPSEDC
MANIT
CISCO
NASSCOM
PWC
WRI
HP
ERICSSON
INTEL
TRUBA
COLLEGE

Objectives

- To identify & support potential cutting edge information technology entrepreneurs with a viable business plan
- To provide technical assistance in the development of processes, technologies and products along with managed workspace
- To connect researchers and entrepreneurs to commercialize innovations
- To increase economic and social growth of the region as well as the country

OTHER INITIATIVES

1. Green and Blue Master Plan
2. Heritage conservation and adaptive reuse of buildings
3. Bhopal golden mile
4. City control and command center (Selection of MSI)





Thanks