BHOPAL SMART CITY

BHOPAL SMART CITY

DEVELOPMENT

CORPORATION LIMITED

CEO - BSCDCL

Smart Cities Mission India

31 % of India's population resides in urban areas contributing 63 % of national GDP. It is expected that by the year 2030, 40 % of India's population will be living in urban areas and will contribute 75% of national GDP.*

Smart Cities Mission was launched to deal with rapid urbanization, drive economic growth and improve quality of life of people

Mission covers 100 cities over a duration of five years

Mission Purpose: The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes. One of the major aim is to make sure India is able to deal with huge influx of people.

Core Infrastructure would include: adequate water supply, assured electricity supply, sanitation including solid waste management, efficient urban mobility and public transport, affordable housing, especially for the poor, robust IT connectivity and digitalization, good governance, health, education, etc.

SCM creates reference and ripple effect for neighboring cities and rural surroundings

Urban Challenges to be Addressed by Smart Cities Mission

Mobility
- Inadequate public transport network
- Increased reliance on private transport, congestion

Power & Energy
- Reliance on hydrocarbons
- Incomplete access to 24/7 electricity

Water
- Insufficient access and adequacy
- Dependency on rain, distribution losses

Waste & Sanitation
- Open defecation & manual scavenging
- Lack of waste segregation & low collection efficiency

Governance
- Inadequate institutional capacity
- Limited autonomy, financial independence

Healthcare
- Low availability, unaffordable for many
- Little focus on preventive health/wellness

Education
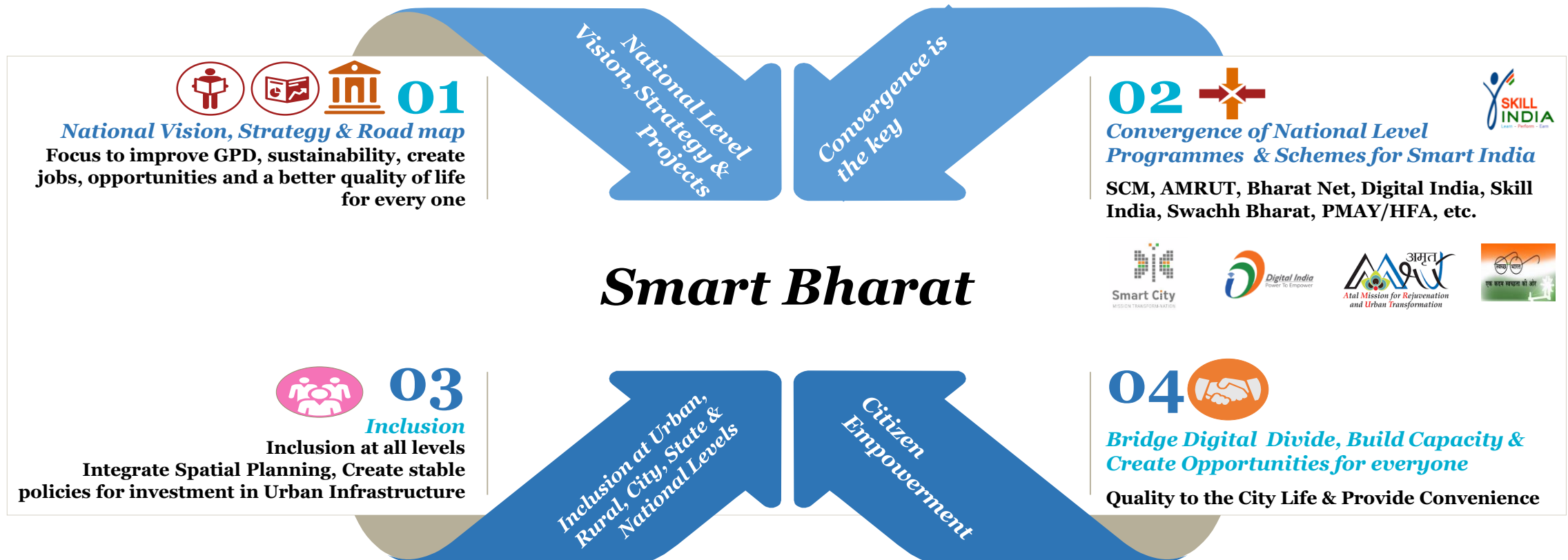- Insufficient quality of education, lack of infrastructure, research, retention

Built Environment
- Lack of affordable housing
- Informal dwellings, urban sprawl

India needs to view its economic and social challenges as opportunities for growth & renewal!

CHALLENGES FOR A CITY MANAGER

Convergence is the Key

Sector*	Smart Cities	AMRUT	Other Programs
Water	Yes	Yes	Yes (Housing For All, HRIDAY)
Waste & Sanitation	Yes	Yes	Yes (Clean India, Housing For All, HRIDAY)
Mobility	Yes	Yes	Yes (HRIDAY)
Energy	Yes	No	Yes (HRIDAY)
Social Infrastructure	Yes (Education, healthcare, Safety)	No	Yes (HRIDAY)

National Level Vision, Strategy & Projects

Convergence is the key

01

National Vision, Strategy & Road map
Focus to improve GPD, sustainability, create jobs, opportunities and a better quality of life for every one

02 SKILL INDIA

Convergence of National Level Programmes & Schemes for Smart India

SCM, AMRUT, Bharat Net, Digital India, Skill India, Swachh Bharat, PMAY/HFA, etc.

Smart Bharat

03

Inclusion
**Inclusion at all levels
Integrate Spatial Planning, Create stable policies for investment in Urban Infrastructure**

Inclusion at Urban, Rural, City, State & National Levels

Citizen Empowerment

04

Bridge Digital Divide, Build Capacity & Create Opportunities for everyone

Quality to the City Life & Provide Convenience

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

BHOPAL – A LIGHTHOUSE CITY WITH DIFFERENCE

1. Only **Lighthouse** city that envisions REDEVELOPMENT driven urban overhaul by unlocking the value of sub optimally utilized land parcels.
2. Check urban sprawl
3. IOT to drive Citizen Centric innovations as pan city interventions

PAN CITY INITIATIVES	AREA BASED INTERVENTIONS
875 cr.	2565 cr.

Project Cost as per SCP – 3437 cr.

Bhopal is the only **Light House City** (Bhopal was selected in the **top 20 SCM challenge list)** which envisions **Redevelopment**

Under the **Swachh Survekshan 2018 & 2017**, Bhopal was the **2nd Cleanest city of the country and the Cleanest Capital City**

Bhopal has been ranked as the **No.1 Smart City** by MoHUA , in terms of the progress and execution of Smart Cities Projects in Bhopal as per the Smart Cities Mission Guidelines

The **Average Air Quality Index (PM 2.5)** of Bhopal is around **60** which is considered to be on a **very satisfactory level .**

Bhopal was ranked as the **10th most Liveable City amongst 111 cities of the country as per the latest Liveability Index Survey**

BHOPAL A PIONEER CITY

SMART CITY BHOPAL

Pan City Initiatives

- Integrated Command & Control Centre (ICCC)
- Intelligent Traffic Management System (ITMS)
- Smart Poles & Intelligent Street Lights
- Bhopal Plus (One City One App)
- Mayor Express (Smart Handyman Service)
- Public Bike Sharing
- B-Nest (Incubation Center)
- Smart Map Bhopal (99 Layers of GIS)
- Smart Parking
- Heritage Conservation
- Water SCADA
- Digital Door Number
- Smart School
- Smart Park

ABD Initiatives

- Government Housing (2808 Units)
- Smart Road
- Solid Waste Management
- Boulevard Street
- Power Supply & Street Lights for ABD area
- Commercial Complex
- Haat Bazaar
- Dushhera Maidan

MAJOR PROJECTS UNDERTAKEN BY BSCDCL

AREA BASED DEVELOPMENT

342 ACRE
T T NAGAR
REDEVELOPMENT

TOD BASED MASTER PLAN

PROPOSED LAND USE

Legend
- ABD Project Boundary
- Residential
- Commercial
- PSP
- Green
- Utility

• The Master plan of the ABD project area is developed on the principles of Madhya Pradesh Transit Oriented Development Policy (Draft)-2016.

• The TOD policy supports high density mixed used development. It envisages to create transition between higher and lower intensity development by stepping down building heights and densities with distance from Transit Station/ Corridors.

• The Govt. of India's Smart City Mission also envisages similar high density development for its selected cities.

AREA BASED DEVELOPMENT

342 ACRE
T T NAGAR REDEVELOPMENT

LAND TRANSFERRED TO SPV

INFRASTRUCTURE PROVISONS

Parking – Optimal underground provision considering future projections

Accessibility – All mobility and connectivity infrastructure shall address accessibility by all

Solid Waste – Suction based Automated Evacuation of waste

Domestic Gas – Well distributed network

Utility Tunnel – Entire Utility & Service Supply System in the underground trenches

ICT – Digitally Connected City, IoT Infrastructure, Plug and Play

Water Supply – Dual piping, Drinking water from any tap

Sewage Treatment Facility – Water Recycle

Green Township/ Neighborhood – 80% buildings in the ABD area shall be green rated

Signage – Way finder and Impact signage as required

Power – Underground Compact Sub-stations, 24 X 7, Smart grid, Min. 10% power from Renewable Energy, 100% power back-up

TOD BASED MASTER PLAN

100 % Green buildings and neighborhood

EXISTING LAND USE

PROPOSED LAND USE

EXISTING LANDUSE

LEGEND
- ABD Boundary
- Ward Boundary
- Residential
- Commercial
- Mixed Use
- Educational
- Sports
- Religious
- Open Space/Park
- Road
- Slums
- Utilities

WARD NO. 34
WARD NO. 27
WARD NO. 35
Towards Roshanpura Chouraha
Towards Board Office Chowraha
Gamon Site
Jawaher Chowk
Stadium
Towards Depot Chouraha
WARD NO. 28
Platinum Plaza
Mata Mandir Chowaraha
WARD NO. 30
WARD NO. 31
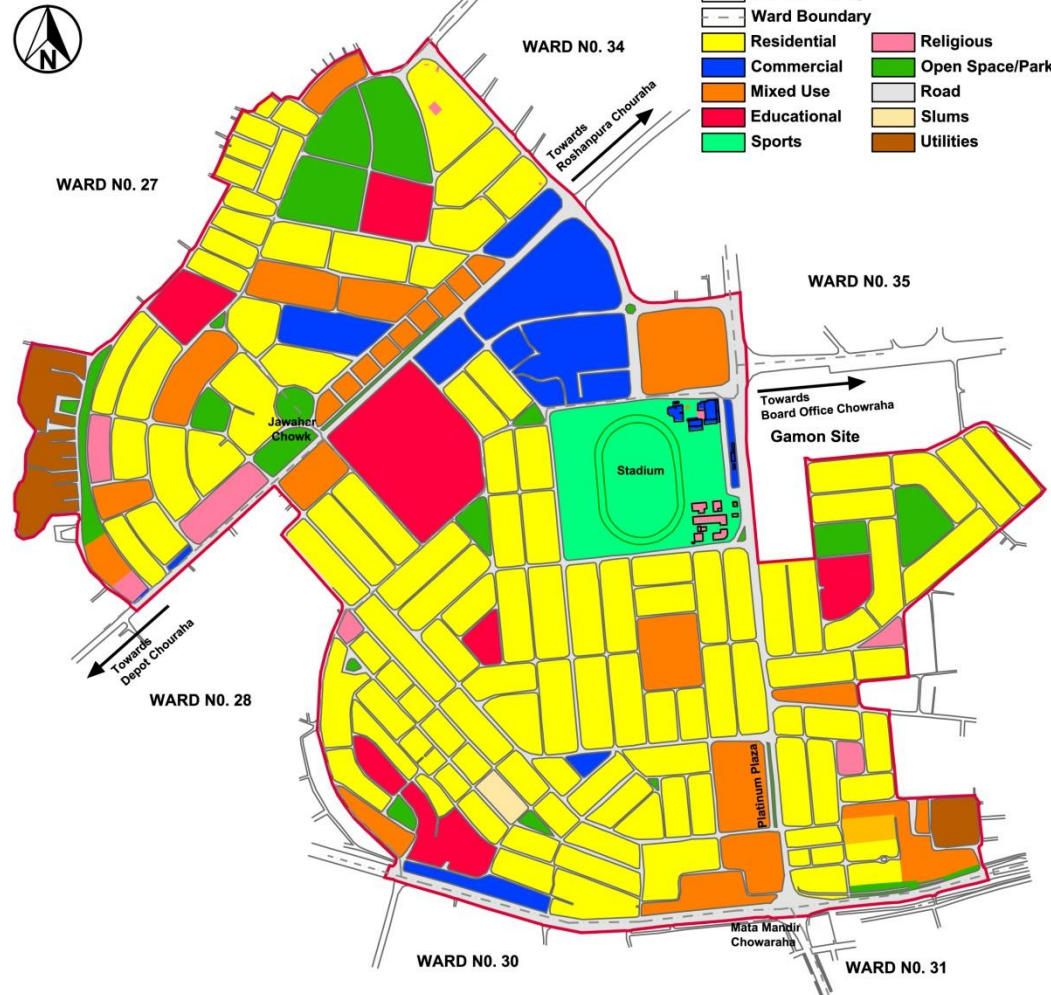
Existing Roads & Open Spaces - 23.4%

Legend
- ABD Project Boundary
- Residential
- Commercial
- PSP
- Green
- Utility

Roshanpura
New Market
30m wide
30m wide
45m wide Bhadbhada Road
30m wide
45m New Market Road
45m wide Boulevard Street
Node 1
Node 2
Meters

Proposed Roads & Open Spaces - 42%

PROPOSED INFRASTRUCTURE

Parking – Optimal underground provision considering future projections

Water Supply – Dual piping, Drinking water from any tap

Sewage Treatment Facility – Water Recycle

Domestic Gas – Well distributed network

Solid Waste – Suction based Automated Evacuation of waste

Power – Underground Compact Sub-stations, 24 X 7, Smart grid, Min. 10% power from Renewable Energy, 100% power back-up

District Cooling – Centralized cooling and heating system for commercial and retail spaces

ICT – Digitally Connected City, IoT Infrastructure, Plug and Play

Utility Tunnel – Entire Utility & Service Supply System in the underground trenches

Accessibility – All mobility and connectivity infrastructure shall address accessibility by all

Green Township/ Neighborhood – 80% buildings in the ABD area shall be green rated

Signage – Way finder and Impact signage as required

GOVERNMENT HOUSING

PARKING SPACES,GARDEN,CLUB HOUSE,CCTV

Project cost – 187 crs
Time – 24 months
Status - Awarded

OTHER DEVELOPMENTS

Land allotted by Government
Planning finalized and submitted to T&CP for land use change
TOR for Environmental Impact Assessment approved by MOEF, GOI
Proposal for approval of High Rise Building , Government housing submitted
Work of 352 G type and 328F type Houses awarded
Work of Boulevard Street (45 meter road) awarded.

PAN CITY INITIATIVES

BSCDCL Domains for Digital Initiatives

The digital initiatives of BSCDCL are based upon the digital strategy/roadmap for Bhopal city which is based on the following domains

01 Smart Government

- Promote data-driven approach for public service delivery and development of e-Governance services
- Infrastructure to support Government & Citizens

02 Smart People

- Enable people to interact with service providers and participate in civil society with ease and confidence

03 Smart Living

- Instil and enhance citizen's confidence and ability in transacting electronically with the public and private sector
- Support general citizen wellbeing
- Empower the elderly to age in their own communities

04 Smart Economy

- Improve and promote the overall business climate and industrialization and city effectiveness for start-ups and investors
- Attract leading talent and investments globally to increase

05 Smart Mobility

- Facilitates commuters choice of efficient and integrated multimodal transport, promote non-mechanized transport for short trips and maximize use of pubic transport
- Alleviate traffic congestion problems through effective planning

06 Smart Environment

- Promote a more sustainable environment for the people of Bhopal
- Optimize the use of city resources through "reduce, reuse and recycle"

Integrated Command Control Center @ BSCDCL

INTEGRATED CONTOL & COMMAND CENTER

UNIQUE MODEL

Cloud Based DC & DR

- On demand IT Infra for Smart City Applications
- IT Infra Aggregation
- Optimal utilization by sharing IT infra
- Standardization- Auto-scalability, Faster implementation
- Unified Administration
- Increase Reliability and Security

Integrated ICCC Platform for State

- Single source of truth
- City's emergency and disaster management platform
- Integrate multiple text, voice, data, video and smart sensors communication interfaces
- Support GIS based incidents visualization
- Modular, Open, Configurable architecture

State level Analytical Platform

- Platform with the ability to receive, intelligently correlate & share information to better predict outcomes
- Ability to integrate and correlate online and offline interactions

City level Command Control Center

- Centralized platform to access the entire city and generate appropriate commands
- Automatic alert generation and redressal for various city functions like- route deviation, schedule adherence system/trip miss system for buses, speed violation, city surveillance, security

| INDORE | BHOPAL | JABALPUR | GWALIOR | UJJAIN | SAGAR | SATNA |

INAUGURATED ON 8TH MAY 2018

HPE : 300 CR

Cloud Based Architecture for Common Smart City Software Platform

MP State Smart City Software Platform, hosted in Cloud

Smart City Software Platform

Middle Ware / Apps-Sensor Mgtm Platform consisting of Engines for Location, Devices, Subscription, Data & Analytics; Services Mgtm, Authentication and Authorization

Common Digital Platform managing Sensors and Controllers for current and future Cities

City 1

City 7

Internet

Security

Security

State WAN Network Point to Point / MPLS Network

City '7'

City 2

City 1

City Control Room
(Video Wall & Operator Workstation Console)

City Server Room

Street Sensors and Controllers + Partner Applications

City / Local Network

Respective Operators Managing different Urban Services

Video Surveillance Infra: Compute + Storage

City IP Network

Transport Management

Water Management

Parking Management

Lighting Management

Waste Management

Environment

People

Traffic Management

All North bound integrations will happen only centrally through Smart City Software Platform

Security

City Setup - Typical

Technology Architecture, IOT Landscape in Bhopal

Components of Pan City Solution

Project 1: Smart Unified Governance

City Apps & MIS

- Ease of Business Applications
- Citizen Engagement Portal
- Citizen Grievance Redressal System
- City Application and dashboard
- Data Analytics and MIS
- City level GIS
- Mobile service delivery and transaction gateway
- Command Centre

Smart Waste Management

- Waste to Energy Conversion
- GPS based garbage vehicle tracking
- Asset management system
- RFID tagged garbage bins
- Operation management and monitoring
- Waste network simulation system
- Grievance management through crowd sourcing
- Geo-fencing of Assets

Centralized Command Centre

Project 2 : Intelligent Street Lighting

- Intelligent street light
- Remote scheduling and monitoring
- Zero Call drop Solution
- Interactive Digital Signage for traffic & business
- Ready Plug & Play Infrastructure
- Surveillance cameras
- SOS terminals
- Wi-Fi hotspots
- Environment sensors - Noise, air, radiation levels etc.
- Water level sensors
- Street parking sensors
- Smart Phone Detection
- Intelligent Shopping Apps

Sensing Layer

- Intelligent light sensors & Remote monitoring
- Water level sensors
- Environment sensors
- Street parking and Traffic violation sensors
- Meters
- GPS vehicle tracking sensors
- Geo-fencing of landfills & bins
- Waste bin RFID sensors
- Crowd sourcing and smart meters

Communication Layer

Business

Bhopal City Network

Network Backbone

Bhopal Government

Mesh network on Free Frequency Bands/Zigbee/Wimax on Existing City Network Backbone

Command Centre

Service Delivery

- Mobile Device Users
- Command Centre Operators
- Kiosks
- Email
- SMS
- Service Helpdesk (Call Centre)

Centralized Command Centre

Operations & Management ⟷ **Command & Control**

Virtual Environment | Simulation Set-up | Experience Zone

People
- Central Admin
- Utilities
- Operators
- ITMS
- Public Address System
- FMS

Man Machine Interfaces
- Video Walls
- Work Stations
- Web/ Internet
- Public Displays
- SMS/ Mobile

Smart City Platform

Interfacing and Integration
- Data Processing
- Data Management

- Security
- Operations Management
- Standard Operating Procedures
- Bhopal City App & Dashboard
- GIS-based Asset Management Module
- Ease of Business Apps
- Public Grievance Redressal Module
- Waste Network Simulation

Application Module
- Shared Application Suite
- Core Application Suite

Network Communication Management | **Enterprise Application Monitoring Systems**

Network/Server/Storage

Smart Pole Command Control Center was inaugurated on 8th May 2018

REVENUE GENERATING

MULTI-APPLICATION

SMART POLES

- Investment - 690 crs
- Zero Investment from City
- Revenue - Rs 47 cr.

PPP PROJECT
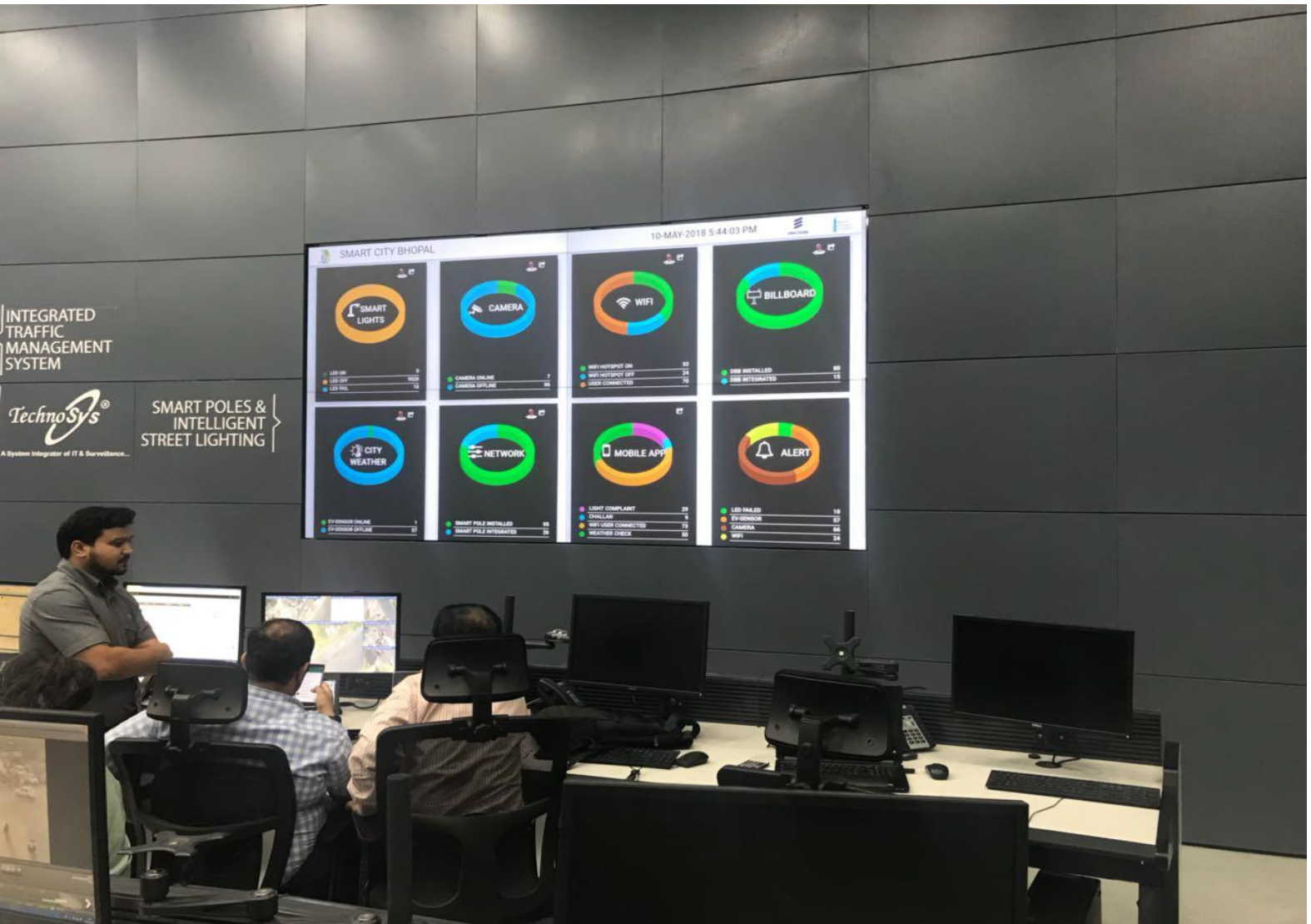
Smart Poles	400
Intelligent LED lights	20000
Surveillance camera	400
Wi-Fi Hotspot	100
Digital Signage	400
EV Charging	100
Optical fiber Cable	200 km
Environmental sensors	100
O &M	15 years

Conventional Telecom Tower

Installed Smart Pole

CITY AESTHETICS

Unlike the conventional telecom tower, smart pole looks good and matches with city infrastructure. It has the telecom tower infrastructure in built to facilitate telecom operators to place their equipment.

INTELLIGENT STREET LIGHTS

Before (250W HPSV, Lux-18)

After (135 W LED, Lux-30)

PROJECT IMPACT

LOCATION: AYODHYA BYPASS
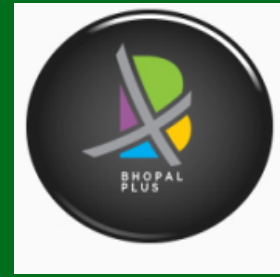
**BHOPAL PLUS
THE SMART CITY APP**

An integrated platform
enabling and promoting
**Collaborative , Participatory
and Unified Governance**

Bhopal Plus - Statistics

The main components of Bhopal Plus are-

➢ *Collaboration Platform-* Platform for interaction between government and citizens through discussion, polls, blogs, etc.

➢ *Public Dashboard-* Live city feeds related to Parking Availability, Pollution Levels,

➢ *Citizen Services-* Various online citizen services (B2C &G2C)

➢ *Grievance Redressal-* Register/track BMC related complaints

Other Details:

o Bhopal Plus went live on 7-Nov-2016

o There are about 20 citizen centric services available on Bhopal Plus platform

o 30000+ downloads via Google Play Store & Apple Store

o Rated 4.3/5 on Google Play Store

o **Bhopal Plus has won numerous awards on National & International levels-** National award for 'Excellence in Smart Cities', Asia city awards, Dubai Smart City Awards, World Congress Barcelona, CMO Asia Awards, Business World awards, 'top 50 technology projects' in SKOCH awards, etc.

Popular Services:

o Electricity Bill Payment

o BMC services (Property tax payment, water tax payment, apply for birth/death/marriage certificate)

o Mayor Express (Smart handyman services to book plumber, electrician, etc.)

o Kabadiwala Service

o Bus Route Planner

o Around Me

o Search hospitals & clinics

o Call administration

o Vehicle search

o Towed vehicle search

o Report lost article

o Emergency SOS service

o Report an incident

o Outdoor Media Management

BHOPAL IS TALKING ABOUT
A SMART APP FOR A SMART CITY

BHOPAL SMART MAP

99 layers of city GIS Platform cutting across departments.
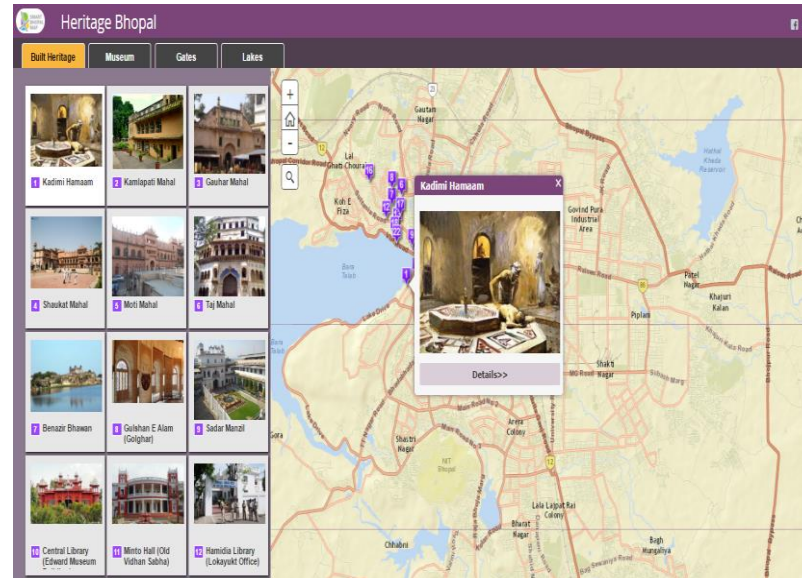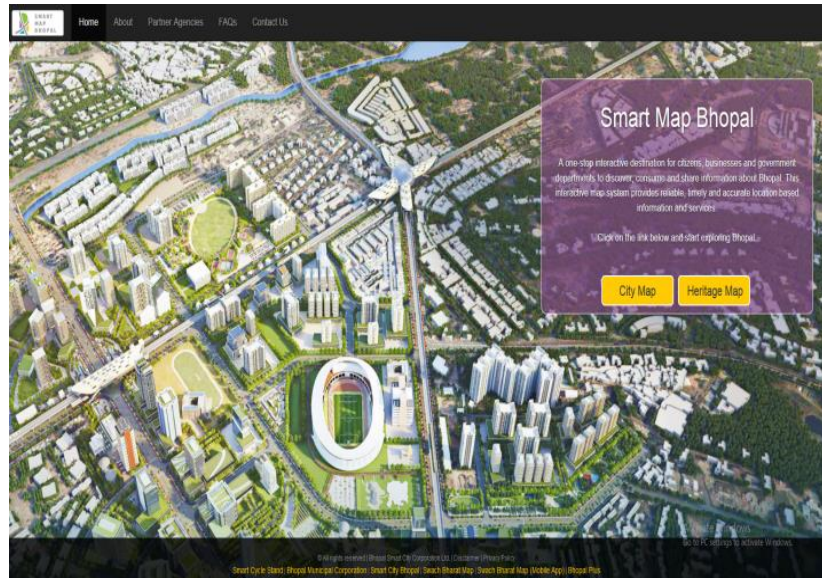
*Search and locate facilities

*Know your property details

*Near Me Service

*Location based feedback/ suggestions

*Public participation on adding city events

*Getting your ward level information]

*Know your city heritage – story map
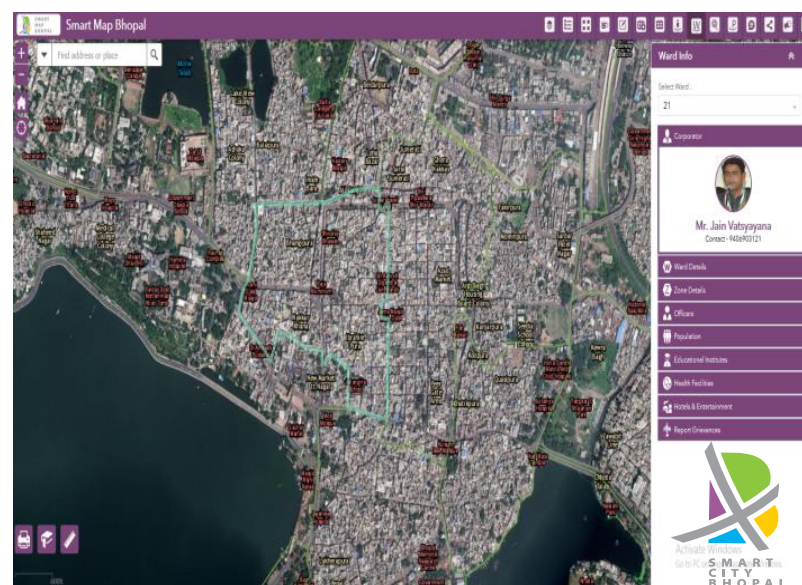
BHOPAL SMART CITY MOBILITY SOLUTIONS

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
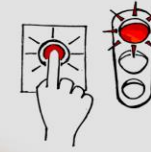
BUS PRIORITY SYSTEM

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

f DEDICATED CYCLE LANE

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

SMART CARD

AUTOMATIC FARE COLLECTION & INTELLIGENT TRANSPORT SYSTEM

Flap Barriers

Barricade Sensor Gate

ATVM

Sensors based bus stop

- ATVM for Tickets and Smart Card recharge
- Flap barriers / gates for Commuter entry and exit

Different types of Smart Cards for types of Commuters

Smart Card

200 006 1061

200 005 5218

- All buses are equipped with GPS based Automatic Vehicle Location System (AVLS) connected with Central Control and Command Center for real time monitoring of bus operations.
- "Spot My Bus" service for citizens powered by Chalo app

PUBLIC BICYCLE SHARING BHOPAL

- **Fully automated**
- **unmanned**
- **Central control system**
- **Redistribution**
- **Cashless**
- **500 Smart cycles**
- **50 docking stations**
- **24/7 Service Availability**
- **32000 registered users**

PBS MOBILE APPLICATION

- Easy to use interface
- Look for the nearest bicycle on the map
- Check real time availability of cycle
- Enter Bike Number and Rent a Bike
- Track your calories burnt, kms cycled
- Calculates CO2 emission

- Easy Return on station or near by station

Join → Unlock → Ride → Lock → Return
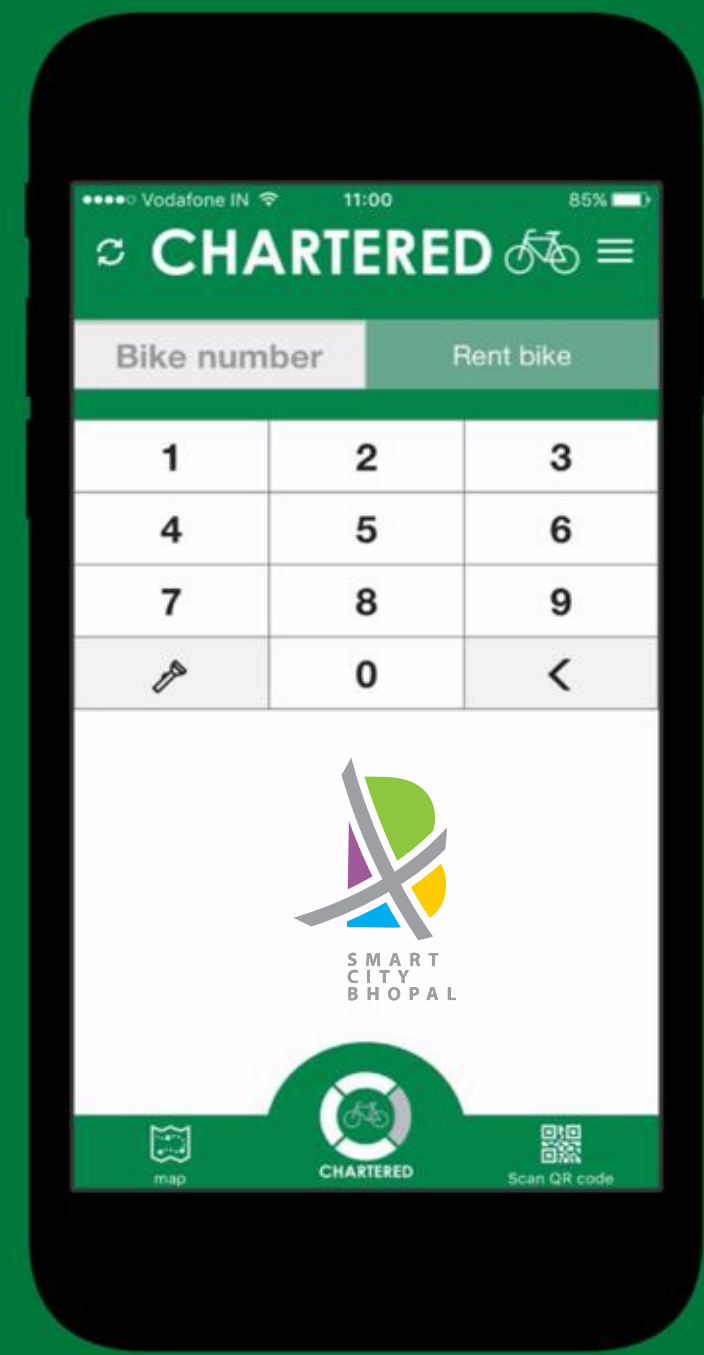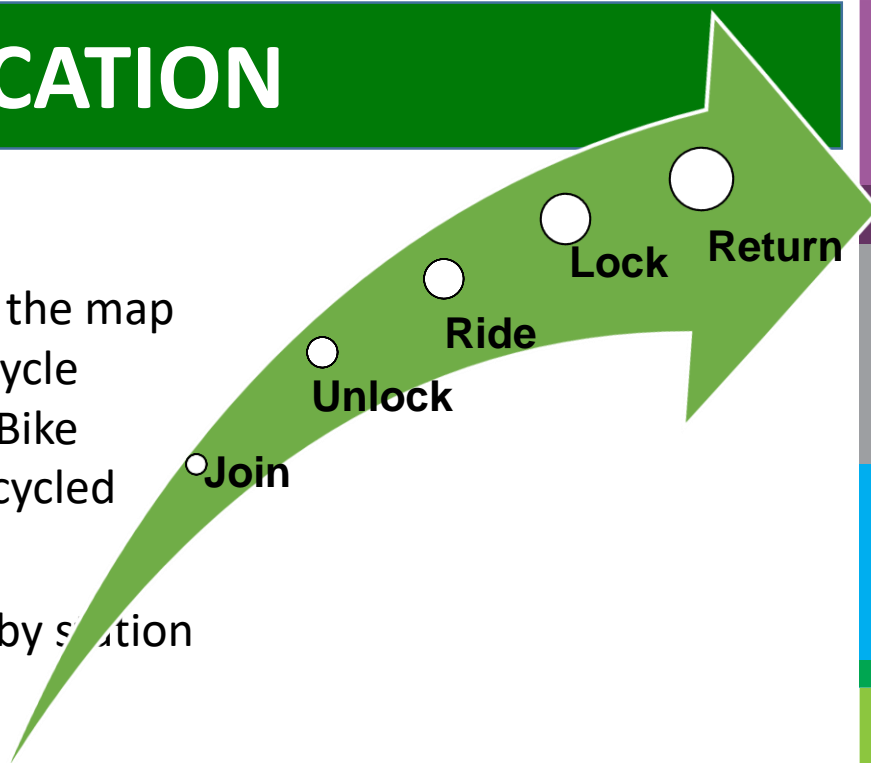
Rental via NFC or App

Rental with Smart Cards

PIN code entry
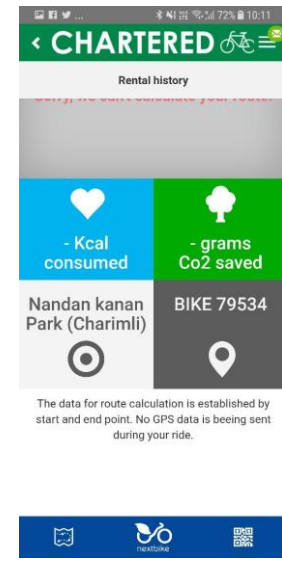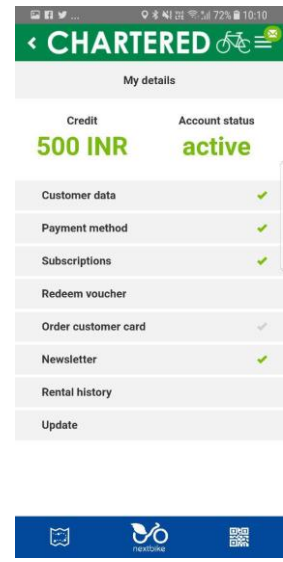
BICYCLE TRACK

5 METER WIDE
12 KM LONG
INTEGRATING
BRTS AND PUBLIC BIKE SHARE

SMART
CITY
BHOPAL

INTEGRATED TRAFFIC MANAGEMENT SYATEM

RLVD SYSTEM

- Red light Violation
- Capture license plate of vehicles violating traffic rule
- Traffic signal monitoring and raise alarm if signal doesn't change after assigned time
- Vehicle Stopping On Road
- Vehicle Moving Wrong Way

OVER SPEEDING

- Vehicle Over Speed Detection
- Speed violation detection with evidence
- Separate Speed Limits for 2 & 4 wheelers
- Camera Based System
- Camera+Radar Based System

NO HELMET

- Detection of No Helmet
- No Helmet of driver
- No Helmet of Companion
- Helmet Standard Training

STATISTICS

- Classify 4 wheelers, 2 wheeler, auto rickshaw, heavy vehicles
- Statistical analysis for each class
- Decision Support Tool
- Artificial Intelligence based framework

Others

- Identify Automatic Traffic Violations & Generate e-Challans
- Automatically detect stolen vehicles, blacklisted vehicles & vehicles with duplicate numbers
- Automatic detection of traffic accidents, hit & run cases

ITMS DASHBOARD

ITMS DASHBOARD & COMMAND CENTER

NO-HELMET DETECTION & SAMPLE E-CHALLAN

DYNAMIC MARKET PLACE FOR SMART HANDY MAN SERVICES

Electrician

Plumber

Carpenter

Gardener

Driver

| Pest Control | Nurse / Care Takes | Nanny | Mason | Painter |
| Driver | Gardener | Security Services | Appliances Repair | Laundry Services |

MAYOR EXPRESS

The Dynamic Marketplace

Mayor Express Services
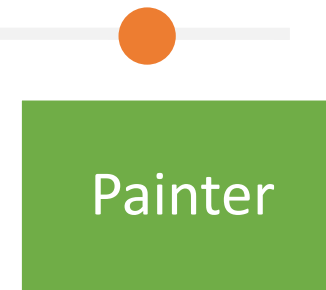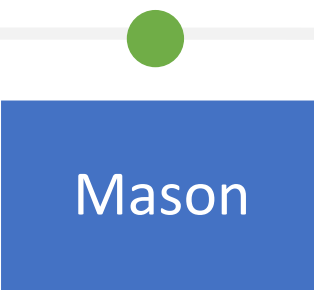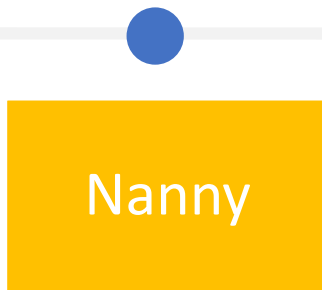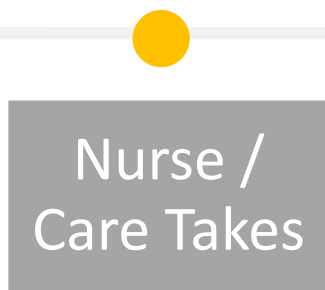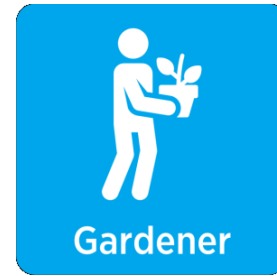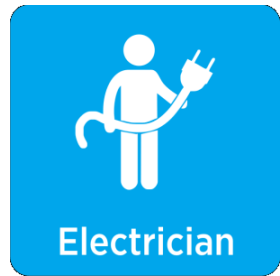
Category List

My Calls ➜

Plumber	Electrician	Driver
Plumber	Electrician	Driver

Carpenter	Gardener
Carpenter	Gardener

My Call Details

100209   Completed

Service Category :   Plumber
Service Sub Category   Tap Fitting
:
Booked on :   11-08-2017 09:29
Details :

Technician Details :

Staff Name :
Gagan Koli

Contact No :
8770893709

Invoice Amount : 200.00
Download e-invoice
Payment Mode :   Cash

Your ratings for this service call :

⭐ ⭐ ⭐ ⭐ ⭐

Your Comment :

SMART CITY BHOPAL

MAYOR EXPRESS

1. **SERVICES MARKET PLACE**

2. **EASY DOORSTEP HANDYMAN SERVICE**

3. **AFFORDABLE AND STANDARDIZED SERVICES**

4. **SERVICE FEEDBACK**

5. **TRAINED AND VERIFIED TECHNICIANS**

SMART ROAD

2.21 KM'S FROM BHARAT MATA SQUARE TO POLYTECHNIC CROSSING

Smart Road is built on a stretch of 2.21 KM in Bhopal from Bharat Mata Square to Polytechnic Crossing and includes the following:

- *8 mtr wide driving lane on both sides*
- *2 mtr wide cycle lane on both sides*
- *2 mtr footpath on both sides*
- *Utility ducks, with additional duck in center.*
- *Underground wiring*

DIGITAL DOOR NUMBERING SOLUTION FOR BHOPAL CITY

The objective of this project is to provide a Unique Smart Addressing Solution for Urban Properties / Establishments (USASUP) depicting an Alpha Numeric Sequential Smart Address code for each property/establishment within the municipal boundary of Bhopal with the information of main Property Attributes (Geo-coordinates of the access point, road, property area, and the floor)

***Scope of Work will include**- Creation of a digital base map including road network by leveraging the digital base map of GIS-PTIP project for the BMC area with all BMC/Govt. agency roads available within BMC limits using latest Satellite imagery to generate a Unique Smart Addressing Solution for Urban Properties/Dwellings and every property will be affixed with a USASUP plate/sticker.*

***The properties shall be affixed with USASUP plate/sticker**. There will be a dedicated web portal, mobile app, call center to locate any property, update property details or seek any kind of USASUP related support.*

Standardized Sequential Property Address with property details, GPS Location of property access points, QR Code scanning based door to door garbage collection, integration with ICCC & emergency services for easier identification of properties, Single Attendance Metric for any service being provided at any property
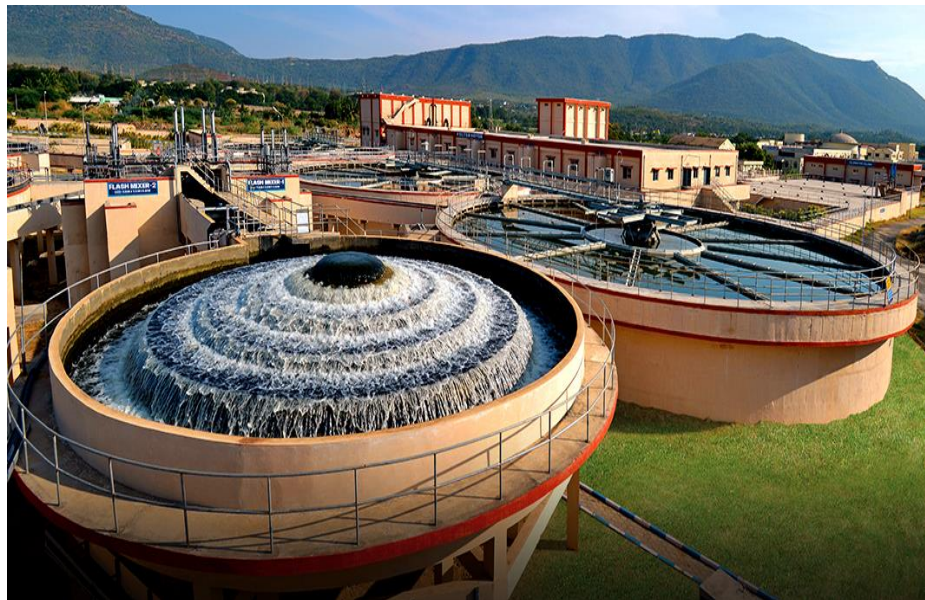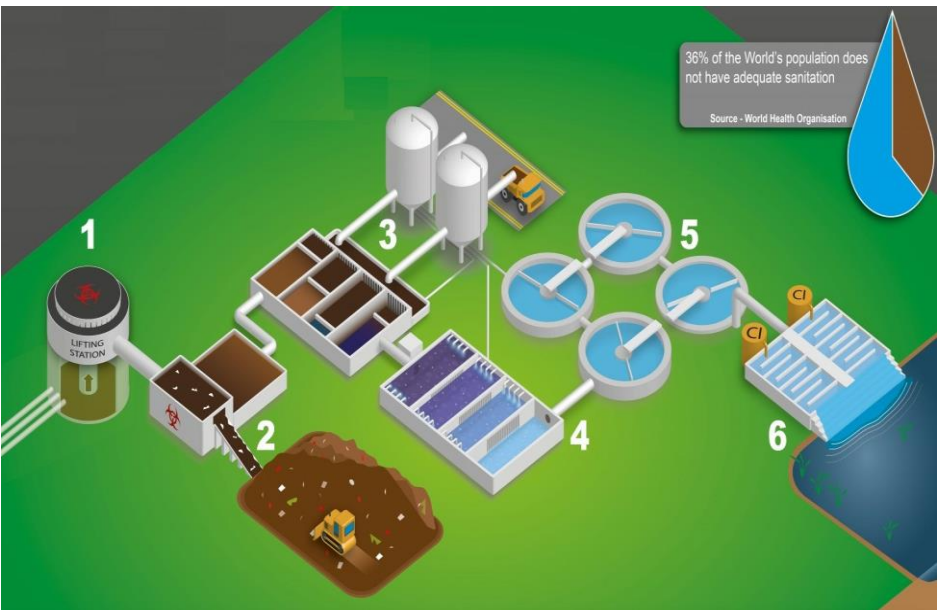
Sample DDN - *MPBHO-AKN-B12-800*
Existing Address-
Paryatan Bhawan, Bhadbhada Road, Opposite NJA, Bhopal - 462 003. Madhya Pradesh, India

BHOPAL WATER UTILITY MANAGEMENT SYSTEM (WATER SCADA)

❖ The SCADA (Supervisory Control and Data Acquisition) system is an industrial computer-based control system which gathers and analyse the real-time data to track, monitor and control industrial equipment's across various industries

❖ SCADA system have applications in both water distribution network and waste water treatment. In these plants PC based workstation are located in a control room which allow operators to view and perform control actions

❖ Real time remote monitoring and control of Water Treatment Plants (12 Nos) upto Elevated Storage Reservoirs (175 Nos) in Bhopal City on the parameter of Flow, Pressure, Energy Consumption and Water Quality

❖ Real time assessment of water supply situation for efficient operation and predictive analysis

❖ Integrate with SCADA all the project components to operate and control, monitor and measure the same

❖ Asset and performance management will help department in minimizing the downtime

SMART EDUCATION FOR BHOPAL, SAGAR & SATNA

Modernizing 10 Municipal/Government Schools of Bhopal

Innovative Education Solutions

- Learning Management System
- Technology based Learning environments
- Digital Library
- Capacity Building
- Smart Classrooms
- Personalized Learning
- Curriculum Alignment
- Student driven learning environment

School Management Solutions

- School Administrative Management System Technology Integration
- School Surveillance
- School Management Solutions
- Monitoring Mechanisms
- Website and Mobile App

Virtual Learning Environment
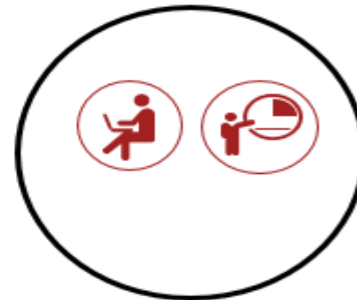
- Setting Up of Central Studio in all three Cities
- Expert Lectures delivered through Subject Matter Experts
- Two Way Communication between Students and Experts
- Connected Schools

Project Scope:-

- **Total Municipal Schools – 10**
- **Total Smart Classrooms- 172**
- **Total Central Studio – 1**

SMART CITY BHOPAL

INCUBATION CENTER

- Managed office space
- Business modeling
- Advertising and marketing services
- Financial advice services
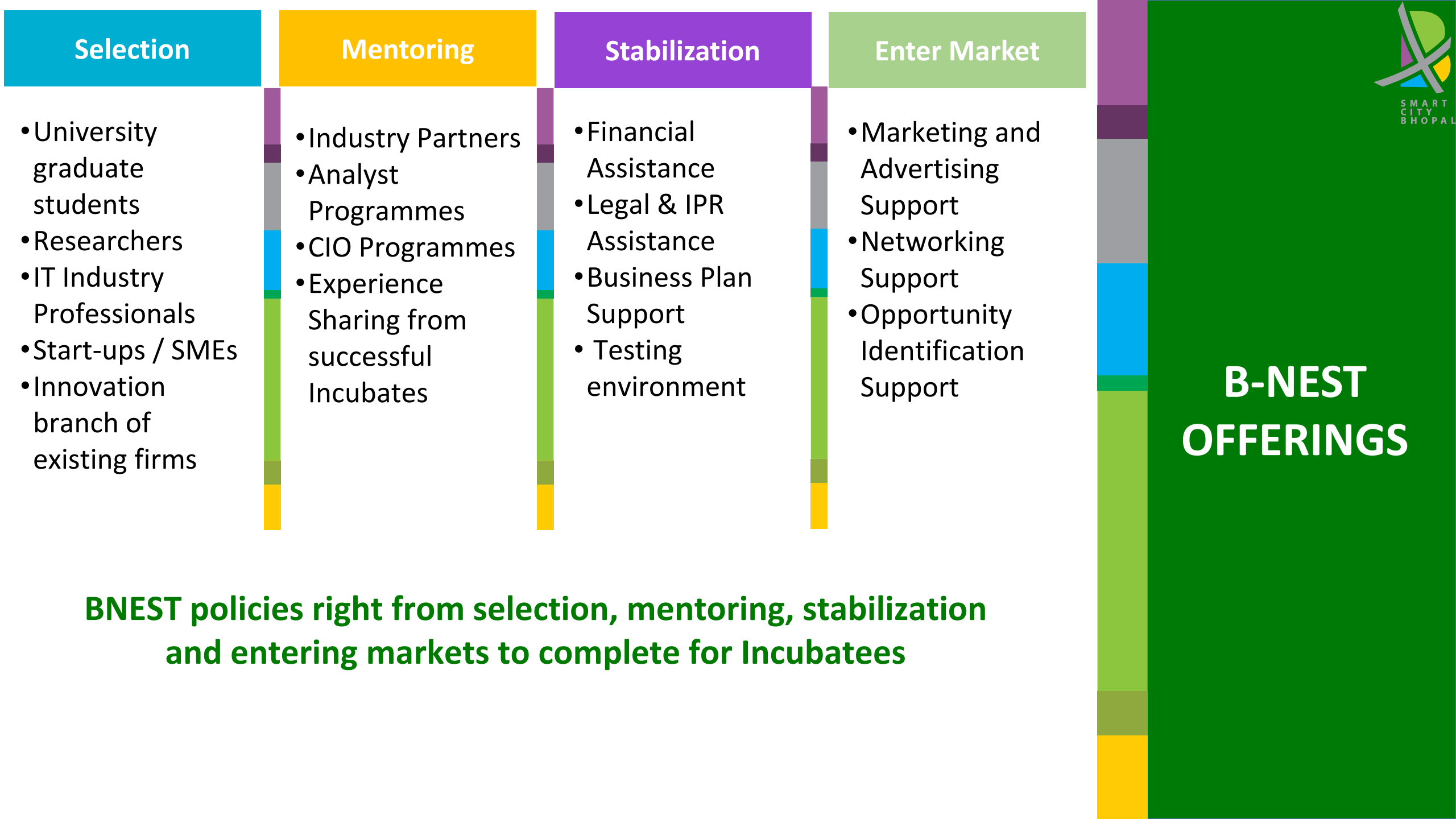- Training services
- Legal and IPR advisory services
- Industrial infrastructure
- Network services
- After incubation support services

Selection	Mentoring	Stabilization	Enter Market

Selection
- University graduate students
- Researchers
- IT Industry Professionals
- Start-ups / SMEs
- Innovation branch of existing firms

Mentoring
- Industry Partners
- Analyst Programmes
- CIO Programmes
- Experience Sharing from successful Incubates

Stabilization
- Financial Assistance
- Legal & IPR Assistance
- Business Plan Support
- Testing environment

Enter Market
- Marketing and Advertising Support
- Networking Support
- Opportunity Identification Support

B-NEST OFFERINGS

SMART CITY BHOPAL

BNEST policies right from selection, mentoring, stabilization and entering markets to complete for Incubatees

Key capabilities of B-Nest

With an aim to create India's best incubation center with the most advanced technology B-Nest ensures to provides its incubates the best of the services

12,000 sq feet of area in the heart of Bhopal

State of the art Infrastructure

IOT Lab & Makerspace for prototyping

Legal, Financial and Marketing Services

Idea Validation and Business Modelling guidance

Events such as Hackathons, Startup Conclaves etc.

TRAINING AND MENTORSHIP

TECHNOLOGY SUPPORT

24*7 CO-WORKING SPACE

b NEST

SMART CITY BHOPAL

GREEN &BLUE
MASTER PLAN

Green and Blue Master Plan

OBJECTIVE 1:

To **develop and implement policies, programs, and projects** as part of mainstream integrated urban planning and environmental management that will enhance social and environmental sustainability of urban infrastructure and services.

OBJECTIVE 2:

To **achieve a 100% green buildings and neighborhoods** in phases and maximizing utilization of land parcels within city limits.
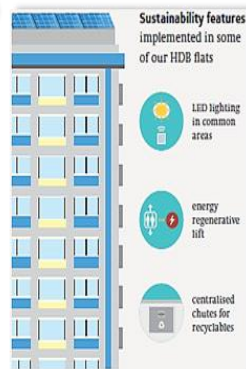

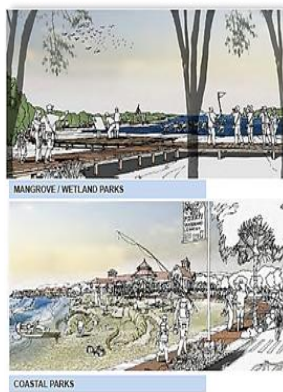Green & Blue Spaces

Public Cleanliness

Plans & Standards for Sustainable Water Management

Waste Management & Recycling

Eco-Friendly Buildings Maximize green building and green neighbourhood planning

Network of Parks & Maximize use of land parcels

Innovative solutions, Incentives and Standards for Sustainable Energy Management

GREEN & BLUE MASTERPLAN FOR BHOPAL CITY

SMART CITY BHOPAL

SMART PARKING

SMART SOLUTION INFRASTRUCTURE

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

Scope:
- 64 Parking Spots (Off street & On street)
- 3 Multilevel parking spaces with video surveillance, digital payment, etc.

SMART CITY BHOPAL

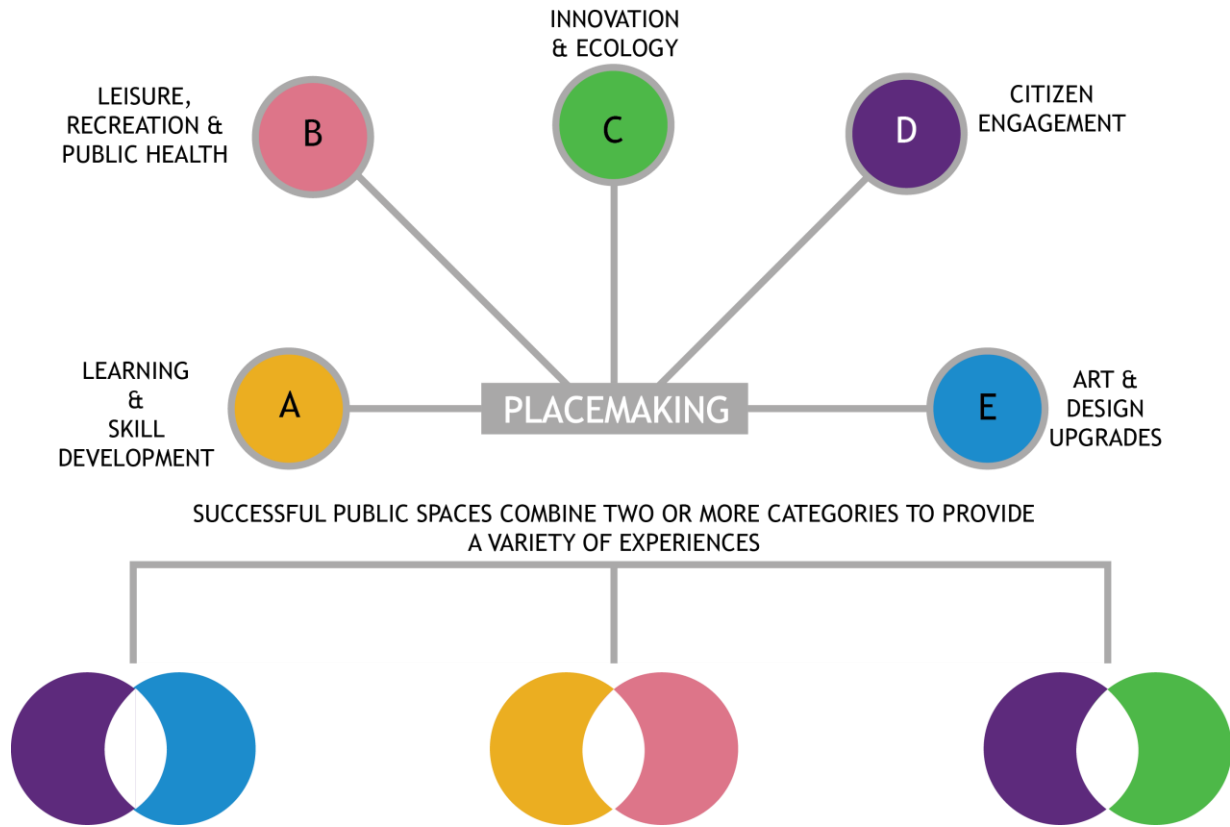# THEME BASED SMART PARK
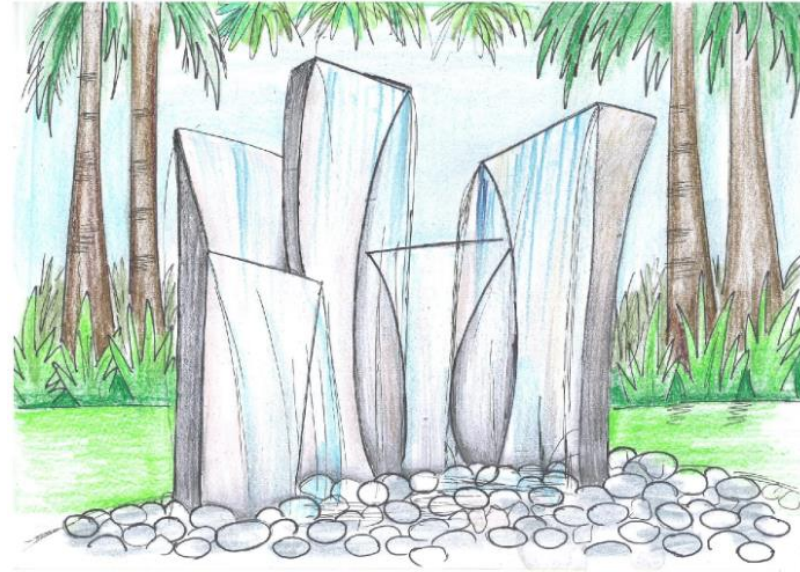
*Illustrative

KEY FEATURES

- **OPEN GYM**
- **THEME BASED DECORATIVE STRUCTURE**
- **HORTICULTURE**
- **COVERS MORE THAN 80% AREA INTO GREENRY**
- **DEDICATED AREA FOR YOGA**
- **WI-FI FACILITY**
- **SURVEILLANCE**
- **LANDSCAPING**
- **NATURAL WATERWAYS**
- **CHILDREN PLAYING AREA**
- **PROPER LIGHTING FACILITY**

PLACE MAKING

SMART STREET

LEISURE, RECREATION & PUBLIC HEALTH — B

INNOVATION & ECOLOGY — C

CITIZEN ENGAGEMENT — D

LEARNING & SKILL DEVELOPMENT — A

PLACEMAKING

ART & DESIGN UPGRADES — E

SUCCESSFUL PUBLIC SPACES COMBINE TWO OR MORE CATEGORIES TO PROVIDE A VARIETY OF EXPERIENCES

BOARD OFFICE TO JYOTI TALKIES

PLACE MAKING GUIDELINES

ADAPTIVE REUSE

Chowk Bazar - Before

Chowk Bazar - After

HERITAGE CONSERVATION
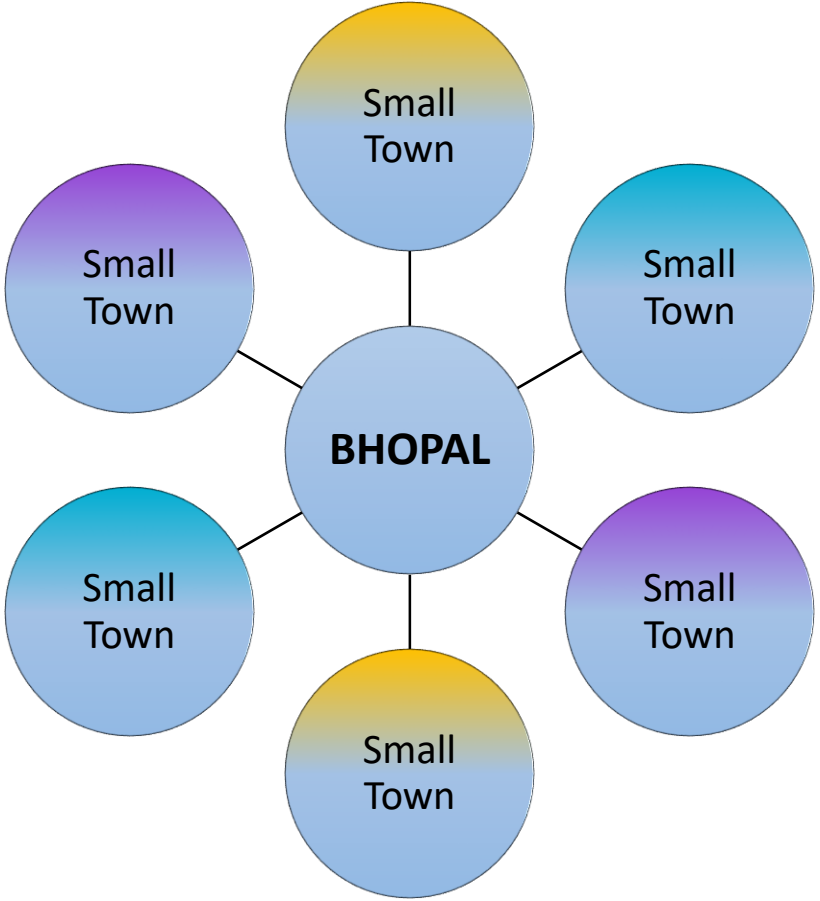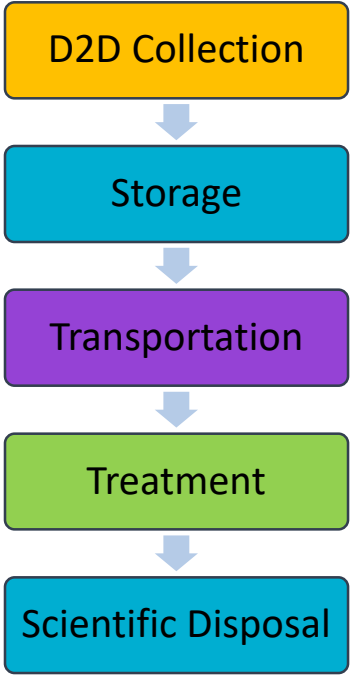
RESTORATION OF SADAR MANZIL

Project Cost 12 Crores INR

SOLAR ENERGY PROJECTS

1. BMC Signed MoU with Solar Energy Corporation of India, New Delhi for installation of 3MW and 1 MW with MP Urja Vikas Nigam Limited, Bhopal Roof top solar projects

2. First Roof top solar power project of 35 Kw Installed at Head office, BMC Harshwardhan complex Bhopal, working.

3. Installation of 120 KW solar plant at ISBT completed.

4. Installation of 750 KW at Upper lake front. Work started

5. Smart city providing special incentive of cost of Net meter for domestic consumers.

INTEGRATED SOLID WASTE MANAGEMENT

D2D Collection

Storage

Transportation

Treatment

Scientific Disposal

Small Town

Small Town

Small Town

BHOPAL

Small Town

Small Town

Small Town

Cluster Based Approach

End-to-End Solution - Collection to Disposal **Generating Wealth from Waste** (Energy/Compost) Benefitting Small Towns through **Economies of Scale O&M for 19 years**

BIO-METHENIZATION POWER PLANT

- Capacity   -   5 TPD
- Biogas production   -   300 Cu mtr/day
- Generator capacity   -   50 Kva
- Electricity Generation -   450 Kwh/day

PROJECT COMPLETED

Thanks

www.smartbhopal.city

SMART
CITY
BHOPAL