

## Annexure 2 – Self Assessment Form

#	Smart City Feature	Self-Assessment of the city (for Pan-City Solution) with regard to each feature (H)	Basis for Assessment and/or quantitative indicator (Optional only if data available) (I)	Projection where the city wants to go	Input /Initiative to be taken to reach the advanced level (Scenario 4)
1	Citizen Participation	<b>Scenario 3-</b> <ul style="list-style-type: none"> <li>• Jan Sunwai” at zone level every week.</li> <li>• The Mayor visits to one ward every week.</li> <li>• Use of facebook and twitter to interact with top brass</li> <li>• Budget of FY 15-16 drafted used participatory approach</li> <li>• Online Grievance reporting, tracking and feedback system used extensively.</li> </ul>	No Benchmarks Available	<b>Scenario 4</b>	Mobile Apps for Citizen Participation
2	Identity and Culture	<b>Scenario 2-</b> <ul style="list-style-type: none"> <li>• 3 UNESCO heritage sites</li> <li>• 14 Lakes within the city</li> </ul>	No Benchmarks Available	<b>Scenario 4</b>	Mobile App <ul style="list-style-type: none"> <li>• Information dissemination of heritage and tourist sites</li> <li>• Citizen participation module to maintain cleanliness of these sites and capture tourist complaints</li> </ul>
3	Economy and Employment	<b>Scenario 1-</b> <ul style="list-style-type: none"> <li>• Retail, Jewellery, Production and tourism are dominant</li> <li>• Employment               <ul style="list-style-type: none"> <li>○ The work force participation rate is 29.6%</li> <li>○ 39% of the income earners are engaged in the informal sector, which is a sizable amount.</li> </ul> </li> </ul>	No benchmarks available	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Ease of Business initiatives</li> <li>• Skill development</li> </ul>

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4	Education	<b>Scenario 2-</b> <ul style="list-style-type: none"> <li>o 85 Engineering/Professional Colleges in Bhopal</li> <li>o 5 Universities in Bhopal</li> <li>o 5 Medical Colleges in Bhopal</li> <li>o 1 Veterinary Institute</li> <li>o 15 Paramedical Colleges</li> <li>o There are 1295 schools in Bhopal.</li> <li>o Private companies partner with local schools for specific training</li> </ul>	<b>MoUD Benchmark</b> <ul style="list-style-type: none"> <li>1 university</li> <li>1 engineering /Professional per 10 lakh population</li> <li>1 medical college per 10 lakh population</li> <li>1 veterinary institute</li> <li>1 paramedical institute per 10 lakh population</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Smart Education – simulation labs , incubation centres , GIS Mapping for better planning of schools , enhanced parent teacher interaction</li> </ul>
5	Health	<b>Scenario 2-</b> <ul style="list-style-type: none"> <li>o Approximately 1 dispensary per 30,000</li> <li>o 90 beds per lakh population in specialty hospitals</li> <li>o 1 diagnostic center per 50,000</li> <li>o</li> <li>o 92 beds per one lakh of population in general hospital</li> <li>o 8 Veterinary hospitals for 23 lakh population</li> </ul>	<b>MoUD Benchmark</b> <ul style="list-style-type: none"> <li>• 1 dispensary for every 15,000 residents</li> <li>• Specialty Hospital - 200 beds per lakh population</li> <li>• 1 Diagnostic Centre for every 50,000 residents</li> <li>• General Hospital - 500 beds per lakh population</li> <li>• 1 Veterinary every 5 lakh residents</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Smart Hospitals – M-Healthcare , ACLS Ambulances</li> <li>• Outreach OPDs for easy access</li> </ul>
6	Mixed Use	<b>Scenario 1</b> Different Kinds of Land Use such as offices , housing and shops clustered together.  No Proposed mixed land use for Bhopal	No Benchmark Available	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Update Master Plans</li> <li>• Area Based Developments</li> </ul>

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7	Compactness	<b>Scenario 2-</b> <ul style="list-style-type: none"> <li>Average travel time in the city is 21 minutes</li> </ul>	<b>MoUD Benchmark</b> <ul style="list-style-type: none"> <li>Maximum travel time of 30 minutes in small and medium size cities and 45 minutes in metropolitan areas</li> </ul>		<ul style="list-style-type: none"> <li>Redevelopment of key areas on the lines of transit oriented development</li> </ul>
8	Public Open Spaces	<b>Scenario 2</b> <ul style="list-style-type: none"> <li>Bhopal has 16 sq.km areas under recreational use which is about 13% of the land use</li> <li>Proposed Recreational areas is about 26 sq.km which is nearly 16% of the land use</li> <li>Walled city has smaller plots, narrow street widths. Newer areas in the city have parks and open spaces.</li> </ul>	<b>ISO Benchmark</b> <ul style="list-style-type: none"> <li>Square meters of public indoor recreation space per capita</li> <li>Square meters of public outdoor recreation space per capita</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>Governance</li> </ul>
9	Housing & Inclusiveness	<b>Scenario 2</b> <ul style="list-style-type: none"> <li><i>Pucca Dwelling Units:29%, Kutcha Dwelling Units:60% &amp; Semi-Pucca Dwelling Units: 11%.</i></li> <li><i>Zone-9 &amp; 11 has almost 90% Kutcha Dwelling Units.</i></li> <li><i>Housing Shortage: 0.96 Lakhs (2011) (Source: SFCPoA of Bhopal) Bhopal requires about 18,000-19,000 units/year (2014-18)</i></li> </ul>	<b>ISO Benchmark –</b> <ul style="list-style-type: none"> <li>% of Population living in slums</li> <li>No. of Homeless per 100,000 population</li> <li>% of Households that exist without registered legal titles</li> </ul>	<b>Scenario 4</b>	Construction of Low Cost Houses under the Housing for All scheme in Area Based Development mode

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		<ul style="list-style-type: none"> <li>%of Households that exist without registered legal titles- No Data Available</li> </ul>			
10	Transport	<b>Scenario 2</b> <ul style="list-style-type: none"> <li>Public Transport Route Kms / Urban Area in sq. – 0.76</li> <li>Average waiting time for Public Transport users – 20 to 30 minutes</li> <li>Average Load Factor of all routes – 0.92</li> </ul>	<b>Transport DPR &amp; MoUD</b> <ul style="list-style-type: none"> <li><b>Public Transport Route Kms / Urban Area in sq.km</b> <ul style="list-style-type: none"> <li>High Level of Service - &gt;=1</li> </ul> </li> <li><b>Average waiting time for Public Transport users</b> <ul style="list-style-type: none"> <li>High Level of Service - &lt;=10</li> </ul> </li> <li><b>Average Load Factor of all routes</b> <ul style="list-style-type: none"> <li>High Level of Comfort - &lt;=1.5</li> </ul> </li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>Intelligent Traffic Management System</li> <li>Transit oriented development</li> </ul>
11	Walkable	<b>Scenario 2</b> -		<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>Transit oriented development</li> </ul>
12	IT Connectivity	<b>Scenario 2-</b> <ul style="list-style-type: none"> <li>10.2% of households have access to computer and internet as per census 2011</li> <li>Mobile penetration is 61.2 %.</li> </ul>	<b>MoUD Benchmarks</b> <ul style="list-style-type: none"> <li>100% of the city has Wi-Fi connectivity</li> <li>100 Mbps internet speed</li> <li>100% households have a telephone connection including mobile</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>Public Wifi</li> <li></li> </ul>

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13	ICT enabled Government Services	<p><b>Scenario 2-</b></p> <ul style="list-style-type: none"> <li>▪ Municipal Administration System for MAS</li> <li>▪ Key Modules covered under MAS are: Property Tax, Water Rate, Birth &amp; Death , Food/non-Food License, Marriage Registration, User Charges, Building Permission, Grievance, Common Services</li> <li>▪ Back office Modules: HR/Payroll, Financial, Fund Management, Court Case Management, Works Management, Material</li> </ul>	- No Benchmarks available	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Mobile Apps</li> </ul>
14	Energy Supply	<p><b>Scenario 3</b></p> <ul style="list-style-type: none"> <li>• 100% of population covered by Grid Based Power</li> <li>• Average Billing Efficiency : - 74%</li> <li>• Collection Efficiency : 99%</li> <li>• Unscheduled Outage in a month : 30-40Hr</li> </ul>	<p><b>MoUD Benchmark</b></p> <ul style="list-style-type: none"> <li>• Coverage of the population by the Grid Based Power- 94%</li> <li>• 100% households have electricity connection</li> <li>• 24 x 7 supply of electricity</li> <li>• 100% recovery of cost</li> </ul>	<b>Scenario 4</b>	Smart Metering
15	Energy Source	<p><b>Scenario 2</b></p> <ul style="list-style-type: none"> <li>• Renewable energy source need to be developed. Presently 2 Solar plants with installed capacity 1.5 MW.</li> </ul>	<p><b>MoUD Benchmark</b></p> <ul style="list-style-type: none"> <li>• At least 10% of the energy of should be from the renewable sources</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Solar energy in area based development</li> </ul>

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16	Water Supply	<p><b>Scenario 2</b></p> <ol style="list-style-type: none"> <li>49.4% coverage of water supply connections -</li> <li>Per capita supply of water-125 LPCD</li> <li>19.75% of connections metered</li> <li>50.31 % of non-revenue water</li> <li>Quality of Water Supplied – 99%</li> <li>Only 30.59% cost recovery in water supply</li> <li>71% efficiency in collection of water charges</li> </ol>	<p><b>MoUD Bench Mark</b></p> <ol style="list-style-type: none"> <li>Coverage of water supply connections – 100%</li> <li>Per capita supply of water-135 LPCD</li> <li>Extent of metering of water connections – 100%</li> <li>Extent of non-revenue water -20%</li> <li>Quality of Water Supplied – 100%</li> <li>Cost Recovery in water supply services -100%</li> <li>Efficiency in collection of water charges – 100%</li> </ol>		Dual piping system in area based development
17	Water Management	<p><b>Scenario 1</b></p> <p>Total Treatment capacity is 74.53MLD. The present population is generating 234MLD of Sewage. Total of 2000Km Sewerage system and 234 MLD of Treatment is needed.</p> <ol style="list-style-type: none"> <li>Coverage of Sewerage Network Services – 24%</li> <li>Efficiency in collection of Sewerage – 31.85%</li> <li>Efficiency in treatment Adequacy of Sewerage Treatment Capacity -80%</li> </ol>	<p><b>MoUD Benchmark</b></p> <ol style="list-style-type: none"> <li>Coverage of Sewerage Network Services – 100%</li> <li>Efficiency in collection of Sewerage – 100%</li> <li>Efficiency in treatment Adequacy of Sewerage Treatment Capacity -100%</li> </ol>	<b>Scenario 4</b>	Smart metering
18	Waste Water Management	<p><b>Scenario 1</b></p> <ul style="list-style-type: none"> <li>Present Coverage of Storm water drainage network – 24.57%</li> </ul>	<p><b>MoUD &amp; Sustainable Benchmarks</b></p> <ul style="list-style-type: none"> <li>100% coverage of</li> </ul>	<b>Scenario 4</b>	Smart Waste Management Solution

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		<ul style="list-style-type: none"> <li>• Incidence of Sewerage Mixing in the drains – 80%</li> <li>• Incidence of Water Logging- 30%</li> </ul>	road network with storm water drainage network <ul style="list-style-type: none"> <li>• Incidence of Sewerage Mixing in the drains – 0%</li> <li>• Incidence of Water Logging- 0%</li> </ul>		
19	Air Quality	<b>Scenario 1</b> <ul style="list-style-type: none"> <li>• Concentration of NO2 is 9 µg/m3 (H)</li> <li>• Concentration of SO2 is 18 µg/m3(H)</li> <li>• Concentration of PM10 is 133 µg/m3(C)</li> </ul>	<b>National Ambient Air Quality Standards (NAAQS) Benchmark :</b>  <b>High Air Quality(H)</b> <ul style="list-style-type: none"> <li>• Concentration of SO2 is 0-25 µg/m3</li> <li>• Concentration of SO2 0-20 µg/m3</li> <li>• Concentration of PM10 0-30 µg/m3</li> <li>• of PM10 &gt;90µg/m3</li> </ul>	<b>Scenario 4</b>	<ul style="list-style-type: none"> <li>• Environment sensing</li> <li>• Transit oriented development</li> </ul>
20	Energy Efficiency	<b>Scenario 1</b> For Public Buildings in Bhopal Average Energy Performance Index is nearly 100kwh/m2/year	According to TERI for a Public Building it should be nearly 115kwh/m2/year	<b>Scenario 4</b>	Smart Street Lights and Green Buildings
21	Underground Electric Wiring	<b>Scenario 1</b> <ul style="list-style-type: none"> <li>• No underground electric wiring till date in Bhopal.</li> <li>• 33 KV, 11 KV and LT System are overhead Fault rate is higher due to this system</li> </ul>	No Benchmarks Available	<b>Scenario 4</b>	Common City Ducting
22	Sanitation	<b>Scenario 3</b>	1. Coverage of toilets	<b>Scenario 4</b>	Integrated waste

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		Coverage of toilets (individual or community) - 95%	(individual or community) - 100%		management
23	Waste Management	<b>Scenario 2</b> <ul style="list-style-type: none"> <li>Coverage of Toilets: 95% is the</li> <li>Coverage of Sewerage Networks is 24%.</li> <li>Collection Efficiency is 31.85% at present</li> <li>At present 80%of the total sewage is treated with the help of 8 Nos. of STPs</li> <li>Extent of cost recovery in waste water management: 20% cost recovery</li> </ul>	<b>MoUD Benchmarks</b> <ul style="list-style-type: none"> <li>Coverage of toilets which should be made equal to 100%.</li> <li>The sewerage network in the city is targeted for 100% coverage</li> <li>Collection Efficiency of Sewerage Network : 100%</li> <li>Sewage treatment Capacity : 100%</li> <li>Cost Recovery Benchmark : 100%</li> </ul>	<b>Scenario 4</b>	Integrated waste management
24	Safety	<b>Scenario 2</b> <ul style="list-style-type: none"> <li>CCTV cameras have been installed in the BCLL buses for ensuring women safety</li> </ul>		<b>Scenario 4</b>	Surveillance system





# CITIZEN ENGAGEMENT



## Ward wise consultation done

People across Households, Gender & Age



People from Residential, Slums, Commercial and Industrial areas



People across working class and economy



Consultation with other important people

- Ex-mayors, corporators and high-level dignitaries of State government and MLAs
- Chamber of commerce and other industrialists and associations
- Doctors and Medical practitioners
- CREDAI, Architects and planners
- College Students, Women groups
- Tax and Bar association
- Disabled including transgender
- Railway management



Ex Mayors & Commissioners



Chamber of Commerce & Industry Associations



United Doctors Association



Trans genders



Bar Association



CREDAI

## SWOT Analysis & Visioning Exercise

1. Bhopal has developed a robust framework for citizen consultation. Inclusiveness was the core guiding principle behind our engagement methodology throughout the process.
2. The city has used several instruments to engage citizens in smart city planning process. Global experts for complex surveys like Frost and Sullivan were engaged to design customized survey instruments for Bhopal SCP.
3. Consultation strategy attempted to maximize diversity of stakeholders.
4. Proprietary tools used in over 100 countries were integrated with the MyGov initiative to yield best results. Analysis frameworks were developed to interpret meaning from received responses.



Visioning Exercise with Ex Mayor of Adelaide Mr. Stephen Yaarwood



SWOT analysis with Mr. O. P. Agrawal



Visioning exercise with Advisors

## Vision Statement

**“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”**

# CITIZEN ENGAGEMENT



## Responses received via different means

**Door to Door surveys (across all 85 wards)**  
5000 responses received in each of round 1 and round 2

**Self filled surveys**  
1.65 Lakh self filled surveys conducted at various ward offices of Bhopal Municipal corporation

**Online/Web Survey**  
Over 49000+ responses received on BMC website

**YouTube Videos**  
2627+ views of Bhopal Smart City videos

**Phone calls/Messages**  
8000+ suggestions received in the form of calls/messages

**Social networking sites**  
Multiple discussions on Facebook and Twitter. Over 18000 comments and 200+ tweets

**Events/Fair**  
11 events among college students involving more than 10000 students. 2818+ poster competitions in schools/colleges

**Radio/TV**  
Publicity on radio and TV for 3 months

**MyGov essays**  
Over 5,081 essays received

**MyGov logo**  
81 entries received

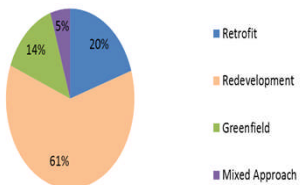
**MyGov Discussions**  
Over 1,14,531 responses received

### Citizen consultation meetings

Over 20 consultation programs in round 1 and 15 in round 2 conducted among various group of citizens, headed by Honorable Mayor, Commissioner and other dignitaries. Five focus group discussions

### Citizen Consultation Results

Type of development model required



Area	Percentage
Shivaji Nagar 3250 hospitals	48%
Chowk bazar old city	20%
South TT Nagar (Laxwar chowk to TT Nagar Stadium)	18%
1300 quarters	12%
Shalwar nagar (BSE office, old BPO, Karhala government bungalows)	11%
Hanidra road- matka bus stand and surrounding areas	9%
BHEL	5%
Old district court and surrounding areas (Down Idgah hills)	4%
74 Bungalows	2%
45 Bungalows and GBI complex	1%



City Level Advisory Body



Political leadership



Architects



Students



Deaf & Dumb



Painting Competition



Discussion with Railway Administration



Discussion with Chief Secretary



Nasscom



Media Conference



City wide Hoardings



Mobile Van

# CITIZEN ENGAGEMENT



Let us join this mass movement towards **Surajya**, Realise the hopes and aspirations of the people and take India to greater heights!

जरोड़ो नरोड़ो

TRENDING

✓ Do

🗨️ Discuss

📊 Poll

✍️ Blog

🎤 Talk

Suggestions-171645

Talk

Blogs

Strategy	Percentage
RETROFIT 1 - New Market	2%
RETROFIT 2 - MP Nagar	2%
RETROFIT 3 - Old Bhopal	13%
REDEVELOPMENT 1 - 1100 Quarter	13%
REDEVELOPMENT 2 - Shivaji Nagar 1250 Hospital	73%
REDEVELOPMENT 3 - South TT Nagar	2%
REDEVELOPMENT 4 - Chowk Bazaar	2%
GREENFIELD 1 - Shovel - Fanda	1%
GREENFIELD 2 - Lambheda	1%
GREENFIELD 3 - Smardha	1%
GREENFIELD 4 - RavoliyagarKholer Road	1%
GREENFIELD 5 - Mubarakpur - Khurana	0%

BMC Website discussion page

BMC Facebook Page

Essays

Suggestions asked on draft SCP



Hon'ble Chief Minister



Additional Secretary @ Smart City Conference

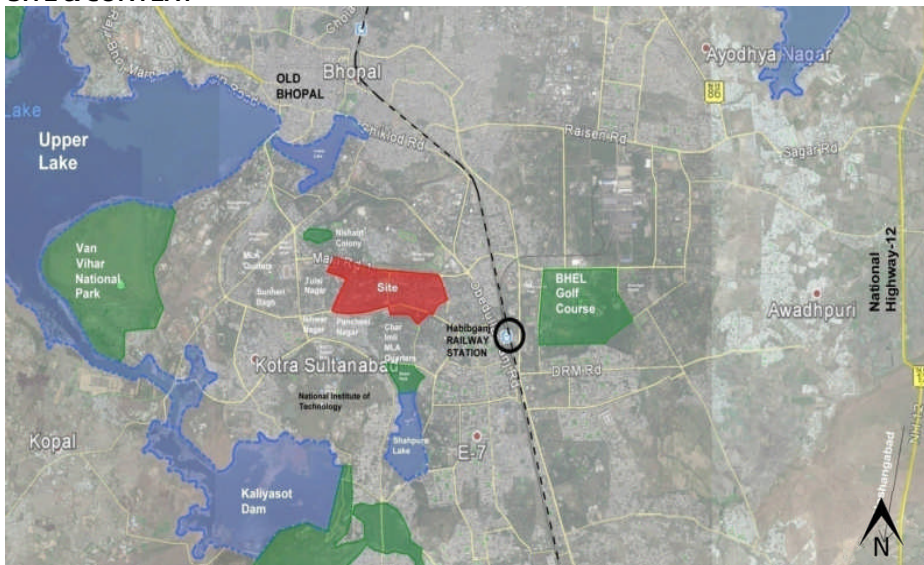


Joint Secretary

# Area Based Development - Vision

Bhopal Smart City has been envisioned as to be 24/7 activity based, thriving and energetic place where people will live work and play. This integrated **live-work-play-learn-shop** concept is an approach to sustainable, which giving residents and workers great convenience to commute with a reduce time, within their living environment in terms of convenient access to amenities and facilities around include through land use coordination of carefully balanced areas of residences, office, education, medical and entertainment area.

## SITE & CONTEXT



Area Based Development Proposal is based in Southern part of the City of Bhopal, in Shivaji Nagar Area near Tulsi Nagar & Char Imli Area. The Site is near to Habibganj Railway Station and next to existing BRT corridor. The Proposed Site for Redevelopment is with approx. area of 350 acres. The Site is in-between existing Business Zones like South TT Nagar & New Market area, being between two major commercial nodes the Site has potential to create commercial arc by connect two nodes. Arc will act as catalyst for initial investment in Real Estate. Also, modern Commercial Zone would provide better economic & employment opportunities.

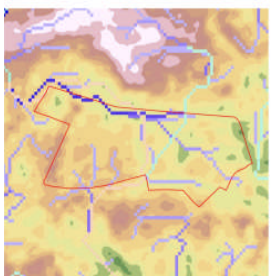
### TOPOGRAPHY



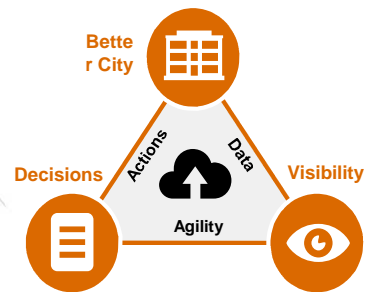
### SITE BOUNDARY



### HYDROLOGY



The Site has a topographical difference of 15mt from one end to another. The Site also has a major natural drain along East-West Axis. The Proposal would retain natural slope of site also existing drain would be rejuvenated as water channel with lively public spaces alongside.

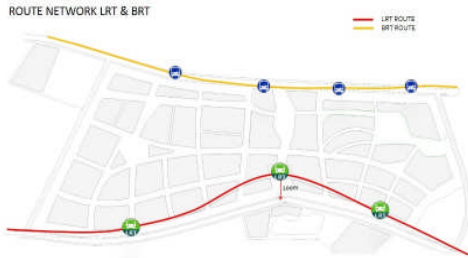


	<b>Smart Government</b>		<b>Smart Mobility</b>
	<ul style="list-style-type: none"> <li>• Transparency, accountability</li> <li>• Better decision making</li> </ul>		<ul style="list-style-type: none"> <li>• Intelligent traffic management</li> <li>• Safer roads</li> </ul>
	<b>Smart Environment</b>		<b>Smart Healthcare</b>
	<ul style="list-style-type: none"> <li>• Better waste management</li> <li>• Air quality monitoring</li> </ul>		<ul style="list-style-type: none"> <li>• Health maps</li> <li>• Better emergency services</li> </ul>
	<b>Smart Utilities</b>		<b>Smart Living</b>
	<ul style="list-style-type: none"> <li>• Resource conservation</li> <li>• Resilience</li> </ul>		<ul style="list-style-type: none"> <li>• Safety and security</li> <li>• Better quality of life</li> </ul>

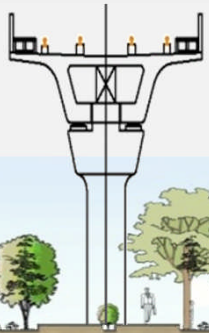


# Area Based Development – Design Strategy

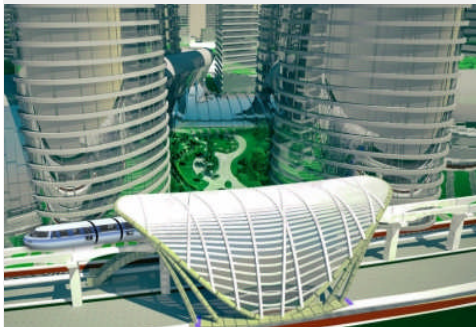
## LRT & BRT ROUTE (TOD POINTS)



The Site has proposed LRT Corridor on both edges of the Site. The design utilizes potential of these Transit Systems to create a TOD. LRT route is diverted 100m into site to reduce walking distance from stations to workplace/home.

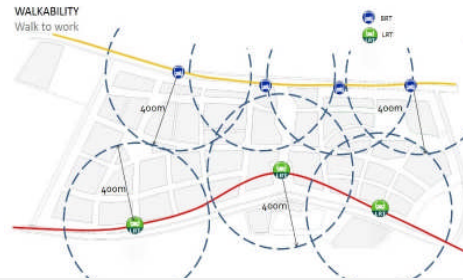


ELEVATED LRT

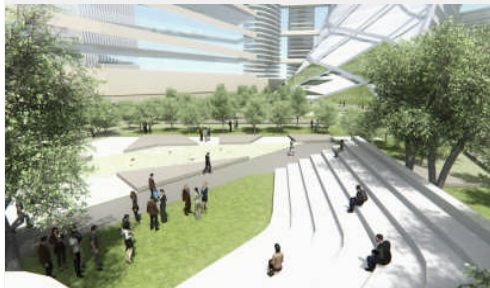


TOD AROUND LRT STATION

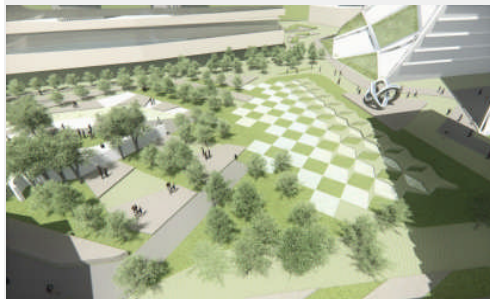
## WALKABILITY



The Key concept of Smart City, Bhopal has been to create Walkable City with least amount to Traffic/Vehicles. Idea is to Promote public transport, encourage walk to work and achieve healthy lifestyle. LRT Stations are strategically located to cover site within 10mins walk. The Whole Development is inter-connected with multiple Pedestrian/Greens Linkages at an Interval of max. 150 metres connecting all parcels to Major Plaza & Green Spaces. The linkages are designed to provide incidental Open Spaces/Plazas which become Nodes of Activity.



ACTIVE PLAZA



CENTRAL PLAZA SPACES

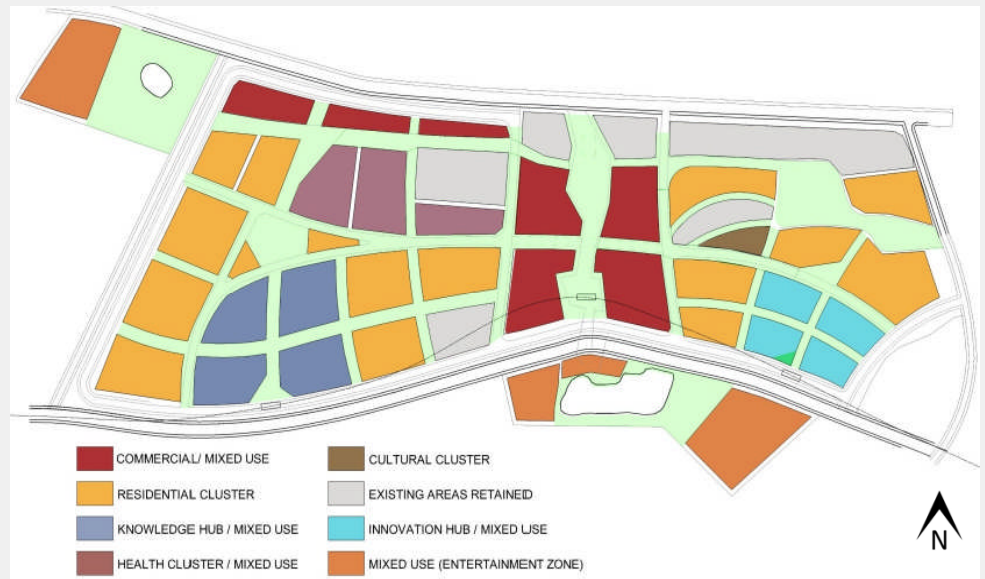
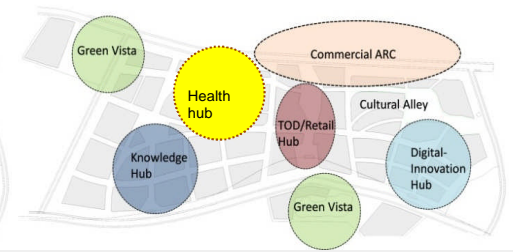
## EXISTING STRUCTURES



Certain Structures have been considered to be retained on site like Major religious structures have been retained considering issues at implementation stage and Large institutional buildings like JP Hospital & Red cross hospital. Structures considered to be retained on site based on importance in terms of social and cultural infrastructure. With the aim to Re-develop Shivaji Nagar, Bhopal as a modern & efficient smart city.

The MasterPlan envisages to create various Hubs/Clusters to cater to various industries & sections of the society. The various Hubs/Clusters facilitate providing opportunity to develop new sectors of economy, by providing diverse set of functions/facilities while providing comfortable and sustainable lifestyle to residents & community. Six Hubs/Clusters have been proposed in the Masterplan such as Digital- Innovation Hub, Knowledge-Research Hub, Health Hub, Commerce Hub, Retail Hub & Entertainment Zone with supporting Residential Clusters. These Hubs have been placed with reference to Public Transit Points like BRT/LRT, creating Transit Oriented Theme Based Development, with supporting clusters catering to general public.

## DIVERSE HUB STRATEGY



- COMMERCIAL/ MIXED USE
- RESIDENTIAL CLUSTER
- KNOWLEDGE HUB / MIXED USE
- HEALTH CLUSTER / MIXED USE
- CULTURAL CLUSTER
- EXISTING AREAS RETAINED
- INNOVATION HUB / MIXED USE
- MIXED USE (ENTERTAINMENT ZONE)

LANDUSE STRATEGY



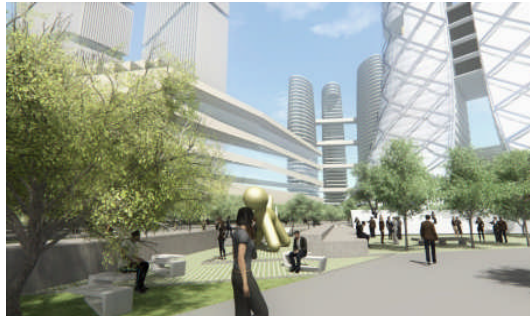
# Area Based Development – Master Plan



RETAIL PLAZA AT KNOWLEDGE HUB



MULTI MODAL INTEGRATION AT CENTRAL TOD



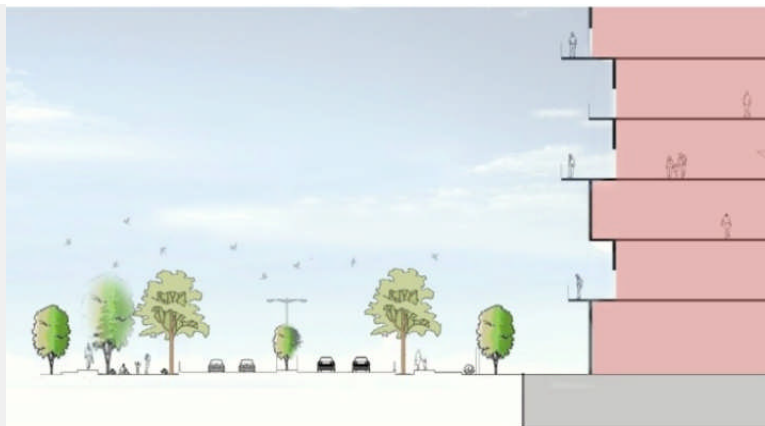
INTERACTIVE PLAZA AT INNOVATION HUB



MIXED USED AT PERIPHERY



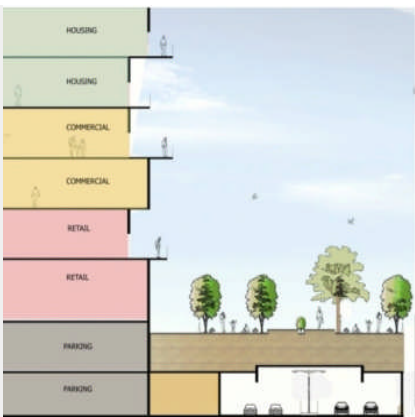
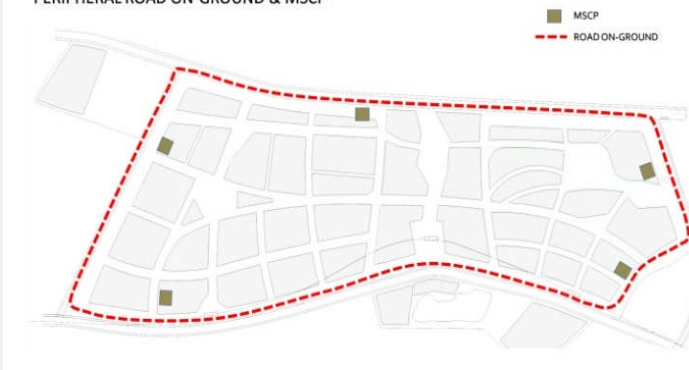
# Area Based Development – Mobility & Transportation



## VEHICLES RESTRICTED TO PERIPHERAL ROAD

The vehicles has been restricted to the periphery of the Site, a peripheral 4 Lane Service Road is designed to give access to Development on the edge of the site. Also, Multi-story Car Parks have been provided on the edge of site to achieve vehicle free site.

PERIPHERAL ROAD ON-GROUND & MSCP



## VEHICLE FREE GROUND LEVEL & UNDER-GROUND VEHICULAR ACCESS

There is no road on ground level, whole site developed with the concept of vehicular free public spaces. Parking has also been provided in Basement Level of each pocket, but providing such facility with high premium charges to dissuade car ownership but supplementing it by providing an alternative Public Transport System such as LRT/BRT.

UNDERGROUND VEHICULAR ACCESS



## BRT, GRT & PLAZA ON GROUND

The Key concept of Smart City, Bhopal has been to create Walkable City with least amount to Traffic/Vehicles. Idea is to Promote public transport, encourage walk to work and achieve healthy lifestyle.

GRT network connects to all parcels & Stations are placed at every 100mts, from where People can connect to other parts of development and transit nodes.

GRT NETWORK (GROUP RAPID TRANSIT)





# Area Based Development – Development Vision



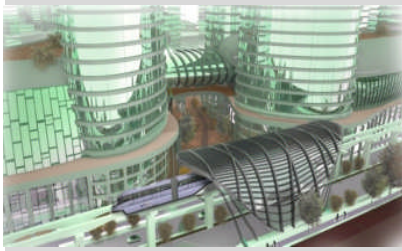
## KNOWLEDGE HUB

The Knowledge Hub envisages to aid Madhya Pradesh's ability to create, acquire, disseminate and apply knowledge which will be key to sustaining India's future growth.



## LIGHT RAIL TRANSIT STATION

Development is concentrated adjacent to Public Transit Points like BRT / LRT, creating multiple TOD zones



## LANDMARK TOWER

High rise tower at central TOD junction to create strong Contemporary image of the TOD development



## RETAIL PLAZA

Retail hub would act as the focal point of all retail activities of region & promote economic vibrancy

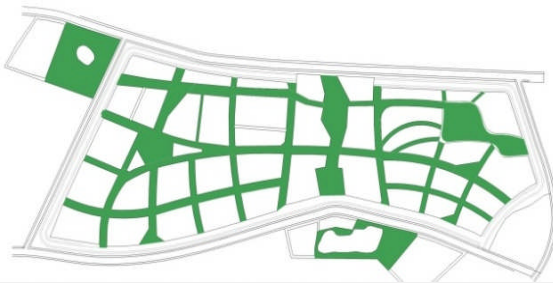


## INNOVATION HUB

The Digital Innovation Zone (DIZ) aims to promote Digital-Media, IT industry as well as companies related to the use of information, communication, and media technologies

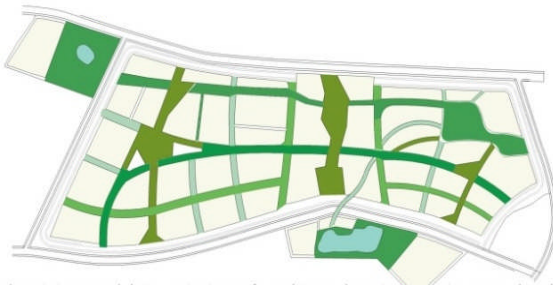


# Area Based Development – Public Spaces



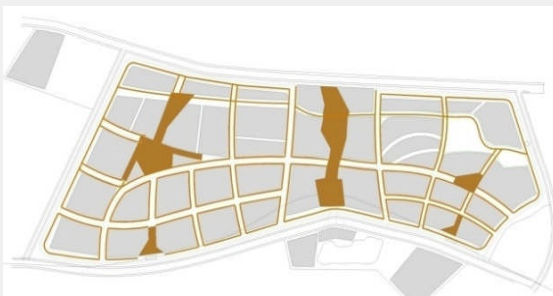
**OPEN SPACE STRUCTURE**

The Proposed Development is planned to be green, walkable and cycle friendly urban development. It intends to create a variety of open spaces. Primary Design Theme aims to create an Eco-Loop connecting major open spaces & waterbodies of the city to the site as well as create a linkage between them.



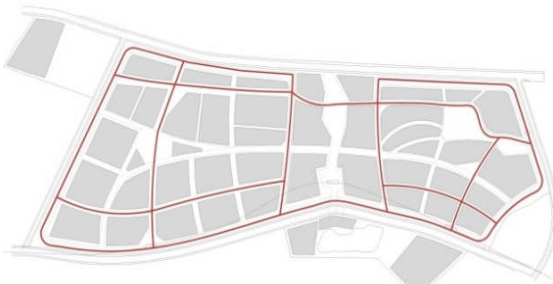
**OPEN SPACE HIERARCHY**

The existing natural drain on site is transformed into a dynamic community space. Also, all transit points are connected with considerable no. of open/public space. Public/Open spaces are dispersed across the development as well as are interlinked with network of connections providing access to varied types & scale of open spaces to all inhabitants and users.



**PEDESTRIAN NETWORK**

The Whole Development is interconnected with multiple Pedestrian/Greens Linkages at an Interval of max. 150 metres connecting all parcels to Major Plaza & Green Spaces. The linkages are designed to provide incidental Open Spaces/Plazas which become Nodes of Activity.



**CYCLETRACK NETWORK**

The Development is connected with multiple Bicycle-Tracks, each transit point like LRT/BRT is provided with Cycle-Stands from where People can borrow Bicycle and cycle to cycle-points near their homes/offices. Other Residents/ Inhabitants can borrow from these stands & then cycle to the transit hubs.



Central Plaza Space, the Development would have variety of Open Spaces of varied scale & sizes. These Spaces would be have Outdoor Refreshment Zones & Building edges would have Activity Generating Uses on Ground Floor.

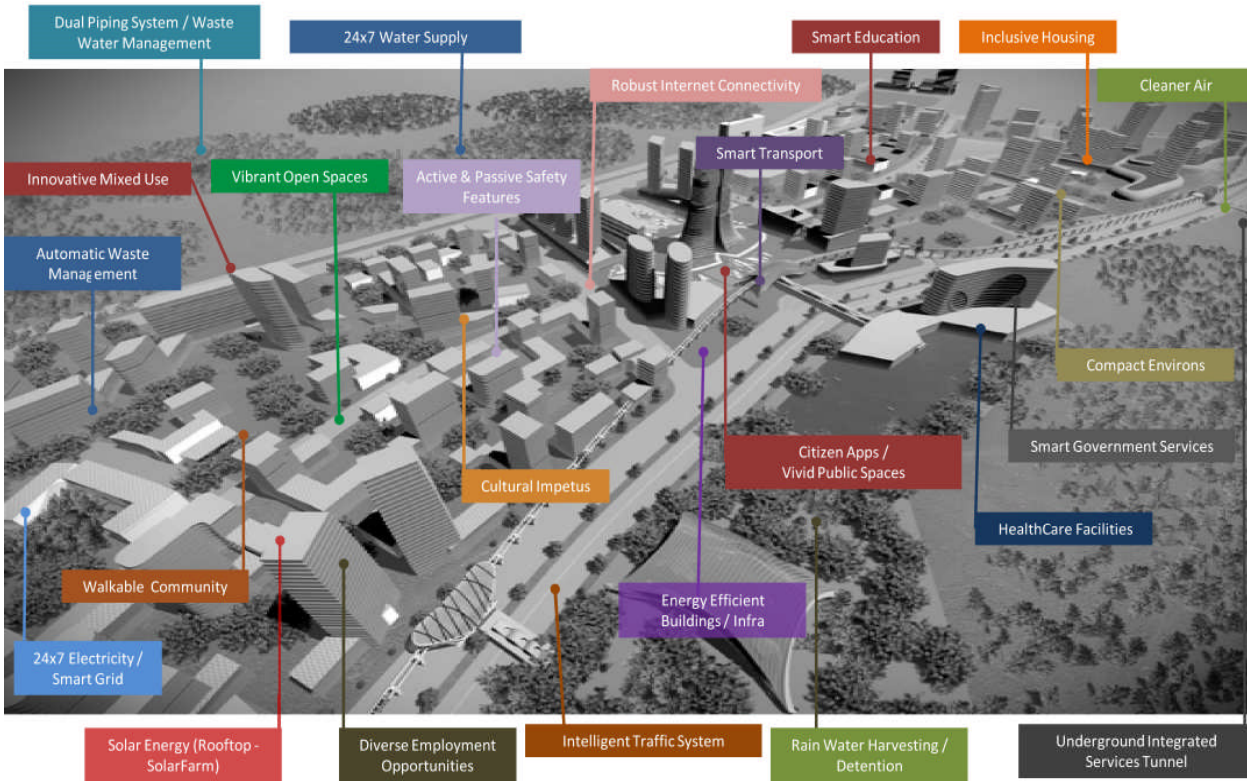


Various Linkages are provided across the development, these linkages have Activity Generating Uses at Ground Floor Level. The Walkways & Cycleways are segregated by small Green Belt to keep both separate yet together.

# Area Based Development – Precinct/Hub Strategy

KNOWLEDGE HUB	DIGITAL-INNOVATION ZONE	HEALTH HUB	COMMERCIAL HUB	CULTURAL HUB
				
<p>Knowledge HUB bolsters Government of India's initiative towards creating a Digital India with inventive, innovative and entrepreneurial knowledge. Creating a Knowledge based Digital economy. (KBE)</p> <p>The global market of products and services is now more technology- and knowledge-intensive. The Knowledge Hub envisages to aid Madhya Pradesh's ability to create, acquire, disseminate and apply knowledge which will be key to sustaining India's future growth.</p> <p>KBE can be realized through linking the Human Capital's ability in stimulating, developing, and nurturing education; research and development; entrepreneurship; networks and ICT infrastructure; and provision of Incubation (Seed Capital). The KNOWLEDGE/INNOVATION HUB crafts an Integrated Development to foster Research Based Innovation, creating future assets for country while aiding growth &amp; employment. Aim is to create a compact campus which provides students with Intensive Research Facilities &amp; finest resources of International Standard.</p>	<p>The Digital Innovation Zone (DIZ) aims to promote Digital-Media, IT industry — as well as companies related to the use of information, communication, and media technologies. The DIZ serves the nation's larger goals of strengthening innovation economy and promoting Bhopal as an alternative hub for commerce being Central to whole of India. DIZ will be the home to firms that create cultural material; R&amp;D Centres for software development, Information Technology etc. with technology-oriented office spaces.</p> <p>DIZ will host entertainment and retail establishments, technology companies, prestige housing, R&amp;D institutions. DIZ will feature Digital Street which will provide an opportunity to develop and test new technologies, and to refine them in a living laboratory environment. The Digital-Innovation Zone will be a vibrant cluster of digital content and technology enterprises, located on a state-of-the-art campus in the heart of Bhopal City. DIZ fosters innovation, technological development and creativity in a supportive, entrepreneurial environment.</p>	<p>An integrated and sustainable urban development, the Health Hub will incorporate many vibrant and outstanding features. These will extend beyond healthcare to encompass a complete and holistic ecosystem that includes health services, research and education, commercial, leisure and public spaces – achieving the goal of building a place where healthy life is central.</p> <p>Health Hub will be an integrated healthcare development where care and community both take centre stage. It aims to shape the future healthcare model of city, it will act as secondary healthcare in conjunction with AIIMS, Bhopal with an aim to enhance the health and ultimately empower people. The health care system consists of all personal medical care—plus the institutions and personnel that provide these services – a combination of government/public, and private organizations.</p> <p>There are four key elements to the Health Hub - <b>Care, Continuous Learning &amp; Innovation, Community and Connectivity.</b></p>	<p>Commercial Hub consists of High-End Office Spaces with allied Facilities like Media Centres, Business Hotels etc. Commercial Hub has been placed along Main Road-1 parallel to BRT Corridor, this Hub correlates to existing CBD at South TT Nagar as well connects to Habibganj Railway Station catalyzing relationship with rest of the state. The Zone has been positioned linearly along the Main Road maximizing revenue and lease potential.</p> <p>Commercial hub is very important from the perspective of economic development of the region. Commercial hub would act as the focal point of all commercial activities of region &amp; promote economic activities, creating jobs, and providing for greater revenues to the government and administration.</p> <p>The towers will be developed as a grouping of crystalline forms, sculpted and chamfered to reflect light and provide a sense of depth to the surfaces. The office and residential towers sculpt a dramatic skyline, marking it the dominant focal point along the Linear Development.</p>	<p>The Cultural Hub aims to provide access to diverse cultural opportunities for children and young generation as well as promotes a direct dialogue, sharing of skills, and a meaningful relationship between the education and cultural sectors. Its role is to bring together people from varied groups/backgrounds to come together relieving the cultural heritage of the state &amp; Country.</p> <p>The Cultural Hub is based in intrinsic part of the Shivaji Nagar with existing religio-cultural centres like Shri Aryappa Temple, Viswanathan Mandir &amp; Breathen Assembly Church.</p> <p>Important feature will be Cultural Alley which will provide an opportunity to pedestrian friendly public space combined with public art &amp; performing areas, connecting the existing religious centres and providing Creative Impetus to public. The alley will mix entertainment and retail uses with creative arts &amp; religious structures combining traditional Indian Urban Nodes &amp; Courtyards with modern touch. The alley would also create a public realm brings various cultures together by engaging people directly into creative arts.</p>
				
<p><b>EDUCATIONAL CAMPUS</b></p> <ul style="list-style-type: none"> <li>• Science Labs /IT Labs/Arts/Urban Solutions ACCOMODATION</li> <li>• Graduate Residences/Residential Colleges/Hostels</li> <li>• Faculty Residences/Married Student Accommodation</li> <li>• Dining Halls/Food Courts/Retail/ Recreation</li> <li>• CENTRE FOR RESEARCH &amp; EXCELLENCE Education Resource Centre (Student Learning Centre) Central Resource Lab/Library INCUBATION CENTRE</li> <li>• STUDENT ACTIVITY ZONE-SPORTS HUB</li> <li>• CENTRES OF EXCELLENCE FOR VOCATIONAL TRAINING</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple R&amp;D Centres</li> <li>• Digital Innovation Centre ( To Host Various Research Labs)</li> <li>• Business Research Collaboration Centre</li> <li>• High-tech Industry Centre</li> <li>• Global Digital Media Centre</li> <li>• I.T. CENTRE (To Host Technology Oriented Office Spaces)</li> <li>• Cultural Content Centre</li> <li>• Business Hotels</li> <li>• Rental Housing For International Affiliates</li> <li>• Serviced Apartments</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple Speciality Health Centres/Super Speciality Hospital</li> <li>• Medical Research Facility/Medical Staff Accommodation/Residential Facilities/Research and Education/Institute of Public Health/Centre for Health &amp; Clinical Sciences/Commercial/Leisure Spaces/Public Spaces/Integration with Community/Central Green Park/Healing greenery</li> </ul>	<ul style="list-style-type: none"> <li>• Digital media hub</li> <li>• Office spaces (Banking/Finance/Media etc)</li> <li>• Loading /unloading area</li> <li>• Parking facilities5</li> <li>• Leisure</li> <li>• Business Hotels</li> <li>• Public Spaces/Integration with Community</li> <li>• Active &amp; Passive commercial zones</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural organisations/Cultural Centre/Rehearsal Spaces/Auditorium/Performance Theatre/Meeting rooms/Banquet Halls/Convention Spaces/Congregation Space/Community Centres/Library/Centre for Public Art/Performing Arts Centre/Multiplex/Gallery and artists workshops with residential component</li> </ul>

# Area Based Development – Smart Components



## 2. IDENTITY & CULTURE

Bhopal's rich Identity & Culture will be exhibited & preserved with the Cultural Hub to provide access to diverse cultural opportunities. Cultural Alley will provide pedestrian friendly public space with public art & performing areas, providing Creative Impetus to public.

## 3. ECONOMY & EMPLOYMENT

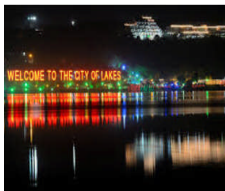
Masterplan would provide numerous employment opportunities to create a inventive-innovative economy providing prospects for employment to young generation. It aims to create multiple hubs & zones catering to various industries & research centres for future growth and employment.

## 4. EDUCATION

Multiple educational facilities of varied scale, serving not just the inhabitants of the Smart City but also the surrounding areas, a mix of Public & Private providing equal learning opportunity to students from all economic backgrounds.

## 5. HEALTH

Development would constitute combination of affordable healthcare options with mix of Super Speciality Public & Private Hospitals, with world class.



## 6. MIXED USE

The Masterplan envisages various Hubs (Theme Based Mixed Development) to facilitate providing opportunity to new sectors of economy, providing diverse set of functions/ providing lively, comfortable and sustainable lifestyle to residents & community.

## 7. COMPACTNESS

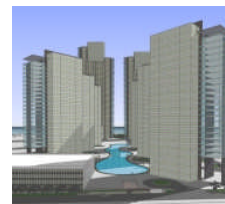
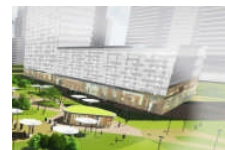
Proposal has been designed to create compact, dense & Walkable City. The whole development is Transit Oriented Development within 5min (400m) walk of any Transit Station (BRT/LRT).

## 8. OPEN SPACE

Development is planned as green, walkable and cycle friendly development. It provides a variety of open spaces, design aims to create an Eco-Loop connecting major open spaces & waterbodies.

## 9. HOUSING & INCLUSIVENESS

It has been designed as mixed-use, high-density district that provides more options for city living meaning that more people can live near their work place. It will have a range of housing choices to ensure a broad population can be housed.



## 10. TRANSPORTATION & MOBILITY

The Site is served with 4 BRT Stations on the Northern Periphery & 3 LRT Stations on the Southern Periphery, and whole development has 5 mins. Accessibility. Vehicles are restricted to a 4- Lane Service Road periphery road on Site to give access to Development on the edge.

## 11. WALKABILITY

Development is inter-connected with multiple Pedestrian/Greens Linkages & Dedicated Cycle-Tracks at an Interval of max. 150 metres connecting all parcels to Major Plaza & Green Spaces. Bikeshare & Cycle Stands are provided at all Transit Stations.

## 12. I.T. CONNECTIVITY

Development would have fibre-optic connectivity to each household & office to provide super high-speed connectivity to every inhabitant as well as will have provision for Public Wi-Fi system in all public plaza/areas.

## 13. INTELLIGENT GOVT. SERVICES

Bhopal Smart City would have Government Services available through e-governance model already being implemented in State of Madhya Pradesh. In addition to these, certain hyper-local facilities would be provided within Shivaji Nagar Re-development which would then be extended to across the city.

## 14. ENERGY SUPPLY

Captive Gas based Power Plant with Grid Backup for 24x7 Power Supply. Solar power systems will meet 10% of the area's demand with Smart/Net Metering. The Smart Grid and distribution would ensure Snag free distribution.

## 15. ENERGY SOURCE

All buildings within Shivaji Nagar Redevelopment would have to meet 15% of there energy demand from Solar Energy with Rooftop Photovoltaic along with Building Intergrated Photovoltaics (BIPV).

## 16. WATER SUPPLY

The Smart City would be provided be 24/7 Water Supply. Water would be treated to best of International Standards and supplied by Municipal Corporation.

## 17. WASTE WATER MANAGEMENT

Run-off Water from the site would be drained with help of natural slope of the site and stored in Waterbodies on the site, all building would have rain water harvesting system to improve Ground Water Table.

## 18. WATER QUALITY

Sewage & Waste Water from whole development would be transported thru Sewage Pipe to Central Sewage Treatment Plant on the Eastern Periphery of the development. The processed water would be re-used for Landscape Irrigation & Flushing Water requirement.

## 19. AIR QUALITY

Transit Oriented Development with max. no. of people using Public Transport reducing need for Private Vehicles reducing Air Pollution. Vehicle Free Development reducing overall Air Pollution within the development with discouragement to usage & ownership of Private Vehicles with high parking and access charges.

## 20. ENERGY EFFICIENCY

Bhopal Smart City would be a highly energy efficient urban zone, all street light would be LED based with Solar Panels, Smart Grids would be used to contain Transmission & Distribution Losses, All Buildings would have to meet Green Building standards such as LEED, GRIHA, GREENMARK etc.

## 21. UNDERGROUND ELECTRIC WIRING

Common services Tunnel for various services including Electrical Wiring which will provide Easy Access to Integrated Underground Utility Service (Electrical, communications, hot and cold water, centralize cooling system, pneumatic refuse collection pipes, gas pipes, sewer lines ).

## 22. SANITATION

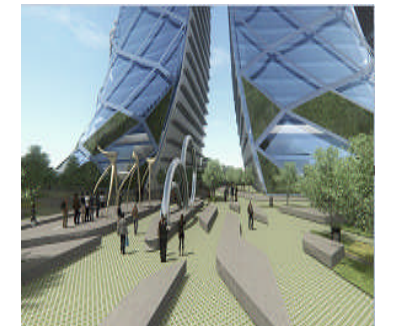
The development will have multiple Public Toilets integrated with Retail facilities so that Public Areas are free of Open defecation/urination. The development would also have a centralized STP for treating Sewage.

## 23. WASTE MANAGEMENT

The Bhopal Smart City will have Automatic Waste Collection System or Pneumatic refuse conveying system (S), which is a type of waste disposal system that uses air to move refuse through pipes to collection points. Waste Bins would be provided with sensors for proactive management.

## 24. SAFETY

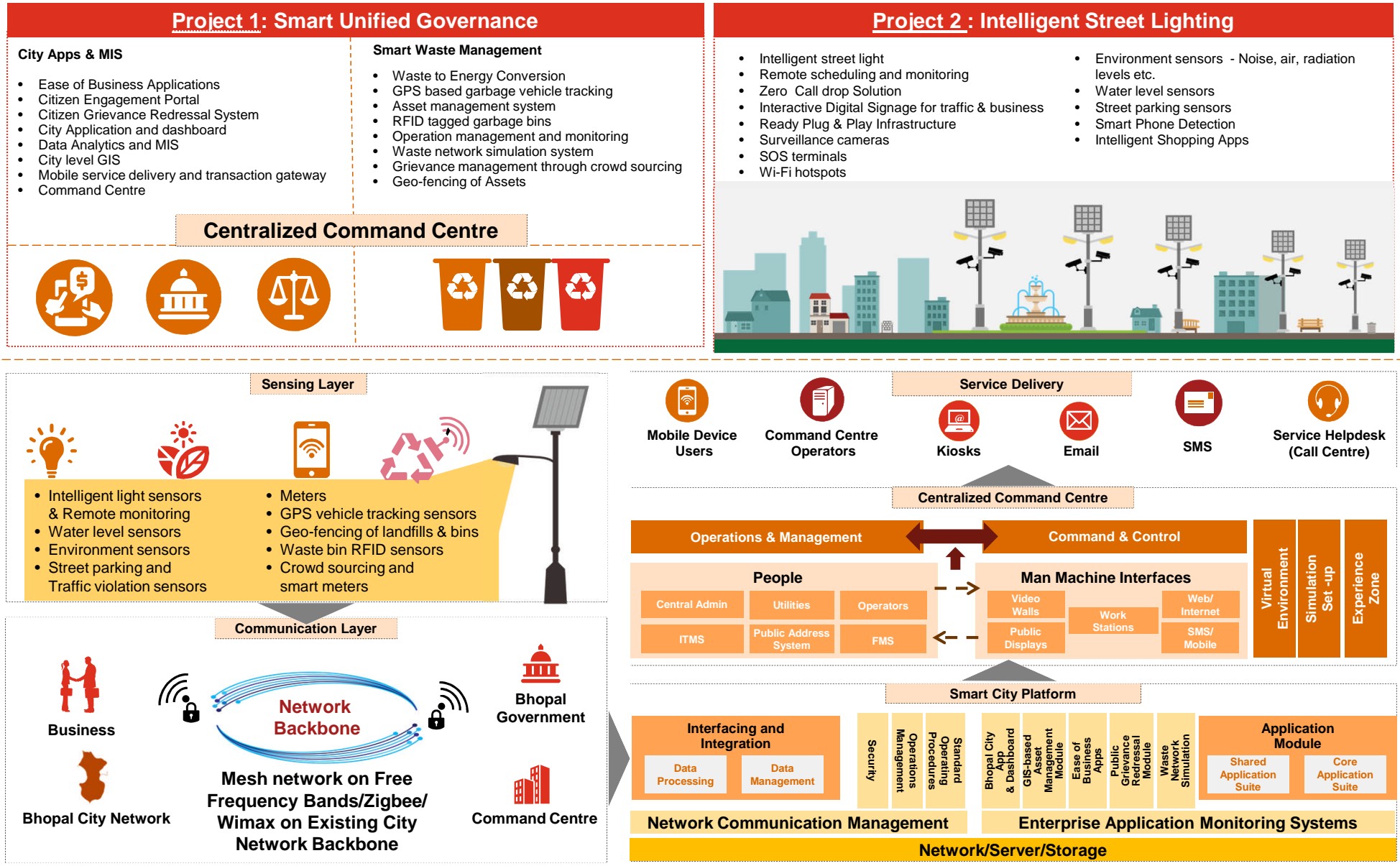
The development would have combination of Active & Passive Security Features. Passive Crime Prevention techniques include AGU's (Activity Generating Uses) at Ground Floor Level to keep it active for majority of time and under regular public surveillance.



# Pan City Solution - Overview, Technology Architecture and Core Components



## Components of Pan City Solution

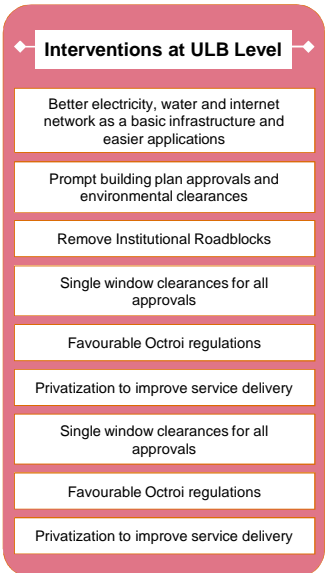


# Pan City Solution- Smart Unified Governance

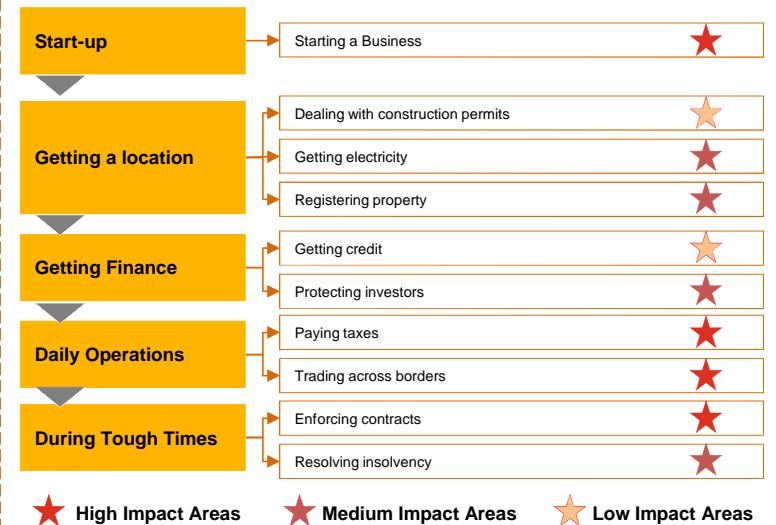


## Ease of Doing Business -Best practices in India

One day business registration policy	Single window clearance systems	Re-engineering of corporate registration procedure from 12 to 4 steps
Online Tax Management Systems	Prevention of abuse by insiders and company mismanagement. Through new Companies Act, GoI	GIS based support for site identification
Incentives to MSMEs and online registration systems	Boosting FDI limits across multiple sectors	GST to replace all indirect taxes systems



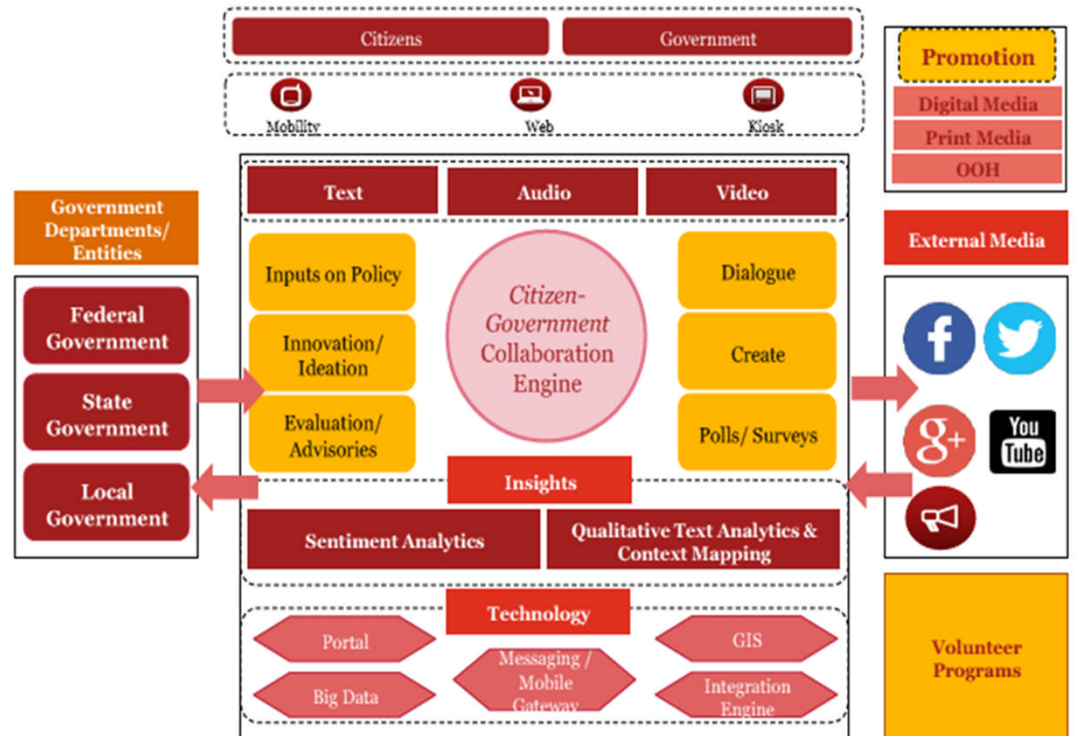
## Ease of Doing Business Criteria and it's impact



## Four key pillars to achieve ease of doing business environment

- Local factor Cost advantages**
- Fiscal Policies & Infrastructure Support**
  - Availability of Physical and Soft Infrastructure
  - Demographic Profile and State of Human Capital Development
  - State of Information and Communication Technology
  - Ease of getting credit
- Investment Promotion and Industrial Policies/Procedures**
  - Investment enabling support provided by Government – information availability and investor handholding
  - Ease of Starting and Closing business
  - Investment promoting policies
- Quality of Institutions, Regulations & Reforms**
  - Single window approach
  - Law and Order scenario
  - Procurement procedure and user convenience

## Citizen Engagement Initiative

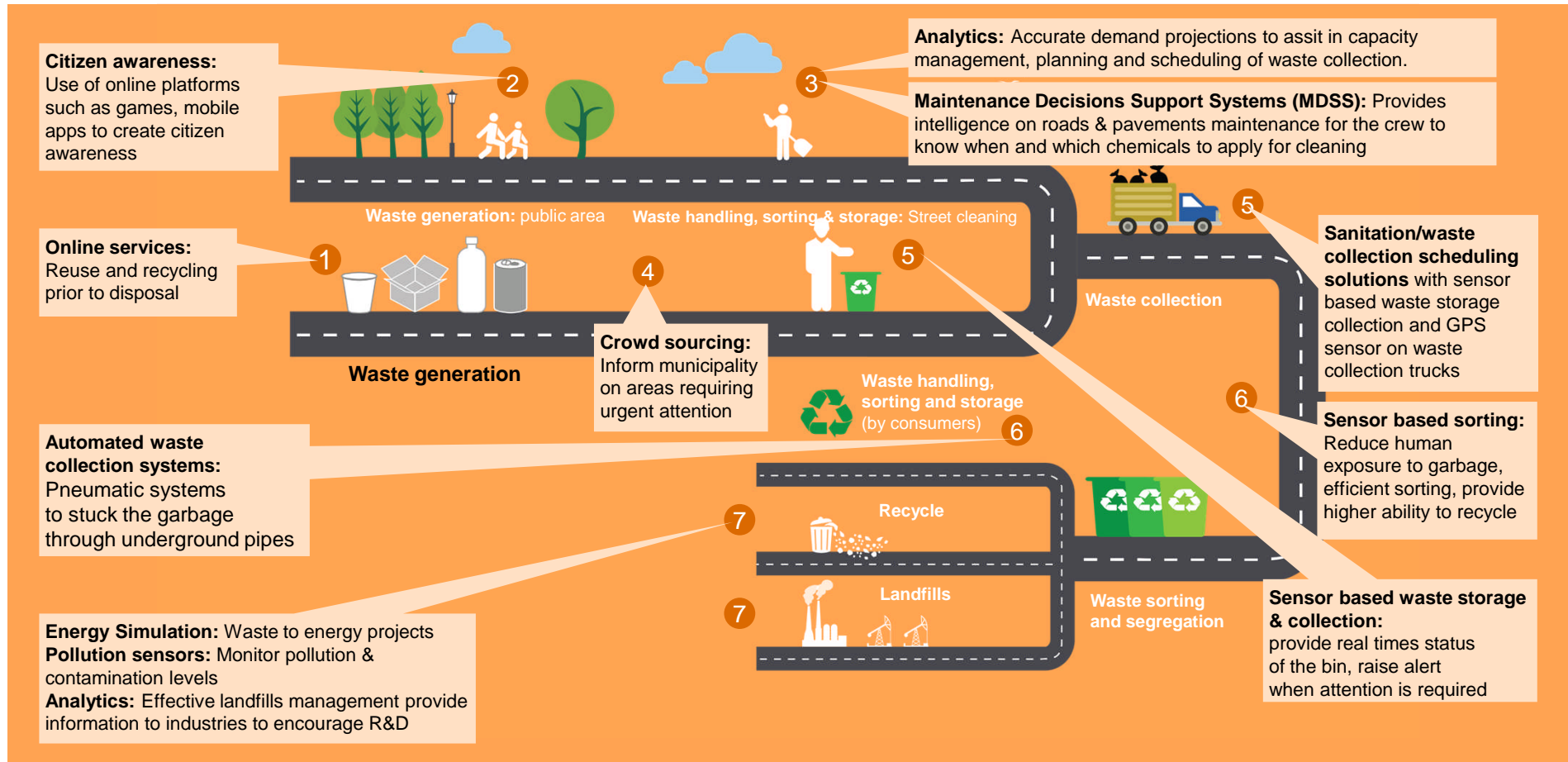


# Pan City Solution- Smart Unified Governance



## Mobile Apps

## Smart Waste Management



# Pan city Solution – Intelligent Street Lighting



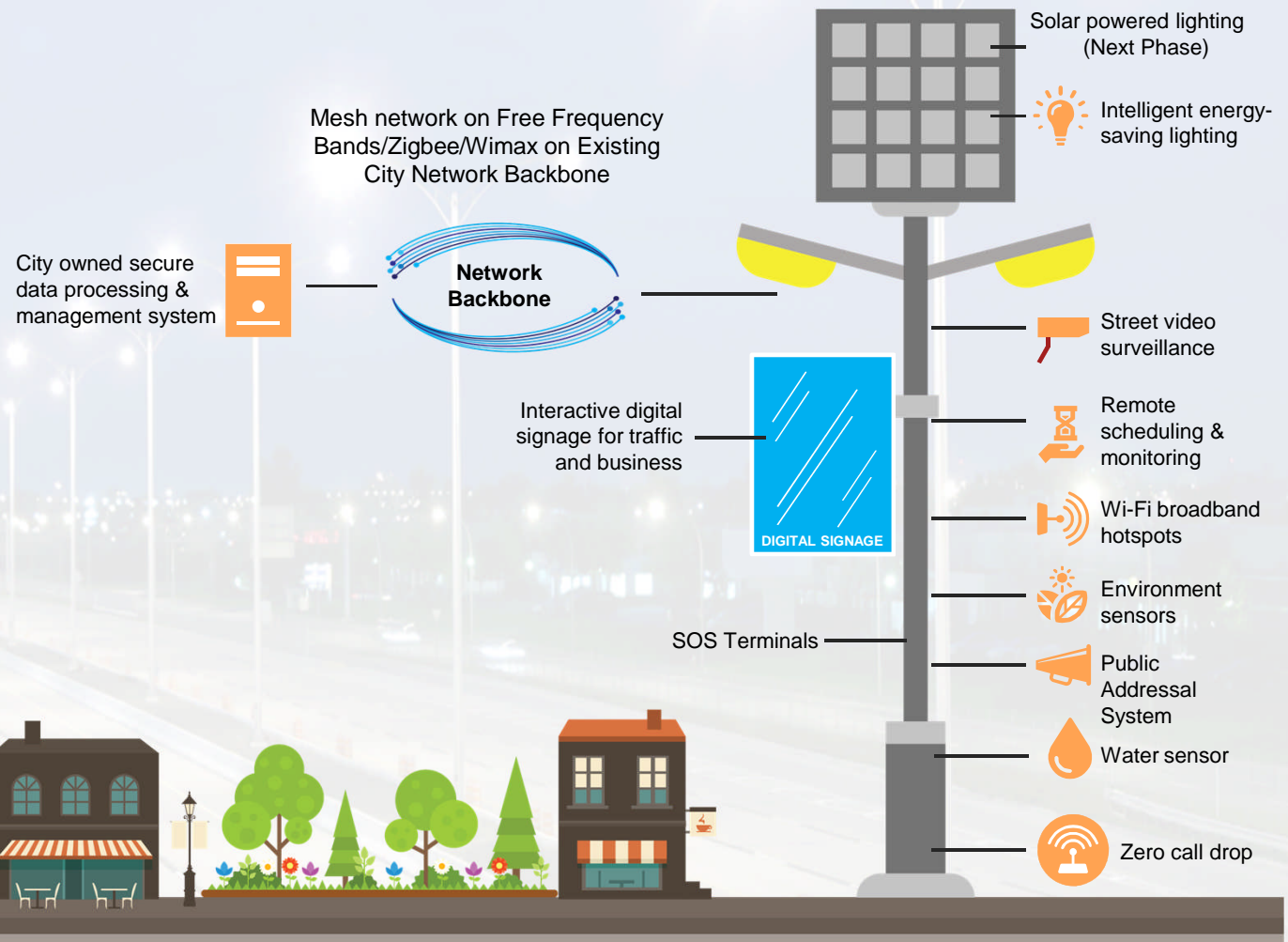
## Descriptive Solution Architecture

**50-60% energy saving from LED lighting**

**Monetisation:**

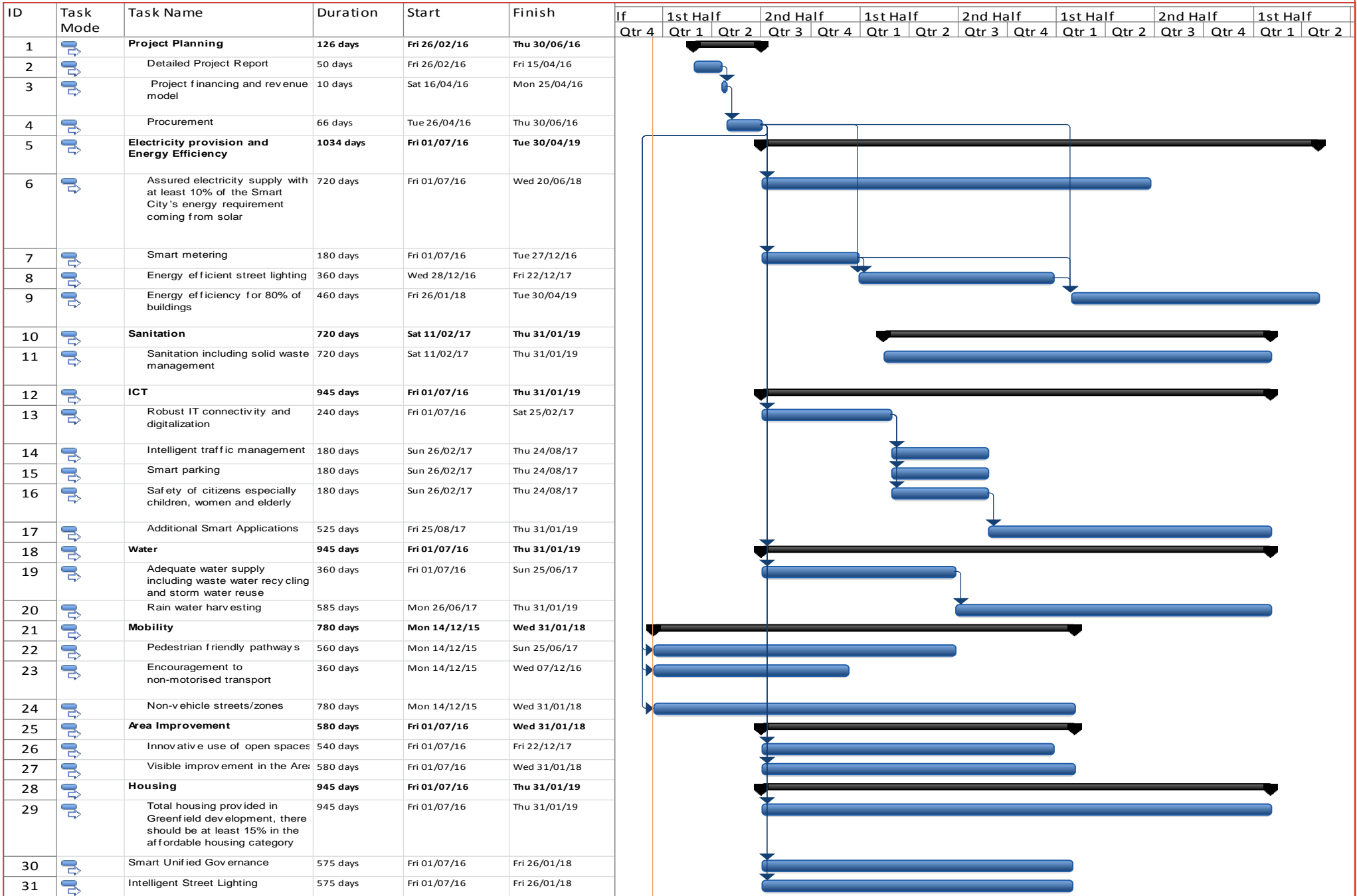
- Revenue from mobile service providers
- Parking management
- AMR
- Traffic management
- Advertisement

**Zero call drop assurance across Bhopals' Municipal limit (Successfully implemented in Middle East and Europe)**

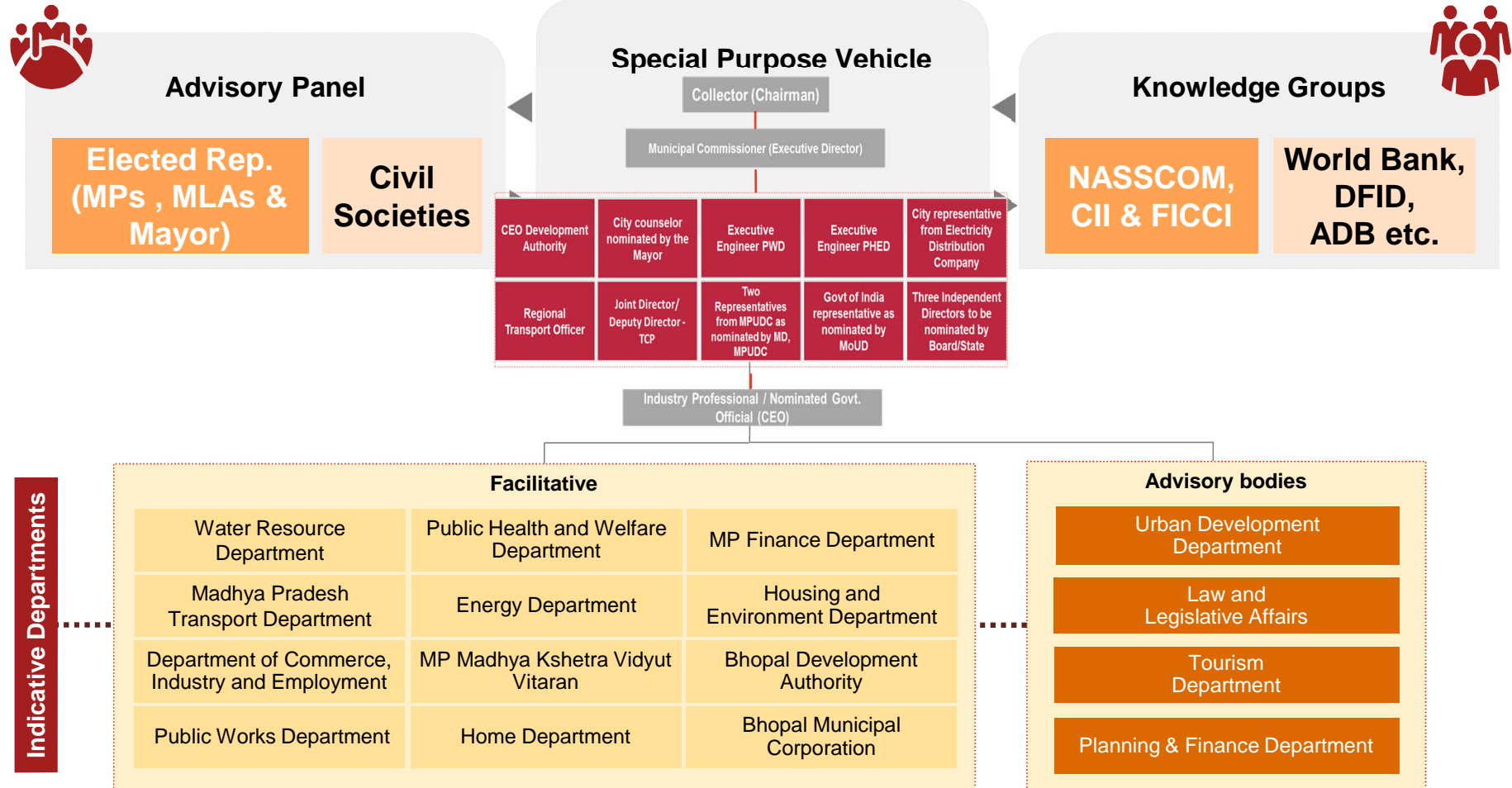




# PERT Chart



# Institutional arrangement and relationship between various government departments (Convergence)



MOU Signing With MP Metro Rail



SPV Chairman



MOU Signing with BDA

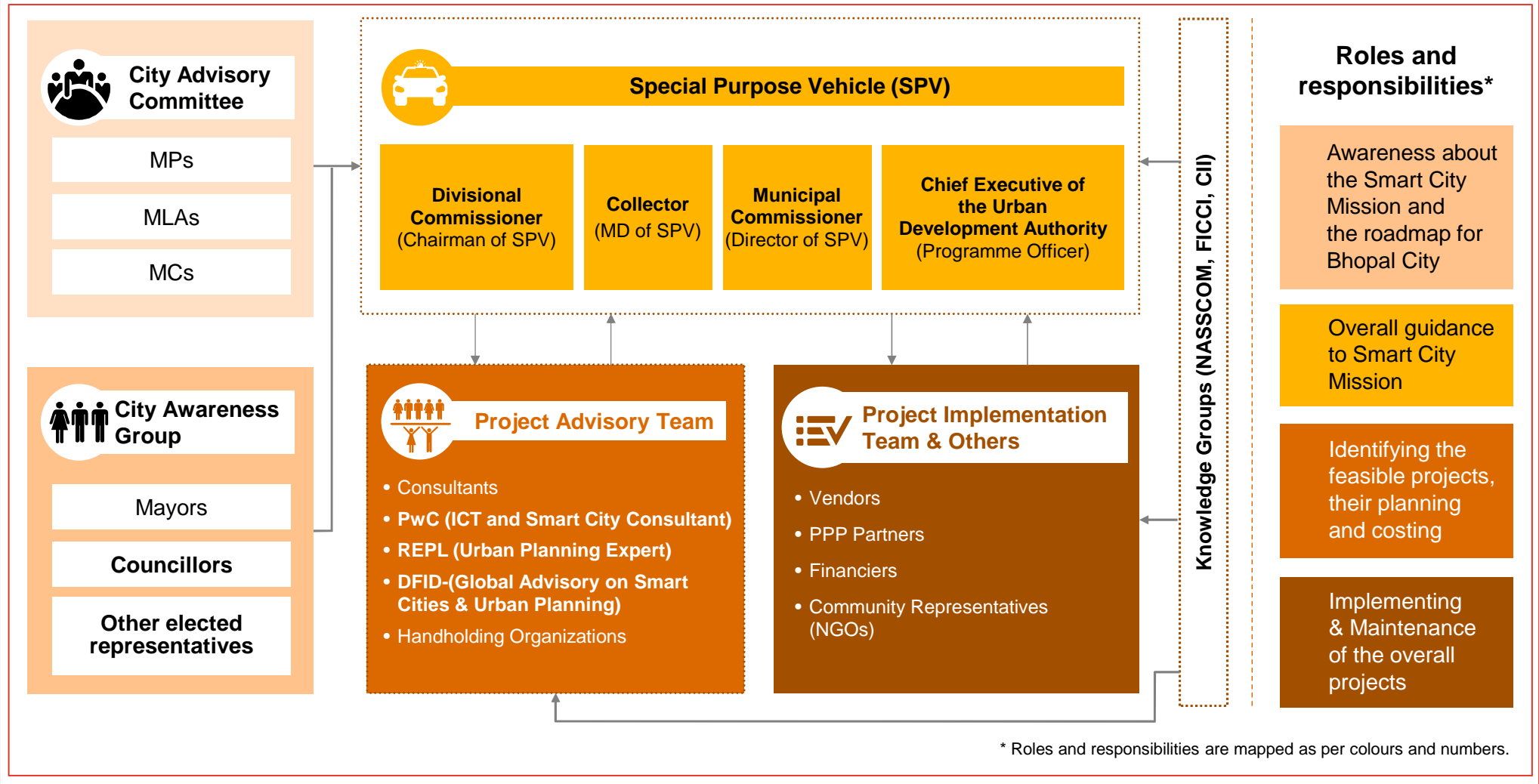


# Stakeholder Roles

## Organogram

- An organogram showing the relationships :
- MPs, MLAs, MLCs
- Mayors, Councilors, other elected representatives
- Divisional Commissioner
- Collector
- Municipal Commissioner
- Chief Executive of the Urban Development Authority/Parastatal

- Consultant (Select from empaneled list)
- Handholding Organization (Select from Following list: World Bank, ADB, JICA, USTDA, AFD, KFW, DFID, UN Habitat, UNIDO, Other)
- Vendors, PPP Partners, Financiers
- Others, (e.g.. Community representatives) as appropriate to your city



# Cost Summary Sheet

FINANCIALS		(INR Crores)	FINANCING ASSUMPTIONS		(INR Crores)
<b>Cost Projections</b>			<b>Sources of Funds</b>		
<b>Development Costs</b>			GoI Grant considered as BMC Equity		488.0
<b>Development of Land &amp; public utilities (Non saleable)</b>		<b>607.3</b>	State Equity Inflow for SMART CITY		488.0
<b>Trunk Infrastructure cost</b>		<b>541.2</b>	Commercial Loan		21.1
<b>Development of Govt., Affordable, EWS and LIG housing</b>		<b>922.4</b>	Convergence Fund and BMC IT Budget		486.0
<b>Operation and Maintenance cost</b>		<b>111.4</b>	<b>Terms for the Commercial Loan</b>		
<b>Administration costs, Marketing expenses, Approval Cost and PMC Fee</b>		<b>382.5</b>	Principal		21.1
<b>Total Development, Operations and Maintenance Costs of ABD only</b>		<b>2565.2</b>	Tenure of loan (in years)		5
<b>Development, Operations and Maintenance of Pan city solutions</b>		<b>875.7</b>	Repayment mode		Annual
<b>Total Development, Operations and Maintenance Costs (including Pan City solutions)</b>		<b>3440.9</b>	Interest rate (annual compounding)		12%
<b>Revenue Projections</b>			Annual Amount Payable		5.8
<b>Sale of land</b>		<b>5,445.7</b>	Average DSCR		102.6
<b>Maintenance charges</b>		<b>122.5</b>	Minimum DSCR		45.81
<b>Total Revenue from ABD only</b>		<b>5,578.2</b>			
<b>Revenue from Pan City Solutions</b>		<b>928.0</b>			
<b>Revenue from Smart City Advisory Services</b>		<b>65.0</b>			
<b>Revenue from Smart City Knowledge Partner Services</b>		<b>32.0</b>			
<b>Property Tax</b>		<b>41.0</b>			
<b>Total Revenue</b>		<b>6,644.2</b>			
<b>PROJECT IRR</b>		<b>0.9%</b>			
<b>EQUITY IRR</b>		<b>13.8%</b>			

COST ASSUMPTIONS		Unit
Cost of development of public utilities (Non saleable)	1,750	INR/sqft
Annual increase in development cost	5%	%
Cost of Development of Government Housing	2400	INR/sqft
Annual increase in development cost	5%	%
Cost of development of affordable housing	2,400	INR/sqft
Annual increase in development cost	5%	%
Total land available	,72,52,304	sqft
FSI	2.5	
Total FSI area	1,81,30,761	sqft
<b>Total Area to be developed</b>		
PHASE - I	1,28,89,853	sqft
PHASE - II	,83,81,429	sqft
PHASE - III	,21,71,475	sqft

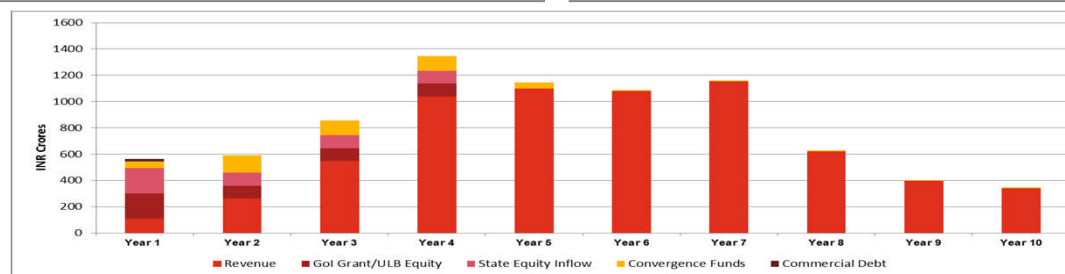
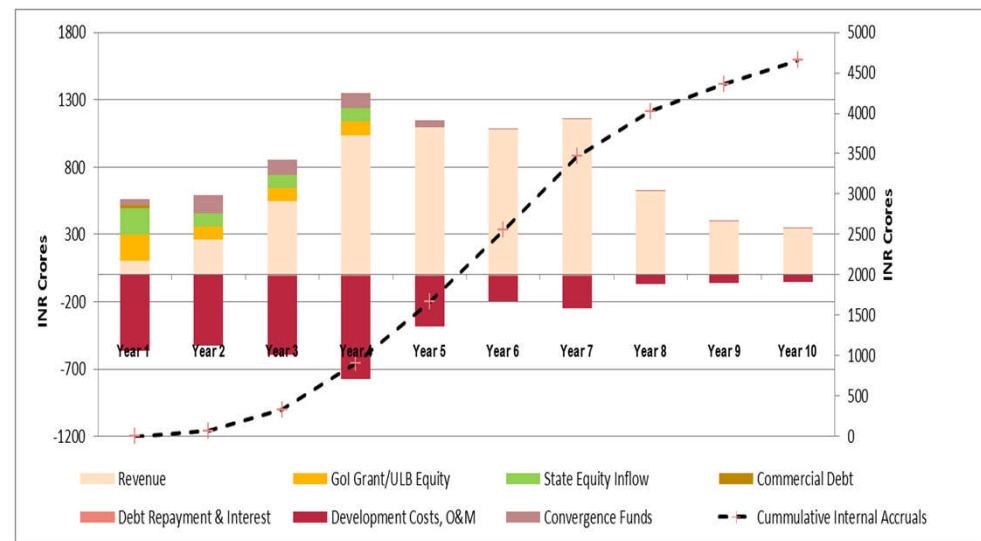
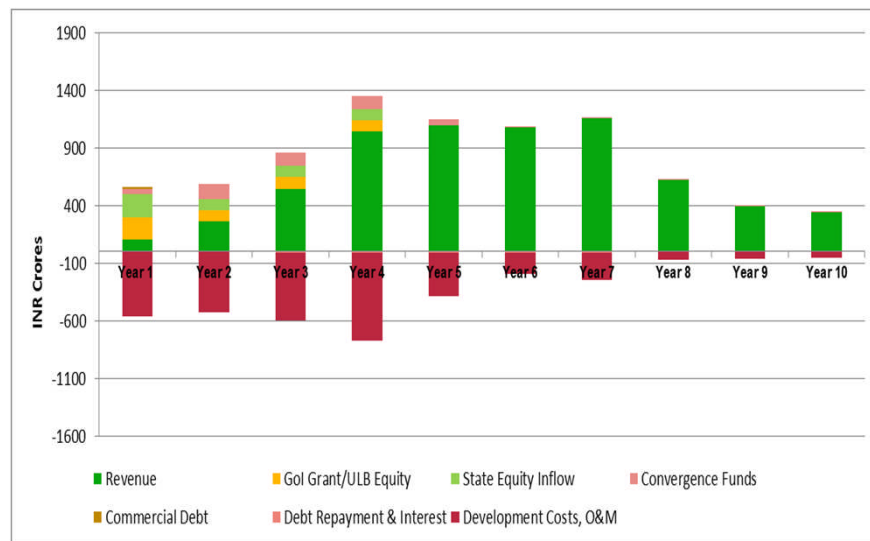
REVENUE ASSUMPTIONS		Unit
Lease Price of Residential land		
Residential FSI	1,750	INR/sqft
Loading for Residential land	20%	%
Annual increase in lease price	5%	%
Lease price of Commercial land		
Retail	3,250	INR/sqft
Office space	2,000	INR/sqft
Loading for Commercial land	20%	%
Annual increase in lease price	5%	%
Average Lease price of public utilities land		
Loading for ATMs	40%	%
Annual increase in lease price	3%	%

# Land Use summary

Type of Property	Area (Sq. ft)	Number of Units	Area of Each Unit	Phase I	Phase II	Phase III
<b>RESIDENTIAL (70% of available FSI)</b>	<b>0 sqft.</b>			<b>7,296,523 sqft.</b>	<b>4,381,018 sqft.</b>	<b>1,014,005 sqft.</b>
Government Apartments						
• Type C	105,000 sqft.	35 no.	3,000 sqft.	105,000 sqft.		
• Type D	125,000 sqft.	50 no.	2,500 sqft.	125,000 sqft.		
• Type E	600,000 sqft.	300 no.	2,000 sqft.	600,000 sqft.		
• Type F	550,000 sqft.	500 no.	1,100 sqft.	550,000 sqft.		
• Type G	200,000 sqft.	250 no.	800 sqft.	200,000 sqft.		
• Type H	200,000 sqft.	400 no.	500 sqft.	200,000 sqft.		
• Type I	121,500 sqft.	300 no.	405 sqft.	121,500 sqft.		
Affordable Housing	650,000 sqft.	1,000 no.	650 sqft.	325,000 sqft.	325,000 sqft.	
Residential Apartments						
• Type I	1,995,000 sqft.	1,900 no.	1,050 sqft.	997,500 sqft.	798,000 sqft.	199,500 sqft.
• Type II	2,139,750 sqft.	1,585 no.	1,350 sqft.	1,069,875 sqft.	855,900 sqft.	213,975 sqft.
• Type III	2,085,625 sqft.	1,175 no.	1,775 sqft.	1,042,813 sqft.	834,250 sqft.	208,563 sqft.
• Type IV	1,980,000 sqft.	825 no.	2,400 sqft.	990,000 sqft.	792,000 sqft.	198,000 sqft.
• Type V	1,604,670 sqft.	601 no.	2,670 sqft.	802,335 sqft.	641,868 sqft.	160,467 sqft.
• Type VI	335,000 sqft.	100 no.	3,350 sqft.	167,500 sqft.	134,000 sqft.	33,500 sqft.
EWS Housing	208,800 sqft.	720 no.	290 sqft.	104,400 sqft.	104,400 sqft.	
LIG Housing	309,600 sqft.	720 no.	430 sqft.	154,800 sqft.	154,800 sqft.	
<b>COMMERCIAL (30% of available FSI)</b>	<b>5,439,278 sqft.</b>			<b>2,719,639 sqft.</b>	<b>2,175,711 sqft.</b>	<b>543,928 sqft.</b>
Retail Use (60% of Commercial FSI)	3,263,567 sqft.			1,631,783 sqft.	1,305,427 sqft.	326,357 sqft.
Office Space (40% of Commercial FSI)	2,175,711 sqft.			1,087,856 sqft.	870,284 sqft.	217,571 sqft.
<b>PUBLIC FACILITIES</b>	<b>5,311,984 sqft.</b>			<b>2,873,716 sqft.</b>	<b>1,824,720 sqft.</b>	<b>613,548 sqft.</b>
1. Educational						
a. Nursery School (FSI Sale)	710,424 sqft.	11 no.	64,584 sqft.	322,920 sqft.	258,336 sqft.	129,168 sqft.
b. Primary School (FSI Sale)	710,424 sqft.	11 no.	64,584 sqft.	322,920 sqft.	258,336 sqft.	129,168 sqft.
c. High School (FSI Sale)	645,840 sqft.	3 no.	215,280 sqft.	215,280 sqft.	215,280 sqft.	215,280 sqft.
2. Medical Facility						
a. Health Centre	322,920 sqft.	3 no.	107,640 sqft.	107,640 sqft.	107,640 sqft.	107,640 sqft.
3. Other Facilities						
a. Sub Post Office	5,380 sqft.	5 no.	1,076 sqft.	3,228 sqft.	2,152 sqft.	
b. Post and Telegraph Office cum Delivery and Booking including Telephone exchange of 1000 lines	538,200 sqft.	5 no.	107,640 sqft.	322,920 sqft.	215,280 sqft.	
c. Police Station with staff quarters	86,112 sqft.	1 no.	86,112 sqft.	86,112 sqft.		
d. Police Post with staff quarters	86,112 sqft.	2 no.	43,056 sqft.	43,056 sqft.	43,056 sqft.	
e. Fire Station with staff quarters	86,112 sqft.	2 no.	43,056 sqft.	43,056 sqft.	43,056 sqft.	
f. Multi Level Car Park	1,800,000 sqft.	3 no.	600,000 sqft.	1,200,000 sqft.	600,000 sqft.	
g. Sports Facility	100,000 sqft.	1 no.	100,000 sqft.	100,000 sqft.		
h. Command Centre	20,000 sqft.	1 no.	20,000 sqft.	20,000 sqft.		
i. Reservation Centre	4,000 sqft.	2 no.	2,000 sqft.	2,000 sqft.	2,000 sqft.	
j. Facility Management	25,000 sqft.	5 no.	5,000 sqft.	15,000 sqft.	10,000 sqft.	
k. ATM	10,000 sqft.	20 no.	500 sqft.	5,000 sqft.	5,000 sqft.	
4. Social & Cultural Facilities						
a. Community Hall and Library	96,876 sqft.	3 no.	32,292 sqft.	32,292 sqft.	32,292 sqft.	32,292 sqft.
b. Cinemas (FSI Sale)	64,584 sqft.	2 no.	32,292 sqft.	32,292 sqft.	32,292 sqft.	

# Financing Timeline

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Inflow</b>										
Revenue	107	261	547	1038	1098	1080	1154	621	396	341
Gol Grant/ULB Equity	194	98	98	98	0	0	0	0	0	0
State Equity Inflow	194	98	98	98	0	0	0	0	0	0
Convergence Funds	48.6	133.8	112.5	112.5	48.6	6	6	6	6	6
Commercial Debt	21	0	0	0	0	0	0	0	0	0
<b>Outflow</b>										
Debt Repayment & Interest	-3	-3	-6	-6	-6	-6	-6	0	0	0
Development Costs, O&M	-563	-521	-588	-766	-380	-191	-242	-72	-60	-57
<b>Cumulative Internal Accruals</b>	<b>0</b>	<b>67</b>	<b>329</b>	<b>904</b>	<b>1665</b>	<b>2554</b>	<b>3465</b>	<b>4020</b>	<b>4362</b>	<b>4652</b>





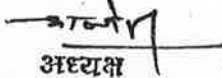
नगर पालिक निगम, भोपाल  
पृष्ठ क्रमांक

विषय :- स्मार्ट सिटी परियोजना का प्रस्ताव तथा  
Special Purpose Vehicle (SPV) के गठन  
की स्वीकृति बावत्।

विभाग.....  
विभागाध्यक्ष.....  
संबंधित सहायक.....

कार्यालय नगर पालिक निगम भोपाल  
मेयर इन कौंसिल स.क्र. 02 दि. 08/12/15

आयुक्त की अनुशंसा के आधार पर भोपाल के लिए स्मार्ट सिटी परियोजना का प्रस्ताव तथा Special Purpose Vehicle (SPV) के गठन का प्रस्ताव अनुशंसा सहित निगम परिषद् की ओर स्वीकृति हेतु प्रेषित।  
निगम परिषद्

  
अध्यक्ष

मेयर इन कौंसिल  
नगर निगम, भोपाल

नगर पालिक निगम, भोपाल

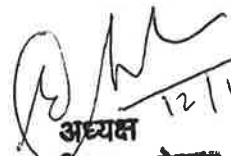
परिषद् संकल्प क्रमांक-01, दिनांक 12.12.2015

शहरी विकास मंत्रालय भारत सरकार द्वारा राज्य स्तरीय उच्च स्तरीय समिति की अनुशंसा के आधार पर भोपाल नगर को स्मार्ट सिटी परियोजना के प्रथम चरण में चयनित किया गया है, जिसके संबंध में पूर्व में परिषद् द्वारा संकल्प क्रमांक 01, दिनांक 11.07.2015 द्वारा प्रस्ताव प्रेषित किया गया था।

- स्मार्ट सिटी परियोजना के प्रतिस्पर्धा के द्वितीय चरण हेतु आयुक्त द्वारा विस्तृत स्मार्ट सिटी परियोजना का वित्तीय प्रावधानों को सम्मिलित करते हुए प्रस्ताव तथा Special Purpose Vehicle (SPV) के गठन का प्रस्ताव परिषद् के समक्ष प्रस्तुत किया गया है। प्रस्ताव पर चर्चा की गई।
- चर्चा उपरांत स्मार्ट सिटी परियोजना के द्वितीय चरण हेतु आयुक्त द्वारा स्मार्ट सिटी परियोजना का वित्तीय प्रावधानों को सम्मिलित करते हुए प्रस्तुत प्रस्ताव को भारत सरकार को प्रेषित किये जाने तथा भारत सरकार के दिशा निर्देशों के अनुरूप योजना के क्रियान्वयन हेतु Special Purpose Vehicle (SPV) के गठन की स्वीकृति प्रदान की जाती है।

उक्त प्रस्ताव बहुमत से पारित किया जाता है।

आयुक्त

  
अध्यक्ष  
नगर निगम, भोपाल  
12/12/2015

**MEMORANDUM OF UNDERSTANDING**

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the "Authority") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Madhya Pradesh Public Works Department (MPPWD) having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

1. **OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.
2. **AREAS OF COORDINATION AND COLLABORATION** - The areas of coordination and collaboration between the Authority and the Agency will be as following:
  - 2.1. Parties will coordinate in areas related to planning, design, implementation, operations and maintenance, monitoring and coordination for Strategic Area as per SCP.
  - 2.2. The Agency will provide necessary support to the Authority for undertaking project implementation for strategic areas proposals and pan-city proposals as per SCP.
  - 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
  - 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.





2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire (five) years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.




5. **RELATIONSHIP** - Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.


6. **ASSIGNMENT** - Neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party, unless otherwise defined in this MOU or agreed in written by both Parties.

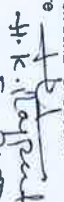


7. **COSTS OF THE MOU** - Each Party shall bear the respective costs of carrying out the obligations under this MOU.


8. **SIGNED IN DUPLICATE** - This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature   
Name **TEJASWI S. NAZE**  
Title **CONV. SALES MGR - EMC**  
Date **14/12/15**  
Witness  
1.   
2.   
**A. Nanda**  
**CE, EMC**

  
**Anubhav Tsankaj**

For and on behalf of Second Part  
Signature   
Name **H.K. Kapoor**  
Title **EMC PMS for 1 Bhopal**  
Date  
Witness  
1.   
2.   
**H.K. Kapoor**

  
**H.K. Kapoor**

## MEMORANDUM OF UNDERSTANDING

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AND

Madhya Pradesh Housing Board having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

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WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

**1. OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.

**2. AREAS OF COORDINATION AND COLLABORATION** - The areas of coordination and collaboration between the Authority and the Agency will be as following:

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- 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire (five) years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.

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BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature *[Signature]*  
Name **(TERASWI SAKMEL)**  
Title **COMMISSIONER, BMC**  
Date **14/12/15**  
Witness  
1. *[Signature]*  
2. *[Signature]*

*A. K. Indarwati*  
Eg. BMC

*[Signature]*  
**(HIMPUSAT TUNGGU)**

For and on behalf of Second Part  
Signature *[Signature]*  
Name **M. B. S.**  
Title **M. B. S.**  
Date **14.12.15**  
Witness  
1. **OPHIDB Skript**  
2. *[Signature]*

*[Signature]*  
**C. S. K. S.**  
**M. P. H. I. D. B. Skript**

**TERASWI SAKMEL**  
**COMMISSIONER**  
**BUMAH**

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AND

Capital Project Administration (CPA) having its office at BHOPAL, (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

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For and on behalf of First Part  
Signature   
Name **TEJSWINI S. NAIR**  
Title **COMMISSIONER, SMC**  
Date **14/12/15**  
Witness  
1.  
2.

For and on behalf of Second Part  
Signature   
Name **ARAY SRINIVASTAVA**  
Title **EXECUTIVE ENGINEER, CPA**  
Date **14/12/15**  
Witness  
1.  
2.

  
**(GAURAV JAIN)**  
WITNES

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the "Authority") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Office of Additional District Magistrate having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation.

1. **OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.

2. **AREAS OF COORDINATION AND COLLABORATION** - The areas of coordination and collaboration between the Authority and the Agency will be as following:

- 2.1. Parties will coordinate in areas related to planning, design, implementation, operations and maintenance, monitoring and coordination for Strategic Area as per SCP.
- 2.2. The Agency will provide necessary support to the Authority for undertaking project implementation for strategic area proposals and pan-city proposals as per SCP.
- 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
- 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire five years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.

5. **RELATIONSHIP** - Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.

6. **ASSIGNMENT** - Neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party, unless otherwise defined in this MOU or agreed in writing by both Parties.

7. **COSTS OF THE MOU** - Each Party shall bear the respective costs of carrying out the obligations under this MOU.

8. **SIGNED IN DUPLICATE** - This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part

Signature *[Signature]*  
Name (TEJASWI SHARMA)  
Title COMMISSIONER, SMC  
Date 14/12/14  
Witness  
1. *[Signature]*  
2. *[Signature]*

For and on behalf of Second Part

Signature *[Signature]*  
Name VIKAS MISRA  
Title ADD. DIR. MGR. (S)  
Date 14.12.14  
Witness  
1  
2

*[Signature]*  
ANDLERS WANSI

*[Signature]*  
(MUNISH TRIPATHY)  
*[Signature]*  
(Kumar)

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the "Authority") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Bhopal Development Authority (BDA) having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

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**1. OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.

**2. AREAS OF COORDINATION AND COLLABORATION** - The areas of coordination and collaboration between the Authority and the Agency will be as following:

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- 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
- 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.



2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

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For and on behalf of First Part  
Signature   
Name TEJASWINI SRINIVAS  
Title COMMISSIONER, SMC  
Date 14/12/15  
Witness  
1. Ch. Chandramouli Shetty  
2.   
(MINE DEPT/THURDAY)

For and on behalf of Second Part  
Signature   
Name NIERAJ VASHISHTHA  
Title CEO BDA, 14<sup>th</sup> DEC 2015  
Date  
Witness  
1. Armit Gaybye Jyoti  
2. Kamal Nagan.

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHO PAL on this 14 Day of DECEMBER 2015 between BHO PAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHO PAL (herein after referred to as the "Authority") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Madhya Pradesh Madhya Kshetra Vidut Vitran Corporation Ltd (MPMKVVCL) having its office at BHO PAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHO PAL city under stage-1 of smart cities challenge as potential smart city and Bhopal Municipal Corporation has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHO PAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

**1. OBJECTIVE OF MEMORANDUM OF UNDERSTANDING -** The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHO PAL under Government of India's Smart City Mission.

**2. AREAS OF COORDINATION AND COLLABORATION -** The areas of coordination and collaboration between the Authority and the Agency will be as following:

- 2.1. Parties will coordinate in areas related to planning, design, implementation, operations and maintenance, monitoring and coordination for Strategic Area as per SCP.
- 2.2. The Agency will provide necessary support to the Authority for undertaking project implementation for strategic area proposals and pan-city proposals as per SCP.
- 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
- 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

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4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire 5(five) years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.


5. **RELATIONSHIP** - Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.

6. **ASSIGNMENT** - Neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party, unless otherwise defined in this MOU or agreed in written by both Parties.

7. **COSTS OF THE MOU** - Each Party shall bear the respective costs of carrying out the obligations under this MOU.


8. **SIGNED IN DUPLICATE** - This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature   
Name (Tejaswini S. Nair)  
Title COMMISSIONER, SMC  
Date 14/12/15  
Witness  
1.  
2.

For and on behalf of Second Part  
Signature   
Name A.K. Khatri  
Title S.E. - M/Tom Kuv-L  
Date 14/12/15  
Witness  
1.  
2.

①   
Chandanadas Swamy

  
ANUDEEP GARASI

②   
Anurag  
(HIGHLIGHT TUNNEL)

  
Anoop Jainpawar

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHVARDHAN COMPLEX, MATIA MANDIR BHOPAL (herein after referred to as the 'Authority') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Madhya Pradesh Metro Rail Corporation Ltd., having its office at BHOPAL (herein after referred to as the 'Agency') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban, Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

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For and on behalf of First Part  
Signature   
Name (CECASY BELL)  
Title COMMISSIONER, SMC  
Date 14/12/15  
Witness  
1.  
2.

For and on behalf of Second Part  
Signature   
Name KAND CHARITA NAFAN  
Title AMD WINKEL  
Date 14/12/15  
Witness  
1.  
2.

  
Cecy Bell

  
KAND CHARITA NAFAN  
AMD WINKEL

  
HARTWIT TANHLE

  
ANDLEIS CWARSTI

## MEMORANDUM OF UNDERSTANDING

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AND

Madhya Pradesh Amdkavak Kendra Vikas Nigam (MPAKVN) having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

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  - 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

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For and on behalf of First Part  
Signature   
Name **TERASWI S. MARK**  
Title  
Date **14/12/15**  
Witness **COMMISSIONER, BMC**  
1.  
2. 

For and on behalf of Second Part  
Signature   
Name **RAYMOND DED**  
Title **General Manager**  
Date **14/12/15**  
Witness **ADD: 1st Avenue for High Segment, SMC**  
1. **Head Project Charge**  
2. **BE MOU**



## MEMORANDUM OF UNDERSTANDING

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AND

Bhopal City Link Ltd. (BCLL) having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

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WHEREAS Ministry of Urban Development ("MoUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

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For and on behalf of First Part  
Signature *[Signature]*  
Name **TEJASWI S. NAIK**  
Title **COMMISSIONER, BMC**  
Date **14/12/15**  
Witness  
1. *[Signature]*  
2. *[Signature]*

For and on behalf of Second Part  
Signature *[Signature]*  
Name **Chandramauli Shukla**  
Title **Chief Executive Officer**  
Date **14.12.2015**  
Witness  
1. *[Signature]*  
2. *[Signature]*

*[Signature]*  
*(MAYANK SHUKLA)*  
*[Signature]*  
*(Anand)*

① *[Signature]*  
**ANIL KUMAR CHAKRABORTY**  
② *[Signature]*  
**(B. Anil Chakraborty)**

## MEMORANDUM OF UNDERSTANDING

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AND

Madhya Pradesh Town & Country Planning (T&CP) having its office at BHOPAL (herein after referred to as the 'Agency') which expression shall where the content so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MoUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

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  - 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire 5(five) years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.

5. **RELATIONSHIP** - Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.

6. **ASSIGNMENT** - Neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party, unless otherwise defined in this MOU or agreed in written by both Parties.

7. **COSTS OF THE MOU** - Each Party shall bear the respective costs of carrying out the obligations under this MOU.

8. **SIGNED IN DUPLICATE** - This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature: *[Signature]*  
Name: *TEJASWI S. NAIK*  
Title: *COMMISSIONER, BMC*  
Date: *14/12/15*  
Witness:  
1. *[Signature]*  
2. *[Signature]*

*[Signature]*  
(HONGKAITRAMPZ)

For and on behalf of Second Part  
Signature: *[Signature]*  
Name: *Dr. Anurag Gadhingkar*  
Title: *Dr. Anurag Gadhingkar, F&C.P.*  
Date: *14/12/15*  
Witness:  
1. *[Signature]*  
2. *[Signature]*

*[Signature]*  
Witness:  
*[Signature]*

*[Signature]*  
ANURAG GADHINGKAR  
W A Q S I

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the 'Authority') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Madhya Pradesh Pollution Control Board (MP PCB) having its office at BHOPAL (herein after referred to as the 'Agency') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ("MOUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and [Name of Municipal Corporation] has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ("SPV") for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

**1. OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.

**2. AREAS OF COORDINATION AND COLLABORATION** - The areas of coordination and collaboration between the Authority and the Agency will be as following:

- 2.1. Parties will coordinate in areas related to planning, design, implementation, operations and maintenance, monitoring and coordination for Strategic Area as per SCP.
- 2.2. The Agency will provide necessary support to the Authority for undertaking project implementation for strategic area proposals and pan-city proposals as per SCP.
- 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
- 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

2.5. Parties will consult each other and exchange necessary information for coordination and collaboration purpose.

3. **NON-EXCLUSIVITY** - The relationship of the parties under this MOU shall be non-exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular agreement related to Strategic Area, the participants may agree to limit each party's right to collaborate with others on that subject.

4. **TERMS AND TERMINATION** - This MOU, unless extended by mutual written agreement of the parties, shall expire 5(ive) years after the effective date specified in the opening paragraph. This MOU may be amended, extended or terminated by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party.

5. **RELATIONSHIP** - Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.

6. **ASSIGNMENT** - Neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party, unless otherwise defined in this MOU or agreed in written by both Parties.

7. **COSTS OF THE MOU** - Each Party shall bear the respective costs of carrying out the obligations under this MOU.

8. **SIGNED IN DUPLICATE** - This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature *[Signature]*  
Name **TESAWI S. NATE**  
Title **COMM. SECRETARY, SMC**  
Date **14/12/15**  
Witness  
1. *[Signature]*  
2. *[Signature]*

For and on behalf of Second Part  
Signature *[Signature]*  
Name **DR. P.S. DAVAR**  
Title **REGIST. OFFICER**  
Date **14.12.2015**  
Witness  
1. *[Signature]*  
2. *[Signature]*

*[Signature]*  
Rajesh Kumar Jayaraman

*[Signature]*  
D.C.  
(HORIZONT FINANCE)

*[Signature]*  
ANDREIS CARLOS

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the 'Authority') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Department of Technical Education having its office at BHOPAL (herein after referred to as the 'Agency') which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

Hereafter referred to collectively as "Parties".

WHEREAS Ministry of Urban Development ('MOUD') has launched Smart Cities Mission ('Mission') and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and Bhopal Municipal Corporation has prepared a Smart City Plan ('SCP') for stage-2 of smart cities challenge.

AND WHEREAS the Authority has passed council resolution no. \_\_\_\_\_ dated \_\_\_\_\_ to incorporate a Special Purpose Vehicle ('SPV') for planning, designing, financing, implementation and operations and maintenance of smart city projects.

AND WHEREAS the Authority will act as nodal organization for coordination on all matters relating to SCP and its implementation till formation of SPV, and after formation of SPV, all rights and obligations of the Authority related to SCP will be transferred to the SPV.

AND WHEREAS the Parties have had discussions on BHOPAL SCP including proposals for area based development for Strategic Area and pan-city solutions and have reached an understanding on the following roles and responsibilities pertaining to smart city plan implementation:

- 1. OBJECTIVE OF MEMORANDUM OF UNDERSTANDING** - The objective of this Memorandum of Understanding (MOU) is to define areas of coordination and collaboration between the Authority and the Agency for planning, design, financing, implementation and operations and maintenance of upcoming smart city projects in BHOPAL under Government of India's Smart City Mission.
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  - 2.3. The Agency will endeavour to prioritize its development projects in line with SCP and to converge resources to the Authority for implementation of smart city plan components which fall under various policies, schemes and budgets.
  - 2.4. The Agency will fast track any applicable approvals, licenses, and permits for implementation of smart city projects.

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BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For and on behalf of First Part  
Signature *[Signature]*  
Name **TERASAWI S. NAKK**  
Title **Commissioner, SMC**  
Date **14/12/15**  
Witness  
1.  
2.

For and on behalf of Second Part  
Signature *[Signature]*  
Name **D.K. GARDNER**  
Title **Principal**  
Date **17/1/16**  
Witness  
1. **Gov. Sps. IT / BPL.**  
2.

① *[Signature]*  
**Chandana W. Subhanka**

*[Signature]*  
**(Lawyer)**

② *[Signature]*  
**ATC (WIRIWI TANGA)**

*[Signature]*  
**ANDREAS WARSIT**

## MEMORANDUM OF UNDERSTANDING

This Agreement is made at BHOPAL on this 14 Day of DECEMBER 2015 between BHOPAL MUNICIPAL CORPORATION, having its office at HARSHWARDHAN COMPLEX, MATA MANDIR BHOPAL (herein after referred to as the "Authority") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the first part of agreement.

AND

Department of Information Technology, Government of Madhya Pradesh having its office at BHOPAL (herein after referred to as the "Agency") which expression shall where the context so admit include its heirs, Assigns, Executors, Successors, Legal Representatives, Administrators etc. of the second part of agreement.

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WHEREAS Ministry of Urban Development ("MoUD") has launched Smart Cities Mission ("Mission") and shortlisted BHOPAL city under stage-1 of smart cities challenge as potential smart city and Bhopal Municipal Corporation has prepared a Smart City Plan ("SCP") for stage-2 of smart cities challenge.

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
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For and on behalf of First Part

Signature   
Name (TEJASWI S. NAIR)  
Title COMMISSIONER, BMC  
Date 14/12/15  
Witness

1.   
2. A. K. Wadhwa  
BMC CB.

  
d.c.  
(CHARSHIT TWARZI)

For and on behalf of Second Part

Signature   
Name  
Title Ch. V. V. V.  
Date 14/12/15  
Witness

1.   
2.

14/12/15 (Ch. V. V. V.)



**MADHYA PRADESH URBAN INFRASTRUCTURE INVESTMENT  
PROGRAMME (MPUIIP)**

**Handbook of Smart Solutions**

*Ready Reckoner for Preparation of Smart City Proposals in Madhya Pradesh*

September 2015