Transforming Pune into a world-class Smart City

December 2015
To do well in the competition, we need to do well across 3 areas

City-level criteria (30%)
- **Vision and goals** (5%)
- **Strategic plan** (10%)
- **Citizen engagement** (10%)
- **Baseline, KPI, Self-assessment** (5%)

Area-based proposal (55%)
- ‘Smartness of proposal’ (7%)
- **Citizen engagement** (5%)
- **Result orientation** (15%)
- **Process followed** (3%) 
- **Implementation Framework, including feasibility and cost effectiveness** (25%)

Pan-city proposal (15%)
- ‘Smartness of proposal’ (3%)
- **Citizen engagement** (1%)
- **Result orientation** (5%)
- **Process followed** (1%)
- **Implementation Framework, including feasibility and cost effectiveness** (25%)

**Most critical**
- Implementation framework
- Funding
EXECUTIVE SUMMARY

- Pune Municipal Corporation (PMC), Pune propose to take a giant leap forward in making Pune one of the Global Best Cities to live with initiatives across Pan city and local area costing Rs. 2932 cr under Smart City Mission (SCM)
  - Two vital initiatives under Pan city to address key pain points raised by citizens – Transport and Water costing Rs. 671 cr
  - Provide end to end services in Aundh-Baner-Balewadi (ABB) region to make it a top 10 ‘Best places to live’ and a top 25 ‘Ease of doing business’ ranking as rated by World Bank; Initiatives to cost Rs. 2196 cr
  - O&M expenditure: Rs. 65 Cr

- In line with MoUD guidelines, SPV to be setup as an independent private company under Company Act 2013 with full flexibility to implement initiatives proposed under SCM

- SCM will cover 1/3rd of proposed funding requirement with rest being met primarily existing Central government schemes and land monetization supported by additional FSI

- SPV will have 45-50 full time employees headed by a professional CEO and overseen by a Governing Board and an Executive Committee to ensure proper execution and monitoring of proposed initiatives

- One of the key objectives of the SPV is to strengthen the corporation and increase operational efficiency mainly on the projects side

- We have identified 12 key components to enable institutionalizing the SPV and setting the foundation for Pune to be emerge as the #1 city in the Smart City Challenge
PMC have a great chance to be in the top 10 in the Smart City Challenge because of 10 distinctive features

1. Pune conducted a detailed desk review across 12 sectors through crack teams consisting of 40+ sector experts to come up with detailed SWOT – Strength, Weakness, Opportunity and Threat analysis of the city.

2. Only city to create an overall master plan based on proprietary econometric model has been created that will make Pune future ready upto 2030 - detailed infra requirement for the next 5 years has been done.

3. Sources of funding beyond Smart City Mission (SCM) and other government missions have been identified including land monetization, debt, PPP.

4. Action has already been taken to seal this funding, including DP changes and a separate, ring-fenced Pune Infra Fund.

5. Pune is looking at holistic set of city solutions beyond infrastructure and livability, including job creation, socio-economic development.

6. Several solutions have been tested on ground, 20+ MOUs signed & 50+ support letters from various organizations/associations to build early conviction on implementation.

7. Pune is not only looking at ICT solutions, but also "less is more" solutions with much better and proven return on investments.

8. Pune ran the most comprehensive citizen and stakeholder engagement campaign touching more than 50% of the households.

9. Pune created a unique eco-system of 300+ partners, experts, companies, urban planners and students to arrive at solutions.

10. Pune plans to move ahead with SPV creation to ensure that smart city projects move fast and leverage world class expertise to deliver them.
CITIZEN ENGAGEMENT
CITIZEN ENGAGEMENT - Pune citizen engagement model’ used a structured 5-phase approach is being used to maximize involvement of citizens

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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>• Ask citizens on inputs on creating a vision for the city</td>
<td>• Ask citizens about development opportunities &amp; issues in each core sector &amp; help identify most vital issues that need to be resolved</td>
<td>• Ask citizens for detailed solutions to key pan-city issues</td>
<td>• Conduct delivery labs for extensive problem solving with key experts and citizens to refine solutions</td>
<td>• Share the final set of solutions with citizens and open for suggestions and discussions</td>
</tr>
<tr>
<td>• Ask citizens the major areas of concern in the 12 sectors</td>
<td>• Playback results at the end of the phase</td>
<td>• Playback results at the end of the phase</td>
<td>• Open citizen discussion forums</td>
<td>• Get acceptance of citizens through Pledge of support – Signature campaign</td>
</tr>
<tr>
<td>• Playback results at the end of the phase</td>
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</table>
Citizen engagement: most comprehensive in India covering 50% of Pune household

Maza Swapna
Smart Pune Contest
17th - 28th Sept 2015

VISIONING EXERCISE AND DEVELOPMENT OF PAN-CITY SOLUTIONS IN 5 PHASES

1. ENVISION
17th - 28th Sept 2015
- 7.5 lakh forms printed
- 3 lakh forms filled forms
- 12.32 lakh inputs received
- CITIZENS’ VISION
  - Green Pune: 45%
  - Better Transport: 30%
  - Water Supply: 25%

2. DIAGNOSE
3rd - 12th October 2015
- 1.04 lakh families
- 13.48 lakh votes
- 50% Pune households
- 1,50,000 “smart volunteers”

3. CO-CREATE
16th - 31st October 2015
- As part of co-creation, citizens were invited on the “sector days” to share their ideas
- TOTAL IDEAS received from citizens
  - 10,207 Ideas
  - 2,500 Ideas
  - 6,653 Ideas
  - 754 Ideas
  - 300 Ideas

4. REFINES
Two day-long Mini-labs were conducted with elected representatives and citizens for the priority sectors to refine solutions
- 400 Members team
- 100+ Students

5. SHARE
Signature campaign
Pune Smart City - citizens’ pledge of support
Target Achieved
- 2,98 lakh citizens via
- Door-to-Door campaign, missed calls and web portal

FOR the PEOPLE
BY the PEOPLE
Citizen engagement: Cont....

**VISIONING AND SELECTION OF LOCAL AREA FOR DEVELOPMENT**

A comprehensive citizen engagement process was run for local area selection, with 1.40 lakh inputs for the area selection based on the criteria shared by the PMC. Citizen selection process, along with discussions with urban planners and elected representatives formed the basis for very objective local area selection.

1. **AREA EVALUATION AND SELECTION**
   - **1.40 lakh** Inputs received for area selection from citizens from **23,393** families.
   - **11** Potential options for local development were selected based on inputs.
   - Aundh-Baner-Balewadi (ABB)

2. **AREA-BASED COMPETITIONS AND PROFILING**
   - **50+** Teams from architecture colleges across Pune participated in the ABB local area development competition.

3. **ENGAGEMENT WITH RESIDENTS OF ABB**
   - Citizens asked the issues in basic services they face and the smart features that their area should have.
   - **10,194** Families gave **3.47 lakh** inputs.

4. **SHARING AND ACCEPTANCE**
   - Final proposal is being shared. Citizens are pledging acceptance of the solutions and the Smart City proposal.
   - **Goal > 60%** of households of ABB
   - Achieved **19,290** citizens acceptance
PMC has Engaged Punekars on Citizen Engagement at an unprecedented scale

**PAN CITY INITIATIVE**

<table>
<thead>
<tr>
<th>ENVISION</th>
<th>DIAGNOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(17th - 29th September)</td>
<td>(03rd - 12th October)</td>
</tr>
<tr>
<td><strong>7.5 Lakh</strong> forms printed and distributed to households</td>
<td><strong>1.04 Lakh</strong> Families gave input (online/offline) for GOALS prioritization</td>
</tr>
<tr>
<td>More than <strong>3 Lakh</strong> Families filled the form and data digitized to decide citizen’s VISION and identify the ISSUES</td>
<td><strong>13.5 Lakh</strong> number of votes received to identify the goals from SIX PRIORITY SECTORS</td>
</tr>
</tbody>
</table>

**AREA DEVELOPMENT**

<table>
<thead>
<tr>
<th>Area Survey</th>
<th>23,393 Families decided (online/offline) the AREA to be developed with <strong>1.4 Lakh</strong> inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20th - 26th October)</td>
<td></td>
</tr>
<tr>
<td><strong>11 areas surveyed</strong></td>
<td></td>
</tr>
<tr>
<td>Socio Economic Survey <strong>700</strong> families</td>
<td>ABB <strong>10,194</strong> citizens with <strong>2.14 lakh</strong> inputs</td>
</tr>
<tr>
<td>slum areas <strong>1.41 Lakh</strong> inputs</td>
<td></td>
</tr>
<tr>
<td>ABB Area Survey <strong>60%</strong> of total households covered</td>
<td></td>
</tr>
</tbody>
</table>

**50%** of total Pune households covered

**All 15** wards covered by door-to-door campaigns

**1,50,000** more registrations on (www.punesmartcity.in) Pune Smart City web portal

**400** member team running the initiative across private and public sectors

**100** Meetings with different sectors/groups

Citizen pledge - Signature Campaign
Door 2 Door Campaign

**+3lakh** citizens and

**+60 K** miscall in **10** days
Citizen’s Vision & Issues

Issues aligned to smart city features

Top six sector preferences

1. Transportation & Mobility: 30%
2. Water Supply & Sewage: 25%
3. Environment & Sustainability: 12%
4. Safety & Security: 3%
5. Energy: 2%
6. Waste & Sanitation: 22%

Note: The percentages represent the preferences of the citizens as per the survey.
Several means of offline citizen engagement....

Door-to-door form distribution and filling

Form collection at ward offices

Banners and hoardings at public places
...as well as full suite of online engagement
Charter of Associations: Pune Smart City Proposal
PAN CITY:

Transportation
Water Supply
Result Orientation: we chose what matters most to citizens

Transport and Mobility

Single biggest issue

People have to wait for at least 20 minutes before they get a bus. Only about 5th of all commuters use public transport leading to a big push on private vehicles. Pedestrian safety remains another major area of concern as 1/4th of the city does not have footpaths and even where they exist, they are marred by significant obstructions. Average trip length is already at 10 kms today which will increase in future with the city expanding into the hinterlands.

Water

Inequitable distribution

Pune as a city gets ample supply of water from Khadakwasla Dam. Quality of water supplied currently stands at 100%. Water supply always emerges as one of the top problems faced by Punekars.

In a recent survey, water supply has been voted as the second most important issue faced by the citizens. The cause of this problem can be attributed to the inextensive water distribution network in the city (around 93% of the city is covered by the distribution system), which doesn’t ensure equitable supply of water to Punekars. Further, lack of water meters in the households and fixed annual charges lead to a lot of wastage. As a result, approximately 15-20% of the city gets less than 150 litres of water per day.
## Pan-City: detailed plan created

<table>
<thead>
<tr>
<th>Sector</th>
<th>Initiative</th>
<th>Capex + Opex for 5 years (INR cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport and mobility</td>
<td><strong>Pune Smart Public transport system</strong></td>
<td>393 cr</td>
</tr>
<tr>
<td></td>
<td>- GPS and real-time monitoring of buses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Smart bus stops with public information systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Real-time tracking of buses through mobile apps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Vehicle health monitoring</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Smart Adaptive Traffic Management System</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 319 signals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Pedestrian right of way buttons and emergency response system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PA system, solar panels and UPS</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Advanced traffic management</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>using E-challan system, CCTV and mobile GPS based traffic analysis and intelligent road asset mgmt</td>
<td></td>
</tr>
<tr>
<td>Water and sewage</td>
<td><strong>24x7 water supply pilot</strong></td>
<td>278 cr</td>
</tr>
<tr>
<td></td>
<td>- Customer survey on GIS Platform to identify irregular connections and increase reach of service</td>
<td></td>
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<tr>
<td></td>
<td><strong>Grievance redressal and Smart Customer Service</strong></td>
<td></td>
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<tr>
<td></td>
<td>to improve customer experience</td>
<td></td>
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<tr>
<td></td>
<td><strong>Smart Bulk Meters</strong> with SCADA, 100% <strong>Smart Metering</strong> for commercial establishments,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smart metering for domestic households through a “Give up water subsidy” campaign along with a</td>
<td></td>
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<tr>
<td></td>
<td>revised telescopic tariff</td>
<td></td>
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<tr>
<td></td>
<td><strong>Helium technology based Leak Identification</strong> across 2688Km.</td>
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</tbody>
</table>
Pan-city initiatives will improve the key indicators in the 2 core sectors of transportation & mobility and water & sewage in Pune

<table>
<thead>
<tr>
<th>Sector</th>
<th>Metric</th>
<th>From</th>
<th>To</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport and mobility</strong></td>
<td>• Public transport usage (% of trip share)</td>
<td>18%</td>
<td>30%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td></td>
<td>• Availability of buses (%)</td>
<td>68%</td>
<td>75%</td>
<td>&gt;90%</td>
</tr>
<tr>
<td></td>
<td>• Non-motorized vehicles (NMT) usage (%)</td>
<td>33%</td>
<td>39%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td></td>
<td>• Average traffic speed (km/hr)</td>
<td>18</td>
<td>20-22</td>
<td>-</td>
</tr>
<tr>
<td><strong>Water and Sewage</strong></td>
<td>• Water deficient areas (%)</td>
<td>14%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Average consumption per capita (lpcd)</td>
<td>219</td>
<td>150</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>• Sewage discharged into the river without treatment (%)</td>
<td>30%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Leakage and Non-revenue Water (%)</td>
<td>30%</td>
<td>15%</td>
<td>&lt;15%</td>
</tr>
</tbody>
</table>
AREA DEVELOPMENT: Aundh-Baner-Balewadi (ABB)
Eleven areas across Pune were initially considered as potential options for local area development based on 10 assessment criteria.

**Criteria for selection**
- Population density
- Mixed use
- Identity-heritage
- Slums
- Criticality to the city
- Existing degree of livability
- Future proposals
- Replicability
- Environmental concern
- Ease of implementation

**Area options**

1. Aundh-baner-Balewadi
2. Karve Nagar
3. Core city area
4. River bank (Lakadi Pul-Nava Pul)
5. Kharadi
6. Yerawada
7. College area (FC Road to Karve Road)
8. Sahakar Nagar
9. Dhanakvadi-Ambegaon
10. Hadapsar-market area
11. Sinhagad Road- Danedkar Pul
These were then evaluated on a set of criteria by citizens, experts as well as the elected representatives.

<table>
<thead>
<tr>
<th>Criteria for selection</th>
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</thead>
<tbody>
<tr>
<td>• Job creation potential</td>
</tr>
<tr>
<td>• Potential for creating larger impact</td>
</tr>
<tr>
<td>• Potential to become identify of Pune</td>
</tr>
<tr>
<td>• Model area for future with mixed use</td>
</tr>
<tr>
<td>• Potential for socio-economic transformation</td>
</tr>
<tr>
<td>• Potential to replicate in the rest of Pune</td>
</tr>
<tr>
<td>• Feasibility of implementation</td>
</tr>
</tbody>
</table>

- **Citizen inputs**
- **Inputs from elected representatives**
- **Other inputs (urban planners, architects, etc.)**
World class area development

900 acres of Aundh-Baner-Balewadi

Transit + Start-up Hub

Mula river front

Mixed use development

Entry to Pune-2

Balewadi

Baner

Aundh

Amenity development

Pune-Bangalore highway (NH4)

Entry to Pune -1

Gaothan area (low income group)

Slum redevelopment

Towards Pune University

Population now: ~40 thousand
Estimate 2030 population: ~1.5 Lakhs
### Key initiatives in Area-based development (1/3)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Initiative</th>
<th>Capex + Opex for 5 years (INR cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport and mobility</td>
<td>▪ BRT corridor of 8 km length that benefit the ABB area and other areas of Pune</td>
<td>▪ 1086 cr total</td>
</tr>
<tr>
<td></td>
<td>▪ Redesign 27 km streets, 60 km footpaths, 14 junctions</td>
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<td></td>
<td>▪ Public bicycle sharing system with 1200 bicycles</td>
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<td></td>
<td>▪ Smart Multi-level car park for 750 vehicles</td>
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<tr>
<td></td>
<td>▪ 100 electric buses, 100 e-rickshaws</td>
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</tr>
<tr>
<td></td>
<td>▪ Development of 54 smart bus stops</td>
<td></td>
</tr>
<tr>
<td>Water and sewage</td>
<td>▪ Smart bulk, domestic and commercial metering across entire ABB region</td>
<td>▪ 292 cr total</td>
</tr>
<tr>
<td></td>
<td>▪ Build key infrastructure (7 reservoirs, 50 km pipelines and pumping stations) to ensure 150 lpcd water in the region</td>
<td></td>
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<td></td>
<td>▪ Rain-water harvesting by 3.75 l capacity sumps and reusing water for gardens etc for ~100 housing societies</td>
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<tr>
<td></td>
<td>▪ Storm water drainage system for ABB</td>
<td></td>
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<tr>
<td></td>
<td>▪ Clean 4 km of Ram Nadi stretch</td>
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</table>
### Key initiatives in Area-based development (2/3)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Initiative</th>
<th>Capex + Opex for 5 years (INR cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste and Sanitation</td>
<td>- 100% segregation, transfer and transport</td>
<td></td>
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<tr>
<td></td>
<td>- <strong>SWAT team</strong> to manage cleanliness of ABB area</td>
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<tr>
<td></td>
<td>- Construction/ refurbishment of <strong>74 public toilets</strong></td>
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<tr>
<td></td>
<td>- 357 smart bins</td>
<td></td>
</tr>
<tr>
<td>Smart Grid and Solar</td>
<td>- <strong>Smart grid</strong> and smart metering in all households** to ensure 24X7 electricity supply</td>
<td>420 cr</td>
</tr>
<tr>
<td></td>
<td>- 15% solar energy in the area</td>
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<td></td>
<td>- 3070 smart and energy efficient street lights</td>
<td></td>
</tr>
<tr>
<td>Livability – riverfront development, open spaces, amenities, safety and security</td>
<td>- 3.5 km of world class riverfront development</td>
<td>148 cr</td>
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<tr>
<td></td>
<td>- 13 inter-connected gardens, parks and open spaces, accessible to any citizen within 5 minute walking</td>
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<tr>
<td></td>
<td>- Additional <strong>4 schools and 3 hospitals</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- <strong>100% CCTV surveillance</strong> and dedicated <strong>24X7 emergency</strong> control center and response team</td>
<td></td>
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<tr>
<td></td>
<td>- 2 additional fire-stations to make area 100% fire-safe</td>
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</table>
### Key initiatives in Area-based development (3/3)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Initiative</th>
<th>Capex + Opex for 5 years (INR cr)</th>
</tr>
</thead>
</table>
| 6 Slum redevelopment | ▪ Redevelopment of 2.25 acre Dr. Babasaheb Ambedkar Vasti slum in the ABB region  
▪ Skill development and educational initiatives to create livelihood for youth  
▪ EWS/LIG housing in 15% of greenfield 70 acre area | ▪ 60 cr |
| 7 E-governance, IT connectivity and citizen services | ▪ Integrated operations center to monitor and respond to citizen grievances and maintenance requirements  
▪ Wi-Fi across the area and laying of fiber optical cable  
▪ Single-window citizen desk for all grievances and public services | ▪ 151 cr |
| 8 Transit and start-up hub | ▪ Develop Transit and Start-up hub, including Multi-level car parking in the ABB area | ▪ - |
These initiatives will improve key metrics of livability in the ABB area (1/2)

<table>
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<tr>
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<th>Benchmark</th>
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<tr>
<td>Transport and mobility</td>
<td>• Public transport usage (% of trip share)</td>
<td>18%</td>
<td>40%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td></td>
<td>• Number of buses (# per Lakh population)</td>
<td>46</td>
<td>79</td>
<td>&gt;55</td>
</tr>
<tr>
<td></td>
<td>• Non-motorized vehicles (NMT) usage (%)</td>
<td>33%</td>
<td>50%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td></td>
<td>• Average traffic speed (km/hr)</td>
<td>18</td>
<td>22-23</td>
<td>-</td>
</tr>
<tr>
<td>Water and Sewage</td>
<td>• Average water supplied (lpcd)</td>
<td>90-120</td>
<td>150</td>
<td>&gt;135</td>
</tr>
<tr>
<td></td>
<td>• Water deficient areas (%)</td>
<td>60-70%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Sewage discharged into the river without treatment (%)</td>
<td>30%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Leakage and Non-revenue Water (%)</td>
<td>30%</td>
<td>15%</td>
<td>&lt;15%</td>
</tr>
<tr>
<td></td>
<td>• Households with rain water harvesting</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Sanitation and waste</td>
<td>• Door-to-door garbage collection coverage (%)</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Waste segregated at source (%)</td>
<td>55%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Public toilets (number per lakh of population)</td>
<td>23</td>
<td>50</td>
<td>&gt;50</td>
</tr>
<tr>
<td>Energy and Solar</td>
<td>• Energy from renewable sources (0%)</td>
<td>0%</td>
<td>15-20%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>• Energy efficient street-lights (% of total)</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Amenities</td>
<td>• Open spaces (% of total area)</td>
<td>3%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>• Number of pedestrian roads</td>
<td>0</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>• Roads with adequate footpaths (&gt;2 m footpath)</td>
<td>40%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
These initiatives will improve key metrics of livability in the ABB area (2/2)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Metric</th>
<th>From</th>
<th>To</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and security</td>
<td>• CCTV security coverage</td>
<td>• 20%</td>
<td>• 100%</td>
<td>• 100%</td>
</tr>
<tr>
<td></td>
<td>• Response time (minutes)</td>
<td>• 20-30</td>
<td>• &lt;10</td>
<td>• &lt;10</td>
</tr>
<tr>
<td></td>
<td>• Number of security personnel per Lakh of population</td>
<td>• 60</td>
<td>• 120</td>
<td>• 136</td>
</tr>
<tr>
<td>E-governance and digital</td>
<td>• Number of services provided via single window</td>
<td>• 0</td>
<td>• 20-25</td>
<td>• -</td>
</tr>
<tr>
<td></td>
<td>• Public Wi-fi coverage</td>
<td>• 0%</td>
<td>• 100%</td>
<td>• 100%</td>
</tr>
<tr>
<td></td>
<td>• Digital literacy</td>
<td>• 60-70%</td>
<td>• 100%</td>
<td>• 100%</td>
</tr>
<tr>
<td>Slum re-development</td>
<td>• Number of HH living in slums</td>
<td>• 500</td>
<td>• 0</td>
<td>• 0</td>
</tr>
<tr>
<td></td>
<td>• Unemployment (especially in slums, %)</td>
<td>• 6%</td>
<td>• 2%</td>
<td>• 2%</td>
</tr>
<tr>
<td>Affordable housing</td>
<td>• # of affordable houses in the region</td>
<td>• 0</td>
<td>• 400-500</td>
<td>• 400-500</td>
</tr>
<tr>
<td></td>
<td>• % of affordable houses in the region</td>
<td>• 0%</td>
<td>• 2%</td>
<td>• 10%</td>
</tr>
<tr>
<td>Health</td>
<td>• Hospital beds per 10,000 population</td>
<td>• 104</td>
<td>• &gt;40</td>
<td>• &gt;40</td>
</tr>
<tr>
<td>Education</td>
<td>• School area per student (sq ft of school area available per student)</td>
<td>• 29</td>
<td>• 35</td>
<td>• 35</td>
</tr>
</tbody>
</table>
FINANCIAL PLAN
Smart city needs total funding of Rs. 2932 cr

INR 2368 cr of Capex and Rs 564 Cr of Opex (for 5 years)
Identified funding sources of INR 2932 cr equaling funding requirement

<table>
<thead>
<tr>
<th>Funding source</th>
<th>Amount (INR cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Smart city initiative</td>
<td></td>
</tr>
<tr>
<td>– Government of India (50%)</td>
<td></td>
</tr>
<tr>
<td>– Government of Maharashtra (25%)</td>
<td></td>
</tr>
<tr>
<td>– PMC contribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 cr</td>
</tr>
<tr>
<td>▪ Central government scheme / Other State utilities</td>
<td></td>
</tr>
<tr>
<td>– Ministry of Power’s IPDS scheme for Smart Grid</td>
<td></td>
</tr>
<tr>
<td>– FAME scheme to procure electric buses</td>
<td></td>
</tr>
<tr>
<td>– MWRD funding for water supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>700 cr</td>
</tr>
<tr>
<td>▪ Land monetization of PMC land in the ABB area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 cr</td>
</tr>
<tr>
<td>▪ Additional Revenue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>208 cr</td>
</tr>
<tr>
<td>▪ CSR funding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 cr</td>
</tr>
<tr>
<td>▪ Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3108 cr</td>
</tr>
</tbody>
</table>
Special Purpose Vehicle (SPV)
The Guidelines provide that the Mission at the city level will be implemented by a SPV, created for the purpose

- Flexibility to plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects

- The SPV is being formed to strengthen the Pune Municipal Corporation (PMC), increase operational efficiency and bring in innovation in its functioning.

- SPV will be a public limited company with State and the ULB being promoters and majority owners and 50:50 joint ownership
1. The local area development projects under the Mission in the SPV Area including their technical appraisal.

2. The pan city projects approved for Pune under the Mission including their technical appraisal.

3. Coordinate with different agencies like PMPML and City Traffic Police for the local area based and Pan city projects

4. Project development activities for implementation of the smart cities projects

5. Identify and develop projects

6. To examine and appraise proposals and monitor the above projects after due diligence and analyze

7. Drive O&M activities after project execution for both local-area development projects and pan-city projects
Framework and Principles of SPV (2/3)

8. Earn its revenues also from the impact fee and issue PIF based bonds.
9. Right to develop land parcels within SPV Area by land pooling under the Town Planning Scheme mechanism.
10. Work as developer for slum rehabilitation in SPV Area.
11. Get into Service Level Agreements (SLAs) with concerned PMC departments like Solid Waste Management, Water and other municipal services and the ability to outsource these functions within the SPV Area.
12. The SPV Area may be expanded anytime to include more areas with due approval of PMC.
13. Develop amenity spaces and PMC land in SPV Area for citizens. PMC will transfer such lands at no cost to the SPV.
14. Can accept deposits, issue bonds, raise loans from external sources, for the purpose of company subject to the provisions of the relevant acts.
1. The Central Government proposes to give financial support to the extent on an average Rs. 100 crores per city per year

2. The funds provided by the Central Government, State Government and PMC to the SPV will be in the form of tied grant and kept in a separate Grant Fund and will be utilized only for the purposes for which the grants have been given and subject to the conditions laid down.

3. SPV to have the ability to undertake development of greenfield private land in the ABB region through a TP land pooling scheme
Structure of the SPV

Governing Board (14-15 members)
- Mayor of Pune
- PMC Commissioner
- Standing Committee Chairman
- Leader of opposition
- Leaders of top 3 political parties with >10 representatives (3 nos)
- Commissioner of Police, Pune
- CMD of PMPML
- Joint Secretary – UDD, GoM
- CE-MESDCL
- Eminent citizens of Pune with expertise in public policy (2-3 nos)
- Eminent town planner
- Representative appointed by MoUD
- CEO

Executive Committee (3 members)
- Municipal Commissioner
- CEO
- CFO

CEO

Meets every quarter
- Approves annual strategic plan and reviews quarterly plan

Meets every month
- Approves key decisions beyond the power of the CEO

Appointed for a fixed term of 3 years
- From the government or private sector
- 40-50 member team

Head Transport & Traffic
Head Water Supply & Sanitation
Head operations & Services
CKO
CFO
Chief Vigilance Officer
Head Urban Planner
Glimpses of Envisioned Development
How to transform Pune from this…

PUNE TRAFFIC PROBLEM

‘आला बास!‘ - लेकिन भारी पुणेकर्तांची संस्कृती चाहत्याच!
Public transportation for those who need
Smart Pune Public Transport System
*Improve availability, reliability and passenger comfort*

- **Vehicle health monitoring system**
- **Real-time tracking of 100% buses**
- **CCTV surveillance and panic buttons**
- **Public information system**
Smart Pune Traffic Management System
Reduce congestion through adaptive traffic control and modal shift to NMT

Adaptive traffic signals

Traffic analysis

Private bus aggregators

Intelligent road asset management
Smart Pune Traffic Management System
*Reduce congestion through adaptive traffic control and modal shift to NMT (cont.)*

**Traffic mobile apps and online portal**

**Smart parking**
Smart Water’ solutions

Ensure equitable 150 lpcd water to 100% citizens on 24x7

Smart bulk metering

Helium leak identification

“Give up water subsidy” campaign

100% smart metering
Smart Water’ solutions
Ensure equitable 150 lpcd water to 100% citizens on 24x7 (cont.)

24x7 water supply to the city

Comprehensive GIS-based customer survey

Grievances redressal

energy sustainable STP
To this…?

Iconic riverfronts across Pune

SCULPTURAL BUILT MASS AS ANCHOR POINTS
Viewing decks/ rooftop for solar energy harnessing

LANDSCAPED PARKS AND PATHWAYS
FOR PEDESTRIAN COMFORT

HARDSCAPING IN SEMI PERMEABLE MATERIALS
(to allow ground water percolation)

STEPPEPlAZA FOR CASUAL SEATING
(creation of Amphitheater for cultural purposes)
Iconic riverfront development for Pune
RIVER FRONT DEVELOPMENT

Performance Gallery & Public Zone

FLOOD BED - UBRAN FARMING
RIVER FRONT DEVELOPMENT
River Promenade & General Development

SENIORS OPEN AIR GYMS

RELAXING MULTI USE
PAVILIONS

VIEWING DECKS

HIGH ENERGY PLAY AREAS
RIVER FRONT DEVELOPMENT

Exhibition Retail Area

PEDESTRIAN COMFORT AMENITIES

UTILITIES LANDSCAPING UNOBSTRUCTED WALKING ZONE

VISUALLY ENGAGING STREET EDGE
To this...? Street redesign

PERSPECTIVE OF PROPOSED BUS BAY, PARKING AND GREEN SPACE

BEFORE

PELICAN CROSSING

BEFORE

IMPROVED BUS BAY WITH SOLAR PANEL, PUBLIC INFORMATION SYSTEM, WI-FI AND TOILETS

BEFORE

SMART POLE WITH VEHICLE ACTUATED SIGNAL, CCTV & STREET LIGHT WITH SOLAR PANEL

BEFORE

TRAFFIC INFORMATION SYSTEM AND DIGITAL SIGNAGE

BEFORE

WALTER P MOORE ENGINEERING INDIA PVT LTD.

NOTES:

THIS INFORMATION IS SHOWN FOR CONCEPTUAL USE ONLY AND NOT FOR ENGINEERING & CONSTRUCTION

THIS INFORMATION MAY BE PURSUED AS A PRELIMINARY CONCEPT AS A PROTOTYPE OR FOR DATA, WHERE PREVIOUSblings SHOWN ARE UNDER CONCEPTUAL PLAN AND DEVELOPED WITHOUT PRIOR CONSENT OF WALTER P MOORE ENGINEERING INDIA PVT LTD.
Street Lights

- Temperature
- Ambient light
- Power monitoring
- Motion
- Audio & Video
- \( \text{O}_2 \) & \( \text{CO}_2 \)
- UVA/UVB radiation
- Wind & Rainfall
- Particulate matter
- Pressure
- Humidity
- Parking
- Car counting
- Vehicle Speed
- Surveillance
- Unattended objects
- Street activity
- Movement details
- Queue length
- Dwell time
- Event counting
- Street amenity

* Optional Features

Styles from traditional to contemporary available
Local Area Development solutions
Smart Transport

Features of Smart Transport to be developed

- Smart Transport
  - BRT
  - Feeder Network
    - E buses
    - E Rickshaws
PBS: Station Locations, Components
Local Area Development solutions

Socio-economic Development of Slums

Socio economic of slum areas

- Socio – Economic Transformation
Local Area Development solutions

Energy Sustainable

Energy Sustainable Features

- Develop the Smart grid in the ABB Area
  - Solar energy/ roof top
  - Smart metering
  - LED lighting
Local Area Development solutions

*Development of Amenity Spaces into open spaces*

Open spaces to be developed

- Open spaces to be created
  - Recreational zones promoting walkability
  - Wi-fi zones
  - School
  - Hospitals
  - Fire stations

Visual model of Open Spaces
Together we can make it happen for Pune!

Thank You