

Smart City Agenda for Discussion, Suggestion and Board Resolution

Introduction: Smart City Mission is the flagship Program of Ministry of Urban Development, Government of India under which 12 cities have been selected in Uttar Pradesh including Jhansi. In Smart City Challenge Round 1, Jhansi was ranked 82nd. A total of 20 cities have been selected in Round 1, 40 cities will be selected in Round 2, out of which 13 cities have been selected under the Fast Track in May, 2016. The remaining cities are required to submit their proposal for Smart City Challenge Round 2 by 30th June, 2016. The smart city proposal of Jhansi has been revised after carrying out a) detailed discussion with various Mayor, councilors, key government officials and government departments, b) undertaking a reconnaissance survey, c) engaging citizens and key stakeholders, d) carrying out a study of the various proposed projects and e) finally zeroing in on the area and the projects to be implemented. The smart city proposal of Jhansi for Round 2 covering area-based development plan, pan-city development plan, financial plan, convergence agenda and formation of SPV is summarized below.

Area-Based Proposal (ABP): The ABP aims at Retrofit Transformation of the 1,527 acres of central area of the city with a population of 108,474 of which 30,790 belong to the economically weaker section. The area includes main commercial centers, important heritage precincts, institutional buildings and core residential areas including seven large slum pockets of the city. The key components of the ABP are as follows:

1. Creating a city with a vibrant identity and rejuvenated urban fabric:

- Smart interventions to improve the tourism sector - 'Virtual Guide cum Tourist Safety Monitoring System', Interactive tourist kiosks, Smart hop-on hop-off buses, modern home-stays
- Restoration and beautification of heritage precincts, equipping tourist spots with modern basic amenities and making it universally accessible by all sections including the differently-abled
- Development of an Urban Haat for providing a platform for artisans to showcase the local art forms
- Construction of Independence war memorial to commemorate the brave martyrs of the first freedom movement of our country
- Rejuvenation of 2 green open spaces which includes redevelopment of Vrindavan Park & development of new park near the fort and blue sheets (lakes) of the city such as Antiya Tal.

2. Creating a well-connected, accessible, and walkable city:

- Seamless road network - Transformation of all ~30km arterial roads, ~100km of secondary and tertiary roads, construction of a flyover over congested area
- 11kms of dedicated cycle lanes along roads housing Institutional and Heritage establishments
- Foot over bridge (4 identified spots) and an underground walkway connecting Vrindavan Park to Maithilli Sharan Gupt park near Fort.
- Automated smart traffic signaling systems at 13 busy and accident prone areas
- Conversion of 70W Sodium fitting to 43W LED fitting (1,434 lights), Conversion of 250W Sodium fitting to 120W LED fitting (2,211 lights), installing 120W solar street light with poles (1,140 lights)

3. Creating an Inclusive city that offers high quality of life to all:

- 24*7 water supply system - 100% coverage of HHs in ABD area at 116 lpcd in first year, 135 lpcd by the third year
- Efficient solid waste management system with wide coverage - Key goals are to achieve 100% source segregation, 100% door to door waste collection efficiency, effective primary and secondary transportation to the treatment facility.
- Improved sanitation system and decentralized waste water management systems
- Uninterrupted power supply and interventions for energy efficiency aiming at achieving 10% production of electricity from renewable sources of energy - Installation of solar panels in 211 government buildings and UG cabling under the R-APDRP scheme will aid in reducing power theft, increasing safety levels of the city and tackling the issue of visual clutter.
- Improved social infrastructure - housing for the urban poor, quality education, improved healthcare facilities and enhanced emergency response systems, community kitchens and night shelters
- Shopping mall with multiplex

4. Creating a city of diverse opportunities and resilient economy:

- Dedicated vending zones at two strategic locations within the central city area
- Vocational training centers
- Setting up Think Tanks, trade facilitation centers, and city livelihood centers, service kiosks for assistance in online services.

5. Creating a Smart and Sustainable city:

- Increased number of 'woman thanas', improved citizen-cop app
- Smart Police vehicles equipped with GPS tracking systems, display devices, instant ticketing machines, portable breath alcohol testers, etc.
- Sustainable waste water management solutions and reuse of waste water via DeWATS
- Rain Water Harvesting systems in 100 government establishments on an immediate basis and commercial and residential buildings in a phase-wise manner

Pan-City proposal: The pan-city initiative proposed for the city of Jhansi takes into account the priority sectors that are bound to have an immediate and substantial impact on the overall development of the city and the quality of life of the citizens. The three sectors considered and the interventions are outlined below:

- Central Command Centre for Smart Administration and Governance: This intervention aims at providing a common, virtualized platform for city administration and management. The front end of this system will include a citizen dashboard for extending online services
- Smart Urban Water Supply and Water Resource Management: This project will pave way for sustainable use of water resources, an energy efficient water supply distribution system for the city with 100% coverage of smart metering system, SCADA and quick grievance redressal. The 'water

resource management' component will also enable the city to predict drought and prepare water conservation plans for restricted use of water during periods of drought.

- **Intelligent Urban Transportation Management System:** The city of Jhansi will be equipped with a smart transportation network and management system wherein city bus service, smart surveillance systems, intelligent automated signaling systems, E-challan system for traffic regulation, smart parking systems, real-time information on traffic via variable messaging system, etc. will result in well-regulated traffic, smoother flow of traffic and in turn safer roads for pedestrians and cyclists, including the elderly and the differently-abled.

Costing of smart city proposal: An all-inclusive lifecycle cost (including capital expenditure and operating expenditure) for both the area-based development projects and the pan-city development projects has been done. The total lifecycle cost amounts to Rs. 1,868 crores out of which Rs. 1,112 crores pertains to projects directly funded under SCP while Rs. 592 crores projects of Central and State Governments taken under convergence and Rs 165 crores projects are proposed under PPP mode under SCP. The lifecycle cost covers the total capital expenditure which will be required to be made for every project component and the operating expenditure for operating and maintaining the project for next 10 years. However, the operating expenditure includes only those components which will be directly operated and maintained by the SPV. The projects that are covered under convergence will be operated and maintained by the respective government department and SPV will just be a monitoring agency. In case of PPP projects, the entire responsibility lies with the private partner in terms of maintaining the project and recovering their own costs.

- **Area based development - Rs. 1,408 crores:** The ABP covers a wide range of projects that will enable a holistic development of the chosen area in the center of the city. The theme decided for area based development encompasses the components by way of five pillars of sustainable development viz. Revival of city's identity, Connectivity Accessibility & Walkability, Inclusive planning & High quality of life for all, Socio-economic Upliftment and Smart & Sustainable development. The major projects which will entail huge capex are in the field of improving the transportation facility in the area, tourism and heritage, waste water and sewage management, augmentation of water supply system, augmenting the electricity distribution and supply system, strengthening the social infrastructural backbone of the area, etc. Many projects in this area are already in the implementation phase e.g. underground cabling, construction of flyovers, etc. and the SPV's role will be to oversee timely completion in case of those projects.

Area Based Development	Capex (INR lakhs)	Opex (INR lakhs)	Total (INR lakhs)	% Share of Total
Augmentation of water supply system	5,410	-	5,410	2.9%
Sanitation system and Storm-water network	11,605	1,282	12,887	6.9%
Waste water and Sewage management	15,100	3,614	18,714	10.0%
Solid waste management	1,185	670	1,855	1.0%
Electricity and Energy Efficiency	18,805	1,653	20,459	11.0%
PNG Connection	3,500	-	3,500	1.9%
Water Management	2,000	416	2,416	1.3%
Transportation and Mobility	18,570	1,278	19,849	10.6%
Tourism and Heritage	15,528	-	15,528	8.3%

Area Based Development	Capex (INR lakhs)	Opex (INR lakhs)	Total (INR lakhs)	% Share of Total
Open spaces and Recreation	2,424	672	3,097	1.7%
Education	5,569	-	5,569	3.0%
Healthcare facilities	3,050	-	3,050	1.6%
Housing for Urban Poor	4,500	-	4,500	2.4%
Strengthening of social infrastructure	14,005	502	14,507	7.8%
Strengthening of Economic status	3,208	5	3,213	1.7%
Project Management Cost	6,223	-	6,223	3.3%
Total	130,683	10,093	140,776	75.3%

- Pan-city proposal – Rs. 461 crores: The major item which will bring about a significant change in the city's day-to-day functioning is the establishment of a Central Command Center which will have domains of all the departments of the city and hence will help in easier coordination among departments and will reduce the service time for the citizens. Moreover, the proposal focuses on improving the standards and infrastructure of two basic necessities of the citizens: Water and Transport. An upgradation of the overall water distribution network of the city will take place in convergence with AMRUT. Moreover, a city bus service with new buses and all other modern amenities will be put in place for easier day-to-day commute. These will ensure that the citizen's life becomes easier and their living standard becomes better. The majority of projects in the pan-city developmental plan will be executed by the SPV and hence the proportion of opex as a percentage of total is higher here as compared to ABD.

Pan City Development	Capex (INR lakhs)	Opex (INR lakhs)	Total (INR lakhs)	% Share of Total
Central command center and Citizen Dashboard	2,610	882	3,492	1.9%
Urban water supply and Resource management	25,311	2,401	27,712	14.8%
Intelligent Transport management system	12,176	669	12,846	6.9%
Project Management Cost	2,005	-	2,005	1.1%
Total	42,103	3,952	46,055	24.7%

Resources: The total lifecycle cost required for Area-based and Pan-city development comes out to be Rs. 1,868 crores. To finance this huge sum of lifecycle cost, several sources of funding have been identified, evaluated and finally five major streams of revenue have been selected for consideration. This will ensure that the risks involved with each individual source is diversified and that the funds are readily available to execute the project as per the set timeline. Major portion of the capex will be allocated through the smart city grants given by the central and the state governments. Moreover, a substantial amount of fund will come through convergence with various central and state government schemes such as AMRUT, R-ARDRP, NULM, State Sector Fund, etc. The following funding allocation have been made after considering the financial profile of the ULB, scenario of PPP development in the city and possible constraints in the convergence of central and state schemes. In all as shown in following table total resources which will be available will be Rs. 2,075 crores for expenditure of Rs. 1,868 crores thus there will be net surplus of Rs. 207 crores.

Smart City funds	Amount (INR lakhs)	% Share of Total
Smart City Fund - Contribution from Central Govt.	50,000	24.1%
Smart city fund - Contribution from State Govt.	50,000	24.1%
Total	100,000	48.2%
Central Government Schemes	Amount (INR lakhs)	% Share of Total
AMRUT- Water Supply	22,450	10.8%
R-APDRP - UG Cabling	11,126	5.4%
Ministry of Tourism/State Tourism - Independence War Memorial	9,514	4.6%
NULM Scheme	2,260	1.1%
Ministry of Textile - Urban Haat	446	0.2%
AMRUT – Parks	341	0.2%
SBM - Individual Toilets	127	0.1%
Total	46,264	22.3%
State Government Schemes	Amount (INR lakhs)	% Share of Total
State Sector Fund - Flyover construction	8,600	4.1%
Central UP Gas Ltd - PNG Connections	3,500	1.7%
Dr. Abdul Kalam Solar Punj Yojana	491	0.2%
Nagariya Sadak Sudhar Yojana	300	0.1%
Total	12,891	6.2%
PPP Projects	Amount (INR lakhs)	% Share of Total
Construction of Shopping mall	12,600	6.1%
Setting-up two vending zones	1,600	0.8%
Construction of Modern Tourist homestay	807	0.4%
Conversion of Sodium fitting lights to LED lights	623	0.3%
Construction of Traffic park	420	0.2%
Others	429	0.2%
Total	16,480	7.9%
ULB Resources	Amount (INR lakhs)	% Share of Total
Working Capital and Financial Risk Mitigation Fund	5,000	2.4%
Funds transferred by JNN - annual surplus for 10 years	22,860	11.0%
Revenue shares form PPP projects	4,000	1.9%
Total	31,860	15.4%
Grand Total	207,494	100.0%
Total Capex	172,786	83.3%
Total Opex	14,046	6.8%
Net Surplus/Deficit	20,663	10.0%

- According to the financial operating plan prepared for JNN, JNN has an opening balance of Rs 73 crores in 2016-17 and is expected to generate a net surplus of Rs 274 crores over next five years (2016-17 to 2020-21) and Rs. 183 crores in the 5 years after that (2021-22 to 2025-26).
- JNN has decided to create a ‘Working Capital cum Financial Risk Mitigation Fund’ for aiding the Smart City Mission by transferring Rs. 50 crore from existing surplus initially. In addition, 50% of annual surplus will be transferred to the fund that comes out to a total of around Rs. 137 crores in the first 5 years (2016-17 to 2020-21) and Rs. 91crores in the next 5 years (2021-22 to 2025-26).
- This fund will serve as fall back option for following a) delay in receiving smart city plan funds from the State or the Center and b) cost escalation or delay in execution of projects proposed in smart city plan.

Formation of SPV: The Jhansi Smart City SPV shall be promoted as a Public limited company under the Companies Act, 2013. The SPV will formed as per the GO dated 16th April, 2016 issued by Government of Uttar Pradesh. The Governor of Uttar Pradesh has issued an order to the Municipal Commissioners or equivalent of every Smart city in Uttar Pradesh asking them to form a separate entity viz. SPV that will take care of implementing the Smart City Mission in the respective cities. The SPV will have stakeholders from both JNN and the State government departments. The composition of the SPV as per the Governor’s notice will be as follows:

1. Divisional Commissioner
 2. Representative from MoUD, GoI – Chairman of Board
 3. Vice President, Jhansi Development Authority – Board member
 4. Chief Engineer, Electricity Urban Distribution Department – Board member
 5. Chief Engineer, U .P Jal Nigam – Board member
 6. Associate Town Planner, Town and Rural Planning Department – Board member
 7. Director, Regional Center for Urban and Environmental Studies, Lucknow – Board member
 8. Mission Director, Smart City Mission – Board member
 9. Municipal Commissioner, Nagar Nigam Jhansi – CEO
- There will be 12 domains under the SPV related to the series of developmental work which will be undertaken by the SPV. The Human Resource Plan of SPV is provided in Annexure 1. These domains in turn will be headed by a member of respective state government department or an expert in that field and supervised by the Municipal Commissioner of JNN (CEO). There will also be an Inter-departmental City task force that will coordinate the work between the 12 departments of the SPV and ensure smooth operation.
 - SPV shall be guided and advised by State Level High Powered Steering Committee (HPSC). State Level High Powered Steering Committee (HPSC) shall be chaired by the Chief Secretary, which would steer the Smart City Mission Programme in its entirety.
 - The Advisory Committee shall consist of people’s representatives including Mayor, Councillors, regional MLA and MP. The Advisory Committee shall ensure citizens’ engagement and ownership in the smart city plan and its implementation through maintaining oversight on the SPV. The SPV will seek review, advice and recommendations from Advisory Committee. The Advisory Committee may participate in board or council meetings.

- A District level committee will also be formed. In addition, as per GO dated 27th May, 2016 issued by Government of Uttar Pradesh Smart City Cells will be formed in 14 departments of Government of Uttar Pradesh to ensure smooth coordination and implementation of projects proposed under the smart city mission.
- SPV shall appoint a project management consultant who shall deploy project management teams and project support teams to assist heads of various departments in managing their departments.

Annexure 1: Proposed Human Resource Plan for SPV to be established for Jhansi

