ANNEXURE 2- SELF ASSESSMENT SHEET

A	B	C	D	E	F	G	H	I	J	K
	Feature	**Definition**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Self-assessment for the full city with regard to each feature**	**Basis for assessment and/or quantitative indicator (Optional - only if data exists)**	**Projection of 'where the city wants to be' with regard to the feature/indicator**	**Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)**
1	**Citizen participation**	**A smart city constantly shapes and changes course of its strategies incorporating views of its citizen to bring maximum benefit for all. (Guideline 3.1.6)**	The City begins identifies priorities and projects to pursue without consulting citizens.	City undertakes citizen participation with some select stakeholders. The findings are compiled and incorporated in some projects or programs. Very few major decisions are shared with citizens until final projects are unveiled.	City conducts citizen engagement at city level and local area level with most stakeholders and in most areas. The findings are compiled and incorporated in projects or programs.	City constantly conducts citizen engagement with people at each Ward level to incorporate their views, and these shape priorities and development projects in the city. Multiple means of communication and getting feedback such, both face-to-face and online are utilised. The effectiveness of city governance and service delivery is constantly enhanced on the basis of feedback from citizens.	Scenario - 2	1. Conducted regular SHG meetings at Town level (12 in a year) and Ward level (24 in per year). 2. Conducted information, education and communication (IEC) programs for 125,000 households (49% of total HHs in the city) during implementation of "Swachh Bharat (2015)" 3. Conducted awareness campaigns for school children in 320 camps/ schools (80% of schools) 4. Implemented dedicated grievance redressal system through "M-Governance Mobile App" since 2015 and toll-free numbers to receive complaints from citizens 5. Launched "online grievance redressal system" since 2012 (5.8%) 6. Launched citizen charter for grievance redressal system. KPI – 5.8% of grievance received are through online.	City aspires that GWMC constantly conducts citizen engagement with people at each Ward level to incorporate their views, and these shape priorities and development projects in the city. 1. Participation of NGOs/ CBOs will be increased by 100% year on year KPI – 50% of citizens engaged online with GWMC.	1. A comprehensive Mobile App (Warangal One App) is proposed to be launched as a Smart Solution to ensure an effective and constant two-way communication between citizen and government. It grounds-up innovation in a league of city government where diverse set of users within and city will be able to co-exist and transact over a single App. 2. The Mobile based city platform will significantly expand GWMC's capacity to produce benefits and deliver outcomes for itself, citizens, businesses, and to impact positively overall economic growth of the city.

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2	**Identity and culture**	**A Smart City has a unique identity, which distinguishes it from all other cities, based on some key aspect: its location or climate; its leading industry, its cultural heritage, its local culture or cuisine, or other factors. This identity allows an easy answer to the question "why in this city and not somewhere else?" A Smart City celebrates and promotes its unique identity and culture. (Guideline 3.1.7)**	There are few architectural monuments, symbols, and festivals that emphasize the unique character of the city. Built, natural and cultural heritage is not preserved and utilized or enhanced through physical, management and policy structures.	Historic and cultural resources are preserved and utilized to some extent but limited resources exist to manage and maintain the immediate surroundings of the heritage monuments. New buildings and areas are created without much thought to how they reflect the identity and culture of hte city.	Historic and cultural heritage resources are preserved and utilized and their surroundings are well-maintained. Public spaces, public buildings and amenities reflect the cultural identity of the city;	Built, natural and intangible heritage are preserved and utilized as anchors of the city. Historical and cultural resources are enhanced through various mediums of expression. Public spaces, open spaces, amenities and public buildings reflect local identity and are widely used by the public through festivals, events and activities.	Scenario 2	1. The city has a rich cultural heritage and tourism importance, and attracts 23 million tourists every year (Dept of Tourism, 2015). 2. The predominant tourist attractions include Warangal Fort (constructed in 13th century), 1000 Pillar Temple (built by Rudra Deva in 1163 in Chalukyan style), Bhadra Kali Temple (noted for its stone image of Goddess Kali), Siddeshwara temple (built in 3rd century), etc. 3. The immediate surroundings of these historical precincts are dominated by commercial establishments/mixed use. 4. The basic infrastructure facilities in the immediate surroundings are provided to facilitate the visitors. However, they are inadequate and poor in quality. KPI - Average time spent by tourists is 1.5 days	City wants that built, natural and intangible heritage are preserved and utilized as anchors of the city. 1. Promoting tourism through organized Heritage Walks to connect heritage places and areas of natural importance, with improved streetscape and usage of technology. 2. Create a place-making along Bhadrakali lake and making it accessible to public. 3. Enhance Musical Garden, City Museum and Planetarium to be more attractive places for visitors. 4. Enhance the quality of infrastructure around heritage monuments, including signage. KPI - Average time spent by tourists is 2.5 days.	1. Making Bhadrakali Lake front as a Place-making recreational district. It includes 4.5km lake front promenade and lake tourism and visitor facilities. 2. Building of 3 km heritage walk 3. Creating a lake-front city park in 9.78 ha 4.

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3	**Economy and employment**	**A smart city has a robust and resilient economic base and growth strategy that creates large-scale employment and increases opportunities for the majority of its citizens. (Guideline 2.6 & 3.1.7 & 6.2)**	There are some job opportunities in the city but they do not reach all sections of the population. There are a high number of jobs in the informal sector without sufficient facilities.	There is a range of job opportunities in the city for many sections of the population. The city attempts to integrate informal economic activities with formal parts of the city and its economy.	There are adequate job opportunities for all sections of society. But skill availability among residents can sometimes be a challenge.	There are adequate opportunities for jobs for all sections of income groups and skill levels. Job-oriented skill training supported by the city and by industry. Economic activities are suited to and build on locational and other advantages of the city.	Scenario 2	1. Warangal city economy is predominantly dominated by trade and commerce. The surrounding region is predominantly agricultural in nature, hence, the city has become trading centre. The Enumamula grain market of Warangal city is supposed to be the second biggest markets in the entire Asia. 2. The other key activities include small scale industrial units such as rice and oil mills, cotton ginning mills, beedi making factory, dairy product and granite slab polishing. 3. Further, there are numerous textile industries in the region, which include handlooms, power looms, wool, garment manufacturing, and yarn seizing corporate societies. 4. IT Development Centre project – Cyient Software Development Centre has been committed to be developed at existing Madikonda IT SEZ. KPI 1 – Workers rate 36.8%. KPI 2 - Tertiary workers accounts for 85 % of total main workers	1. City wants that there are adequate opportunities for jobs for all sections of income groups and skill levels. 2. Leverage presence of educational institutions of repute in Warangal, develop strategic partnerships between industry and academic institutions (NIT, KU, etc) and government to make skill development program job oriented. 3. New MSMEs are supported and incubated to promote innovation and entrepreneurship. 4. Enhance tourism potential and promote as one of the additional new employment opportunity. 5. Leveraging the committed IT Development Centre projects and existing IT SEZ, develop additional job opportunities in geo-spatial technology, bug data analytics etc . 6. The State proposes to develop a Mega Textile Park to help triggering economic base of the city.	1. Tapping additional number of tourists to the city through proposed improvement of Bhadrakali Lake front development, boating facilities, musical garden, planetarium, city museum, 1000 pillar temple, heritage walk, recreational activities and park within the ABD area. It will ensure additional stay of 1 day by each tourist. 2. Two skill development centers have been proposed to be developed within ABD area. 3. Training of tourism guides and other tourism industry shall create livelihood for 200-300 youths per annum.

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4	**Education**	**A Smart City offers schooling and educational opportunities for all children in the city (Guideline 2.5.10)**	The city provides very limited educational facilities for its residents. There are some schools but very limited compared to the demand. Many schools are in poor condition.	City provides adequate primary education facilities within easily reachable distance of 15 minutes walking for most residential areas of the city. The city also provides some secondary education facilities.	City provides adequate primary and secondary education facilities within easily reachable distance for most residential areas of the city. Education facilities are regularly assessed through - databases of schools including number of students, attendance, teacher - student ratio, facilities available and other factors.	City provides adequate and high-quality education facilities within easily reachable distance of 10 minutes walking for all the residential areas of the city and provides multiple options of connecting with specialized teaching and multimedia enabled education. Education facilities are regularly assessed through database of schools including number of students, attendance, teacher-student ratio, facilities available and other factors.	Scenario 2	1. The city has over 95 primary educational facilities and 32 High schools. 2. Many schools are located within the distance of nearly 15-20 minutes walking distance. 3. City is known for its nationally renowned educational institutions with the presence of National Institute of Technology (NIT), Kakatiya Medical College (KMC), Kakatiya University (KU), Kakatiya Institute of Technology and Science (KITS) and so many colleges. KPI – Availability of primary school within 1000m of residence.	1. Citizen aspires that City provides adequate and high-quality education facilities within easily reachable distance of 10 minutes walking for all the residential areas of the city. KPI – Availability of primary school within 500m of residence.	Smart city proposal recommends upgradation of upper primary and upper primary schools and secondary schools wherever with smart infrastructure.
5	**Health**	**A Smart City provides access to healthcare for all its citizens. (Guideline 2.5.10)**	Healthcare is difficult for citizens to access - demand for healthcare often exceeds hospitals' ability to meet citizen needs.	The city provides some access to healthcare for its residents but healthcare facilities are overburdened and far from many residents. Access to preventive health care is only easily available for some residents.	City provides adequate health facilities within easily reachable distance for all the residential areas and job centers of the city. It has an emergency response system that connects with ambulance services.	City provides adequate health facilities at easily accessible distance and individual health monitoring systems for elderly and vulnerable citizens which are directly connected to hospitals to prevent emergency health risks and to acquire specialized health advice with maximum convenience. The city is able to foresee likely potential diseases and develop response systems and preventive care.	Scenario 2	1. Warangal City has been acting as Regional Centre for providing health facilities. 2. The city has 21 hospitals, 14 UHCs and 22 public health centres. 3. Mahatma Gandhi Memorial (MGM) Hospital is the biggest among all, has bed strength of 1,000. 4. Over 2,500 outpatients are treated daily in MGM Hospital. 5. The city has also many private hospitals, nursing homes, offering medical services to the citizens. 6. It is proposed to convert the MGM Hospital into a super specialty hospital with 2000 beds.	1. Citizen desires that Warangal provides adequate health facilities at easily accessible distance and individual health monitoring systems for elderly and vulnerable citizens, which are directly connected to hospitals to prevent emergency health risks and to acquire specialized health advice with maximum convenience. 2. The city is able to foresee likely potential diseases and develop response systems and preventive care.	One of the initiatives recommended through Smart City Proposal is developing a Warangal One App, which would enable accessing adequate information about health services available with Warangal by both citizens and pilgrims/tourists from throughout the world.

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6	**Mixed use**	**A Smart City has different kinds of land uses in the same places; such as offices, housing, and shops, clustered together. (Guidelines 3.1.2 and 3.1.2)**	The city has mostly separated uses and areas are focused either on residential, commercial, or industrial, with little co-existence of uses. The average resident cannot walk to the closest market or shops near his or her home. For almost everyone, going to work or going shopping for basic needs requires a journey by automobile or bus of more than 15 minutes. Land use regulations prevent putting commercial or office locations in residential neighborhoods and vice versa.	In some parts of the city, there is a mixture of land uses that would allow someone to live, work, and shop in close proximity. However, in most areas, there are only small retail stores with basic supplies near housing. Most residents must drive or use public transportation to access a shop for food and basic daily needs. Land use rules support segregating housing, retail, and office uses, but exceptions are made when requested.	Most parts of the city have housing, retail, and office buildings in close proximity. Some neighborhoods have light industrial uses within them (e.g., auto repair, craft production). Land use rules allow for mixed uses.	Every part of the city has a mix of uses. Everyone lives within a 15-minute trip of office buildings, markets and shops, and even some industrial uses. Land use rules require or encourage developers to incorporate a mixture of uses in their projects.	Scenario 2	1. According to Master Plan for Warangal, 2015, mixed use of the city comprises meagre 2% of the total area. 2. Such small percentage of mixed use (commercial and residential use) is prevalent along major transportation network. 3. Comprehensive Transportation Study (2007) reveals that nearly 30% of the trips by citizen are performed by walk, another 10% by cycle and 16% by 2-wheelers. 4. The average trip length for walk, cycle and 2-wheelers are 1, 2, 5 km respectively, suggesting the distribution of daily shopping and recreation areas are well distributed. 5. The city do not have data of percentage of residences having daily needs of retail, parks, primary schools and recreational areas accessible within 400m.	1. Every part of the city has a mix of uses. 2. All areas within a 15-minute walking distance to retail shops with mixed uses. 3. Regulations require or encourage developers to incorporate a mixture of uses in their projects. 4. 100% residences having daily needs of retail, parks, primary schools and recreational areas accessible within 400m and 15 minutes walking distance. 5. Mixed land use along key transportation network of the city facilitated by organized multi-level parking areas.	1. The current City Master Plan encourages mixed use development at many locations. 2. Besides, one of the initiatives recommended through Smart City Proposal in the ABD area is to encourage a mixed-use zone with residential, commercial and recreational use in a clustered manner. It will also show-case the usefulness of mixed use development. 3. 4 areas have been proposed within ABD area along the main transportation network for multi-level parking with mixed use development.

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7	**Compact**	**A Smart City encourages development to be compact and dense, where buildings are located close to one another and are ideally within a 10-minute walk of public transportation, forming concentrated neighborhoods. (Guidelines 2.3 and 5.2)**	The city is expanding rapidly at its periphery into undeveloped land, rural or natural areas, or along industrial corridors - both formally and informally. Formal new development is occuring in a way that is "sprawling," meaning that the buildings spread across a wide area and are far from one another. Residents or tenants find it easier or safer to travel by automobile because it takes a long time to walk between destinations and there are busy roads separating buildings. Large pockets of land in the inner-city are vacant. New developments at the periphery tend to be large-scale residential developments, often enclosed with a gate and oriented to the automobile.	The city has one or two high density areas - such as the city center, or historic areas, where buildings are concentrated together and where people can walk easily from building to building and feel as though they are in center of activity. Most of the city consists of areas where buildings are spread out and difficult to walk between, sometimes with low-density per hectare. Regulations tend to favor buildings that are separated from one another, with lots of parking at the base and set-back from the streets. The city likely has some pockets of under-utilized land in the center. New formal developments at the periphery tend to be large-scale residential developments, often enclosed with a gate and oriented to the automobile.	The city has multiple high density clusters that are easy to walk around where buildings are close together. However, the city actively encourages development to occur on under-utilized parcels of land into high-density, walkable areas. When new formal large-scale development projects happen at the periphery, they are encouraged to be dense and compact, with buildings that are close together and line the streets. The city actively encourages or incentivizes re-development of under-utilized parcels in the inner-city, especially those located close to public transportation.	The city is highly compact and dense, making the most of land within the city. Buildings are clustered together, forming walkable and inviting activity centers and neighborhoods. Regulations encourage or incentivize re-development of under-utilized land parcels in the city center. Buildings are oriented to the street -- and parking is kept to a minimum, located below ground or at the back of buildings. Public transport and walking connects residences to most jobs and amenities. Residential density is at an optimal with affordable housing available in most areas.	Scenario 2	1. There are few old areas in the city where buildings are close to each other but the mix of uses is not present and also the supportive infrastructure is missing for people to feel connected. 2. City at present is not compact. Relatively dense residential developments are observed in five municipal wards only. The other compact developments are observed in the CBD areas (Hanamkonda and Warangal), where most hotels, restaurants, shopping areas, travel agents, traditional bazars, are concentrated. By the large, most of them are 3-4 storied with shop on the ground floor and residence in the rest of the floors.	1. City desires that all areas within 10-15 minutes walking distance to retail and social infrastructure facilities. 2. Most of employment areas are located within 30-45 minute travel distance from residence. 3. Regulations encourage or incentivize re-development of under-utilized land parcels in the city center. 4. Buildings are oriented to the street and parking is kept to a minimum, located below ground or at the back of buildings. 5. Public transport and walking connects residences to most jobs and amenities. Residential density is at an optimal with affordable housing available in most areas.	1. Improved public transport and NMT for connecting residential and other uses.

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8	**Public open spaces**	**A Smart City has sufficient and usable public open spaces, many of which are green, that promote exercise and outdoor recreation for all age groups. Public open spaces of a range of sizes are dispersed throughout the City so all citizens can have access. (Guidelines 3.1.4 & 6.2)**	The city has very few usable public open spaces and very few usable green spaces. Available recreational spaces are located far away and are dispersed at long distances around the city. The few available public open spaces offer a limited variety of experiences for all sections of population and age groups such as places for sport, places for rest, and places for play.	A variety of public open spaces are available in some neighborhoods, but are not available in all the areas of the city or are located far away from residential areas Many of the open spaces have access restrictions, or are not well-maintained. A variety of types of public open spaces may be lacking, such as natural areas, green areas, parks, plazas, or recreation areas.	Most areas of the city have some sort of public open space. There is some variety in the types of public spaces in the city. However, public spaces are sometimes not within easy reach or access of more vulnerable populations and are more restricted in poorer neighbourhoods.	Public open spaces are well dispersed throughout the city. Every residential area and work space has access to open space within 10 minutes walking distance. Open spaces are of various types - natural, green, plazas, parks, or recreation areas - which serve various sections of people. Public spaces tend to truly reflect the natural and cultural identity of the city.	Scenario-2	1. The city has 14 Parks, of which, except Public Garden and Zoo Park others are not maintained well. 2. There are many opportunities to improve existing public open spaces into quality urban realm. For instance, Kakatiya Musical Garden. 3. In addition, the city has 83 layout open spaces, accounting for 77 acres, yet to be developed as usable open spaces. 4. The city needs city-level organized open spaces, which are currently inadequate.	1. 83 layout open spaces to be developed as organized parks, which serve various sections of the people. 2. Every residential area and work space will have access to open space within 10 minutes walking distance.	1. Lakefront development – Warangal is endowed with a number of lakes and water bodies, which can be potential locations of recreational use. Bahdrakali lake front promenade development will set an example. This would be replicated throughout the city. 2. Provided more parks and open spaces and recreational areas within walking distance in ABD area. 3. Upgrade Musical Garden with improved and attractive infrastructure and landscaping.

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9	**Housing and inclusiveness**	**A Smart City has sufficient housing for all income groups and promotes integration among social groups. (Guidelines 3.1.2)**	Housing is very limited and highly segregated across income levels. Population growth far exceeds the creation of new housing. The poor live in informal settlements with limited to no access to basic services, and are concentrated in a few areas. The wealthy live in separate enclaves. Those in the middle have few , if any options.	Housing is available at most income levels but is highly segregated across income levels. Population growth slightly exceeds the creation of new housing. The wealthy and the middle class have housing that meets their needs at costs appropriate to their income. The poor live in informal settlements.	Housing is available at all income levels, but is segregated across income levels. The growth of supply of housing almost meets the rate of population growth. Increasingly, lower and middle-income people can find housing in areas that are conveniently located.	A wide range of housing is available at all cost levels. The supply of housing is growing at pace with population. Affordable, moderate, and luxury housing are found clustered together in many areas of the city	Scenario 1	1. A wide range of housing is available at all cost levels in the Warangal city. Housing supply is growing at pace with population. 2. The city has a total of 183 slums, of which, 92 are notified (168,000 population) and the remaining are non-notified (150,000 population). 3. With a population of nearly 3.21 lakhs, slum population of the city accounts for nearly 42% of the total population. 4. Most slums have pucca houses, but with inadequate basic infrastructure facilities. 5. No housing scheme was implemented by Government	1. City wants that a wide range of housing is available at all cost levels. 2. The supply of housing is growing at pace with population. 3. Affordable, moderate, and luxury housing are found clustered together in many areas of the city.	1. Providing affordable housing and redevelopment of slum households living in kaccha and semi-pucca houses in ABD area. This would be replicated throughout the city. 2. Improving living condition of neighbourhoods by access to basic infrastructure.

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10	**Transport**	**A Smart City does not require an automobile to get around; distances are short, buildings are accessible from the sidewalk, and transit options are plentiful and attractive to people of all income levels. (Guidelines 3.1.5 & 6.2)**	Personal automobile centric city with very few modal options. Long trip lengths for daily commute to work and education. Accessing various areas by walking or cycling is difficult. Women and vulnerable sections find it very difficult to move independently in the city. There is limited public transport. Vehicles cause high air and noise pollution levels in the city. Vehicles dominate public spaces and affect their effective functioning.	The street network system is elaborate but public transport choices are restricted. Public transport can be too expensive or unaffordable for the poor. Pedestrian infrastructure is only available in select areas. The majority of investments focus on reducing traffic congestion through the creation of more roads.	Network of streets are fairly complete. Public transport covers most areas of the city. However last mile connectivity remains incomplete ~~and~~ affects transport options~~.~~ Foot paths are accessible in most areas, whereas concerns of safe crossings and security throughout the day remain. Parking zones are demarcated but absence of pricing increases over utilization of parking lots.	Street network is complete and follows a clear structure. Public transportation network covers the entire city and intensity of connection relates with the demand. Plenty of options of public transport are available and affordable for all sections of the society. There is multi-modal integration at all mass transit stations and organized-priced on street and off street parking. Walking and cycling is prevalent.	Scenario - 2	1. Private vehicle ownership is over 45%. 2. Average trip length for work is approximately 6.5 km. 3. Average trip length for shopping and recreational trips is 5 km each. 4. Road covered with foot path is only less than 5% of the total length of roads. 5. City bus transport system is inadequate and only 11-12% are uses public transport. 6. Shared Auto-rickshaws caters to substantial share of intra-city passenger movement, as they are cheaper.	1. 100% of the arterial, sub-arterial and collector streets are developed with segregated space for cycling and walking. 2. Public transportation network covers the entire city. Plenty of options of public transport are available and affordable for all sections of the society – development of dedicated bus based transit system. 3. Intelligent traffic management system including synchronized traffic signals along all arterials and sub-arterials and collector streets.	1. Retrofitting of over 55 km road network within ABD area, with defined carriageway, side-walk, cycle tracts, smart streetlights with pollution sensors, wi-fi hot spots and so forth. 2. Walking track along Badrakali lake, NMT and foot paths along Nala (drain), pedestrian foot paths and NMT along all key road network, smart parking and so forth are proposed to be developed within ABD area. 3. Intelligent traffic management system including synchronized traffic signals along all arterials and sub-arterials and collector streets. 4. Multi-level parking areas developed around CBD areas and other Strategic locations with efficient public transport for last mile connectivity in ABD area.

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11	**Walkable**	**A Smart City's roads are designed equally for pedestrians, cyclists and vehicles; and road safety and sidewalks are paramount to street design. Traffic signals are sufficient and traffic rules are enforced. Shops, restaurants, building entrances and trees line the sidewalk to encourage walking and there is ample lighting so the pedestrian feels safe day and night. (Guidelines 3.1.3 & 6.2)**	The city is designed mainly for the automobile. Daily life without a car requires long bus rides. Walking is difficult and often dangerous; there are few pavements, existing pavements need repair and lack trees to provide shade for pedestrians, and marked pedestrian crossings are rare. New buildings have their main entrances set-back from the street, sometimes with large driveways or parking lots separating them from the street, and sometimes are enclosed by gates. Traffic signals are often disobeyed	Older areas of the city see a mix of pedestrians, cyclists, and vehicles but newer areas are focused mainly on the automobile. In the new areas, there are few pavements and main entrances to new buildings are not accessible from the front of the street. large driveways or parking lots often separating them from the street, and sometimes are enclosed by gates. In these areas, traffic signals are disobeyed.	The city has a good network of pavements and bike lanes. Buildings in most areas of the city are easily accessible from the pavement. However, traffic signals are sometimes disobeyed and it can feel difficult to cross the street.	The city is highly walkable. Pavements exist on every street and are maintained. Trees line many sidewalks to provide shade for pedestrians. Buildings in most areas of the city are easily accessible from the sidewalk. Traffic signals control the flow of automobiles and are enforced. A network of bike lanes exists to promote cycling as a means of transport. Traffic rules are followed and enforced with great seriousness.	Scenario 1	1. Road covered with foot path is only less than 5% of the total length of roads of 2700 km. 2. Only 17 intersections are signalized. But, they are not synchronized. 3. Most roads do not have foot paths for safe walk and cyclists. 4. Pedestrian crossing at several intersections is missing and road safety and sidewalks are not given paramount importance in street designs.	1. 100% of the arterial, sub-arterial and collector streets are developed with segregated space for cycling and walking. 2. 100% of the intersections are signalized with pedestrian crossing facility. 3. The citizens desire that the city has safe walkable road network, considering its significant tourist footfalls. City wants that the pavements exist on every street and are maintained. Trees line many sidewalks to provide shade for pedestrians.	1. Over 4700 CCTV cameras have been installed in the city including 17 major intersections to monitor pedestrian safety as well. 2. Retrofitting of over 55 km road network within ABD area, with defined carriageway, side-walk, cycle tracts, smart streetlights with pollution sensors, wi-fi hot spots and so forth. This would be replicated throughout the city.

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12	**IT connectivity**	**A Smart City has a robust internet network allowing high-speed connections to all offices and dwellings as desired. (Guideline 6.2)**	City has no major plans to bring increased high speed internet connectivity to the public.	The city has made plans to provide high speed internet connectivity through the existing framework.	The city makes has high speed internet connectivity available in most parts of the city.	The city offers free wifi services to provide opportunity for all the citizens to connect with high speed internet across the city.	Scenario 1	1. The free high speed wi-fi services are available in government offices like GWMC office and few public buildings and are accessible to employees. 2. The high speed internet connectivity is available in most parts of the city provided by various service providers.	1. 100% wi-fi coverage throughout the city 2. Dedicated optical fiber cable (OFC) network and digital platform is available.	1. Implementation of 400 km length of dedicated OFC will enable data transfer for all G2G and G2C services. 2. Wi-fi enabled ABD area, which will be replicate in other parts of the city. It also includes proposed modern TSRTC bus station as well. BSNL is keen to provide such facility throughout the city.

A	B	C	D	E	F	G	H	I	J	K
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13	**ICT-enabled government services**	**A Smart City enables easy interaction (including through online and telephone services) with its citizens, eliminating delays and frustrations in interactions with government. (Guidelines 2.4.7 & 3.1.6 & 5.1.4 & 6.2)**	Essential Government services are not linked with online platforms. Paper intensive interactions with the local Government continues. Receiving services and response to citizen complaints take a long time. There is limited availability of data to monitor service delivery.	Some of the public services are provided online and infrastructure for total digitalization is not in place. Service delays occur regularly in some sectors. Responses to citizen inquiries or complaints are often delayed. No integration between services and billing.	Most of the services are provided online and offline. Data transparency helps monitoring. Systems and processes to better coordinate between various Government agencies are being developed.	All major services are provided through online and offline platforms. Citizens and officials can access information on accounting and monitor status of projects and programs through data available on online system. Robust data infrastructure system shares information and enhances internal governmental coordination.	Scenario 2	1. Implemented dedicated grievance redressal system through “M-Governance Mobile App” since 2015 and toll-free numbers to receive complaints from citizens (1800-4251980) 2. Launched “online grievance redressal system” since 2012 (5.8% of C2G transactions are made online) 3. GWMC started M Governance through mobile where citizen can check their property tax, water tax, grievances status etc by sending the SMS to 9701999596. 4. GWMC has been made as "e-Office - a digital workplace solution" in 2015, whereby it is becoming paper-less office	1. All major services are provided through online and offline platforms making over 75% of the C2G and G2C transactions are made online. 2. Citizens and officials can access information on accounting and monitor status of projects and programs through data available on online system. 3. Robust data infrastructure system shares information and enhances internal governmental coordination.	1. Integrated City Operations Centre (ICOC) is proposed as pan city smart solutions, will act as nerve centre for aggregating data and information from different applications and enable GWMC to manage city as a single operational unit. 2. It will deliver services to mobility functions like city transportation, traffic management services, parking management, etc. 3. Establishment of Warangal One App will be another platform, which will enable the development of a whole new set of G2C, G2G, G2B, G2E, C2C, B2C, applications and services. Warangal being a heritage tourism city, the application needs to lend services to tourists to ensure all services like accommodation, travel, food, health and safety services can be availed from single application on mobile.

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14	**Energy supply**	**A Smart City has reliable, 24/7 electricity supply with no delays in requested hookups. (Guildeline 2.4)**	There is only intermittent electricity supply with regular power shedding. Many residents have to plan their days around when power is available.	Electricity supply and loads are managed as per demand and priority for various functions with clear scheduling, with electricity being available in many areas for most hours of the day.	Electricity is available in most parts of the city for most hours of the day but some areas are not so well-served. Smart metering exists in some parts of the city but not all.	Electricity is available 24 x 7 in all parts of the city with smart metering linked to online platforms for monitoring and transparency.	Scenario 2	1. TSNPDCL is responsible for power supply within Warangal city. Electricity is available to all parts of the city. 2. Total average power demand of the City is about 56 MW and peak demand is about 89.18 MW. 3. Total ATC losses are reduced from 10.54% in 2012-13 to 6.51% in 2014-15. 4. Total scheduled outages in 2012-13 were for 3-4 hours, which now got reduced zero.	1. Electricity is available 24 x 7 in all parts of the city with smart metering linked to online platforms for monitoring and transparency. 2. City is covered with underground electric cabling for safe distribution of electricity.	1. Smart City proposal recommends removal of surface electricity wiring and laying of underground electric cables, shifting of transformers that are hindrance to smooth flow of traffic and pedestrians on all roads. 2. Besides, in order to increase monitoring of the metered consumption, it is proposed to install smart metering for all consumers (residential, commercial and industrial). The smart meters would have provisioning for load curtailment during peak load hours.
15	**Energy source**	**A Smart City has at least 10% of its electricity generated by renewables. (Guideline 6.2)**	The city does not have any renewable sources of energy and there is no commitment to promote this for the forseeable future.	The city is preparing plans for ensuring that it gets more energy from renewable sources and is in the process of making commitments in this regard.	Some energy consumed is the city is produced through renewable sources. There are long term targets for higher renewable energy capacities and the city is making plans to achieve these.	At least 10% of the energy used in the city is generated through renewable sources. The city is undertaking long-term strategic projects to tap renewable sources of energy in its region/beyond to increase the percentage of renewable energy sources.	Scenario 2	1. City at present primary depend on electricity generated from non-renewable sources, being distributed by TSNPDCL. 2. According the DPR on "Distribution System Strengthening of Warangal City" (2015), Warangal City is being fed from 4 numbers of 33/11kV Substations and the loadings of the existing 4 Nos. of the 33/11kV transformers and 11kV feeders is close to their design limits. 3. The overloading on 11kV lengthy feeders is resulting into poor voltage regulations as well for. 4. The old lines have multiple joints in between leading to increase in effective resistance of the line and hence higher technical losses. 5. Solar power generation -330 kw only	1. At least 10% of the energy used in the city is generated through renewable sources. 2. The city is undertaking long-term strategic projects to tap renewable sources of energy in its region/beyond to increase the percentage of renewable energy sources.	1. Increasing power supply through solar energy in ABD area so that share of non-renewable sources accounts for at least 10% in ABD area. The same will be replicated in other parts of the city. 2. Provision of solar umbrellas at kiosks along lakefront development. 3. Provision of solar photovoltaic paneling on all government and institutional building roof tops.

A	B	C	D	E	F	G	H	I	J	K
	Feature	**Definition**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Self-assessment for the full city with regard to each feature**	**Basis for assessment and/or quantitative indicator (Optional - only if data exists)**	**Projection of 'where the city wants to be' with regard to the feature/indicator**	**Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)**
16	**Water supply**	**A Smart City has a reliable, 24/7 supply of water that meets national and global health standards. (Guidelines 2.4 & 6.2)**	The city has a poor water supply system with limited water availability. There are no clear targets to achieve higher quality and optimal quantity standards. Unaccounted water loss is above 40%	The city has intermittent water supply and availability. However it is setting targets and processes in place to try to improve its water supply. Unaccounted water loss is less than 30%.	The city has 24 x 7 water supply in most areas but the quality of water does not meet international health standards. Unaccounted water loss is less than 20%.	The city has 24 x 7 treated water supply which follows national and global standards and also available in sufficient quantity and affordable across all sections of the society. Unaccounted loss less than 15%.	Scenario 2	1. Distribution network covers 58.82% of the households. 2. Supplies 80 LPCD water 3. Only 4.4% of the system is metered. 4. NRW accounts for as high as 40%. 5. Slums covered with water stand post.	1. 100% of the city household supplied with 150 LPCD of water daily. 2. NRW is reduced to less than 15%.	1. Ensure that the ABD area is implemented with 100% service connection, 100% distribution network, Smart metering, Leak detection and SCADA Automation system.
17	**Water management**	**A Smart City has advanced water management programs, including smart meters, rain water harvesting, and green infrastructure to manage storm water runoff. (Guideline 6.2)**	The city does not measure all its supply. It does not recycle waste water to meet its requirements and rain water harvesting is not prevalent. Flooding often occurs due to storm water run-off.	The city has meters for all its water supply but lacks mechanisms to monitor. Water wastage is very high. Some, but not much, rainwater harvesting exists.	The city has meters for all its water supply with some smart mechanisms to monitor. Rainwater harvesting systems are installed and storm water is collected and stored in water bodies. However, recycling of waste water and reusage of storm water is limited.	The city has meters for all its water supply. It includes smart mechanisms to monitor remotely. Rainwater harvesting systems are installed and utilized through the city and storm water is collected and stored in water bodies and treated for usage. Recycled waste water is supplied for secondary uses.	Scenario 1	1. City doesn't have household water metering system. 2. Only commercial establishments have metering and many are faulty too. 3. Distribution system is manually operated.	1. The city is scientifically managed water management system. 2. The city has meters for all its water supply. It includes smart mechanisms to monitor remotely. 3. Rainwater harvesting systems are installed and utilized through the city and storm water is collected and stored in water bodies and treated for usage. 4. Recycled waste water is supplied for secondary uses.	1. Ensure that the ABD area is serviced with water supply with 100% metering at households level and bulk metering wherever needed. 2. Water supply real time monitoring through SCADA Automation system. 3. Rainwater harvesting is installed at all government and institutional premises.

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18	**Waste water management**	**A Smart City treats all of its sewage to prevent the polluting of water bodies and aquifers. (Guideline 2.4)**	The city is unable to treat all its sewage. Many local sewer lines open on to water bodies and open ground and pollute the environment.	Most waste water is collected and treated before disposal. However the treated water does not meet standards and is not recycled for secondary uses.	All the waste water is collected and treated before disposal. It is also treated to a high standard and some is recycled.	The city has zero waste water because all the waste water is collected, treated and recycled. It meets standards and reduces the need for fresh water.	Scenario 1	1. At present, Warangal City has no sewerage system. 2. Most of Households (93%) have individual septic tanks disposal connected to nearby open drains. 3. At present, septage management is not organized properly. Cleaning of septic tanks is being done by the households as and when they are filled-up. 4. Private operators are cleaning the septic tanks using sucking machines and disposing into natural nalahs/ open places away from city. The septic tank cleaning duration ranging from 1 to 5 years, depending on the size of septic tank. 5. Some of the households have connected toilet disposal into road side open sullage drains.	1. 100% of households are covered to sewerage system. 2. 100% sewerage collection and treatment. 3. The city has zero waste water because all the waste water is collected, treated and recycled. It meets standards and reduces the need for fresh water.	1. Ensuring that the ABD area is serviced with 100% coverage of sewerage system. 2. Ensure that a 20 MLD STP (with tertiary treatment) is established within ABD area, which will not only meet the demand from ABD but also parts of the city sewer, currently flowing through Nala.
19	**Air quality**	**A Smart City has air quality that always meets international safety standards. (Guideline 2.4.8)**	City does not have plans, policies or programs to improve the air quality. Systems to monitor air quality are absent.	City has programs and projects to monitor air quality and spatialising the data to ascertain reasons for degrees of pollution in the air. A few strategies to decrease air pollution have been implemented.	City has programs and projects to monitor air quality and spatialising the data to ascertain reasons for degrees of pollution in the air. Pollution levels are acceptable.	The city has clean air by international standards. Live Air quality monitoring cover the entire city and data of air quality are mapped.	Scenario 1	1. Warangal city, at present, does not have any plan, policies or programs to improve air quality. 2. The system to monitor air quality are also absent in the city.	1. The city has clean air by international standards. 2. Live Air quality monitoring cover the entire city and data of air quality are mapped.	1. Smart city proposal recommends installation of air quality surveys to at several locations permanently to collect and monitor the data at regular intervals. 2.

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20	**Energy efficiency**	**A Smart City government uses state-of-the-art energy efficiency practices in buildings, street lights, and transit systems. (Guideline 6.2)**	City has no programs or controls or incentive mechanisms to promote or support energy efficiency in buildings	The city promotes energy efficiency and some new buildings install energy efficiency systems that track and monitor energy use and savings.	Most new public buildings install energy efficiency systems and some older buildings are also retrofitted to be more energy efficient. Local government conducts counselling and outreach with developer, businesses and residents to adopt energy efficiency strategies	All the existing old and new public buildings employ energy efficiency principles in development and operation and apply for energy rating by national and international forums. Many non-public buildings are also energy efficient because the government promotes energy efficiency through incentives and regulations.	Scenario 1	1. The city does not have any policy, controls, programs or incentive mechanism to promote energy efficiency in buildings.	1. All the existing old and new public buildings to be employed with energy efficiency principles in development and operation and apply for energy rating by national and international forums. 2. Many non-public buildings are also energy efficient because the government promotes energy efficiency through incentives and regulations.	1. Increasing power supply through solar energy in ABD area so that share of non-renewable sources accounts for at least 10% in ABD area. The same will be replicated in other parts of the city. 2. Provision of solar umbrellas at kiosks along lakefront development. 3. Provision of solar photovoltaic paneling on all government and institutional building roof tops.
21	**Underground electric wiring**	**A Smart City has an underground electric wiring system to reduce blackouts due to storms and eliminate unsightliness. (Guideline 6.2)**	City does not have plans for underground electric wiring system.	More than 40% of the city has underground electric wiring system.	More than 75% of the city has underground electric wiring system.	More than 90% of the city has underground electric wiring system.	Scenario 1	The city does not have underground wiring system so far.	More than 90% of the city has underground electric wiring system.	1. Ensuring laying of underground electric cabling of nearly 318km length within ABD area. 2. 14000 smart meeting will be provided with in ABD area 3. 50 DTR will be shifted within ABD area.
22	**Sanitation**	**A Smart City has no open defecation, and a full supply of toilets based on the population. (Guidelines 2.4.3 & 6.2)**	Many parts of the city do not have access to sanitation infrastructure and facilities.	Sanitation facilities are available to 70% of the city's population.	Sanitation facilities are available to 90% of the city's population.	Sanitation facilities are available to 100% of the city's population.	Scenario 3	1. Nearly 7% of the HHs doesn't have access to individual toilet.	Sanitation facilities are available to 100% of the city's population.	1. Providing Public toilets and Individual toilets in ABD area.

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23	**Waste management**	**A Smart City has a waste management system that removes household and commercial garbage, and disposes of it in an environmentally and economically sound manner. (Guidelines 2.4.3 & 6.2)**	Waste collection systems do not pick up waste on a frequent basis and waste often enters into water bodies.	Waste generated is usually collected but not segregated. Recycling is attempted by difficult to implement.	Waste is segregated, collected, recycled and disposed in an environmentally sound manner.	The city reduces land fill caused by waste so that it is minimal. All the solid waste generated is segregated at source and sent for recycling. Organic waste is sent for composting to be used for gardening in the city. Energy creation through waste is considered.	Scenario 2	1. GWMC received 4th Icon SWM award in 2014. 2. Total waste generation is about 260 MT per day. Waste is segregated at source. 3. GWMC collects waste at door to door level through pushcarts and transferred to dumper bins/ compactor bins daily. 4. Garbage is transported through compactors /dumper placers to dumping yard at Madikonda. SWM covers 76.15% of the population. 5. The garbage is being dumped at designated site at Madikonda, 32 Acres of land is acquired for processing unit i.e., 20 Km away from GWMC.	1. The city reduces land fill caused by waste so that it is minimal. 2. All the solid waste generated is segregated at source and sent for recycling. 3. Organic waste is sent for composting to be used for gardening in the city. 4. Energy creation through waste is considered.	1. Providing smart bins and establishment of waste to energy plant recycling plants in ABD area.
24	**Safety and security**	**A Smart City has high levels of public safety, especially focused on women, children and the elderly; men and women of all ages feel safe on the streets at all hours. (Guideline 6.2)**	The city has low levels of public safety - most groups of residents feel insecure during most parts of the day in many parts of the city.	The city has medium levels of public safety - some more vulnerable groups feel insecure during some points of the day and in some parts of the city	The city has high levels of public safety - all citizens including women, children and the elderly ~~f~~feel secure in most parts of the city during most time in the day.	The city has very high levels of public safety - all residents feel safe in all parts of the city during all hours of the day.	Scenario 2	1. 41 cameras installed in the city during 2012-14. 2. 4709 CCTV cameras installed during 2012-14 3. 17 junctions are monitored through CCTVs. 4. Cognizable cases have reduced from 4436 to 3649 during 2012-14. 5. Number of accidents has reduced from 1206 to 969 during 2012-14. 6. Number of crime against women has reduced from 475 to 464 during 2012-14.	The city has very high levels of public safety - all residents feel safe in all parts of the city during all hours of the day.	1. Provision for installation of 1500 CCTVs throughout the city 2.

3.1 CITY PROFILE

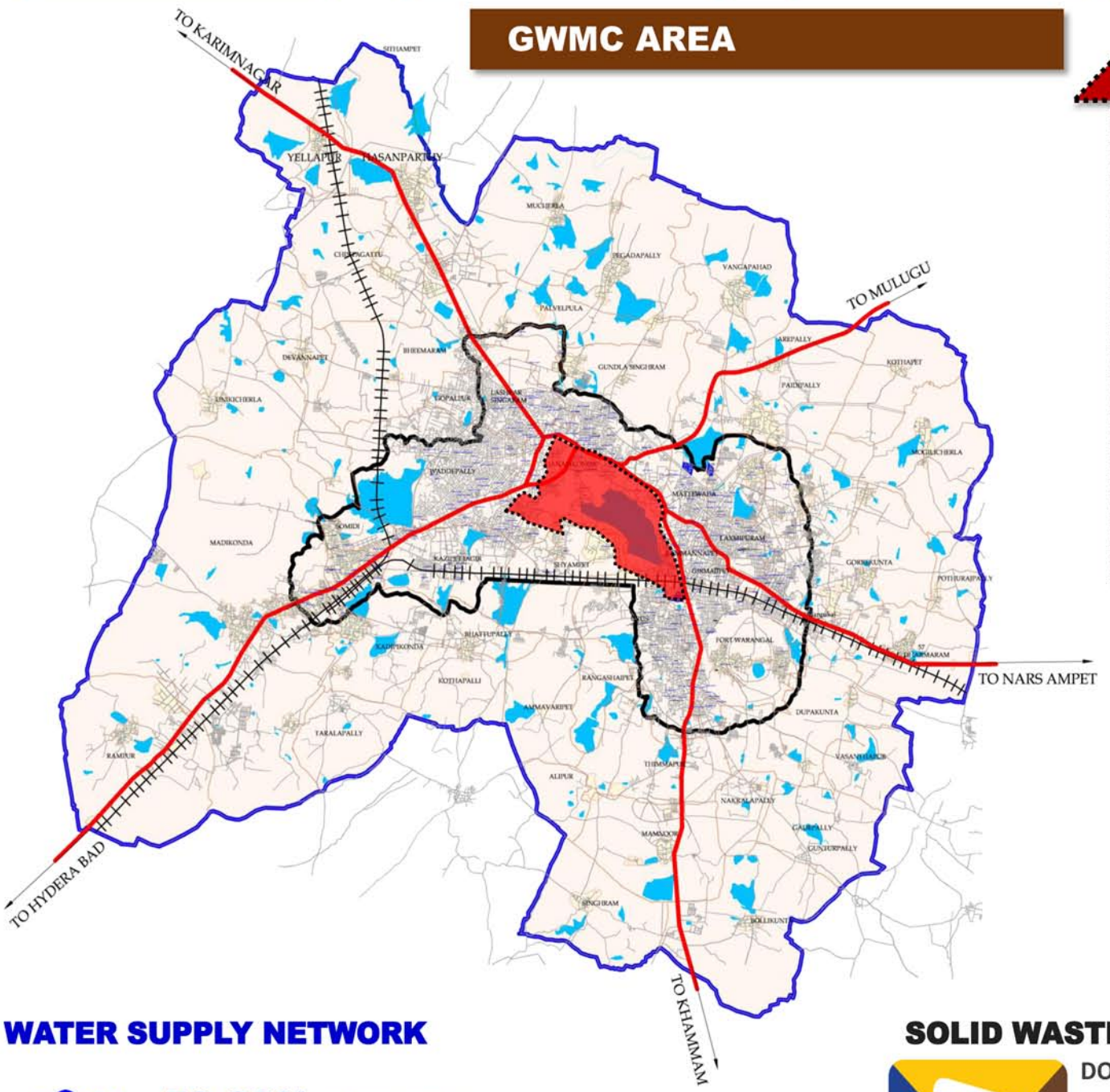
RICH HERITAGE
THE CITY HAS 13 PROMINENT TOURISM DESTINATIONS WHICH INCLUDE FORTS, TEMPLES & OTHER HERITAGE STRUCTURES: ATTRACTING ABOUT **3.67 MILLION** TOURISTS ANNUALY.

LAKE CITY:
WARANGAL CITY HOUSES 42 LAKES IN TOTAL WHICH ARE A SOURCE OF WATER FOR THE CITY. THE MOST PROMINENT IS BHADRAKALI LAKE LOCATED IN THE HEART OF THE CITY ALONG BHADRAKALI TEMPLE.

EDUCATION HUB:
EMINENT INSTITUTIONS LIKE KAKATIYA MEDICAL COLLEGE, KAKATIYA UNIVERSITY & NIT WARANGAL ARE PRESENT IN THE CITY WHICH ATTRACT BOTH LOCAL AND INTERNATIONAL STUDENTS.

TRADE/ INDUSTRY:
AGRICULTURE IS A MAJOR ECONOMIC ACTIVITY OF THE CITY, WITH PADDY, COTTON, WHEAT & MANGO AS THE MAJOR CASH CROPS. CHILLI CULTIVATION IS ALSO WIDESPREAD IN THE AREA.

GWMC AREA



370% INCREASE IN CITY AREA

GWMC AREA

POPULATION: 819,406

CORE AREA

POPULATION: 6,27,449

ABD AREA

POPULATION: 39,137

WATER SUPPLY NETWORK

58.82% POPULATION COVERED BY NETWORK,
80 LPCD, 4.4 % METERING
40% NRW

SEWERAGE NETWORK

93.07% COVERAGE BY TOILETS (INDIVIDUAL / COMMUNITY)
NO UNDERGROUND SEWERAGE SYSTEM
0% COLLECTION AND TREATMENT EFFICIENCY

SOLID WASTE MANAGEMENT

DOOR TO DOOR COLLECTION SYSTEM
210-TON DAILY WASTE GENERATED
76% H.H COVERAGE,
SEGREGATION AT SOURCE
2 (3 TONS/DAY) BIO-GAS PLANTS

POWER

AVERAGE DEMAND: **55.89MW**, PEAK DEMAND: **89.18 MW,**
POWER SHORTAGE: **34.86MW,** ATC LOSSES: **3.44%**
SOLAR POWER GEN.: **330KW,** **100% COVERAGE**

MOBILITY

AVERAGE TRAFFIC SPEED : 25-40 KMPH
SIGNALIZED INTERSECTIONS : 20
REGISTERED VEHICLES : 1,88,700

3.2 CITIZEN OUTREACH: ROUND-1

TOTAL OUTREACH
5 LAKH POPULATION

- 1.2 lakh HH – 3.84 lakh population coverage (@ 3.2 HH Size)
- Focus Group Discussion and Stake holders meetings - participants -6000 – Coverage – 19200 population (@ 3.2 HH Size)
- Bulk SMS and IVRS – 100,000

Dedicated E- Mail Focus Group Interview Facebook
Twitter Door to Door Survey Polling – mygov
Mygov.in Online Portal - GWMC whatsapp Citizen Charter Offline
Polling – GWMC Portal Essay Writing Competition
Online Portal - GWMC Focus Group Discussions
Ward Level Meetings SHG Meetings Digital Poster Competition

CITIZEN ENGAGEMENT

OFFLINE

- Door to Door Survey : **1,20,000**
- Face to Face Video Interviews : **500**
- Ward Level Meeting : **15 - 3,500** Participants
- Self Help Group Meetings : **13 - 1,500** Participants
- Pre Recorded IVRS Calls : **50,000**
- Bulk SMS : **50,000**
- Letters : **150**
- Stakeholder Consultation – CREDAI, BAR Association, Institute of Engineers, Architects Association, NIT etc. – **1000** Participants

SHG Meetings

ONLINE

- My Gov Discussions : **564 Post**
- e-mails : **164**
- Facebook : **100 Msgs**
- Whatsapp : **200 Msgs**
- Twitter : **9 Followers**

Stake Holder Consultation

POLL

- Mygov : **83** participants
- GWMC Website
- Priority Areas : **24,540** participants
- Smart Solutions : **24,594** participants
- Area Based Initiatives : **26,901** participants
- ABD Area choice : **24,482** participants

Face to Face Interviews

COMPETITIONS

- Essay Writing Competition
- Mygov : **30** essays
- Schools : **5,000** essays
- Offline : **50** essays
- Digital Poster Competition
- **30** –Engineering Colleges

Total Postings - 552

3.3 CITIZEN OUTREACH

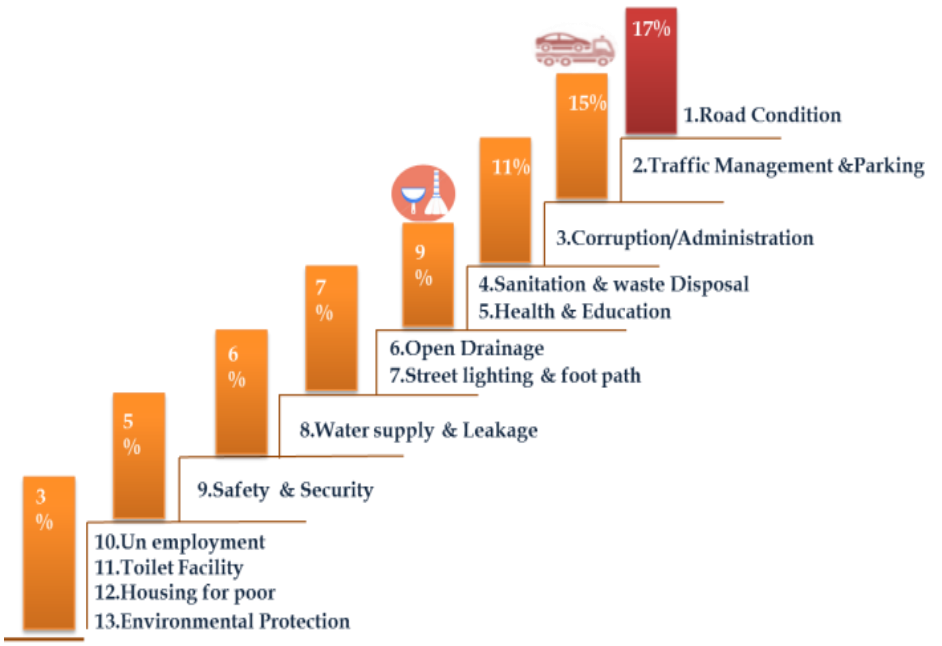
13 Town Level Meetings

1,30,000
Women Representation

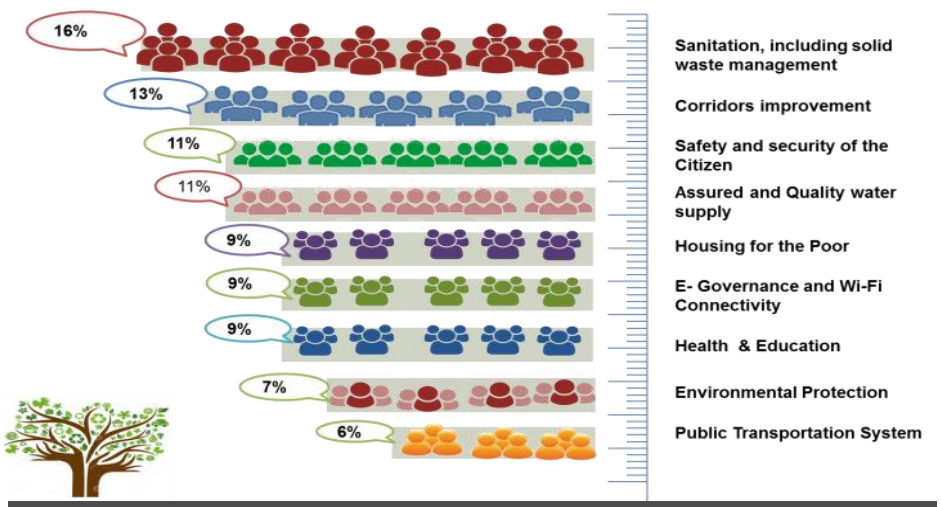
15 Zonal Level Meetings

5,000
Participants

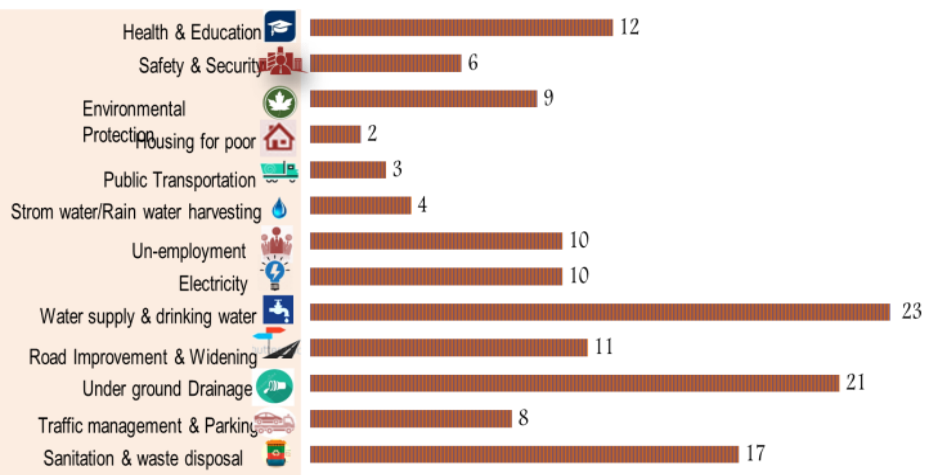
Top 5 Priorities	
Underground Drainage	30%
Traffic Congestions and Public Transportation	26%
Quality of Water Supply	18%
Employment Opportunities	16%
Sold Waste Management	10%



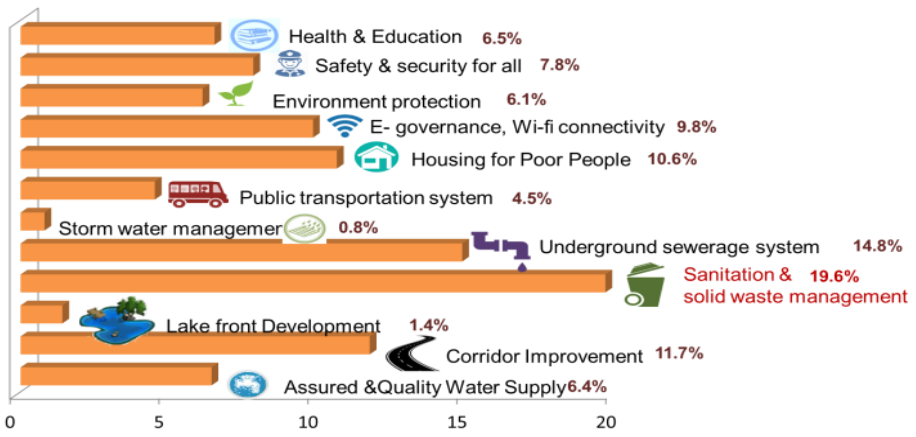
CITY PROBLEMS AS HIGHLIGHTED IN WOMEN GROUP MEETINGS



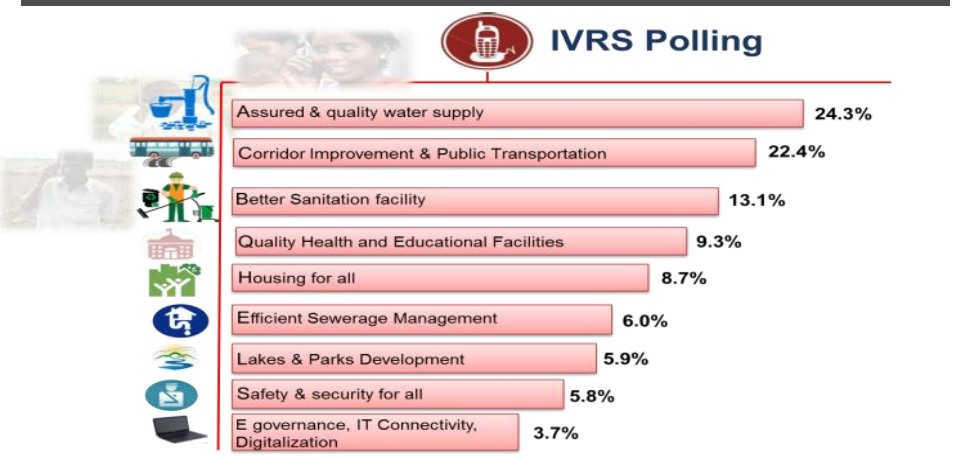
CITY PROBLEMS AS HIGHLIGHTED IN STAKEHOLDER CONSULTATION



CITIZEN POLLING RESULTS FOR CITY PROBLEMS ON MYGOV

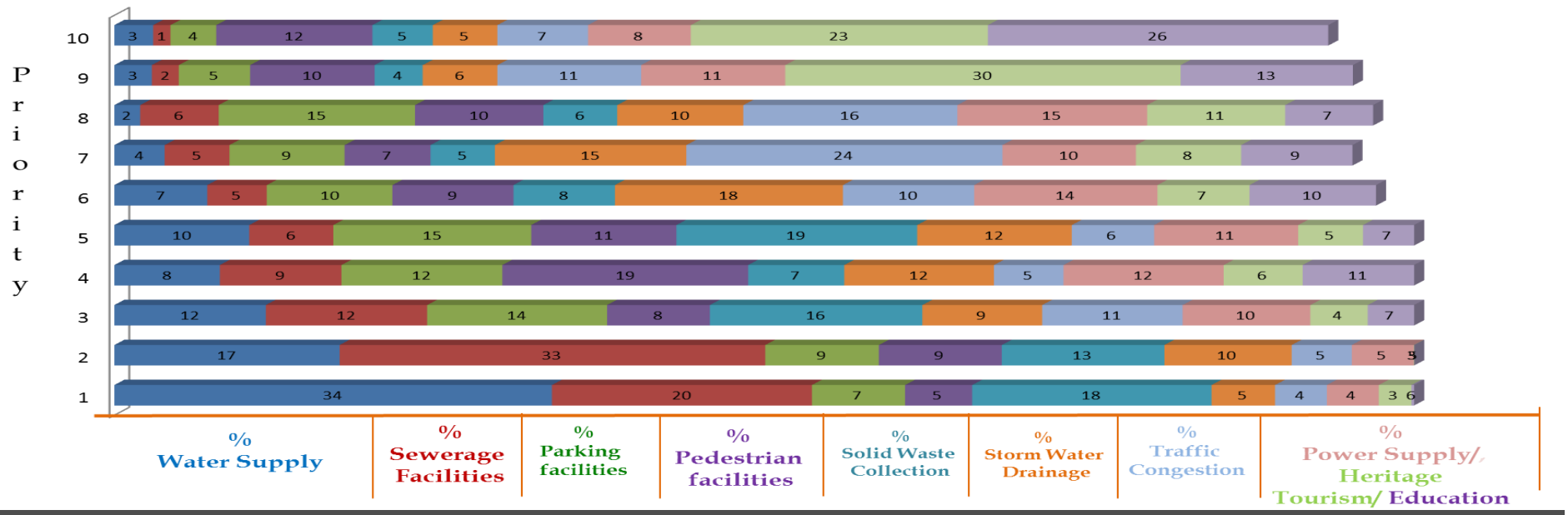


CITIZEN PRIORITIES THROUGH GMAIL ACCOUNT



POLLING RESULTS AS ON GWMC WEBSITE

IVRS POLLING RESULTS FOR CITY PRIORITIES



KEY ISSUES THROUGH WARD LEVEL CONSULTATIONS

3.4 CITIZEN OUTREACH: ROUND-1

SUMMARY OF CITIZEN ENGAGEMENT ON PRIORITIES, VISION FORMATION, SMART SOLUTIONS & AREA BASED DEVELOPMENT.

Issues/Priorities

- Full coverage and improved water supply
- Full coverage and improved UGD system
- Improved roads
- Adequate traffic management
- Solid waste management
- Parking facilities
- Transport system
- Free Wi-Fi

Vision

- Clean and Green smart city
- A prospering Industrial city
-
- Heritage and Tourism City
- Slum Free City
- City with adequate Parks and Public amenities
- Safe and Secure city

Smart Solutions

- Smart water and waste water management
- Recycling of wastewater
- Smart Traffic Control and management
- Smart Parking
- Rain water harvesting
- Smart Public Transport system
- Smart Bus Station Redevelopment

Choice of Area based development

- Central Area for Retrofitting

SUMMARY OF CITIZEN ENGAGEMENT TOWARDS VISION FORMATION PRIORITIES FOR WARANGAL.

CHOICE OF AREA BASED DEVELOPMENT

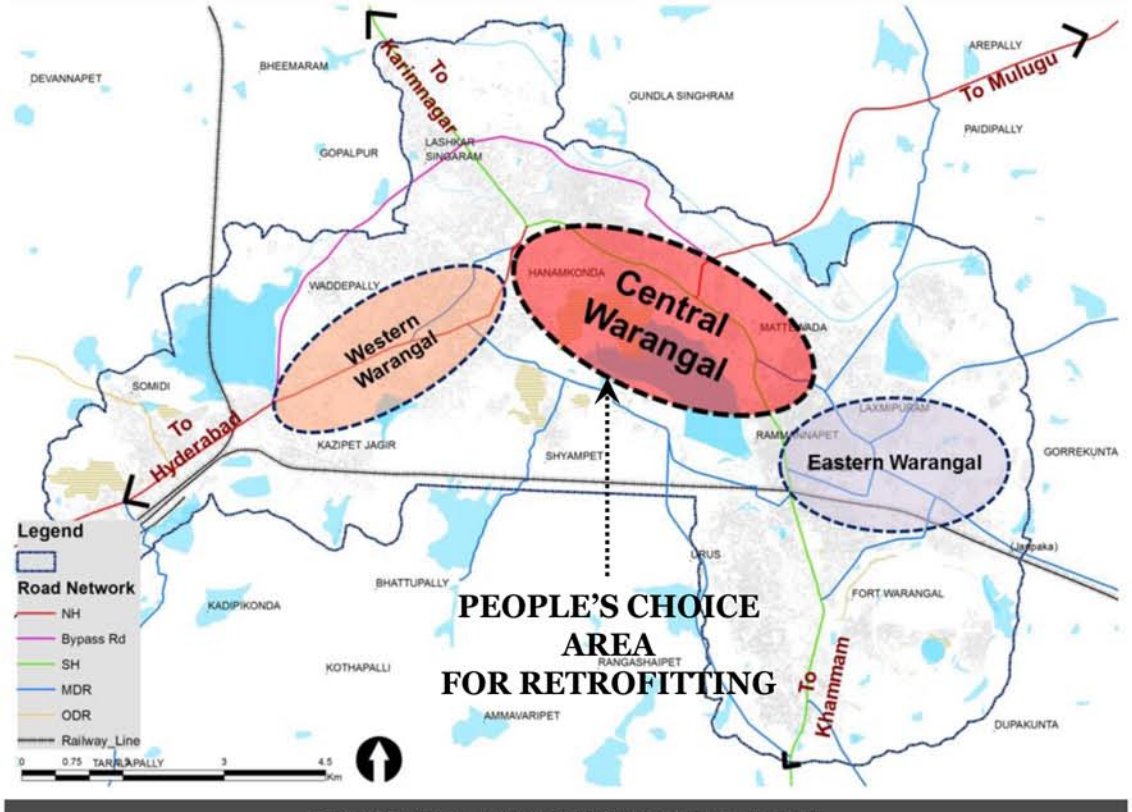
- **Citizen' Choice** – 54.5% voted for Retrofit Development, 27.3% for redevelopment, 18.2% for Greenfield development,
- **Choice of Area:**
- 20% voted for Eastern Warangal
- 65% voted for Central Warangal
- 15% voted for Western Warangal

EVALUATION CRITERIA

- Ease of replicability.
- Ease of implementation.
- Critical to city's identity and image.
- Mix of residential, slums, commercial, heritage, tourism potential areas.
- Scope for mixed use development
- Scope of projects that converge with other Central and State Government Programs

The assessment concluded that Central Area of Warangal is a relatively better choice due to following uniqueness:

- Strategic location, being center of Warangal city.
- Presence of heritage assets such as Bhadrakali lake and temple, nationally protected monument of 1000 Pillar Temple, and other heritage sites and hillocks.
- With the population of over 39,000, has presence of Lal Bahadur College and ITI College, GWMC office, and CBD of the city;
- Receives an average footfall over 100,000 daily further, during the festival times, due to the presence of important temples in the area, the footfall increases by another 100,000;
- Receives an average of 125,000 commuters from various parts of the city for various purposes including employment, education, health, shopping, pilgrimage, use of transport node;
- Advantage of having Geo Bio Diversity and Cultural Park under HRIDAY program, so that convergence of funds from HRIDAY can be integrated with SCM.



OPTIONS FOR RETROFITTING AREA

3.4a CITIZEN OUTREACH: FAST TRACK PROPOSAL

Mentor Institution- ASCI

Online -

myGOV.in

GWMC.gov.in

Offline -

SUGEGSTIONS SOUGHT FROM:

- National Institute of Technology
- Administrative Staff College of India
- Kakatiya University
- Mahatama Gandhi Memorial Hospital
- Kakatiya Institute of Technology & Science
- Kakatiya Heritage Trust
- Government Polytechnic College
- Bala Vikas NGO
- MARI, NGO
- Rotary Club
- Slum Level Federations

STAKEHOLDER SUGGESTIONS

- Emphasis on renewable & clean sources of energy
- Conservation of Water Sources
- Waste management & Waste to Energy Systems
- Underground Drainage System to be made an integral part of the Smart City Development,
- Rain water Harvesting Systems to be put into place for meeting water demands of city
- Further enhancement of the area covered under PAN-City Proposal.
- Historical City with good Infrastructure Facilities
- Emphasis on Tourism Development
- Branding and Grouping of the Proposed Projects
- Efficient Public Transportation System with latest technology
- Historical city, clean and green city and ample employment opportunities for youth.
- Access Improvement for Bhadrakali Lakefront
- Smart Mobility
- High speed connectivity with Hyderabad
- Airport for Warangal
- NIT and Other Engineering professional need to involved in development process
- Increase in public grievance time in all Govt. Offices
- Quality Education.
- Better connectivity.
- Waste management.
- Plastic free zone.
- Rain water harvesting.
- Online file movement.
- Better public Administration.
- Increase in public grievance time in all Govt. Offices
- Renovation of pillars temple
- Handloom City- Handloom Cluster Development- Employment Opportunities
- More attention should given to senior citizens and physically handicapped persons
- Installation of Solar Panels

3.5 CITY STRATEGIC PLAN

CITY PROFILE

- Second largest city in Telangana
- City for tourism, trade, and education
- City of lakes and heritage
- A linear city
- Inadequate basic infrastructure
- A city of young people
- City with urban voids

SWOT

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
• Strategic Location. • Heritage City. • Cultural Significance. • Religious Tourism Resources. • Educational and Knowledge City. • Strategic Transport Connectivity. • Regional Trading Center. • Water resources .	• Underutilized tourism potential. • Lack of quality business tourism infrastructure. • Inadequate basic and core infrastructure. • Lack of Pedestrian and NMT friendly roads. • Weak Public Transport System. • Large informal settlements.	• Tourism as an additional potential economic base of Warangal. • New Industrial opportunities. • Knowledge Industries. • Lakefront and Tourism opportunities. • Strategic transport connectivity to Hyderabad. • Harnessing Solar energy and Rain water harvesting technologies.	• Unscientific waste water management. • Increase in private vehicle ownership. • High level of NRW.

CITIZEN ENGAGEMENT

- UGD, Water Supply, and SWM,
- Better Urban Transport, Parking,
- Employment opportunities
- Urban Governance
- Lake Development, Environment
- Housing for Urban Poor
- Planned Development

VISION

TO TRANSFORM WARANGAL INTO AN ECONOMIC HUB IN TELANGANA WITH A FOCUS ON TOURISM AND HERITAGE AND TO MAKE IT A LIVABLE, CLEAN, GREEN, INCLUSIVE, MODERN, SAFE AND CITIZEN FRIENDLY AND WELL GOVERNED CITY

STRATEGIC FOCUS

- HERITAGE AND TOURISM CITY
- SLUM FREE & LIVABLE CITY
- BUILD SMART TRANSPORTATION SYSTEM
- CLEAN AND GREEN CITY
- SAFE AND SECURE CITY
- DIVERSIFIED ECONOMIC BASE

STRATEGIC BLUEPRINTS

- Protect and Develop Heritage Precincts
- Leverage ecological resources of tourism importance and transform them into Place-Making
- Slums to livable neighborhoods
- Core urban services to Non-Slum Residential Neighborhoods
- Public Transit Improvement

- Provision of NMT and Pedestrian friendly roads and Parking
- Smart mobility management system
- Green Urbanism
- Environmental Watch
- Safe and Assured Electricity supply
- Smart Safety, Surveillance & Monitoring
- Extended Business Districts

CHOICE OF ABD: CENTRAL WARANGAL

- Slums and inadequate basic Infrastructure
- Bhadrakali Lake as Urban Backyard
- Traffic Congestion, Parking and Public Transport Access Issues
- Urban Voids and underused lands
- Environmental Pollution of Lake and Nala
- Place Quality and Pedestrian Realm Issues
- Inadequate usable public parks
- Convergence Potential of GoI Missions

CHOICE OF PAN CITY SOLUTIONS

- Urban Governance
- Traffic Management
- Safety and Security

ABD THEMES

1. BL	:	BHADRAKALI LAKE FRONT & RECREATIONAL DISTRICT
2. EBD	:	EXTENDED BUSINESS DISTRICT
3. LN	:	LIVABLE NEIGHBORHOODS
4. SM	:	SMART MOBILITY
5. GU	:	GREEN URBANISM
6. EW	:	ENVIRONMENTAL WATCH
7. SW	:	SMART CENTRAL WARANGAL

PAN CITY

IOCC
INTEGRATED OPERATION & CONTROL CENTRE

COMMON CITY PAYMENTS & SERVICES PLATFORM	CITY MOBILITY MANAGEMENT PLATFORM

ABD PROJECTS

BL	**BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT**
BL-1	Heritage Area and Lakefront Promenade Development
BL-2	Heritage and Cultural Tourism
EB	**EXTENDED BUSINESS DISTRICT**
EB-1	Site Development for Corporate/Business Start-up Offices
EB-2	Development of Infrastructure Facilities
LN	**LIVABLE NEIGHBOURHOODS**
LN-1	Slum Areas Retrofitting
LN-2	Non-Slum Residential Areas Retrofitting
LN-3	Social and Community Development
SM	**SMART MOBILITY**
SM-1	Public Transit Corridor Improvement
SM-2	Retrofitting Other roads, 36.3 km
SM-3	NMT Corridor along Nala, 3 km
SM-4	TSRTC Bus Stand Redevelopment
SM-5	Multi-level Parking
GU	**GREEN URBANISM**
GU-1	Solar Mission
GU-2	Waste to Energy
EW	**ENVIRONMENTAL WATCH**
EW-1	Bhadrakali Lake Regeneration and cleaning
EW-2	Environmental quality monitoring Stations
EW-3	Rainwater Harvesting for all Govt. Owned Complexes
EW-4	Development of Open Spaces in Retrofitting Area
SW	**SMART CENTRAL WARANGAL**
SW-1	Safe and Assured Electricity Supply
SW-2	Smart Safety, Surveillance & Monitoring

3.6 DELINEATION OF ABD: CENTRAL WARANGAL

CITIZEN'S CHOICE

CENTRAL WARANGAL WAS AN **AREA OF CHOICE** FOR RETROFITTING AND WAS VOTED BY

ABOUT 65% (15,907) POLLING PARTICIPANTS

ABOUT 55% (14,674) OF PARTICIPANTS IN CITIZEN'S POLL OPTED FOR **RETROFITTING** APPROACH TO **SMART CITY DEVELOPMENT**

EDUCATION CENTER

THE ABD HOUSES 2 OF THE MAJOR COLLEGES OF THE CITY NAMELY LAL BAHADUR & GOVERNMENT POLYTECHNIC COLLEGE.

HERITAGE & TOURISM CENTER

PROMINENT RELIGIOUS & HISTORICAL DESTINATIONS LIKE BHADRAKALI & PADMAKSHI TEMPLE, HANAMKONDA FORT, & 1000 PILLAR TEMPLE ARE LOCATED IN THE ABD, WHICH ATTRACT ABOUT 34% OF CITY'S TOTAL TOURISTS.

A CITY WITH 42 LAKES

- THE RETROFITTING AREA ENCAPSULATES ONE OF THE MAJOR LAKES OF THE CITY: BHADRAKALI LAKE.

HANAMKONDA CBD

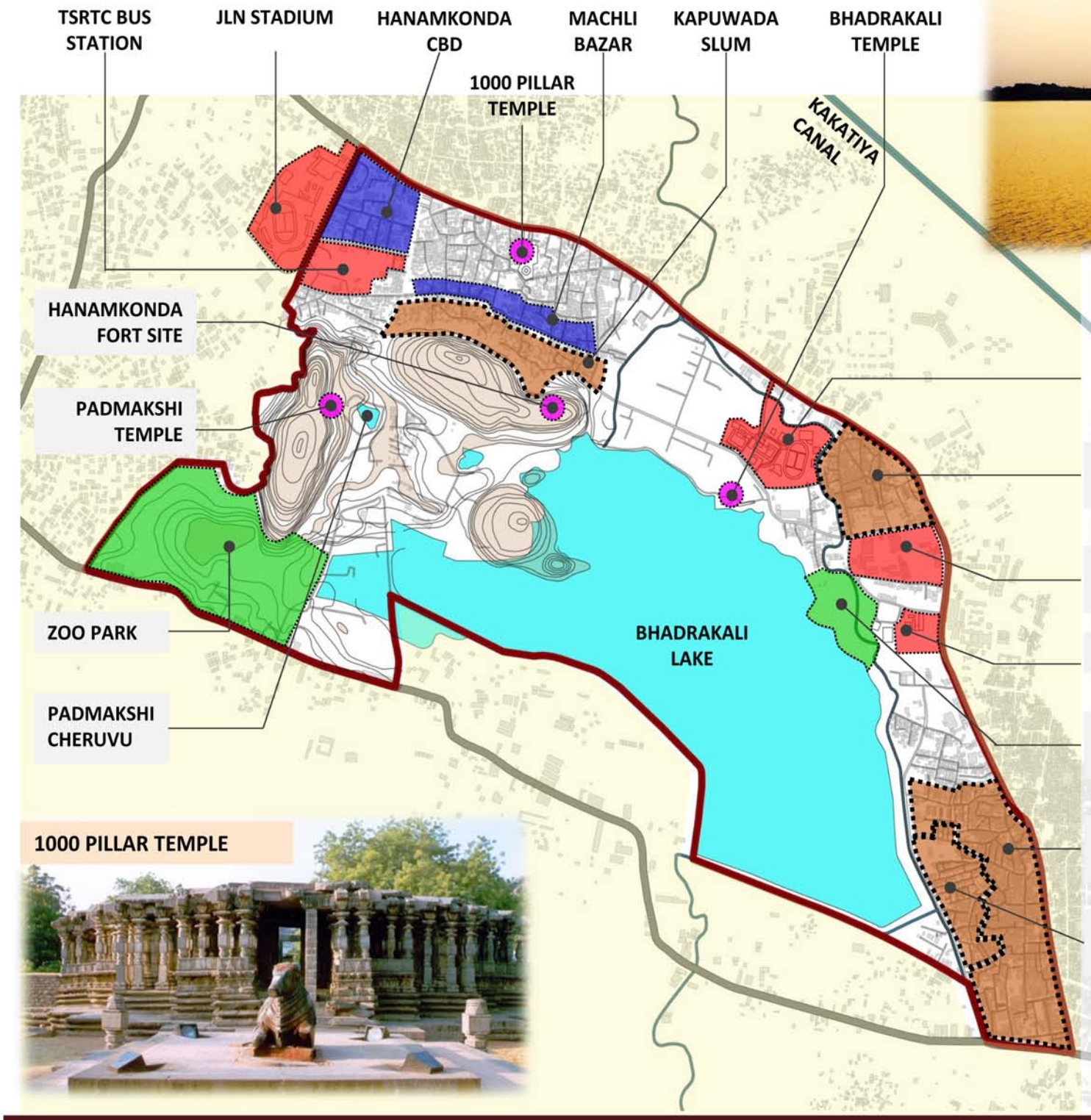
- THE CITY'S MAJOR CBD I.E. HANAMKONDA CBD IS AN INTEGRAL PART OF THE RETROFITTING AREA WITH ABOUT 1 LAKH DAILY FOOTFALL.

POPULATION OF ABD **39,137**

NO. OF HOUSE HOLDS **11,946**

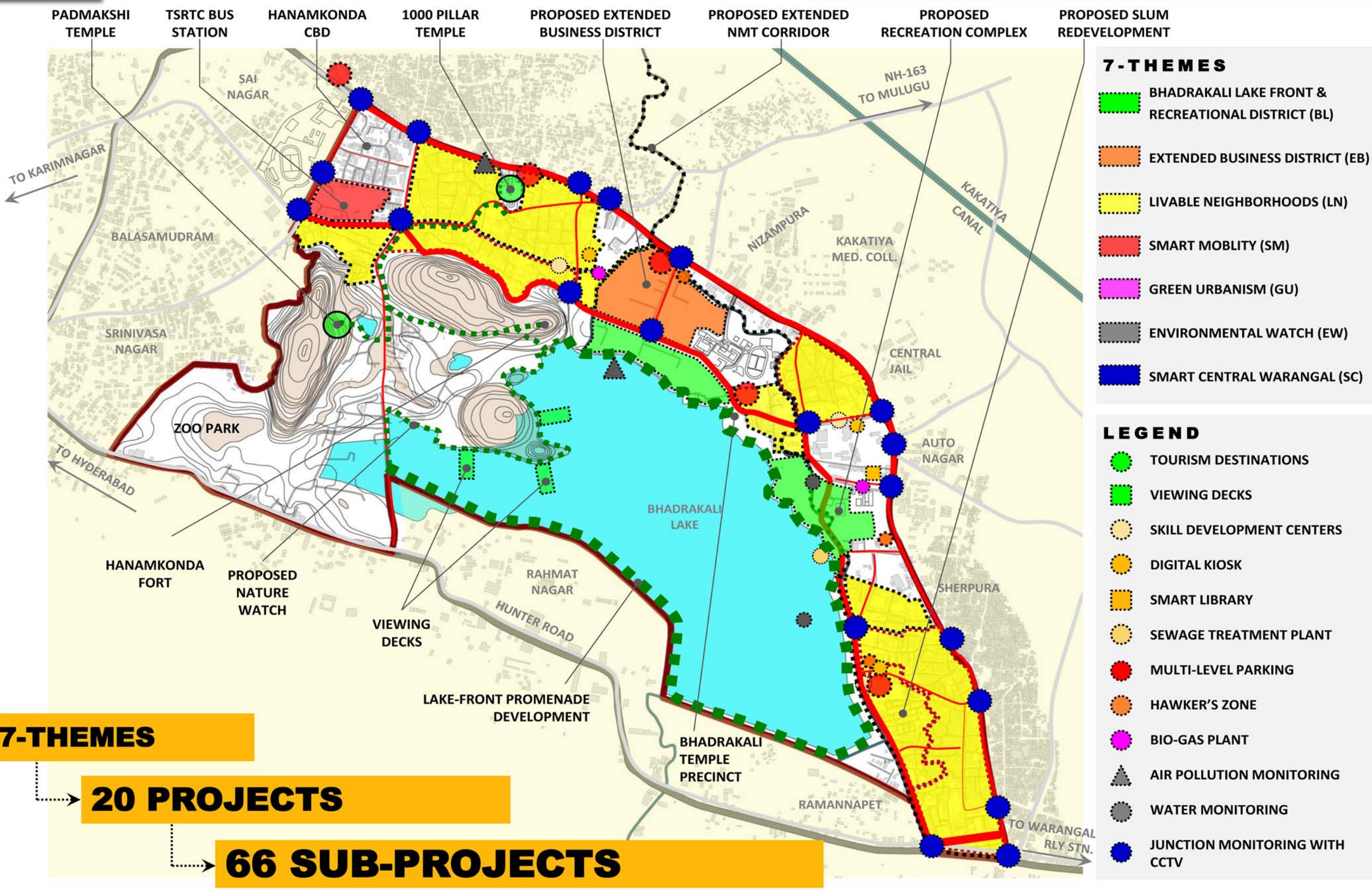
SLUM POPULATION **16,586**

BHADRAKALI LAKE



1000 PILLAR TEMPLE

3.7 THEMES & PROJECTS



7-THEMES

20 PROJECTS

66 SUB-PROJECTS

7-THEMES

- BHADRAKALI LAKE FRONT & RECREATIONAL DISTRICT (BL)
- EXTENDED BUSINESS DISTRICT (EB)
- LIVABLE NEIGHBORHOODS (LN)
- SMART MOBLITY (SM)
- GREEN URBANISM (GU)
- ENVIRONMENTAL WATCH (EW)
- SMART CENTRAL WARANGAL (SC)

LEGEND

- TOURISM DESTINATIONS
- VIEWING DECKS
- SKILL DEVELOPMENT CENTERS
- DIGITAL KIOSK
- SMART LIBRARY
- SEWAGE TREATMENT PLANT
- MULTI-LEVEL PARKING
- HAWKER'S ZONE
- BIO-GAS PLANT
- AIR POLLUTION MONITORING
- WATER MONITORING
- JUNCTION MONITORING WITH CCTV

3.8 BHADRAKALI LAKE FRONT & RECREATIONAL DISTRICT

- IMPROVEMENT OF TOURIST DESTINATIONS
- 2.96 km, LAKE FRONT PROMENADE DEVELOPMENT
- CITY LEVEL LEISURE PARK DEVELOPMENT, 9.78 Ha.
- 6.4 Ha., RECREATIONAL COMPLEX DEVELOPMENT
- NATURE WATCH & HERITAGE WALK DEVELOMENT, 9.08 km

DESTINATIONS	CURRENT VISITORS
BHADRAKALI TEMPLE	5,91,087
1000 PILLAR TEMPLE	5,58,520
PADMAKSHI TEMPLE	1,16,700
RECREATIONAL VISITORS	NEGLIGIBLE

34% OF DISTRICT'S **TOTAL TOURISTS**

SOURCE: HRIDAY REPORT, FEB: 2015


VIEWING DECKS


NATURE WATCH


L.F. PROMENADE

PADMAKSHI TEMPLE | MULTILEVEL PARKING | 1000 PILLAR TEMPLE | MULTILEVEL PARKING | MULTILEVEL PARKING & COMMERCIAL COMPLEX

BL-1: HERITAGE AREA & LAKE FRONT PROMENADE DEVELOPMENT,
BL-2: HERITAGE & CULTURAL TOURISM

BL 1.1
BL 2.1
BL 2.1.1
BL 1.2
BL 2.2
BL 2.3
BL 2.1.2
ZOO PARK
LEISURE PARK
BHADRAKALI LAKE
BL 2.3
BL 1.3, 1.4

CORPORATE/ BUSINESS & START-UP OFFICES

BHADRAKALI TEMPLE PRECINCT

PROPOSED RECREATIONAL COMPLEX (MUSICAL GARDEN, PLANETARIUM, INDOOR SPORTS HALL ETC.)

MULTILEVEL PARKING

LAKE-FRONT PROMENADE

HERITAGE WALK | HILL TREK | NATURE WATCH | VIEWING DECKS | HANAMKONDA FORT HERITAGE SITE

3.9 EXTENDED BUSINESS DISTRICT

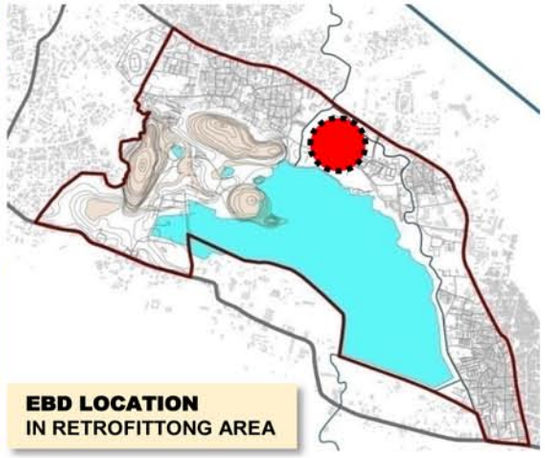
PROJECTS

TP SCHEME AREA: 16.4 Ha.

BUSINESS TOURISM, 1.64 Ha.

GREEN AREAS

MIXED-USE DEVELOPMENT 14.8 Ha.

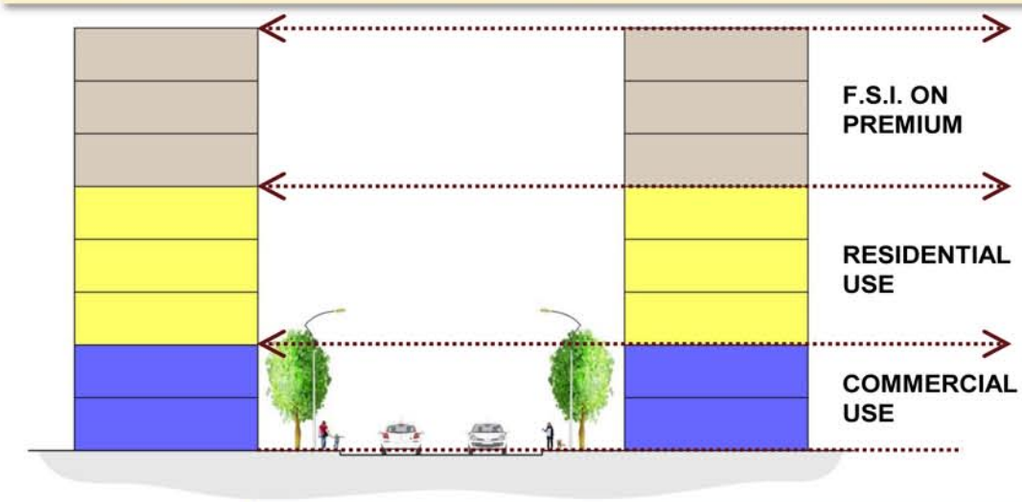


EBD LOCATION
IN RETROFITTONG AREA

CONCEPT LAYOUT PLAN
EXTENDED BUSINESS DISTRICT, HANAMKONDA

CONCEPTUAL AERIAL VIEW OF E.B.D., WARANGAL

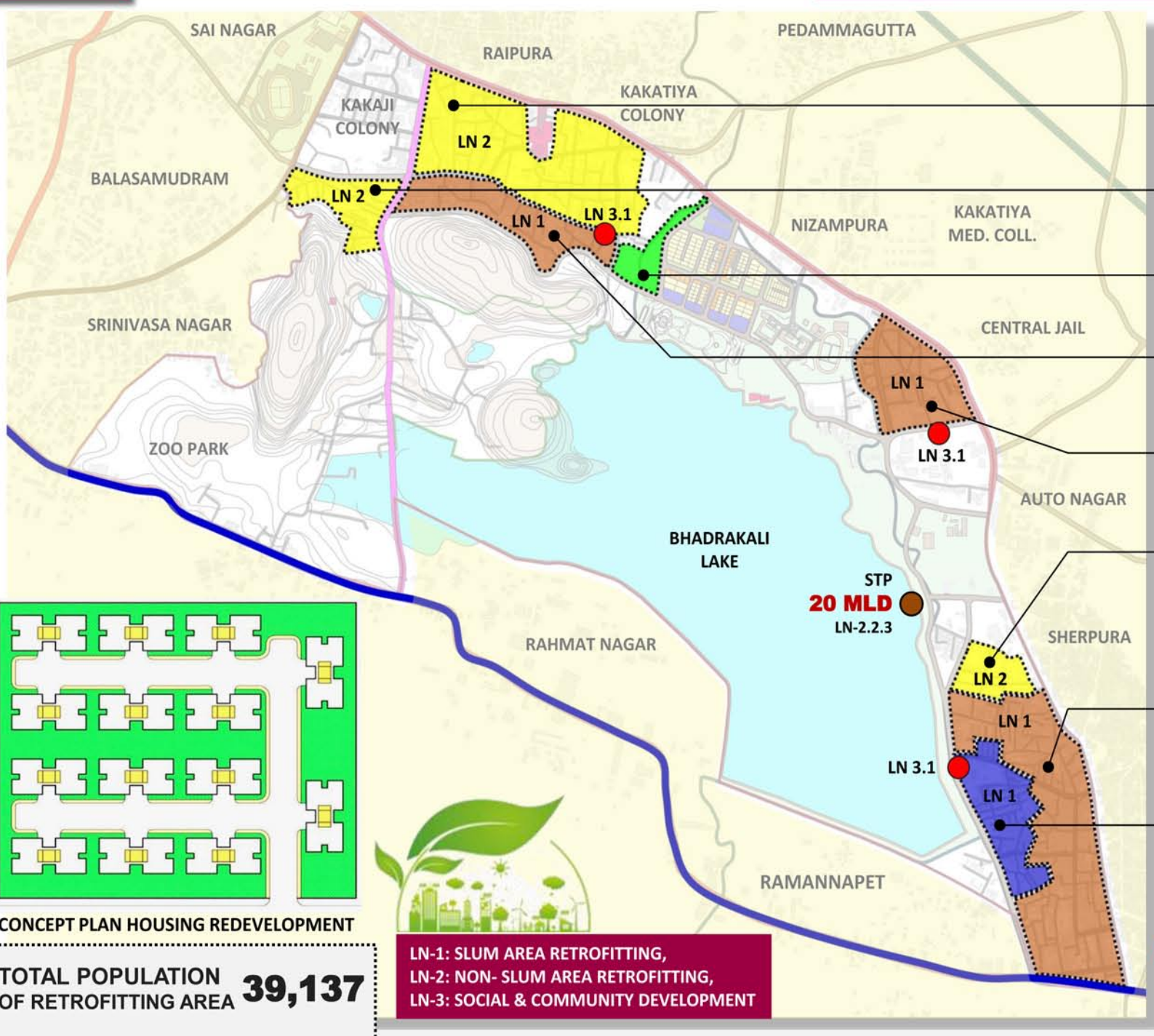
CONCEPTUAL STREET VIEWS OF E.B.D., WARANGAL



PROPOSED BUILDING USE
ALONG MAJOR ROADS IN EBD AREA

3.10 LIVABLE NEIGHBORHOODS

CONCEPT PLAN HOUSING REDEVELOPMENT



TOTAL POPULATION OF RETROFITTING AREA 39,137

SLUM POPULATION IN RETROFITTING AREA 16,586

1595 2-BEDROOM HOUSING UNITS PROPOSED

BETTER SANITATION
1,000 INDIVIDUAL &
50 PUBLICTOILETS

SKILL DEVELOPMENT CENTERS
3 NOS.

EXISTING CONNECTIONS **3936**
8,010 NEW CONNECTIONS
11,946 SMART METERS

PRESENTLY OPEN DRAINAGE SYSTEM
11,946 NEW CONNECTIONS PROPOSED, **100%** COVERAGE.

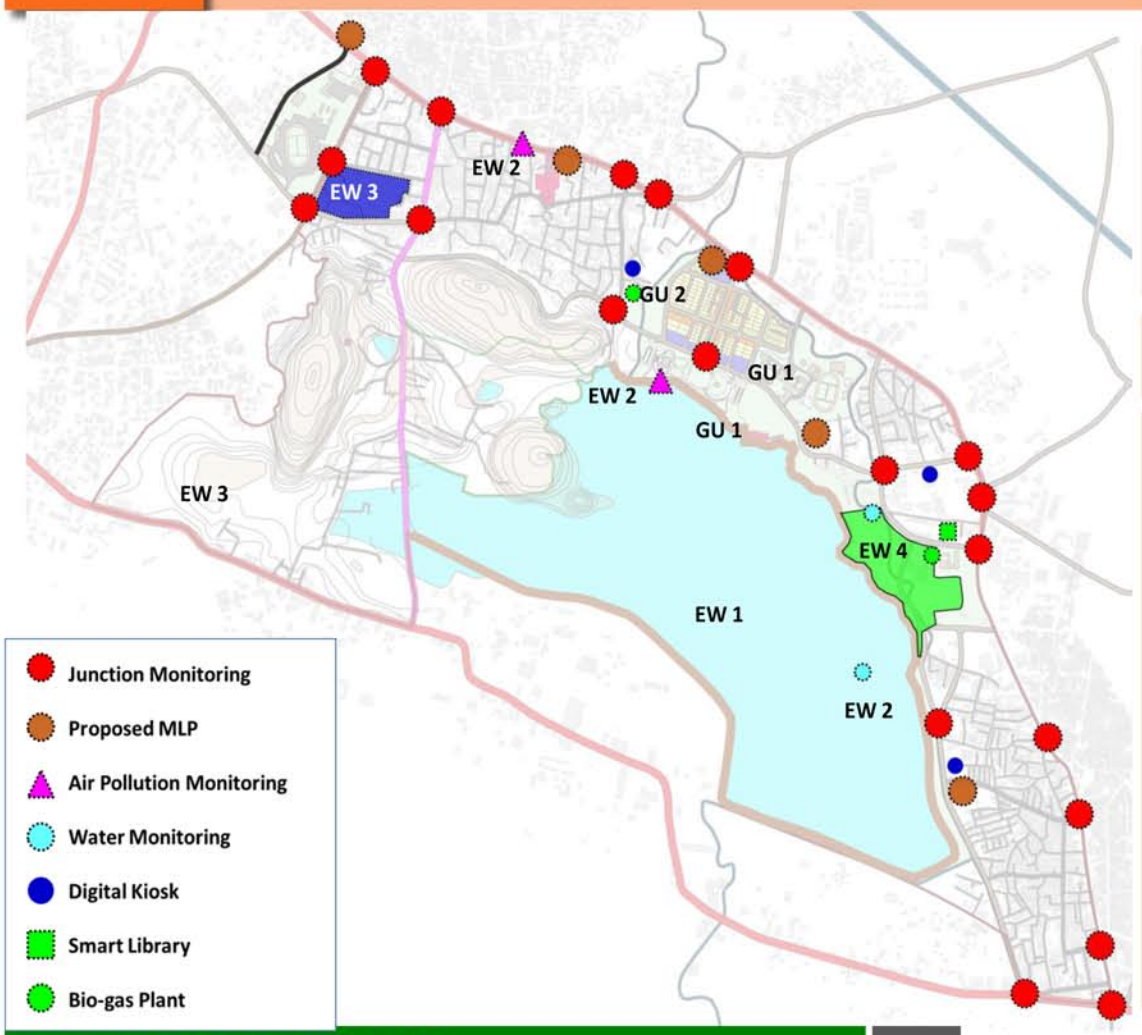
9546 SMART BINS
FOR MUNICIPAL SOLID WASTE MANAGEMENT

HOUSING AREA EXISTING SCENARIO

HOUSING REDEVELOPMENT

2-BHK FLAT SECTIONAL 3D

3.11 GREEN URBANISM, ENVIRONMENTAL WATCH & SMART CENTRAL WARANGAL



SCW

SMART INFRASTRUCTURE MONITORING

WATER SUPPLY & LEAK DETECTION

SMART BINS

SOLAR MISSION 9.9 Acres

GU 1: SOLAR MISSION
GU 2: WASTE TO ENERGY
EW 1: BHADRAKALI LAKE REGENERATION
EW 2: ENVIRONMENT QUALITY MONITORING
EW 3: RAIN WATER HARVESTING
EW 4: DEVELOPMENT OF OPEN SPACES
SW 1: SAFE & ASSURED ELECTRICITY SUPPLY
SW 2: SMART SAFETY, SURVEILLANCE & MONITORING

CCTV MONITORING OF **20 MAJOR INTERSECTIONS IN RETROFITTING AREA**

DIGITAL KIOSKS 3 Nos.

REDUCING THE DIGITAL DIVIDE

11,946 Nos.

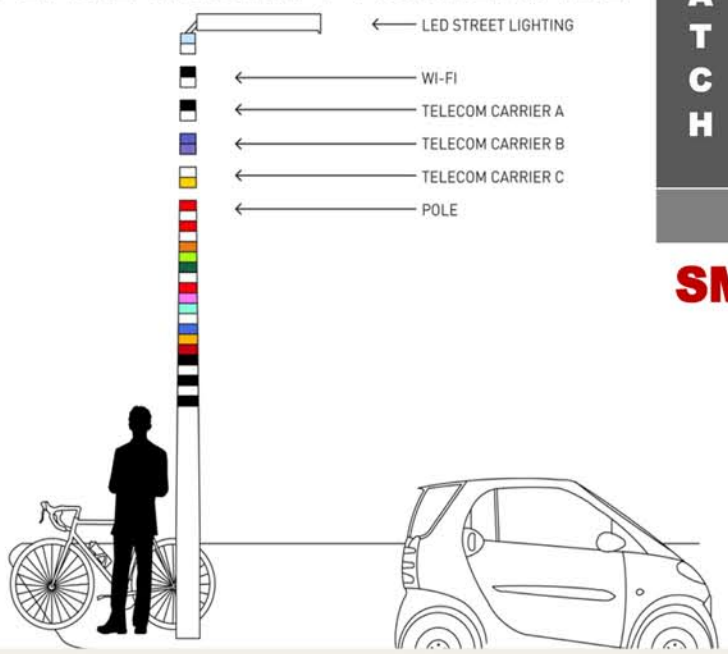
DIGITAL DOOR NUMBERING PLATES

GREEN URBANISM

0.8 Ha.
ROOFTOP PV

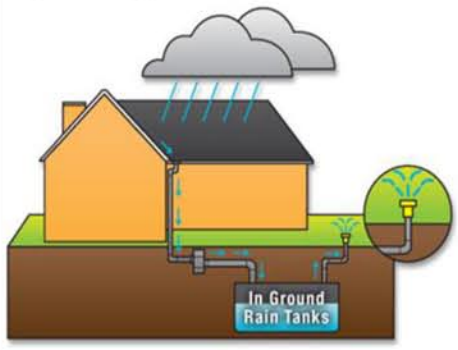
14 SOLAR UMBRELLAS
ALONG LAKE FRONT PROMENADE

WASTE TO ENERGY
2 BIO-GAS PLANTS



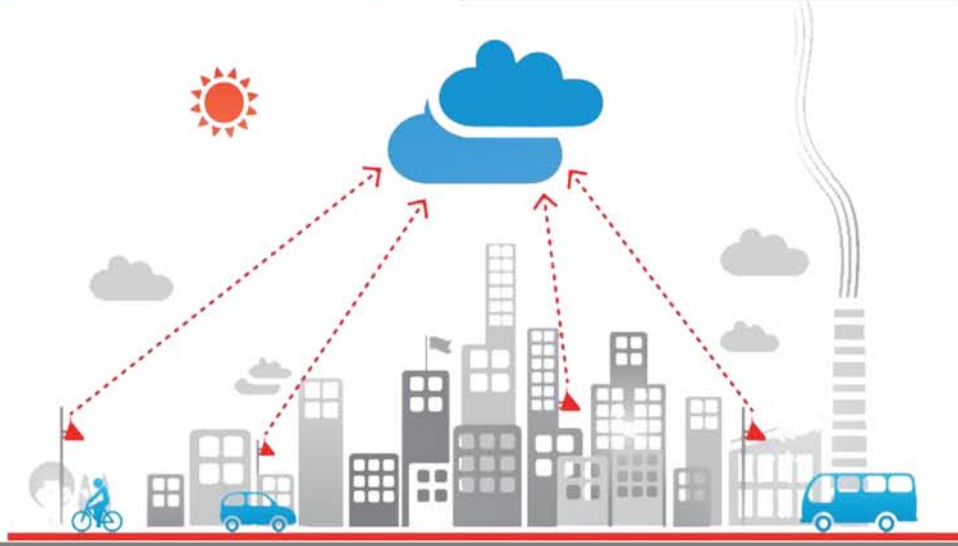
SMART POLES: 2500 NOS.

ENVIRONMENTAL WATCH



RAIN WATER HARVESTING
75.4 Ha.

WATER QUALITY MONITORING SYSTEM
2 NOS.



AIR POLLUTION MONITORING STATIONS, **02 NOS.**

SMART CENTRAL WARANGAL

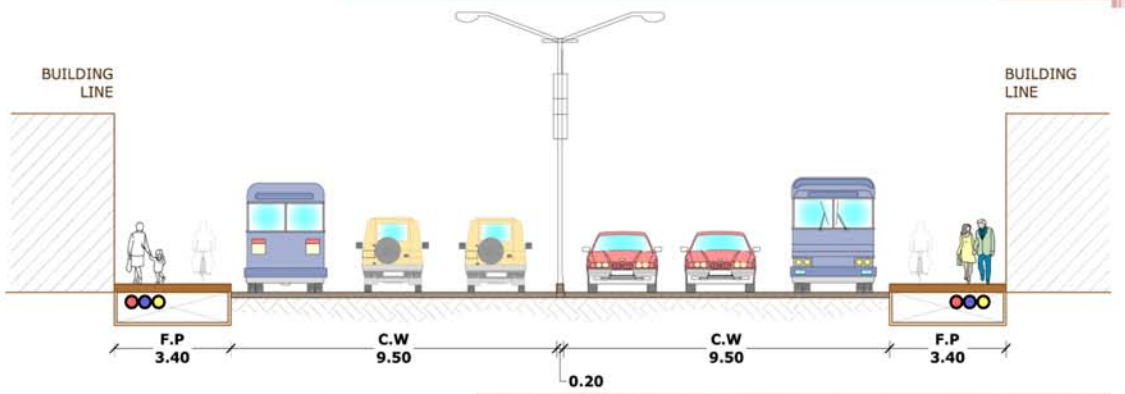
WI-FI ENABLED ZONES **55 KMS.**

SMART ELECTRIC METERS
15,000 NOS.

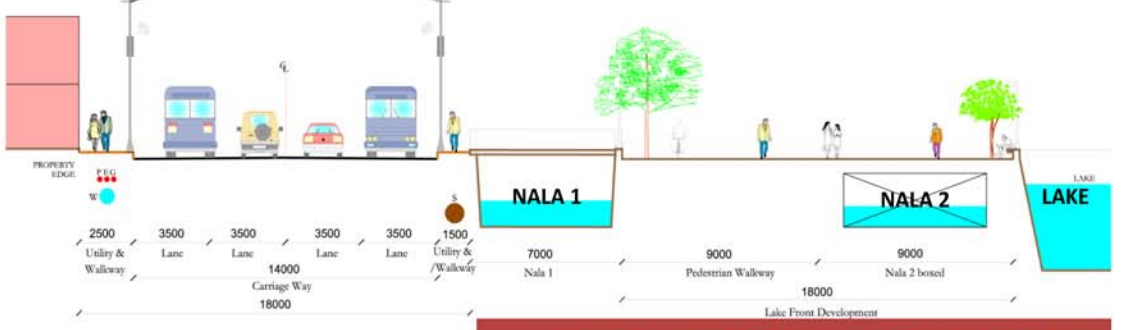
3.12 SMART MOBILITY

STRATEGIES FOR SMART MOBILITY

SM1	PUBLIC TRANSIT CORRIDOR IMPROVEMENT, Gaurav Path, Internal Public Transit Corridors, Para-Transit Connectors (14 links) & One way routes
SM2	RETROFITTING OTHER ROADS **36.3 KM**
SM3	NMT CORRIDOR ALONG NALLAH, **3KM**
SM4	TSRTC BUS STAND REDEVELOPMENT **5.34 HA**
SM5	MULTI-LEVEL PARKING **5** KEY LOCATIONS **1600 CARS**



PROPOSED CORRIDOR X-SECTION ALONG NH-163



PROPOSED CORRIDOR X-SECTION ALONG LAKE

LEGEND

SM1: PUBLIC -TRANSIT CORRIDOR IMPROVEMENT

- **SM 1.1**, GAURAV PATH **3.4 Km**
- **SM 1.2**, INTERNAL PUBLIC TRANSIT CORRIDOR **4.96 Km.**
- **SM 1.3,** PARA-TRANSIT CONNECTORS **(14 LINKS, 7.54 Km.)**
- **SM 1.4,** Public Transit & Pedestrian Priority Corridor **2.1 Km.**
- **SM 1.5,** ONE WAY PARA-TRANSIT CORRIDOR **(3Nos., 1.76 Km.)**
- **SM 2:** RETROFITTING OTHER ROADS **36.3 Km.**
- **SM 3:** NMT CORRIDOR ALONG NALLAH, **3Km**
- **SM 4:** TSRTC BUS STAND REDEVELOPMENT **5.34 Ha.**
- **SM 5:** MULTI-LEVEL PARKING 5-LOCATIONS
- **ROAD SIDE VENDORS RELOCATION**

NEW BUS-STAND ROAD

PROPOSED 1-WAY ROADS

PROPOSED INTERNAL PUBLIC-TRANSIT CORRIDOR

PROPOSED PROMENADE ALONG LAKE

PROPOSED NMT CORRIDOR

PROPOSED PARA-TRANSIT CONNECTORS (14 LINKS)

SM-5.1
SM-5.2
SM-5.3
SM-5.4
SM-5.5
SM-3
SM-1.2
SM-1.5
TSRTC SM-4
GAURAV PATH SM 1.1
GANDHI NAGAR
RAIPURA
JLN STADIUM
BALASAMUDRAM
BRAHMAN-WADA
MULUG ROAD
BALASAMUDRAM ROAD
LB COLLEGE
ZOO PARK
BHADRAKALI LAKE
AUTO NAGAR ROAD
MG ROAD
GWMC
SHERPURA
HUNTER ROAD
RAMANAPET
POTHANA ROAD

PROPOSED CONNECTIVITY HUNTER ROAD TO NEW BUS STAND ROAD

ONE-WAY PARA-TRANSIT CORRIDOR

3.13 PROPOSED PAN CITY SOLUTIONS

INTEGRATED OPERATIONS CONTROL CENTRE (IOCC)

Common City Payments & Services Platform

Common Operation Management Centre And Integrated City Incident Management System

Computing, Applications, Control, Management & Communication Infrastructure

Collaborative, Interoperable, And Scalable Environment For Applications With Rules & Workflows

City Mobility Management Platform

220 | PHYSICAL DELIVERY SERVICE POINTS

POS BASED SERVICE DELIVERY SYSTEM | UTILITY PAYMENTS | CIVIC PAYMENTS | CARD ISSUANCE | TOP UPS

150 Buses | **80+** Municipal Vehicles

VEHICLE TRACKING | AUTOMATED FARE COLLECTION SYSTEM | PLANNING, SCHEDULING & DISPATCH, DEPOT MANAGEMENT

400K | OPEN LOOP COMMON SMART CARDS

PRE-PAID SMART CARDS | MOBILE WALLETS | MOBILE BASED PAYMENT SERVICES | CARD TOPUP CHANNELS

45 Junctions | TRAFFIC MANAGEMENT

AREA TRAFFIC CONTROL SYSTEM | ADAPTIVE TRAFFIC MGMT. | WIRELESS JUNCTION CONTROLLERS, CAMERA BASED DETECTION

ONE CITY APP

CITY API AND APP PLATFORM FOR HOSTING GOVERNMENT, BUSINESS AND CITIZEN SERVICES – SERVICE CONVERGENCE

4000 Parking's | PARKING MGMT.

AREA TRAFFIC CONTROL SYSTEM | ADAPTIVE TRAFFIC MGMT. | WIRELESS JUNCTION CONTROLLERS, CAMERA BASED DETECTION

CITY PAYMENT API

CITY PAYMENT API FOR INTEGRATION WITH CITY SERVICES LIKE IPT, OTHER GOVERNMENT SERVICES – LEADING TO CITIZEN DRIVEN SERVICE INNOVATION

400 KMS | FIBRE OPTIC NETWORK

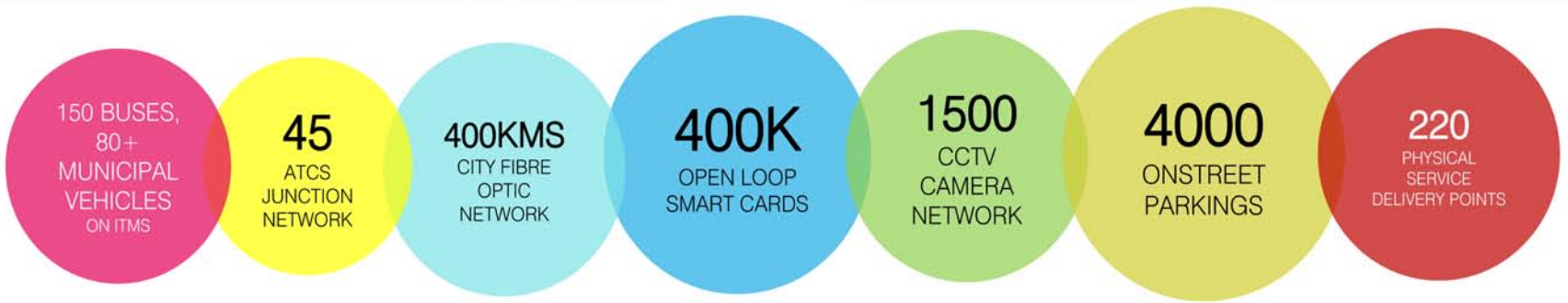
40G Metro FIBRE | 10G SUBSET RINGS | CONNECTIVITY TO ALL LOCATIONS | TRANSIT ROUTES | SURVEILLANCE SYSTEMS

BANK BASED CARD HOST & CCHS

BANK MANAGED OPEN LOOP CARD HOST SYSTEM | SECURITY INFRASTRUCTURE | MERCHANT SETTLEMENTS | DEVICE SECURITY

1500 | CCTV BASED SAFE CITY

TRANSIT SYSTEM | ROADS | BUILDINGS | PUBLIC SPACES | AMUSEMENT PARKS & IMPORTANT TOURIST DESTINATIONS



3.14 PROPOSED PAN CITY SOLUTIONS

PAN CITY SOLUTIONS LANDSCAPE

1400 CCTV Cameras

City Surveillance

Camera based Analytics and Compliance Management

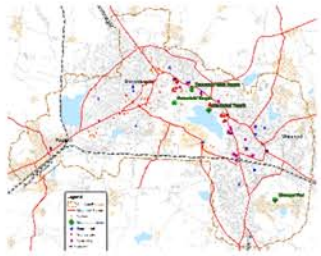
220 Service Delivery Locations

Physical POS

Mobile APP

Payments & Service Integration

City Fibre Optic Network

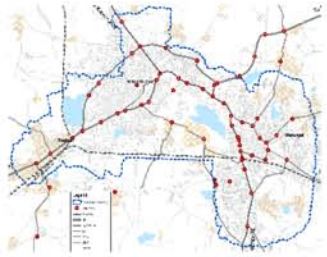


40G Core Network

10G Subset Network

Connectivity Backbone

City Traffic Network Management



45 Junctions

Adaptive TMS

Central Network Mgmt.

Transit Network

PT Automation

Common System for Municipal Operations

AUTOMATED VEHICLE TRACKING SYSTEM

AUTOMATED FARE COLLECTION SYSTEM

SCHEDULLING AND DISPATCH SYSTEM

DEPOT MANAGEMENT

ADAPTIVE TRAFFIC MANAGEMENT SYSTEM

Integrated Operations Control Centre (IOCC)

Common Communication Infrastructure

Common Applications Infrastructure

City Incident Management Platform

Common Payments Integration Platform

Common City Map Management

Common City Tracking Infrastructure

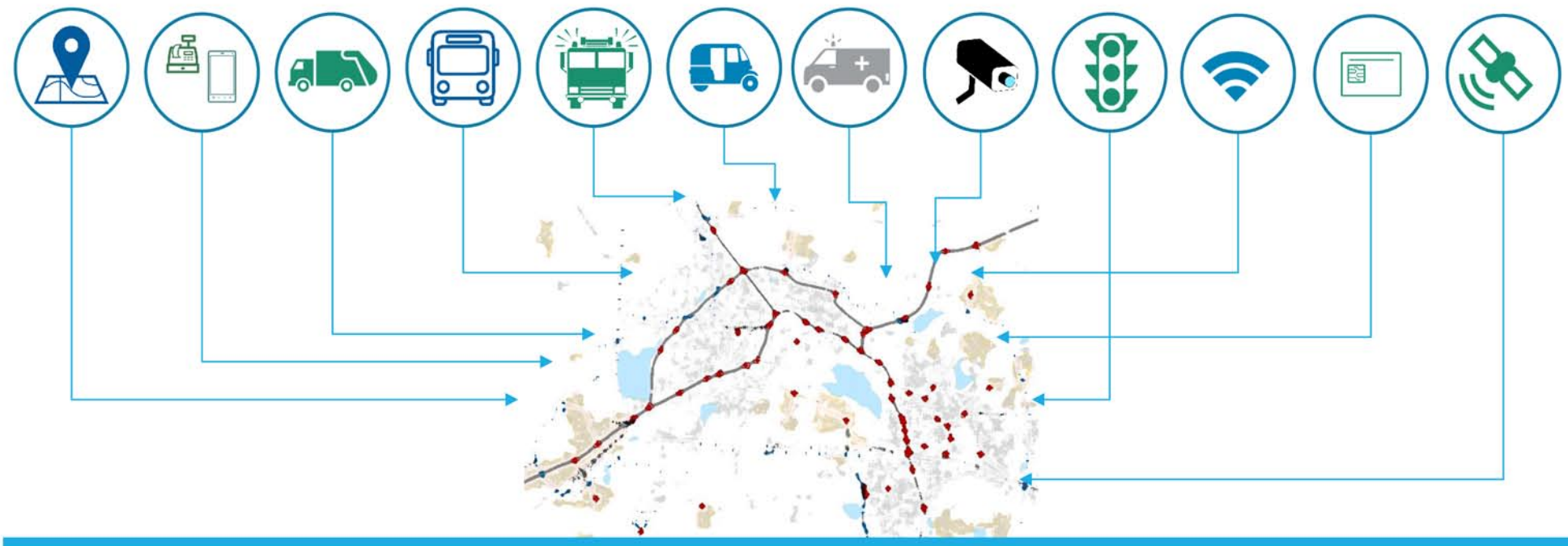
PAYMENTS INTEGRATION AND PROCESSING

VIDEO MONITORING AND ANALYTICS

FIBRE NETWORK MANAGEMENT

MOBILE APPLICATION MANAGEMENT

BILLING MANAGEMENT SYSTEM



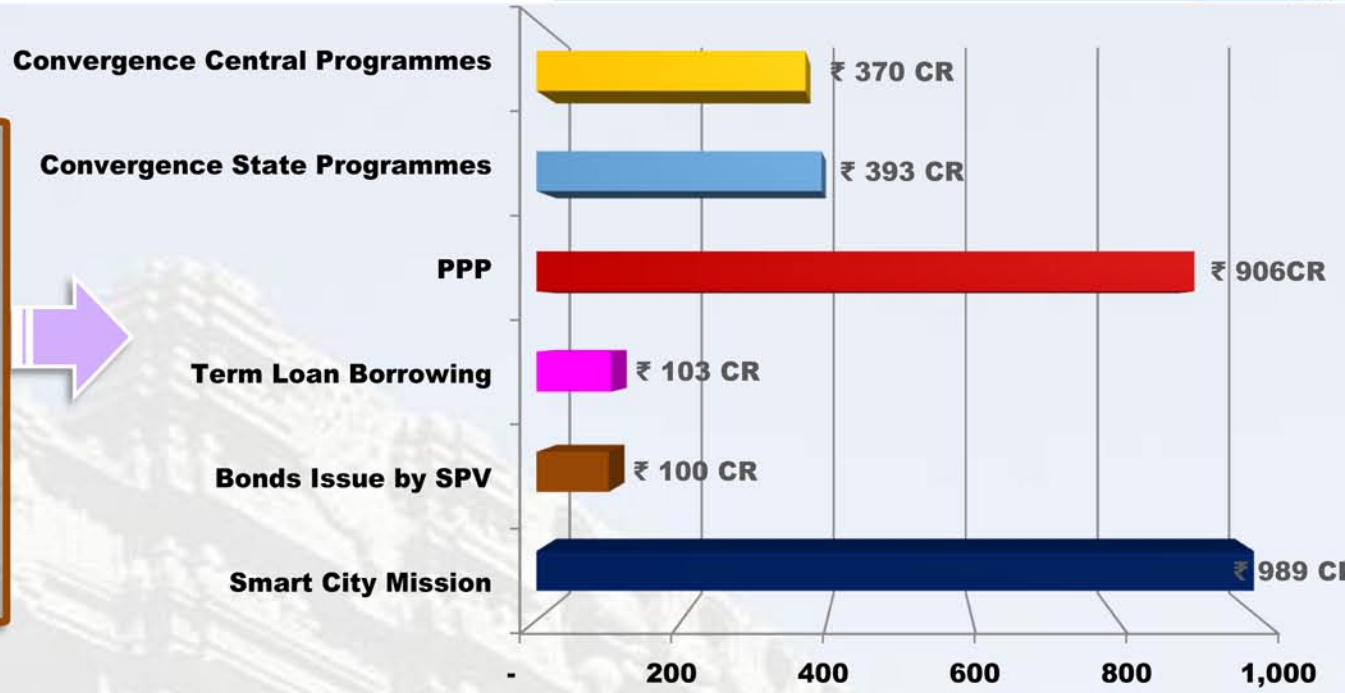
Integrated & Intelligent Service Platform across Warangal City

3.15 FINANCE PLAN ABSTRACT

Warangal Smart City Proposal

Total Project Cost

₹ 2860 CR



Area Based Development

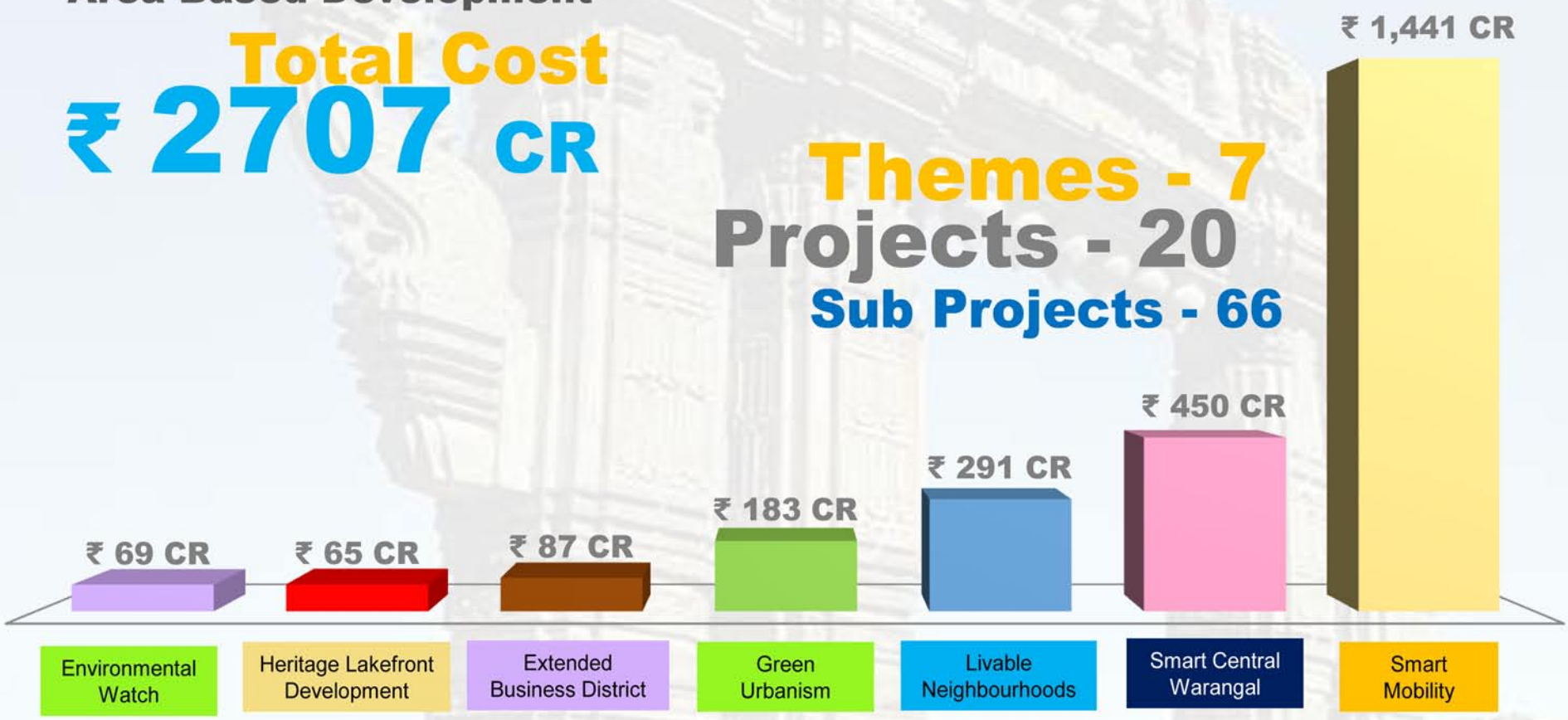
Total Cost

₹ 2707 CR

Themes - 7

Projects - 20

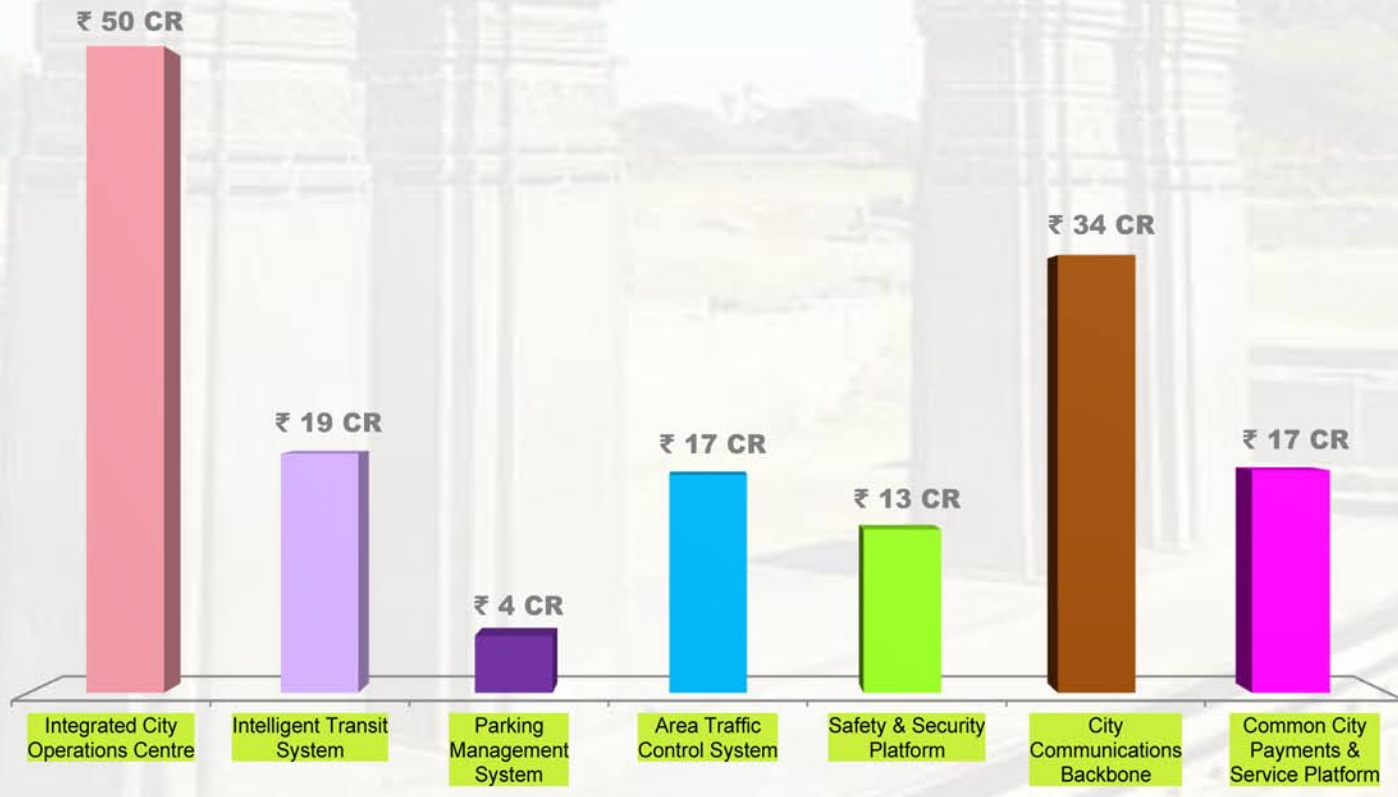
Sub Projects - 66



Pan City Proposal

Total Cost

₹ 153 CR



Components

3.16 FINANCIAL PLAN - SCP

Code	Projects	No. Of Projects	Total Cost	Expenditure					Financing													O&M		Revenue 10 Years
									Convergence							PPP	SPV Financing			Total				
				Year 1	Year 2	Year 3	Year 4	Year 5	KUDA	GoT	AMRUT	SBM	HRIDAY	NMUH	IPDS	PPP	Loan	Bond	SCM		1st Year	For 10 Years	
BL	Bhadrakali Lake Front And Recreational District	7	64.8	5.5	41.3	18.1	-		-	-	-	-	18.3	-	-		-	-	46.5	64.8	2.0	20.5	18.7
EB	Extended Business District	1	87.0	16.4	34.4	36.2	-		82.0										5.0	87.0	2.6	27.5	74.1
LN	Liveable Neighbourhoods	7	291.3	2.5	225.3	63.6	-		-	-	99.4	4.0	-	23.7	-		103.0	-	61.2	291.3	12.6	141.0	243.2
SM	Smart Mobility	5	1,441.1	-	318.4	479.9	389.0	253.8	-	282.9	-	-	-	-	-	906.3	-	-	251.9	1,441.1	15.8	162.7	3.4
GU	Green Urbanism	2	183.0	-	60.2	122.8	-		-	-	-	-	-	-	-		-	-	183.0	183.0	5.2	57.9	6.3
EW	Environmental Watch	4	69.2	10.0	19.9	32.4	6.9		-	5.5	-	-	-	-	-		-	10.0	53.7	69.2	0.3	22.6	9.8
SW	Smart Central Warangal	2	450.1	-	217.4	232.8	-		-	-	-	-	-	-	247.2		-	4.4	198.5	450.1	14.7	154.4	-
Total Area Based Development		**28**	**2,586.6**	**34.3**	**916.9**	**985.7**	**395.9**	**253.8**	**82.0**	**288.4**	**99.4**	**4.0**	**18.3**	**23.7**	**247.2**	**906.3**	**103.0**	**14.4**	**799.9**	**2586.6**	**53.2**	**586.6**	**355.4**
PC 1	Integrated City Operations Centre	1	49.8	14.2	14.9	20.8	-										-	49.8	-	**49.8**	4.6	50.6	-
PC 2	Intelligent Transit System	1	18.5	5.3	5.5	7.7	-										-	18.5	-	**18.5**	1.7	18.8	-
PC 3	Parking Management System	1	4.4	1.3	1.3	1.9	-											-	4.4	**4.4**	0.4	4.5	218.6
PC 4	Area Traffic Control System	1	16.9	4.8	5.0	7.1	-										-	16.9	-	**16.9**	1.6	17.2	-
PC 5	Safety & Security Platform	1	12.7	3.6	3.8	5.3	-											-	12.7	**12.7**	1.2	12.9	-
PC 6	City Communications Backbone	1	33.8	9.6	10.1	14.1	-											-	33.8	**33.8**	-	-	40.2
PC 7	Common City Payments & Service Platform	1	17.2	4.9	5.1	7.2	-											-	17.2	**17.2**	1.6	17.5	26.8
Total Pan City Development		7	**153.4**	**43.6**	**45.8**	**64.1**												**85.3**	**68.1**	**153.4**	**11.0**	**121.5**	**285.6**
DPR Cost		-	**120.6**	**58.8**	**61.8**														**120.6**	**120.6**			
Total Project Cost			**2,860.6**	**136.7**	**1,024.4**	**1,049.7**	**395.9**	**253.8**	**82.0**	**288.4**	**99.4**	**4.0**	**18.3**	**23.7**	**247.2**	**906.3**	**103.0**	**99.6**	**988.5**	**2,860.5**	**64.2**	**708.0**	**641.0**

3.17a FINANCIAL PLAN: AREA BASED DEVELOPMENT

	THEMES, PROJECTS & SUB-PROJECTS	TOTAL COST AT ESCALATED PRICES	EXPENDITURE – ESCALATED					CONVERGENCE							PPP	SPV FINANCING			TOTAL	O& M		REVENUE 10 YEAS
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	KUDA	STATE GOVT	AMRUT	SBM	HRIDAY	HOUSING FOR ALL	IPDS	PPP	LOAN	BOND ISSUE BY SPV	SCM		FIRST YEAR OF OPERATION	TOTAL FOR 10 YEARS	
BL	BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT																					
BL-1	HERITAGE AREA AND LAKEFRONT PROMENADE DEVELOPMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BL-1.1	IMPROVEMENT OF 1000 PILLAR TEMPLE PRECINCT	1.0	0.5	0.5	-	-	-	-	-	-	-	0.9	-	-	-	-	-	0.0	**1.0**	-	-	-
BL-1.2	IMPROVEMENT OF PADMAKSHI TEMPLE PRECINCT	2.6	-	2.6	-	-	-	-	-	-	-	2.4	-	-	-	-	-	0.1	**2.6**	-	-	-
BL-1.3	LAKE FRONT PROMENADE DEVELOPMENT - FORESHORE ROAD	15.7	5.0	5.2	5.5	-	-	-	-	-	-	14.9	-	-	-	-	-	0.8	**15.7**	-	-	-
BL-1.4	LAKE FRONT PROMENADE DEVELOPMENT - BHADAKALI TEMPLE SIDE FORESHORE ROAD	10.5	-	6.9	3.6	-	-	-	-	-	-		-	-	-	-	-	10.5	**10.5**	-	-	-
BL-2	HERITAGE AND CULTURAL TOURISM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BL-2.1	HERITAGE WALK (TOTAL LENGTH OF 5.08 KM INCLUDING EXISTING ROADS)	9.0	-	9.0	-	-	-	-	-	-	-		-	-	-	-	-	9.0	**9.0**	-	-	-
BL-2.2	LEISURE PARK	26.1	-	17.1	9.0			-	-	-	-		-	-	-	-	-	26.1	**26.1**	-	-	-
EB	EXTENDED BUSINESS DISTRICT	87.0	16.4	34.4	36.2			82.0					-	-	-	-	-	5.0	**87.0**	2.6	27.5	74.1
LN	LIVABLE NEIGHBOURHOODS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.6	141.0	243.2
LN-1	HOUSING FOR EXISTING HHS LIVING IN KACHHA & SEMI PUCCA HOUSES IN SLUM AREA	91.7	-	29.6	62.1	-	-	-	-	-	-	-	23.7	-	-	68.1	-	-	**91.7**	-	-	-
LN-2	NON-SLUM RESIDENTIAL AREAS RETROFITTING	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-	-
LN-2.1	ADEQUATE WATER SUPPLY	59.9		59.9	-	-	-	-	-	16.0	-	-	-	-	-	34.9	-	9.0	**59.9**	-	-	-
LN-2.2	SEWERAGE COLLECTION & WASTE WATER RECYCLING	125.3	-	125.3	-	-	-	-	-	83.4		-	-	-	-	-	-	41.9	**125.3**	-	-	-
LN-2.3	SANITATION	4.1	2.0	2.1	-	-	-	-	-	-	4.0	-	-	-	-	-	-	0.1	**4.1**	-	-	-
LN-2.4	SOLID WASTE MANAGEMENT	2.1	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	**2.1**	-	-	-
LN-2.5	STORM WATER DRAINAGE	2.8	-	1.4	1.4	-	-	-	-	-	-	-	-	-	-	-	-	2.8	**2.8**	-	-	-
LN-3	SOCIAL AND COMMUNITY DEVELOPMENT	5.4	0.5	5.0		-	-	-	-	-	-	-	-	-	-	-	-	5.4	**5.4**	-	-	-
SM	SMART MOBILITY					-	-	-	-	-	-	-	-	-	-	-	-			15.8	162.7	3.4
SM-1	PUBLIC TRANSIT CORRIDOR IMPROVEMENT	407.1	-	267.7	139.4				282.9	-	-	-	-	-	-	-	-	124.2	**407.1**			
SM-2	RETROFITTING OTHER ROADS, 36.3 KM	110.9	-	20.9	43.9	46.1	-	-	-	-	-	-	-	-	-	-	-	110.9	**110.9**			
SM-3	NMT CORRIDOR ALONG NALA, 3 KM	16.8			11.0	5.8	-	-	-	-	-	-	-	-	-	-	-	16.8	**16.8**			
SM-4	TSRTC BUS STAND REDEVELOPMENT	610.7			115.1	241.7	253.8	-	-	-	-	-	-	-	610.7	-	-	-	**610.7**			
SM-5	MULTI LEVEL PARKING	295.6	-	29.8	170.5	95.3	-	-	-	-	-	-	-	-	295.6	-	-	-	**295.6**			
GU	GREEN URBANISM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5.2	57.9	6.3
GU-1	SOLAR MISSION	178.7	-	58.1	120.6	-	-	-	-	-	-	-	-	-	-	-	-	178.7	**178.7**			
GU-2	WASTE TO ENERGY	4.3	-	2.1	2.2	-	-	-	-	-	-	-	-	-	-	-	-	4.3	**4.3**			
EW	ENVIRONMENTAL WATCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0.3	22.6	9.8
EW-1	BHADRAKALI LAKE REGENERATION AND CLEANING	5.5	-	1.3	2.8	1.4			5.5	-	-	-	-	-	-	-	-	-	**5.5**	-	-	-
EW-2	ENVIRONMENTAL QUALITY MONITORING STATIONS	10.0	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	**10.0**	-	-	-
EW-3	RAINWATER HARVESTING FOR ALL GOVT. OWNED INSTITUTIONAL AND OFFICE BUILDINGS	20.8	-	5.0	10.4	5.5	-	-	-	-	-	-	-	-	-	-	-	20.8	**20.8**	-	-	-
EW-4	DEVELOPMENT OF OPEN SPACES IN RETROFITTING AREA	32.9	-	13.6	19.3	-	-	-	-	-	-	-	-	-	-	-	-	32.9	**32.9**	-	-	-
SW	SMART CENTRAL WARANGAL					-	-	-	-	-	-	-	-	-	-	-	-			14.7	154.4	-
SW-1	SAFE AND ASSURED ELECTRICITY SUPPLY	443.6	-	213.7	229.9	-	-	-	-	-	-	-	-	247.2	-	-	4.4	192.0	**443.6**	-	-	-
SW-2	SMART SAFETY, SURVEILLANCE & MONITORING	6.5	-	3.7	2.9	-	-	-	-	-	-	-	-	-	-	-	-	6.5	**6.5**	-	-	-
DPR COST		**120.6**	**58.8**	**61.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	**120.6**	**120.6**	-	-	-
TOTAL AREA BASED DEVELOPMENT		**2,707.2**	**93.1**	**978.7**	**985.7**	**395.9**	**253.8**	**82.0**	**288.4**	**99.4**	**4.0**	**18.3**	**23.7**	**247.2**	**906.3**	**103.0**	**14.4**	**920.5**	**2,707.2**	**53.2**	**586.6**	**355.4**

3.17b FINANCIAL PLAN: PAN-CITY INITIATIVE

PAN CITY INITIATIVES			CONSTANT PRICES
Sr. No.	PAN CITY ITS COMPONENT		TOTAL COST (IN CR)
1	**Integrated City Operations Centre**		
1.01	Data Centre Construction		5.00
1.02	Server Infrastructure		4.50
1.03	Network Infrastructure		2.00
1.04	System Softwares		4.00
1.05	Communication System		1.00
1.06	Video Walls		3.75
1.07	Operations Consoles		0.45
1.08	Security System		1.50
1.09	Storage System		3.00
1.10	Disaster Recovery Centre Construction		2.00
1.11	DR ITS Cost		10.00
1.12	IT Peripherals Like Printers, Scanners etc.		1.00
1.13	UPS & Gen-sets		1.00
1.14	Incident Management System		2
1.15	Business Intelligence System		3.00
1.16	EMS / NMS		2.00
1.17	Parking Management Software		1.00
		Sub-Total COST	*47.20 (49.84 escalated Cost)*
2	**Intelligent Transit System**		
2.01	Automated Fare Collection System		1.50
2.02	Automated Vehicle Location System		2.00
2.03	Passenger Information System		1.50
2.04	Planning & Scheduling System		2.00
2.05	Depot Management System		1.50
2.06	Ticketing Handheld Device		0.99
2.07	Smart Card Bus Validators		2.70
2.08	Station PIS Display		0.20
2.09	Bus Camera based Surveillance		0.90
2.10	Vehicle Tracking Unit - Buses		2.25
2.11	Vehicle Tracking Unit - Municipal Vehicles (Solid Waste, Engineering, Official etc.)		0.32
2.12	Vehicle Tracking Units - Fire Trucks		0.45
2.13	Vehicle Tracking Unit - Ambulance		0.90
2.14	Depot & Terminal Hardware		0.20
2.15	Other Recreational Ticketing systems		0.15
		Sub-Total COST	*17.56 (18.54 escalated Cost)*
3	**Parking Management System**		
3.01	On-street Parking Sensors		2.00
3.02	Wireless Aggregator		1.00
3.03	Ticketing Handheld Device		1.20
		Sub-Total COST	*4.20 (4.44 escalated Cost)*
4	**Area Traffic Control System**		
4.01	Adaptive Traffic Management System		2.50
4.02	Junction Controllers		9.00
4.03	Traveler Information Displays		1.80
4.04	Speed violation Detection System		0.90
4.05	Junction Violation Detection System		1.80
		Sub-Total COST	*16.00 (16.90 escalated Cost)*
5	**Safety & Security Platform**		
5.01	CCTV Cameras (Per Sq Km 15 Cameras)		9.00
5.02	Civil Work and Poles		0.75
5.03	Network etc.		2.25
		Sub-Total COST	*12.00 (12.67 escalated Cost)*
6	**City Communications Backbone**		
6.01	96 Core + 48 Core + 12 Core Fiber		6.00
6.02	Active Network elements etc.		26.00
		Sub-Total COST	32.00 *(33.79 escalated Cost)*
7	**Common City Payments & Service Platform**		
7.01	Service Delivery Points (every 500 Mts.)		1.76
7.02	Communication Units		0.07
7.03	One App Mobile Platform		5.00
7.04	EMV / Rupay Card		2.00
7.05	Bank Card Host System		2.50
7.06	Service Applications		4.00
7.07	Mobile Wallet Integration		1.00
		Sub-Total COST	*16.33 (17.24 escalated Cost)*
		TOTAL COST	145.29 *(153.42 escalated Cost)*

3.18 a O & M AND REVENUES OF SPV

	THEME, PROJECTS & SUB-PROJECTS	TOTAL COST AT ESCALATED PRICES	O&M		Revenue						
			ANNUAL O&M COST (%)	ANNUAL O&M COST	Revenue 1	AMOUNT	REVENUE 2	AMOUNT	REVENUE 3	AMOUNT	TOTAL
BL	**BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT**										
BL-1	Heritage Area and Lakefront Promenade Development	29.7	2.5%	0.7	ENTRY FEE FROM VISITORS TO HERITAGE AREA AND LAKE FRONT	0.5	RENTAL FROM SHOPS	0.1	-	-	0.6
BL-2	Heritage and Cultural Tourism	35.1	2.5%	0.9	ENTRY FEE FROM VISITORS TO LEISURE PARK AND THE BOATING IN LAKE	0.8	-	-	-	-	0.8
EB	EXTENDED BUSINESS DISTRICT	87.0	2.5%	2.2	SALE OF DEVELOPED LAND	8.8					8.8
LN	LIVABLE NEIGHBOURHOODS										
LN-1	Housing for existing HHs living in Kachha & Semi Pucca Houses in slum area	91.7	2.5%	2.3	-		-	-	-	-	-
LN-2	Non-Slum Residential Areas Retrofitting				-		-	-	-	-	-
LN-2.1	Adequate Water Supply	59.9	2.5%	1.5	CONNECTION CHARGES	8.0	WATER CHARGES	1.8			9.8
LN-2.2	Sewerage Collection & Waste water recycling	125.3	2.5%	3.1	CONNECTION CHARGES	12.0	SEWAGE CHARGES	1.3	SALE OF RECYCLED WASTE WATER	11.0	24.3
LN-2.3	Sanitation	4.1	2.5%	0.1	USER FEE	1.1	-	-	-	-	1.1
LN-2.4	Solid Waste Management	2.1	2.5%	0.1	-		-	-	-	-	-
LN-2.5	Storm Water Drainage	2.8	2.5%	0.1	-		-	-	-	-	-
LN-3	Social and Community Development	5.4	2.5%	0.1	-		-	-	-	-	-
SM	SMART MOBILITY										
SM-1	Public Transit Corridor Improvement	407.1	2.5%	10.2	ADVERTISEMENT CHARGES	0.3	-	-	-	-	0.3
SM-2	Retrofitting Other roads, 36.3 km	110.9	2.5%	2.8	-		-	-	-	-	
SM-3	NMT Corridor along Nala, 3 km	16.8	2.5%	0.4	-		-	-	-	-	
SM-4	TSRTC Bus Stand Redevelopment	610.7	2.5%	15.3	BUS/CAR PARK CHARGES AND RENTAL FROM SHOPS	88.2	-	-	-	-	88.2
SM-5	Multi Level Parking	295.6	0.5%	1.5	CAR PARK CHARGES AND RENTAL FROM SHOPS	17.5	-	-	-	-	17.5
GU	GREEN URBANISM						-	-	-	-	
GU-1	Solar Mission	178.7	2.5%	4.5	SALE OF SURPLUS OF POWER	0.5	-	-	-	-	0.5
GU-2	Waste to Energy	4.3	5.0%	0.2	-		-	-	-	-	
EW	ENVIRONMENTAL WATCH				-		-	-	-	-	
EW-1	Bhadrakali Lake Regeneration and cleaning	5.5	5.0%	0.3	-		-	-	-	-	
EW-2	Environmental quality monitoring Stations	10.0	2.5%	0.3	-		-	-	-	-	
EW-3	Rainwater Harvesting for all Govt. Owned Institutional and Office Buildings	20.8	2.5%	0.5	-		-	-	-	-	
EW-4	Development of Open Spaces in Retrofitting Area	32.9	2.5%	0.8	ENTRY FEES FROM VISITORS	0.7	-	-	-	-	0.7
SW	SMART CENTRAL WARANGAL						-	-	-	-	
SW-1	Safe and Assured Electricity Supply	443.6	2.5%	11.1	-		-	-	-	-	
SW-2	Smart Safety, Surveillance & Monitoring	6.5	20.0%	1.3	-		-	-	-	-	
	DPR COSTS	120.6									
	TOTAL AREA BASED DEVELOPMENT	2,707.2		60.1	-		-	-	-	-	
	PAN CITY PROJECTS										
PC 1	Integrated City Operations Centre	49.8	8.0%	4.0	-		-	-	-	-	
PC 2	Intelligent Transit System	18.5	8.0%	1.5	COLLECTION OF PARKING CHARGES		-	-	-	-	2.6
PC 3	Parking Management System	4.4	8.0%	0.4	-	2.6	-	-	-	-	
PC 4	Area Traffic Control System	16.9	8.0%	1.4	-		-	-	-	-	
PC 5	Safety & Security Platform	12.7	8.0%	1.0	USER FEES FOR CABLE NETWORK		-	-	-	-	3.0
PC 6	City Communications Backbone	33.8	0.0%	-	ROYALTY FOR PAYMENT GATEWAY	3.0	-	-	-	-	2.0
PC 7	Common City Payments & Service Platform	17.2	8.0%	1.4	-	2.0	-	-	-	-	
	TOTAL PAN CITY DEVELOPMENT	**153.4**		**9.6**	-		-	-	-	-	
	GRAND TOTAL	**2,860.6**		**69.7**		**146**		**3.2**		**11.0**	**160.1**

3.18 b CASH FLOW STATEMENT - SPV

	CONVERGENCE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	TOTAL
CAPITAL CONTRIBUTION AND SMART CITY GRANT														
GOVERNMENT OF INDIA		194	98	98	98									488.00
GOVERNMENT OF TELENGANA		180	90	90	90									450.00
GREATER WARANGAL MUNICIPAL CORPORATION		20	10	10	10									50.00
OTHER SOURCES OF BORROIWNG BY SPV														
LOAN FROM BANK				102.99										102.99
ISSUE OF BONDS				99.65										99.65
CONVERGENCE FUNDING														
BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT	HRIDAY	9.1	9.1											18.33
EXTENDED BUSINESS DISTRICT	KUDA	16.4	32.8	32.80										82.00
LIVABLE NEIGHBOURHOODS	HOUSING FOR ALL		7.8	15.78										23.67
LIVABLE NEIGHBOURHOODS	AMRUT		33.1	66.28										99.43
LIVABLE NEIGHBOURHOODS	SWACHH BHARAT MISSION	2.0	2.0											4.00
SMART MOBILITY	GOVT. OF TELENGANA		94.3	188.59										282.89
SMART MOBILITY	PPP		302.1	604.20										906.30
ENVIRONMENTAL WATCH	GOVT. OF TELENGANA	2.7	2.7											5.52
SMART CENTRAL WARANGAL	IPDS	-	82.4	164.82										247.23
OPERATING REVENUES														
BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT					1.70	1.78	1.87	1.97	2.06	2.17	2.28	2.39	2.51	18.73
EXTENDED BUSINESS DISTRICT					13.41	14.08	14.79	15.52	16.30					74.10
LIVABLE NEIGHBOURHOODS				40.65	18.37	19.29	20.25	21.26	22.33	23.44	24.61	25.84	27.14	243.18
SMART MOBILITY					0.30	0.32	0.34	0.35	0.37	0.39	0.41	0.43	0.45	3.35
GREEN URBANISM					-	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	6.27
ENVIRONMENTAL WATCH					0.89	0.93	0.98	1.03	1.08	1.13	1.19	1.25	1.31	9.78
SMART CENTRAL WARANGAL														
PAN CITY INITIATIVE					16.73	23.15	30.18	31.69	33.27	34.94	36.68	38.52	40.44	285.59
INCREMENTAL PROPERTY TAX INCOME			19	19.95	20.95	21.99	23.09	24.25	25.46	26.73	28.07	29.48	30.95	269.93
INCREMENTAL DEVELOPMENT FEES			10	10.50	11.03	11.58	12.16	12.76	13.40	14.07	14.77	15.51	16.29	142.07
TOTAL REVENUE			**29.00**	**71.10**	**83.37**	**93.78**	**104.34**	**109.56**	**115.03**	**103.67**	**108.85**	**114.30**	**120.01**	**3,913.00**
TOTAL INFLOW		**424.32**	**793.56**	**1,544.21**	**281.37**	**93.78**	**104.34**	**109.56**	**115.03**	**103.67**	**108.85**	**114.30**	**120.01**	
CAPITAL EXPENDITURE -AREA BASED DEVELOPMENT														
BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT		64.8	5.45	41.28	18.09									64.82
EXTENDED BUSINESS DISTRICT		87.0	16.40	34.44	36.16									87.00
LIVABLE NEIGHBOURHOODS		291.3	2.45	225.30	63.58									291.33
SMART MOBILITY		1,441.1		318.40	479.89	388.97	253.84							1,441.10
GREEN URBANISM		183.0		60.24	122.76									183.00
ENVIRONMENTAL WATCH		69.2	10.00	19.88	32.43	6.90								69.21
SMART CENTRAL WARANGAL		450.1		217.39	232.75									450.14
PAN CITY INITIATIVE		153.4	43.59	45.77	64.07									153.42
DPR COSTS		120.5	58.81	61.75										120.56
TOTAL CAPITAL EXPENDITURE		**2,860.5**	**136.70**	**1,024.44**	**1,049.74**	**395.88**	**253.84**							2,860.59
OPERATION AND MAINTENANCE EXPENDITURE														
BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT				-	1.86	1.95	2.05	2.15	2.26	2.37	2.49	2.62	2.75	20.50
EXTENDED BUSINESS DISTRICT				-	2.49	2.62	2.75	2.88	3.03	3.18	3.34	3.51	3.68	27.48
LIVABLE NEIGHBOURHOODS				8.96	11.97	12.57	13.20	13.86	14.55	15.28	16.04	16.85	17.69	140.97
SMART MOBILITY				-	11.59	15.82	16.61	17.45	18.32	19.23	20.20	21.20	22.27	162.69
GREEN URBANISM				-	5.25	5.51	5.79	6.08	6.38	6.70	7.03	7.39	7.75	57.87
ENVIRONMENTAL WATCH				0.29	1.23	2.21	2.32	2.44	2.56	2.69	2.82	2.96	3.11	22.64
SMART CENTRAL WARANGAL				-	14.00	14.70	15.44	16.21	17.02	17.87	18.77	19.71	20.69	154.42
PAN CITY INITIATIVE				-	11.02	11.57	12.15	12.75	13.39	14.06	14.76	15.50	16.28	121.47
TOTAL OPERATING EXPENDITURE				**9.25**	**59.41**	**66.96**	**70.30**	**73.82**	**77.51**	**81.39**	**85.46**	**89.73**	**94.22**	**708.03**
DEBT SERVICE LIABILITEIS														
REPAYMENT OF LOAN						**10.30**	**10.30**	**10.30**	**10.30**	**10.30**	**10.30**	**10.30**	**10.30**	82.39
REDEMPTION OF BONDS										**19.93**	**19.93**	**19.93**	**19.93**	79.72
INTEREST PAYMENT					**18.24**	**18.24**	**17.31**	**16.38**	**15.46**	**14.53**	**11.81**	**9.09**	**6.37**	127.42
TOTAL DEBT SERVICE					**18.24**	**28.54**	**27.61**	**26.68**	**25.76**	**44.76**	**42.04**	**39.32**	**36.60**	289.53
TOTAL OUTFLOW		**136.70**	**1,024.44**	**1,058.98**	**473.52**	**349.33**	**97.91**	**100.50**	**103.27**	**126.14**	**127.49**	**129.05**	**130.81**	**3,858.15**
OPENING BALANCE OF CASH		0	287.62	56.74	541.97	349.81	94.27	100.69	109.75	121.51	99.04	80.40	65.65	
CASH SURPLUS/(DEFICIT)		287.62	(230.88)	485.23	(192.16)	(255.55)	6.43	9.05	11.77	(22.47)	(18.64)	(14.75)	(10.80)	
CLOSING BALANCE OF CASH		287.62	56.74	541.97	349.81	94.27	100.69	109.75	121.51	99.04	80.40	65.65	54.85	

3.18 C PPP

FINANCIAL ANALYSIS OF TSRTC BUS STAND REDEVELOPMENT - PUBLIC PRIVATE PARTNERSHIP

	YEAR																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
INVESTMENT			(115.1)	(241.7)	(253.8)															
O&M CHARGES						(17.5)	(18.4)	(19.3)	(20.2)	(21.3)	(22.3)	(23.4)	(24.6)	(25.8)	(27.1)	(28.5)	(29.9)	(31.4)	(33.0)	(34.6)
REVENUE						118.2	124.1	130.3	136.8	143.6	150.8	158.3	166.3	174.6	183.3	192.5	202.1	212.2	222.8	233.9
NET CASH FLOW			(115.1)	(241.7)	(253.8)	100.7	105.7	111.0	116.5	122.4	128.5	134.9	141.6	148.7	156.2	164.0	172.2	180.8	189.8	199.3
PROJECT IRR	16%																			

FINANCIAL ANALYSIS OF MULTI-STOREYED CAR PARK DEVELOPMENT - PUBLIC PRIVATE PARTNERSHIP

	YEAR																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
INVESTMENT		(29.8)	(170.5)	(95.3)																
O&M CHARGES				(0.6)	(1.7)	(1.8)	(1.9)	(2.0)	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)	(2.8)	(2.9)	(3.0)	(3.2)	(3.4)	(3.5)
REVENUE				7.3	19.2	40.4	50.9	66.8	74.8	88.3	103.0	108.2	113.6	119.3	125.2	131.5	138.1	145.0	152.2	159.8
NET CASH FLOW		(29.8)	(170.5)	(88.7)	17.5	38.6	49.0	64.8	72.7	86.2	100.8	105.8	111.1	116.7	122.5	128.6	135.0	141.8	148.9	156.3
PROJECT IRR	16%																			

3.19 IMPLEMENTATION SCHEDULE

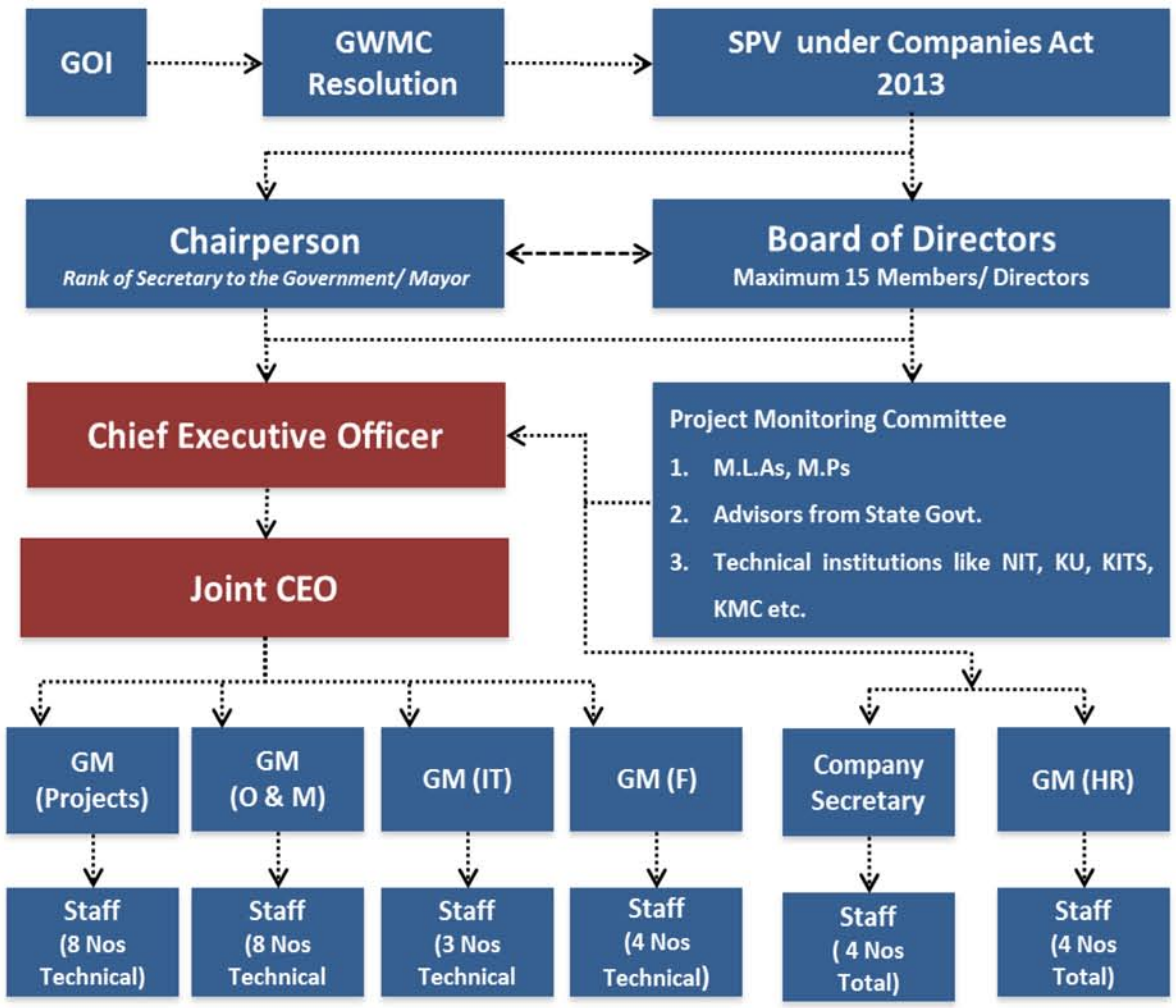
Projects and Sub Projects		2016-17	2017-18	2018-19	2019-20	2020-21
PR	**SETTING UP OF SPV**					
DP	**PREPARATION OF DPR**					
BL	**BHADRAKALI LAKE FRONT AND RECREATIONAL DISTRICT**					
BL-1	**Heritage Area and Lakefront Promenade Development**					
BL-1.1	Improvement of 1000 Pillar Temple precinct					
BL-1.2	Improvement of Padmakshi Temple precinct					
BL-1.3	Lake Front Promenade Development - Foreshore road					
BL-1.4	Lake Front Promenade Development - Bhadakali Temple side foreshore road					
BL-2	**Heritage and Cultural Tourism**					
BL-2.1	Heritage walk					
BL-2.2	Leisure Park					
BL-2.3	Lake Tourism Project					
EB	**EXTENDED BUSINESS DISTRICT**					
EB-1	**Site Development for Corporate/Business Start-up Offices**					
EB-2	**Development of Infrastructure Facilities**					
LN	**LIVABLE NEIGHBOURHOODS**					
LN-1	**Slum Areas Retrofitting**					
LN-1.1	Housing for existing HHs Kachha to Pucca Houses in slums					
LN-2	**Non-Slum Residential Areas Retrofitting**					
LN-2.1	Adequate Water Supply					
LN-2.2	Sewerage					
LN-2.3	Sanitation					
LN-2.4	Solid Waste Management					
LN-2.5	Storm Water Drainage					
LN-3	**Social and Community Development**					
LN-3.1	Skill Development Centres					
LN-3.2	Bridging Digital Divide (E-seva Centre)					
LN-3.3	Upgradation of Schools and Colleges					
LN-3.4	E-Counselling centre for students					
LN-3.5	Construction of Smart Library					
SM	**SMART MOBILITY**					
SM-1	**Public Transit Corridor Improvement**					
SM-1.1	Gaurav Path (Main City Spine Retrofitting)					
SM-1.2	Internal Public Transit Corridor					
SM-1.3	Para Transit Connectors (13 links)					
SM-1.4	Public Transit and pedestrian Priority corridor, 2.1 km					
SM-1.5	One way Para Transit Corridors					
SM-2	**Retrofitting Other roads, 36.3 km**					
SM-3	**NMT Corridor along Nala, 3 km**					
SM-4	**TSRTC Bus Stand Redevelopment**					
SM-5	**Multi-level Parking**					
SM-5.1	Parking Area Development at Hanamkonda Chowrasta					
SM-5.2	Parking Area Development Near 1000 Pillar Temple					
SM-5.3	Parking Area Development within EBD					
SM-5.4	Parking Area Development Bhadrakali Temple					
SM-5.5	Parking Area Development at Pothana Road					
GU	**GREEN URBANISM**					
GU-1	**Solar Mission**					
GU-1.2	Solar Street Lights					
GU-1.3	Solar Umbrellas					
GU-2	**Waste to Energy**					
GU-2.1	Waste to energy plant from Municipal solid waste					
EW	**ENVIRONMENTAL WATCH**					
EW-1	**Bhadrakali Lake Regeneration and cleaning**					
EW-2	**Environmental quality monitoring Stations**					
EW-3	**Rainwater Harvesting for all Govt. Owned Complexes**					
EW-4	**Development of Open Spaces in Retrofitting Area**					
EW-4.1	Along the Pothana Road					
EW-4.2	Along the Pothana Road					
EW-4.3	Area adjancent to GWMC Office					
EW-4.4	Muscial Garden					
SW	**SMART CENTRAL WARANGAL**					
SW-1	**Safe and Assured Electricity Supply**					
SW-1.1	Underground Electric Cabling					
SW-1.2	Underground Electric Cabling					
SW-1.3	Underground Electric Cabling					
SW-1.4	Shifting and Beautification of DTRs					
SW-1.5	Smart Electric Meters					
SW-1.6	Smart Electric Meters					
SW-2	**Smart Safety, Surveillance & Monitoring**					
SW-2.1	WIFI Enable Zone					
SW-2.2	Survellence and city Services Monitoring System					

3.19a FINANCIAL TIMELINE (Q-42)

SOURCE	ACTIVITY	TIMELINE
1. Formation of SPV and receipt of contributions under Smart City Mission	1. Formation of SPV, Nomination of Directors, Recruitment of Staff 2. Initial Promoters' Equity Contribution 3. First Installment of GoI Grant and matching contribution from Government of Telangana and GWMC 4. Last Installment of GoI Grant and matching contribution of Government of Telangana and GWMC	1. Year 1 (soon after GOI selection of Warangal as Smart City) 2. Year 1 3. Year 1 4. Year 4
2. Government of India funds under Convergence schemes	1 (a) Bhadrakali Lakefront and Recreational District - DPR Submission, and Sanction under HRIDAY scheme 1 (b) Bhadrakali Lakefront - Receipt of first instalment (HRIDAY) 1 (c) Bhadrakali Lakefront – Receipt of second instalment	1 (a) Year 1, First Half 1 (b) Year 1, Second half 1 (c) Year 2, Second half
	2 (a) Livable Neighbourhoods - DPR submission and sanction under PMAY (Housing for All) and AMRUT 2 (b) Livable neighbourhoods (PMAY and AMRUT) -receipt of grant (1st instalment) 2 (c) Livable neighbourhoods (PMAY and AMRUT) – receipt of grant (2nd instalment)	2 (a) Year 2, First half 2 (b) Year 2 - Second half 2 (c) Year 3 – Second half
	3 (a) Livable neighbourhoods – Swachh Bharat Mission – DPR submission and sanction of funds 3 (b) Livable neighbourhoods – Swachh Bharat Mission – receipt of funds (1st instalment) 3 (c) Livable neighbourhoods – Swachh Bharat Mission – receipt of funds (2nd instalment)	3 (a) Year 1, First half 3 (b) Year 1, Second half 3 (c) Year 2, Second half
	4 (a) Smart Central Warangal – Submission of DPR and sanction of funds under IPDS 4 (b) Smart Central Warangal – receipt of funds (1st instalment) under IPDS 4 (c) Smart Central Warangal – receipt of funds (2nd instalment) under IPDS	4 (a) Year 2, First half 4 (b) Year 2, Second half 4 (c) Year 3, Second half
3.Government of Telangana funds under convergence schemes	1 (a) Extended Business District – submission of DPR and sanction of funds by KUDA 1 (b) Extended Business District – receipt of 1st instalment from KUDA 1 (c) Extended Business District – receipt of 2nd and 3rd instalments from KUDA 2 (a) Smart Mobility – Submission of DPR and receipt of sanction for Gaurav Path from Government of Telangana 2 (b) Smart Mobility – Receipt of funds – 1st instalment 2 (c) Smart Mobility – Receipt of funds – 2nd instalment 3 (a) – Environmental Watch – Submission of DPR and receipt of sanction from GOT 3 (b) – Environmental Watch – receipt of 1st instalment 3 (c) – Environmental Watch – receipt of 2nd instalment	1 (a) Year 1, First half 1 (b) Year 1, Second half 1 (c) Year 2 & 3, Second half 2 (a) – Year 2, First half 2 (b) – Year 2, Second half 2 (c) – Year 3, Second half 3 (a) – Year 1, First half 3 (b) – Year 1, Second half 3 (c) – Year 2, Second half
4.Private Investment for Public Private Partnership projects	1. DPR preparation – TSRTC Bus Stand Redevelopment and Multi Level Parking Project 2. Selection of Private Partner 3 Commencement of projects 4 Completion of projects	1 Year 1, First Half 2. Year 1, Second half 3. Year 2, First Half 4. Year 3, Second half
5. Issue of Bonds	1 Selection of Merchant Banker and Preparation of Information Memorandum 2 Issue of Bonds and receipt of funds 3 Payment of Interest 4 Repayment of Bonds	1 Year 2, Second Half 2 Year 3, First Half 3 Years 3 onwards, every half year 4 Year 9 onwards (in 5 annual instalments)
6.Borrowing of term loan from Banks/Other agencies	1 Apply for Term Loan and sanction of loan by the lender 2 Drawdown of loan 3 Payment of interest 4 Repayment of loan	1 Year 2, Second Half 2 Year 3, First Half 3 Years 3 onwards, every quarter 4 Year 5 onwards (in 20 semi-annual instalments)

3.20 SPV STRUCTURE & ORGANOGRAM

SPV FRAMEWORK



Board of Directors

i. Chairperson (Secretary to Government)/ Mayor
ii. Chief Executive Officer (Senior IAS officer)

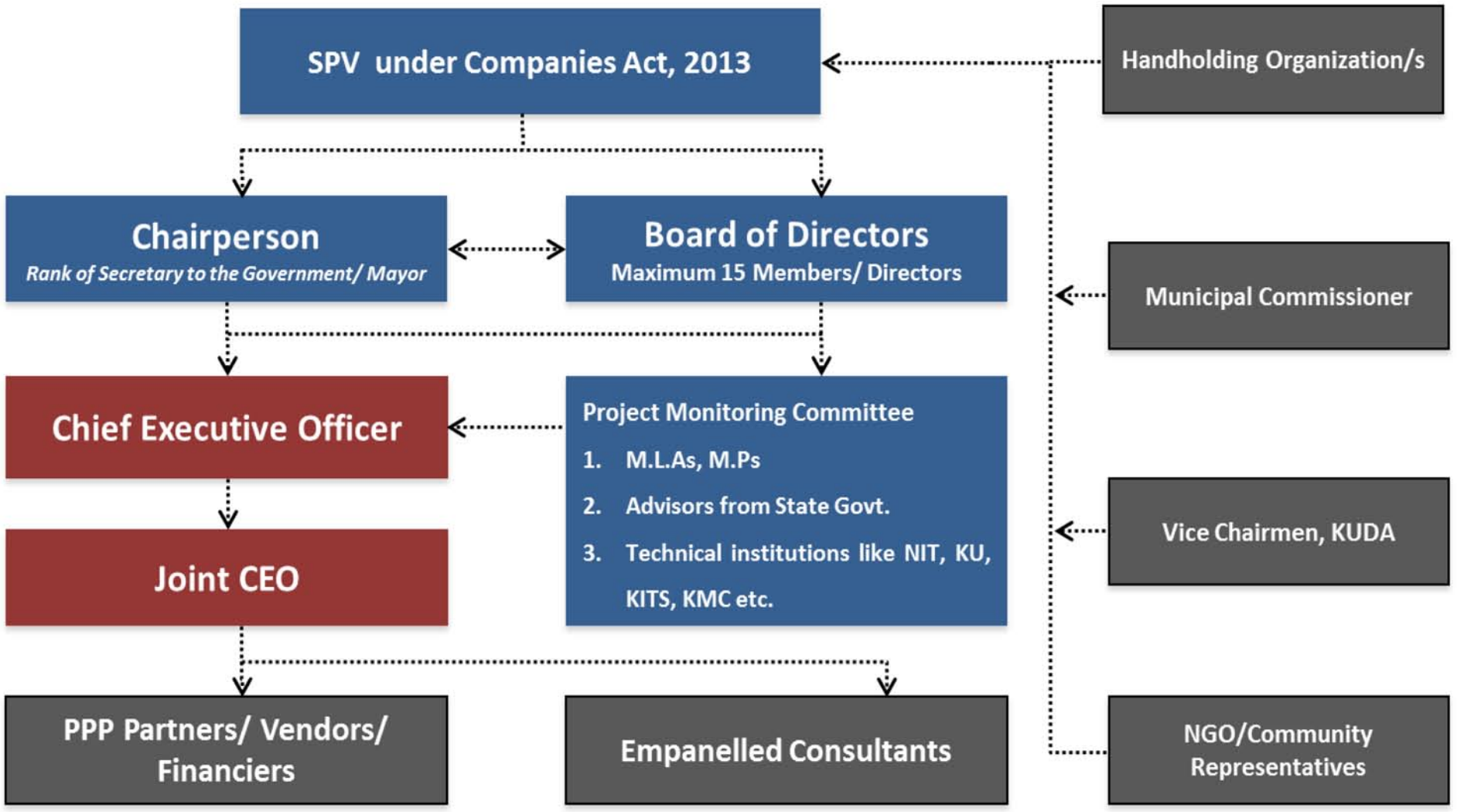
Independent Directors

i. Non-Government Organization
ii. Trade and Industry
iii. Accounts
iv. Individual woman professional

Directors

i. District Collector
ii. Commissioner, GWMC
iii. Vice Chairmen, KUDA
iv. CMD, TSNPDCL
v. Commissioner of Police
vi. RM, TSRTC
vii. SE, R&BD
viii. RM, TS-NERDC

SPV ORGANOGRAM



ANNEXURE 4: ADDITIONAL LIST OF DOCUMENTS

4.01	Council Resolution For Approving Smart City Plan including Financial Plan
4.02	Minutes of HPSC Meeting to Review and Approve Smart City Proposal
4.03	Council resolution for setting up Special Purpose Vehicle for Smart City Plan
4.03	Council resolution on SPV Human Resource Plan
4.05	GO for Formulation of Task Force for Smart City Plan, GWMC
4.06	Consent from BSNL for Wi-Fi Coverage under Smart City Warangal City Project,
4.07	Consent from TSNPDCL for laying underground cables, installation of solar panels and smart meters.
4.08	Consent from GWMC for increasing Property Taxes and User Charges
4.09	Consent letter for implementation of Warangal Smart City Project, by KUDA
4.10	Expression of Interest from Eram Scientific Solutions Pvt. Ltd. For establishing E-Toilet Network.
4.11	Expression of Interest from Trinity Smart Mobility, for providing services for Various Smart Technologies.
4.12	G.O. on Replacement of Existing Street Lights with LED Lights

GREATER WARANGAL MUNICIPAL CORPORATION

PREAMBLE TO THE COUNCIL

Roc. No. EE(Env.)/ G1/33421/14/2015-'16.

Sub:- Greater Warangal Municipal Corporation - Smart City Proposals (SCP) - Engaging of M/s LEA Associates for Revision of Smart City Proposals of Warangal the and Engaging of ASCI as mentoring Agency for providing support for Revision of the Smart City Proposals - Placed before Council, GWMC for Approval - Regarding.

Ref:-
1. Memo no.743/UBS/2016 Dated: 29/01/2016, Spl.Chief Secy. MA &UD,TS.
2. Lr.No. 208/APUFIDC/TDivision/ Smart Cities/2014/, 09/02/2016, Managing Director, Telangana Urban Finance & Infrastructure Development Corporation Ltd.
3. DO Lr. No.K-15016/157/2015 -SC-I Dated: 10/02/2016; Director Smart City, Government of India.
4. Office Memorandum No.K-15016/157/2015 -SC-1 Dated:16/02/2016 the Director Smart city, Government of India.

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Government of India has declared 20 Smart cities in the first list. The Warangal has been ranked at 23 in this list. Further Warangal is the first city in the list of 23 fast track cities declared by Government of India.

The Government of India has been given time upto 15th April for revision of the Smart City proposals of the 23 cities and their submission. The result of the fast track round will be declared on 30th April 2016.

In this context, the Special Chief Secretary, MA&UD Dept. Government of Telangana has vide memo no.743/UBS/2016 Dated: 29/01/2016 instructed to take necessary action for revision of Smart City Warangal.

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Further by D.O. Lr. No.K-15016/157/2015 -SC-I Dated: 10/02/2016, the Director Smart city Government of India has commented the remarks of the panel of evaluators on the Warangal city proposal.

In this context it is submitted that we have approximately 17 days of time for revision of proposals and resubmission to Government of India. Therefore it is proposed that the services of M/s LEA Associates may be taken up against on prorata basis for revision of Warangal Smart city proposals in line with the best proposals which were submitted to Government of India in Round No.1.

Further the Office Memorandum No.K-15016/157/2015-SC-1 Dated:16/02/2016 the Director Smart city has further commented the list of mentor institutions for providing support to the cities for revision of the proposal. The ASCI, is mentoring agency for the cities in the State of Telangana. The Special Secretary to Chief Minister, Sri. Gopal Reddy has also suggested to take up the services of ASCI for preparation of Smart City Proposals, as the ASCI has lot of expertise in preparation of DPRs and proposals for urban issues. Hence the Council may approve the following:

1. Engaging of LEA Associates as consulting firm for revising the Smart city proposals of the Warangal on prorata basis.,
2. Engaging ASCI as mentoring agency for providing support for revision of the Smart city proposal.
3. Approval of the Smart City Proposal (SCP) prepared by M/s LEA Associates for submission to MoUD through the Govt.of Telangana.

Hence this matter is placed before Council, Greater Warangal Municipal Corporation for according approval of above for taking-up of Revision of Smart City Proposals (SCP) of Warangal.

తీర్మానము నెం: (4) .

ఆమోదించినది

సం/-
మేయర్
వరంగల్ మహానగర పాలక సంస్థ

COMMISSIONER
Greater Warangal Municipal Corporation
// అధికారము //

సెక్రెటరీ
వరంగల్ మహానగర పాలక సంస్థ.

4.02: Minutes of HPSC Meeting to Review and Approve Smart City Proposal

MINUTES OF THE HIGH POWERED STEERING COMMITTEE MEETING TO REVIEW AND APPROVE REVISED SMART CITY PROPOSAL, WARANGAL HELD ON 06-04-2016 UNDER CHAIRMANSHIP OF THE CHIEF SECRETARY, IN C- BLOCK, TELANGANA SECRETARIAT, HYDERABAD

PRESENT: Dr. RAJIV SHARMA, IAS

Officers Present:

S.No	Name of the Official	Designation
1	Sri.M.G.Gopal, IAS.	Special Chief Secretary to GoT
2	Sri.Navin Mittal, IAS.	Secretary to GoT, Finance Department
3	Sri.DhanaKishor, IAS	Mission Director, Smart Cities, GoT
4	Sri. Sarfaraz Ahmad,IAS	Commissioner , GWMC
5	Sri. NannapaneniNarender	Mayor, GWMC
6	Sri Dhansingh	E-in-C, Public Health,
7	Smt. M.Bhavani Rani	ADTP, DTCP, GoT
8	Sri.B.S.RPradas	Superintending Engineer, TUFIDC, GoT
9	Sri. Durgaiah	Executive Engineer, TUFIDC, GoT
10	Dr.A.Pannerselvam	Team Leader, LEA Associates South Asia Pvt Ltd
11	Dr.M.Phani Raju	MD, LEA Associates South Asia Pvt Ltd
12	Sri .M.C. Srikanth	Financial Specialist,LEA Associates South Asia Pvt Ltd
13	Sri.VivekOgra	Director, VB Soft Pvt.Ltd
14	Sri.MallikarjunSetty	Transport Specialist, LEA Associates South Asia Pvt Ltd
15	Sril.K.Rajesh	Urban Planner, LEA Associates South Asia Pvt Ltd
16	Sri. SahilDhawan	Urban Planner, LEA Associates South Asia Pvt Ltd

The Following were the Agenda Items for the Meetings:-

1. Approval of Revised SCP for Warangal
   (a) Presentation of Revised SCP for Warangal
   (b) Discussion and approval of the components proposed under Revised SCP including Financial Plan

At the outset, the Special Chief Secretary to GoT has briefed the purpose of this meeting. He briefed that the SCP has been revised for Warangal City based on the instructions of MOUD, GoI and tabled before HPSC for approval of the same, prior to submitting to MOUD.

Thereafter, Mission Director, Smart City Mission asked Commissioner, GWMC and Consultants to present salient features of the Revised SCP and how the observations of the Evaluators, MOUD have been addressed during the revision.

Thereafter, the Commissioner, GWMC, Warangal has briefed about salient features of the Revised SCP for Warangal and subsequently advised the Team Leader, LEA Associates South Asia Pvt. Ltd to make a detailed presentation on the Revised SCP. Further, Commissioner also informed the Chairman that the Revised SCP for Warangal was already discussed with the GWMC Council and the same has been approved during the Council Meeting held on 4th April 2016.

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Thereafter, the detailed presentation covered the process followed in revision of SCP, how the SWOT, Strategic Focus (SFs), Strategic Blue Prints (SBPs), Vision and Goals were formulated towards making Warangal a Smart City. Thereafter, how they have been translated through projects and sub-projects in the Area Based Development (ABD) Proposal and Pan-City Solutions.

Total estimated project cost is Rs. 2861 crores. Of which, cost for ABD proposals work out to be Rs. 2707 crores. The cost for projects under "Pan-city initiatives" works out to be Rs.153 crores. Details are provided in the following Table.

Sl. No Theme Code	Area Based Development (ABD) Proposals Themes & Projects	INR in Crores	% of Total Cost
BL	Bhadrakali Lake Front and Recreational District	65	2
EB	Extended Business District	87	3
LN	Livable Neighbourhoods	291	10
SM	Smart Mobility	1441	50
GU	Green Urbanism	183	6
EW	Environmental Watch	69	2
SW	Smart Central Warangal	450	16
	DPR Cost	121	4
	Sub Total	**2707**	95
	PAN City Initiatives		
PC 1	Integrated City Operations Centre	50	2
PC 2	Intelligent Transit System	19	1
PC 3	Parking Management System	4	0
PC 4	Area Traffic Control System	17	1
PC 5	Safety & Security Platform	13	0
PC 6	City Communications Backbone	34	1
PC 7	Common City Payments & Service Platform	17	1
	Sub Total	**153**	**5**
	Total Cost	**2861**	100

After deliberation of the contents of the Revised SCP, the chairman accorded approval of the same.

Commissioner, GWMC

C & DM A

Principal Secretary MA&UD & Spl.C.S.

Chief Secretary, Government of Telangana

GREATER WARANGAL MUNICIPAL CORPORATION

PREAMBLE TO THE COUNCIL

Roc.No.E1/33421/2015, **Dt. 12-12-2015**

Sub: - Smart City - Greater Warangal Municipal Corporation - Smart City Plan including financial plan - Setting up of Special Purpose Vehicle - Approval of the Council Resolution - Requested - Regarding.

-o0o-

The Government of India has launched an ambitious "Smart Cities Mission" to promote cities that provide core infrastructure and a good quality of life to its citizens, a clean and sustained environment with the application of "Smart Solutions". The Government of India has identified, Warangal as one of the 98 cities to participate for the Smart City Challenge and has been selected by Stage - I of Smart City Challenge process.

Presently the Greater Warangal Municipal Corporation is preparing proposals for participating in Stage - II of the Challenge process. The LEA Associates has been appointed as consultant through a tender process and they have prepared the draft Smart City Proposal. The proposal has been presented to the Hon'ble MP's, MLA's and MLC's falling in the GWMC area.

The proposals has been presented to the HPSC (High Powered Steering Committee) headed by the Chief Secretary, Govt. of Telangana, Hyderabad. All suggestions and instructions given therein have been incorporated.

The implementation of the Mission at the City level will be done by a Special Purpose Vehicle (SPV) created for the purpose. The SPV will plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects. Each Smart City will have a SPV which will be headed by a full time CEO and have nominees of Central Government, State Government and ULB on its Board. After selection of the cities in Stage - II of the Challenge, the process of implementation of will start with the setting up of the SPV.

As part of the Smart City Plan, the council has to resolve for setting up of the Special Purpose Vehicle (SPV).

Hence the matter is place before the council for setting up of Special Purpose Vehicle (SPV) for Smart City Plan and to resolve the same.

Sd/-
Commissioner
Greater Warangal Municipal Corporation.

MCR No.128 **Date:-12-12-2015.**

Resolved.

Sd/-
Special Officer, GWMC
Collector & District Magistrate, Warangal.

// true copy //

Additional Commissioner
Greater Warangal Municipal Corporation.

GREATER WARANGAL MUNICIPAL CORPORATION

PREAMBLE TO THE COUNCIL

Roc.No.E1/33421/2015, **Dt. 12-12-2015**

Sub: - Smart City - Greater Warangal Municipal Corporation - Smart City Plan including financial plan - Human Resource Plan for the SPV - Approval of the Council Resolution - Requested - Regarding.

-o0o-

The Government of India has launched an ambitious "Smart Cities Mission" to promote cities that provide core infrastructure and a good quality of life to its citizens, a clean and sustained environment with the application of "Smart Solutions". The Government of India has identified, Warangal as one of the 98 cities to participate for the Smart City Challenge and has been selected by Stage - I of Smart City Challenge process.

Presently the Greater Warangal Municipal Corporation is preparing proposals for participating in Stage - II of the Challenge process. The LEA Associates has been appointed as consultant through a tender process and they have prepared the draft Smart City Proposal. The proposal has been presented to the Hon'ble MP's, MLA's and MLC's falling in the GWMC area.

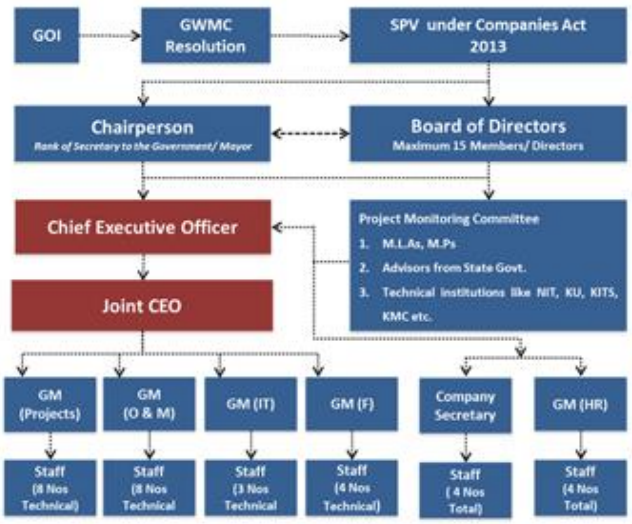
The proposals has been presented to the HPSC (High Powered Steering Committee) headed by the Chief Secretary, Govt. of Telangana, Hyderabad. All suggestions and instructions given therein have been incorporated.

The implementation of the Mission at the City level will be done by a Special Purpose Vehicle (SPV) created for the purpose. The SPV will plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects. Each Smart City will have a SPV which will be headed by a full time CEO and have nominees of Central Government, State Government and ULB on its Board. After selection of the cities in Stage - II of the Challenge, the process of implementation of will start with the setting up of the SPV.

For the purpose of establishment of Special Purpose Vehicle (SPV) a preliminary Human Resource Plan have to be prepared which is as follows.

4.04: Council Resolution On SPV Human Resource Plan

SPV FRAMEWORK



Board of Directors

i. Chairperson (Secretary to Government)/ Mayor
ii. Chief Executive Officer (Senior IAS officer)

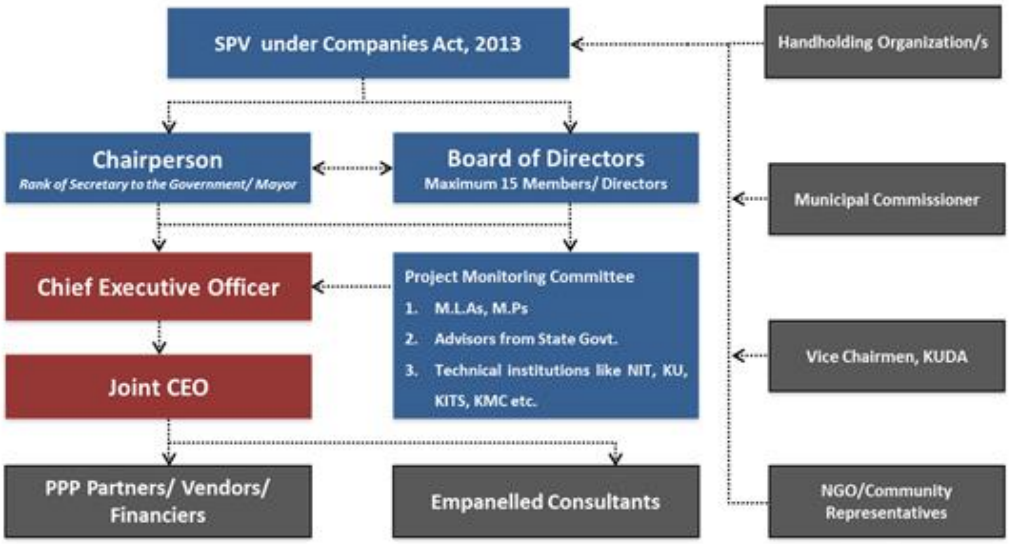
Independent Directors

i. Non-Government Organization
ii. Trade and Industry
iii. Accounts
iv. Individual woman professional

Directors

i. District Collector
ii. Commissioner, GWMC
iii. Vice Chairmen, KUDA
iv. CMD, TSNPDCL
v. Commissioner of Police
vi. RM, TSRTC
vii. SE, R&BD
viii. RM, TS-NERDC

SPV ORGANOGRAM



Hence the matter is place before the council for setting up of a Preliminary Human Resource Plan for the Special Purpose Vehicle (SPV) as mentioned above.

Sd/-
Commissioner
Greater Warangal Municipal Corporation.

MCR No. 129

Date:-12-12-2015.

Resolved.

Sd/-
Special Officer, GWMC
Collector & District Magistrate, Warangal.

// true copy //

Additional Commissioner
Greater Warangal Municipal Corporation.

4.05: GO for Formulation of Task Force for Smart City Plan, GWMC

GOVERNMENT OF TELANGANA
A B S T R A C T

Smart City Mission – Smart City guidelines - Constitution of Inter –departmental Task Force for Greater Warangal Municipal Corporation – Orders – issued

MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (UBS) DEPARTMENT

G.O.RT.No. 294 Dated: 31.07.2015.

Read the following

1. Guidelines for Smart Cities communicated by MoUD, GOI, New Delhi.
2. G.O.Rt.No.265, MA&UD (UBS) Dept. GoAP Dated :4.07.2015.
3. Minutes of the 2nd High Powered Steering Committee (HPSC) meeting held on 30th July 2015
4. From MD, TUFIDC, , Hyderabad Lr.No.208/TUFIDC/Smart Cities/2014, dated: .7.2015.

&&&

ORDER:

In the reference 4th read above, the Managing Director, TUFIDC has informed that the Government in G.O. 2nd read above, have constituted High Powered Steering Committee (HPSC) for Smart City Mission. The 2nd meeting of the HPSC was held on 30.07.2015 to shortlist potential candidate Smart Cities. The HPSC recommended Greater Hyderabad Municipal Corporation, Greater Warangal Municipal Corporation and Karimnagar Municipal Corporation to participate in the Stage –II of the Smart City Challenge. As mandated in the Smart City guidelines, an Inter Departmental Task Force needs to be constituted for each City consisting of Parastatal bodies, Urban Local Body (ULB), Organizations and Urban Development Authorities (UDAs) to facilitate effective smart city mission implementation through better convergence. The Managing Director, TUFIDC has requested the Government to constitute Inter-departmental Task Force for short listed cities.

2. Government after careful examination of the proposal of Managing Director, TUFIDC, here by constitute the Inter- departmental Task Force for Grater Warangal Municipal Corporation with the following:

District Collector, Warangal	Chairman
Superintendent of Police of the District, Warangal	Member
Vice Chairman, Kakatiya Development Authority, Warangal	Member
Superintending Engineer (Public Health), Warangal	Member
Superintending Engineer (R&B), Warangal	Member
Chief Executive Officer of Special Purpose Vehivle	Member
Superintending Engineer, BSNL, Warangal	Member
Nominee of Managing Director, TSNPDCL	Member
Project Director, MEPMA, Warangal	Member
Commissioner, Grater Warangal Municipal Corporation	Member –Convener

3. The Task Force may co-opt any other representative from any Government Department/ organization , if felt necessary.

4. The key functions of the Inter-departmental Task Force are:

1. To ensure better convergence and coordination among stakeholders to enable effective implementation of the Smart City Mission.

Contd…2..

2. To resolve the interdepartmental issues arising between utility/service providers such as traffic, water supply, roads, electricity, telecom, IT, etc
3. To ensure better collaboration of all stakeholders.

5. The Commissioner, Greater Warangal Municipal Corporation shall take further necessary action.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

M.G. GOPAL
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Collector and District Magistrate, Warangal.
The Commissioner, Greater Warangal Municipal Corporation.
All the Members through Commissioner, Greater Warangal Municipal Corporation.
Copy to:
The Managing Director, TUFIDC Ltd., Hyderabad.
The Commissioner and Director of Municipal Administration, Hyderabad.
The Joint Secretary (Smart Cities), to Government of India,
Ministry of Urban Development, Nirman Bhavan, New Delhi.
The P.S. to Chief Secretary to Government.
The P.S. to Principal Secretary to C.M.
The P.S. to Principal Secretary to Government, MA & UD Department.
Sf/sc

//FORWARDED BY ORDER//

ASSISTANT DIRECTOR

Warangal Telecom District
BSNL Bhavan, Warangal - 506 007
Phone : 2429400 Fax : 2440055
website: www.ap.bsnl.co.in

भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Government of India Enterprise)

No.GMTD-WL/Wi-fi/Smart City/2015-16, Dated at Warangal, the 11th Dec. 2015.

To
The Commissioner,
Greater Warangal Municipal Corporation,
WARANGAL

Sub: Smart City – Wi-fi coverage in Warangal City – Reg.

-o-

BSNL proposes to cover entire Warangal city which includes all the colonies, major parks, important Government offices, schools and colleges with wi-fi facility. To realize this coverage to the entire city, many towers and masts are to be erected for extending required bandwidth to the above mentioned areas.

It is requested to arrange the list of vacant municipal lands in all these areas, so that suitable locations will be selected for erecting towers and masts to plan wi-fi coverage in Warangal city.

BSNL is ready to enter into MOU with Municipal Corporation, Warangal for providing wi-fi facility to the people and to meet the objectives of Smart City.

(K.NARENDER)
Senior General Manager

4.07: Consent From TSNPDCL For Laying Underground Cables, Installation Of Solar Panels And Smart Meters.

NORTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LIMITED

From
Superintending Engineer,
Operation Circle :: Warangal.

To
The Commissioner,
Greater Warangal Municipal Corporation,
Warangal.

Lr.No. SE/OP/WGL/DE(T)/ADE(C)/AE/Comml/F.No./D.No. 1766 ***/15, Dt:*** 10 ***-12-15.***

Sir,

Sub : Elecy. – Operation Circle – WGL – Preparation Smart City proposal for Greater Warangal Municipal Corporation – Regarding.

Ref : 1) Roc No. E1/33421/2015. Dt: 10.12.2015.

-ooOoo-

In continuation to the letter vide reference cited above, the additional detailed project report covering following items is under preparation and will be furnished shortly for inclusion in the Smart City Detailed Project Report.

a) Laying of Under ground cables replacing overhead lines.

b) Installation of Solar panels on Government buildings.

c) Installation of Smart Meters.

Yours faithfully

12/12/2015

Superintending Engineer,
Operation Circle :: Warangal.

Lr_COMMISSIONER_GWMC_WARANGAL

GREATER WARANGAL MUNICIPAL CORPORATION

PREAMBLE TO THE COUNCIL

Roc.No.E1/33421/2015, Dated:10-12-2015

Sub:- Smart City - Greater Warangal Municipal Corporation – Taxation Branch – Development and Improvement under Smart City - Suggestions for enhancement of Property tax Rates – Regarding.

-o0o-

The Government of India has launched an ambitious "Smart Cities Mission" to promote cities that provide core infrastructure and a good quality of life to its citizens, a clean and sustained environment with the application of "Smart Solutions". The Government of India has identified, Warangal as one of the 100 cities to participate for the Smart City challenge.

To participate in the Smart City Challenge, the Greater Warangal Municipal Corporation is in the process of preparing the Smart City Proposal. The Development includes Roads, Drains, Street Lighting, Underground distribution power lines, Water supply distribution lines, Drainage facility etc. In the retro-fitting area all the habitants and Non-Residentials will be provided with better water supply distribution lines under Smart City Project. Soon after its completion in the retro-fitting area, water supply metering will be provided to all House service connections and to Non-Residential connections, for the purpose of volumetric billing.

The present property tax rates were adopted around 10 years back and there was no revision since then. As a matter fact, the revision of property tax should take place every 5 years. Under water supply billing, the present water supply charges are not sufficient to maintain the O&M cost.

As has been mentioned above, as a part of Smart City Project a lot of development will take place in the identified retro fitting area by expending a huge amount from the Government of India and by the Local body. Hence, there is a dire need to enhance the present property tax rates and to rationalize the present water supply billing system by introducing the volumetric metering system, for the purpose of proper Operation and Maintenance developed under Smart City Project, in the retro-fitting area.

In view of the above, the matter is placed before the Council to consider the following for their approval.

1. Soon after completion of 75% of the development which are going to take place under Smart City Project in the retro-fitting area, the present property tax rates to be revised, in view of the reasons explained above and to represent the Government of Telangana for property tax revision.

2. The present Water supply billing system to be revised under Smart City Project in the retro-fitting area by adopting volumetric metered billing system, in view of the reasons explained above.

Commissioner,
Greater Warangal Municipal Corporation.

WMC - II 12 December 2015.docx

Collector & SO

4.08: Consent From GWMC For Increasing Property Taxes and User Charges

Resolution no: 125 dt. 10-12-2015

Resolution: Approved

Sd/-
Spl. Officer, GWMC
&
Addl. Collector, WGL

"True copy"

10-12-15

Secretary,
GWMC

4.09: Consent Letter For Implementation Of Warangal Smart City Project, By KUDA

KAKATIYA URBAN DEVELOPMENT AUTHORITY:: WARANGAL

From,
Sri Sarfaraz Ahmad, I.A.S.,
Vice-Chairman,
K.U.D.A.,
W A R A N G A L.

To
The Commissioner,
Greater Warangal Municipal Corporation,
W A R A N G A L.

CONSENT LETTER

Lr.No.C3/...../2015, Dated:10-12-2015

Sir,

Sub:- K.U.D.A. Warangal - Consent letter for implementation of Warangal Smart City Project – Submitted – Regarding.

Ref:- Yours Lr.No.E1/33421/2015, Dated:09-12-2015.

-o0o-

This is to express our willingness and consent for Warangal Smart City Project in terms of the following:-

1. That we are willing to assume roles and responsibilities assigned to our department as regards functioning and effective implementation of the Smart City Project/Proposals.
2. That we agree to proposed convergence of the ongoing projects with the Smart City Project, including financial convergence;
3. That we agree to allow usage of roof-top of our office building/Campus wth regard to deployment of solar panels (generation of solar power) on PPP basis;
4. Mixed use development regulations shall be formulated wherever necessary.
5. Any other relevant issue for the successful implementation of the Smart City Project.

Yours faithfully,

Vice-Chairman,
K.U.D.A., Warangal.

4.10: Expression of Interest from Eram Scientific Solutions Pvt. Ltd. For establishing E-Toilet Network.

Eram Scientific

Eram Scientific Solutions Pvt. Ltd.
T.C.14/1006(6), 5th Floor, KEK Towers, Opp.TRIDA Building,
Vazhuthacaud, Thiruvananthapuram-695 010, Kerala, India.
Tel : +91 471 4062125, 4068127, Fax : +91 471 4062127
CIN-U72200KL2008PTC023199
info@eramscientific.com | www.eramscientific.com

400/2015/ESS/CBG

13 November 2015

Mr. Sarfaraj Ahmed
Commissioner
Greater Warangal Municipal Corporation
Warangal, Telangana

Dear Sir,

Sub: Expressing interest to partner with the Greater Warangal Municipal Corporation to establish a Smart City with a network of Connected eToilets

Greetings from Eram Scientific!

At the onset, may I take this opportunity to express our pleasure in associating with the Greater Warangal Municipal Corporation for the eToilet project. The novel concept of Smart City mooted by the Central Government will go a long way in making our cities and metros more habitable, futuristic and environment-friendly. Key elements of the concept of Smart City is the Internet of Things and Sanitation, which will form the crux of any livable city. In this context, we would like to associate with the Smart City project for Greater Hyderabad Municipal Corporation by providing a sanitation solution which would align with the overall concept of Smart City.

We have comprehensively addressed the Urban Public Sanitation challenges through a product mix of eToilets for the **General Public**, eToilets for **Schools** and **She Toilets exclusively for women**. We are proud to be the **grantee partner of Bill & Melinda Gates Foundation (BMGF) for their "Reinvent the Toilet Challenge" programme (RTTC)** under which innovative sanitation technologies are being developed through collaboration of institutions and universities like California Institute of Technology, University of South Florida, and Duke University. eToilet has also received over 39 National and International awards, among which the **Safaigiri Toilet Titan Award, received from the Hon'ble Prime Minister, Shri. Narendra Modi** and the **National Urban Water Awards by the Ministry of Urban Development** are the most prestigious. We are also listed among the **top innovations by the Ministry of Drinking Water & Sanitation**. We are also the **TOT holder and authorized licensee of the DRDO Bio Digester** technology. We offer a holistic full cycle approach in sanitation right from entry to waste treatment.

Till date, we have deployed over 1200 eToilets across 18 states. We have set up 7 eToilets in the State of Telangana under the ownerships of Grater Warangal Municipal Corporation, and two private clients, Magma Fincorp & Cholamandalam. These eToilets have been well accepted by the public and the Corporation is mulling on largescale deployment of eToilets.

The eToilet perfectly matches the requirements of the core infrastructural elements that are key to a smart city, viz-a-viz sanitation. The eToilet design would also add to the aesthetic ambience of a city and more than just being a necessity, a toilet would be rebranded as an aspiration. **Eram Scientific being a pioneer in establishing networks of connected eToilet infrastructure in the**

4.10: Expression of Interest from Eram Scientific Solutions Pvt. Ltd. For establishing E-Toilet Network.

country, hereby extends our interest to partner with the Greater Warangal Municipal Corporation to establish a network of clean, hygienic and state-of-the-art public sanitation infrastructure and develop a smart technology enabled toilet network in Warangal.

Hence, in this context, we request you to include us also in the Smart Cities ecosystem wherein we can offer our expertise for the development of a sustainable sanitation infrastructure. We look forward to your guidance and support to take up this ambitious project for providing world class public sanitation facilities for the public. Our brochure is enclosed for your kind perusal. More details about us are available at www.eramscientific.com

Thanking You,

Yours faithfully,

Anvar Sadath K.
CEO
(M) +91 8606286933

4.11: Expression of Interest from Trinity Smart Mobility, for providing services for Various Smart Technologies.

Corporate Office:
#21/1-1, Cunningham Road
Bengaluru – 560 052, India
Tel: +91-80-4206 0604

trinity | Smart Mobility
Platforms, Products & Services

Web: www.trinitymobility.com | E-mail: info@trinitymobility.com

Date: 08-12-2015

To
The Commissioner
Greater Warangal Municipal Corporation
Warangal City, Warangal, Telangana

Sub: Submission of Expression of Interest to offer Smart City Solutions for SPV of Warangal - Regarding

Dear Sir,

Trinity Mobility Pvt. Ltd is a Bangalore based IT company working to harness disruptive technologies – Social, Mobile, Analytics and Cloud (SMAC) in an integrated manner to derive disproportionate business value and transform the way Enterprise and Government automate management of mobile work, mobile worker and mobile assets.

At the moment, we are the leading supplier of Computer Aided Dispatch (CAD) Software for emergency agencies in India; such as Police (Dial 100), Fire (Dial 101), Ambulance and Traffic. Over the years by leveraging our SMAC technology stack, we have come up with innovative software products aligning with Smart City implementations:

1. **trinityRESPOND** - Computer Aided Dispatch (CAD) software for Emergency Agencies
2. **trinityPSIM** C4i Suite for Command Control Operations
3. **trinity smartFLEET** – Solid Waste Collection & Monitoring System
4. **trinityITMS** – Intelligent Traffic Management System
5. **trinityITS** – Intelligent Transport System
6. **trinityWATER** – Intelligent smart water network and distribution system
7. **trinity SmartWORKER** – Work force management application for managing field crew
8. **trinityCOMMAND** – Intelligent Operations Center for smart cities

We would like to submit our **Expression of Interest** with this Letter to offer smart city solutions for Special Purpose Vehicle of Warangal Smart City during Implementation. We will be glad to provide detailed technical presentations, specifications or solution demonstration as and when required.

Yours Sincerely,

Trinity Mobility Private Limited

Murahari Ponugoti,
General Manager-South, Mobile: +91-99728 15159

GOVERNMNET OF TELANGANA
ABSTRACT

MA & UD – Energy Conservation and Efficiency measures in ULBs – Pilot Project for replacement of existing street lights with LEDs in the selected stretches of 12 ULBs through M/s EESL, New Delhi – Permission – Accorded – Orders – Issued.

==========

MUNICIPAL ADMINSTRATION AND URBAN DEVELOPMENT (D) DEPARTMENT

G.O.Rt.No.406 **Dated: 07.10.2015.**

Read the following:

1. From the Commissioner and Director of Municipal Administration, Telangana State, Hyderabad Lr.No.24470/2012/H3, Dated:03.09.2014.
2. Govt. Memo No.3202/D2/2014-1, Dated:13.09.2014.
3. From the Commissioner and Director of Municipal Administration, Telangana State, Hyderabad Lr.No.24470/2012/H3, Dated:10.12.2014.

*****

ORDER

The Commissioner and Director of Municipal Administration, Telangana State, Hyderabad has reported that, as per the instructions issued in the Govt. Memo second read above, M/s EESL has taken up baseline study in selected stretches of 12 ULBs on Energy Conservation and Efficiency measures for replacement of conventional lights with LEDs accompanied with intelligent controls to enhance operational efficiency, in addition to reducing the overall energy use and proposed up to 70% energy cost savings in the present bills. In the mean time a series of meetings were convened with EESL and in the meetings it was broadly agreed on the following terms and conditions in the TA (Tri-party Agreement):

I. PERFORMANCE ASSURANCE:

a. The EESL shall ensure that the entire agreement period the LED streetlights fixtures supplied and installed shall conform to technical standards as agreed.

b. The EESL shall extend warranty of the LED street lights fixtures supplied under the TA throughout the agreement period covering any manufacturing defects.

c. EESL assures a minimum energy savings of 50% from the existing energy consumption. This reduction of energy consumption will be verified by an independent agency appointed by EESL and C&DMA every year. In the event of actual savings achieved varying from the minimum energy savings of 50% from the existing energy consumption the following shall be applicable;

   i. In the event that EESL fails to achieve minimum energy savings of 50% from the existing energy consumption then EESL shall pay to ULB the damages corresponding to the number of excess units consumed during the period multiplied by the energy charges prevailing at that time.

   ii. In the event that EESL achieves energy savings more than the minimum energy savings of 50% from the existing energy consumption, then the amount corresponding to incremental energy savings calculated as the number of additional units saved about the minimum energy savings of 50% multiplied by energy charge prevailing at that time shall be shared in a ratio of 50:50 between EESL and ULB respectively.

II. PENALTIES:

EESL shall maintain a minimum uptime of retrofit luminaries of 95%. The following will be the performance requirement for replacement that EESL agrees to under the TA:

a. To replace the defective LED lights within 72 hours of the reported failure.

b. To keep adequate quantities of spare LED lights in order to enable speedy replacement.

(PTO)

c. In case of the default by EESL on any of the above, a penalty equivalent to 2 times the monetized value of energy savings from the defective lamps will be deducted from EESL monthly payment. The penalty reckoned as savings from the defective lamps will be deducted from EESL monthly payment. Penalty will be reckoned as follows:

Penalty=2 [(wattage of replaced lights – wattage of defective LED lights) X No.of days of default beyond 72 hours X Tariff]

III. CONSEQUENCE OF TERMINATION:

Upon termination of the TA for any reason, the terms specified in this TA shall cease to exist and are not enforceable;

Termination Payment for Termination by "EESL":

a. Upon termination by the "EESL" on account of the "MA&UD" default the "EESL" shall be entitled to receive from "MA&UD" by the way of Termination Payment a sum equal to the consideration of the project as specified in the TA minus the amounts paid till termination of the TA minus amounts paid till termination of the TA minus the interest not applicable for the balance period of the TA after termination.

b. On account of the "MA&UD" default leading to premature termination of the TA, the "MA&UD" shall pay compensation to the EESL at the rate of 10% of the consideration of the project as specified in the TA, in addition to the amount payable.

c. Payments due to the EESL as calculated shall be made within 30 days of termination of the TA.

d. In case of termination of TA, either party will have no claim against each other except as mentioned in the TA.

Termination Payment for Termination by "MA&UD":

a. Upon Termination by the "MA&UD" on account of default by the EESL during period of the TA, in accordance with the provisions, the EESL shall be entitled to receive from the "MA&UD" by the way of Termination Payment a sum equal to 90% of the consideration of the project as specified in the TA minus the amounts paid till termination of the TA minus the interest not applicable for the balance period of the TA after termination.

b. However, if the termination by the "MA&UD" is on account of the default by the EESL before supplies are effected in terms of this TA, then the EESL shall not be entitled for any termination payments.

2. The Commissioner & Director of Municipal Administration, Telangana State has also reported that in the meeting held on the progress of the street lighting pilot project on 09.12.2014, the following decisions were taken:

i. ULBs shall open individual Escrow accounts to make timely payments to EESL.

ii. A rebate of 0.5% shall be allowed on the payment of monthly bills within 7 days of the date of billing. A rebate of 0.25 shall be allowed if the payments are made after 7 days but within a period of the one month of presentation of bills by EESL.

iii. In the event of delay in payment of a monthly bill by ULB beyond the period of one month from the date of billing, a surcharge shall be payable by ULB to the EESL at the rate of 2% in excess of the SBI PLR prevailing during such period, on the amount of outstanding payment calculated on a day to day basis (and compounded with monthly rest) on per annum basis, for each day of the delay.

a. ULB-wise Project cost will be as per the agreement.

b. Inclusion of clause for full-scale implementation and considering pilot project as part of full-scale project.

Contd....3.

c. Duration of Pilot Project to be kept as 3 months and repayment to start from 2nd month onwards to EESL after completion of retrofitting of lights at all ULBs (100%).

d. Department of Municipal Administration and Urban Development to execute the agreement on behalf of Govt. of Telangana along with 12 ULBs and EESL.

e. The following shall be timelines for proceeding further with respect to this project:

SL. No.	Activity	Time duration for completion
1	Signing of project implementation agreement for pilot project.	One week from the date of issue of orders.
2	Implementation of pilot project.	6-8 weeks from agreement signing
3	Duration of demonstration period of pilot project.	3 months
4	Monitoring of energy consumption before and after retrofitting.	7 days each during first month of demonstration Project.
5	Signing of project implementation agreement for full-fledged project.	One month before completion of the pilot project

3. The Commissioner & Director of Municipal Administration, Telangana State, has therefore requested the orders of the Government on the above proposal.

4. Government after careful examination of the proposal of the Commissioner and Director of Municipal Adminstration, Telangana State, here by accept the proposal of pilot project on street lighting in selected stretches of 12 ULBs of the Telangana (i. Karimnagar Municipal Corporation ii. Nizamabad Municipal Corporation iii. Khammam Municipal Corporation iv. Ramagundam Municipal Corporation v. Greater Warangal Municipal Corporation vi. Siddipet Municipality vii. Siricilla Municipality viii. Gajwel Nagara Panchayat ix. Mahabubnagar Municipality x. Mancherial Municipality xi. Nalgonda Municipality and xii. Tandoor Municipality) with M/s Energy Efficiency Services Limited New Delhi, as per the terms and conditions mentioned in the Tri Party Agreement appended to this order to be executed by ULB concerned, M/s EESL and Government to implement the project in 12 selected Town as per the guidelines and decisions taken in the meeting held on 09.12.2014.

5. The Commissioner & Director of Municipal Administration, Telangana State shall take necessary further action in the mater accordingly.

6. This order issues with the concurrence of Finance (EBS.VIII) Department vide their U.O.No1807/37/EBS.VIII/15, dt.16.02.2015.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

M.G.GOPAL
SPECIAL CHIEF SECRETARY TO GOVERNMENT

To
The Commissioner & Director of Municipal Administration, Telangana State, Hyderabad.
M/s Energy Efficiency Services Limited, New Delhi – through the C&DMA TS Hyd.
Copy to:
The Municipal Corporations and Municipalities concerned.
SF/SC

// FORWARDED: BY ORDER //

SECTION OFFICER