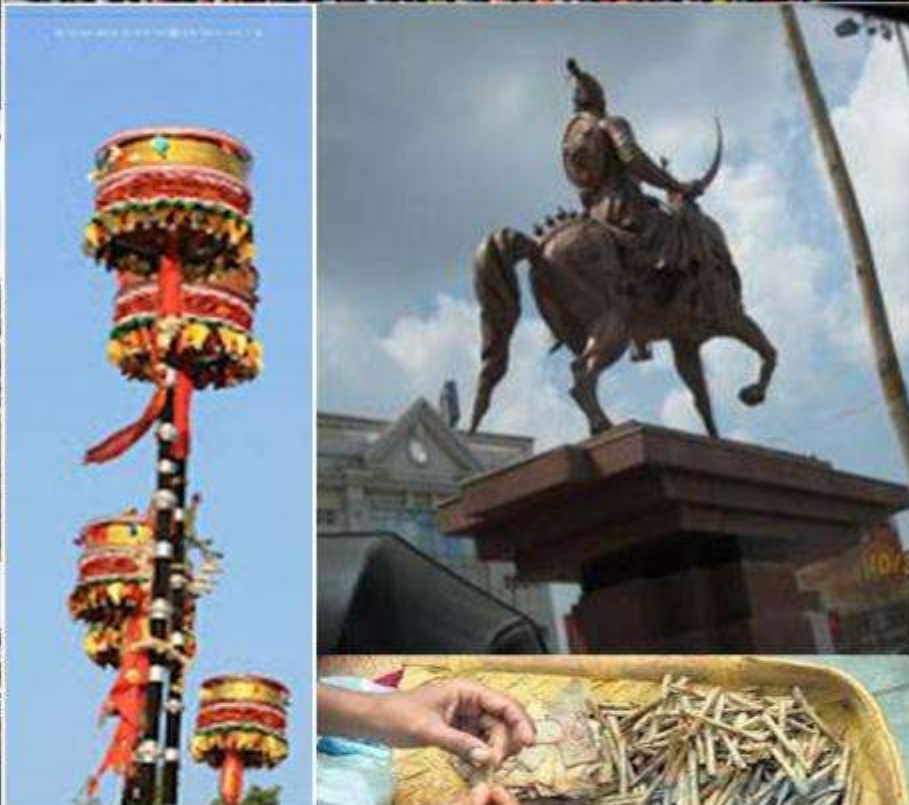


## ***Revised City Development Plan 2041 – Solapur***



***To revive the glory of Solapur by developing into a Responsive Regional Economic Center***





# **Revised City Development Plan for Solapur, 2041**

**April 2015**

**Supported under**

**Capacity Building for Urban Development project  
(CBUD)**

*A Joint Partnership Program between  
Ministry of Urban Development, Government of India*

*and*

*The World Bank*





CRISIL Risk and Infrastructure Solutions Limited

Ministry of Urban  
Development,  
Capacity Building for  
Urban Development  
Project

City Development Plan – Solapur -  
2041

*To revive the glory of Solapur by  
developing it into a Responsive  
Regional Economic Center.*

April 2015



## Consulting Firm

### CRISIL Risk and Infrastructure Solutions Limited

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## Abbreviations

AMR	Automatic Meter Reading
ARV	Annual Ratable Value
ASI	Archeological Survey of India
BOOT	Build Own Operate and Transfer
BOT	Build Operate and Transfer
BPL	Below Poverty Line
BPT	Break Pressure Tank
BSUP	Basic Services for Urban Poor
CAA	Constitutional Amendment Act
CAGR	Compound Annual Growth Rate
CBUD	Capacity Building for Urban Development
CDP	City Development Plan
CETP	Common Effluent Treatment Plant
CFO	Chief Financial Officer
CFP	City Financial Plan
CIP	Capital Investment Plan
CMC	City Mobility Committee
CMP	Comprehensive Mobility Plan
CPHEEO	Central Public Health Engineering and Environment Organization
CRIS	CRISIL Risk and Infrastructure Solutions
CSP	City Sanitation Plan
DCB	Demand Collection and Balance Statement
DCG	District Crisis Group
DCR	Debt Coverage Ratio
DISH	Department of Industrial Safety and Health
DMP	Disaster Management Plan
DPR	Detailed Project Report
DSCR	Debt Service Coverage Ratio
ESR	Elevated Service Reservoir
EWS	Economically Weaker Section
ETP	Effluent Treatment Plant
FOP	Financial Operating Plan
FSI	Floor Space Index
GDP	Gross Domestic Product
GHG	Greenhouse Gases



GIS	Geographical Information System
GLR	Ground Level Reservoirs
GSDP	Gross State Domestic Product
GSR	Ground Storage Reservoir
HML	High Mast Lamp
HSR	High level Service Reservoir
HPEC	High Powered Expert Committee
HUDCO	Housing and Urban Development Corporation
IDA	International Development Association
IEC	Information Education and Communication
IHSDP	Integrated Housing and Sum Development Program
INTACH	Indian National Trust for Art and Cultural Heritage
IPCC	International Panel for Climate Change
IRC	Indian Road Congress
ISIP	Information System Improvement Plan
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KDMC	Kalyan Dombivali Municipal Corporation
LBT	Local Body Tax
LED	Light Emitting Diode
LIG	Low Income Group
LPCD	Liters per capita per day
MBR	Mass Balancing Reservoir
MDPE	Medium density polyethylene
MEDA	Maharashtra Energy Development Agency
MHADA	Maharashtra Housing and Area Development Authority
MIDC	Maharashtra Industrial Development Corporation
MJP	Maharashtra Jeevan Pradhikaran
MLD	Million liters per day
MMC	Maharashtra Municipal Corporations Act, 2012
MOH	Medical officer of Health
MOUD	Ministry of Urban Development
MSH	Maharashtra State Highway
MSJNM	Maharashtra Suvarna Jayanti Nagarotthan Mahabhiyan
MSME	Medium and Small Scale Enterprises
MSW	Municipal Solid Waste
NAAQM	National Ambient Air Quality Monitoring
NHAI	National Highway Authority of India
NMT	Non-Motorized Transport

NOC	No Objection Certificate
NRW	Non Revenue Water
NTPC	National Thermal Power Corporation
NUHM	National Urban Health Mission
NUPAM	National Urban Poverty Alleviation
OHT	Over Head Tank
PHC	Public Health Center
PHE	Public Health Engineer
PHED	Public Health Engineering Department
PIU	Project Implementation Unit
PMU	Project Management Unit
PPP	Public Private Partnership
PWD	Public Works Department
QPR	Quarterly Progress Report
RAY	Rajiv Awas Yojna
RCC	Reinforced Cement Concrete
RFP	Request for Proposal
RFQ	Request for Qualification
ROB	Road Over Bridge
RSPM	Respirable Suspended Particulate Matter
RTA	Regional Transport Authority
RTO	Regional Transport Office
SBESPL	Solapur Bio-Energy Systems Private Limited
SCADA	Supervisory Control and Data Acquisition
SFAC	Standing Fire Advisory Council
SLB	Service Level Benchmark
SMC	Solapur Municipal Corporation
SMT	Solapur Municipal Transport
SOR	Schedule of Rates
SPA	Special Planning Authority
SPM	Suspended Particulate Matter
SPV	Special Purpose Vehicle
STP	Sewage Treatment Plant
SVL	Sodium Vapor Lamps
SWM	Solid Waste Management
SWOT	Strength Weakness Opportunity and Threat Analysis
TCIDS	Textile Cluster Infrastructure Development Scheme
TDR	Transfer of Development Rights

TPD	Tons per Day
UAT	User Analysis and Testing
UGD	Under Ground Drainage
UIDSSMT	Urban Infrastructure Development Scheme for Small and Medium Towns
ULB	Urban Local Body
URDPFI	Urban and Regional Development Plans Formulation & Implementation
UPA	Urban Poverty Alleviation
WBM	Water Bound Macadam
WHO	World Health Organization
WIT	Walchand Institute of Technology
WPR	Workforce Participation Rate
WTP	Water Treatment plant

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## Executive Summary

*As a strategy of implementation of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), it was mandatory for all the eligible cities/towns to formulate the city development plan (CDP) indicating policies, programs and strategies, and financing plans for the urban infrastructure development in the city.*

*Solapur, being a city with population of 8.72 lakh as per Census 2001, was one of the eligible cities to access funds to implement the urban infrastructure projects in the city under the urban infrastructure development scheme for small and medium towns (UIDSSMT), a submission under JNNURM. Solapur Municipal Corporation (SMC), after launch of the JNNURM mission promptly undertook the exercise of formulating the CDP for the city of Solapur and appointed an external consultant.*

*Solapur prepared the CDP, with an aim to improve infrastructure in the uncovered areas and provide improved governance to its citizen. The CDP was prepared based the guidelines issued by Ministry of Urban Development (MoUD) GoI. The document was prepared through intensive consultation process with the citizen groups, the stakeholders, elected representatives and the government departments/agencies.*

*The CDP, prepared by the SMC with assistance from the external consultants, was comprehensive in nature and covered the assessment of municipal services sectors. Though the Vision for the Solapur City was in the CDP was to make Solapur a Responsive Regional Economic Hub, the CDP majorly focused towards improvement of the municipal services. The investment identified for the city was to the tune of Rs. 1500 Crores, of which 80% investment was identified for improvement of Water Supply (46%), Sewerage Services (18%) and Improvement of roads (18%) in the city.*

*Now, In order to give an impetus to reforms under JNNURM, the MoUD and Ministry of Housing and Urban Poverty Alleviation (MoHUPA) have launched a new project called "Capacity Building of Urban Development" (CBUD). The project has been launched with support from The World Bank (WB). The GoI has received the financing from the World Bank-International Development Association (IDA) towards the CBUD project. The broad aim of the CBUD project is to address the major constraints of urban development and specifically focus on the capacity building requirements for successful urban management and poverty reduction across the selected 30 urban local bodies (ULB) in India of which Solapur and Nagpur are selected from the State of Maharashtra.*

*Under the CBUD program the MoUD has initiated various studies for governance improvement, reforms implementation and infrastructure development in the city. Of these studies a rapid baseline assessment (RBA) for urban management capacity was initiated in the month of May 2013 and the Final Report was submitted to the MoUD as well as SMC outlining the capacity building requirements (training programs and handholding support) for the SMC specific to the four municipal service areas i.e. Municipal Governance, Municipal Finance, Urban Service Delivery and Urban Planning.*

*Subsequent to the RBA study, the MoUD initiated the exercise of revision / preparation of the CDP for these 30 cities selected under the CBUD project. Since the SMC had already prepared their CDP in 2006-07, the revision of the CDP was initiated in September 2013 and an Inception Meeting with the Municipal Commissioner as well as all the department heads was conducted.*

*Under the supportive leadership from the Municipal Commissioner, SMC, the initial data collection w.r.t the status of service delivery and status of the ongoing projects was initiated and completed within two months from all the departments of the SMC. Post the analysis of the data collected, to*

*involve the city stakeholders; a consultation workshop was arranged in December 2013 and was participated by more than 60-70 people from all class of the city. The major stakeholders included eminent citizen, academicians, pollution control board, city traffic police, political representatives including the city mayor, doctors, industrialists and members from the industrial associations etc.*

*The objective of the workshop was to make the citizen and the stakeholder of the city aware of the process of the CDP being initiated and to receive their issues, suggestions and expectations regarding the development of Solapur. As a progress step towards receiving suggestions from the stakeholders and citizen, an email address, solapurcdp@solapurcorporation.org, was created and the same was flashed on the website of SMC. The idea of creating an email address was fruitful and various suggestions in written form were received from the citizen of Solapur.*

*Apart from the creation of email address, during the consultation workshop it was suggested to conduct an essay writing competition across the city to get views of the young generation w.r.t how would they expect their dream city Solapur to be. The suggestion was well received by the Municipal Commissioner and the City Mayor and was put to implementation immediately. A total of more than 207 entries were received by the SMC and were scrutinized further by an expert committee of Academicians from Solapur. A final 10 entries were selected and were awarded with the prizes. While preparing the CDP, the aspirations of the Citizen are weaved in to prepare a document fulfilling their expectations.*

*Post the interim workshop and consultations with the respective departments, an infrastructure gap assessment was undertaken. It followed by the consultations with the respective departments to identify the areas which require investments to meet the gaps in the infrastructure and improve the standards of service delivery. Investment needs were identified for 13 (thirteen) service sectors managed by SMC; those are Environment Improvement, Fire Services, Health, Heritage Conservation, Sanitation Improvement, Sewerage Improvement, Social Infrastructure, Solid Waste Management, Street Lighting, Traffic and Transportation, Urban Governance Improvement, Urban Poor and Housing and Water Supply. The total tentative investment needs for developing the city infrastructure for the next 30 years i.e. till 2041, which is still under deliberation, is close to Rs. 14000 Crores. It is envisaged that, the entire investment needs identified for the SMC area i.e. 178.57 km<sup>2</sup> will be carried out in a phased manner and also in accordance to the available own source funding as well as available financial assistance programs of the Central government and through Public Private Partnership (PPP). This leads to a huge responsibility on SMC to improve its financial status in years to come. Also, to sustain the identified investment, it is imperative that SMC would need to undertake reforms which will lead to generating more own revenues and reducing the expenditures.*

*The Draft CDP is prepared and submitted to the SMC as well as the MoUD. The draft CDP has covered 13 sectors as mentioned above and has attempted to work out the investments required in the sector for improvement of the service delivery.*

*Water Supply: The water supply system is the backbone for any city to develop. The city of Solapur has an acute problem of non-availability of a perennial and a sufficient source of water near the city. Currently the water supplied to the connections once in two to three days. Also, the water supply system in the old city areas is too old and leads to seepage of other materials in the water supplied. Another problem of intermittent water supply is corrosion of the internal face of the supply pipes leading to contamination of the water being supplied. On the coverage side, the SMC is facing the challenge of covering the areas of very low population density i.e. the city extension areas. To work out a long term mitigation measure, the SMC has prepared the master plan for the water supply services for the horizon period till 2046. In this CDP, it is assessed that the water demand of the SMC area would increase to 196 million liters per day (MLD) in 2021 and ultimately reach to 327 MLD in*

2041 as the city population would increase. The master plan prepared by the SMC has also assessed the future water demand to 350 MLD in 2046. The CDP has considered the investments as identified in the master plan as the system components and the ultimate demand are matching. A total of Rs. 2440.05 Crores is considered as total investment in the sector and of which 97% investment is to be considered as the short term investment to be undertaken by 2021.

**Sewerage and Sanitation:** The sewerage and sanitation sector is the other priority area for the SMC to address in coming years. As presented in the city sanitation plan (CSP), there are 225 open defecation spots in the city. Also, the condition of the community toilets in the city has worsened and need immediate revamp. During the city visit and consultations it was also observed that the population dependent on the community and public toilets is forced to defecate in open due to existing condition of these toilets. In terms of the coverage of the sewage collection network, more or less only the core city area is covered with the sewage collection network. Also, the lone sewage treatment plant (STP) of the city has been dysfunctional since long. As per the infrastructure gap assessment undertaken in the CDP, it is considered that 80% of the water demand would lead to generation of the sewage in city and in 2021 would be 157 MLD, 203 MLD in 2031 and 261 MLD in 2041. It is considered that a decentralized sewage collections system would be developed for the city and there will be three separate STPs would be constructed to treat all the sewage collected from the city and stop the un-scientific disposal of the sewage which is practiced as of now. To improve the sanitation situation in the city, it is considered that, all the existing public toilets would be improved and in addition to that additional public toilets would be constructed at 150 locations in city focusing to cover the areas where open defecation is predominant. An investment of close to Rs. 978.68 Crores is identified to be made in phases to bring improvements in the sector.

**Solid Waste Management:** Solapur was one of the very few urban local bodies in the country to have implemented a PPP project in the solid waste management sector at an early stage. The city has a full-fledged processing plant based on a bio-methanation technology. However, the state of the solid waste management in the city is not up to the mark as the current plant is not running to its full capacity and is not processing the waste generated in the city. Also the land around the processing plant is currently being used as the open dumping yard. On the collection and transportation side, the situation is no different. The current capacity of the collection and transportation system seems to be highly in-adequate and the waste is seen to be lying around the bins placed on the roads. Also the condition of the secondary collection bins has deteriorated and are not in a position to be used with mechanized bin lifting trucks. As per the information of service level benchmarks, only 52% of the households in the city are covered under primary collection system. It is understood that the primary and secondary collection and transportation is outsourced to a private player and the private entity is not delivering to the demand of the sector. While identifying the investments for the city, it is considered that, adequate primary and secondary collection system and commensurate transportation system is also provided so that the waste generated in the city should be collected on a daily basis. Also, as a priority need the CDP has considered development of a sanitary landfill facility to stop indiscriminate disposal of the solid waste generated in the city. As per the infrastructure gap assessment, the city would generate 486 tons per day of waste in 2021 which would increase to 714 TPD in 2031 and in the ultimate year, 2041, it would reach to 1050 TPD. The CDP has considered development of additional processing facility to be constructed to process the waste generated in the city by 2041 to be undertaken on long term basis. The identified investment in the sector is Rs. 489.72 Crores which would be invested in phases for phase wise improvement of the sector.

**Storm Water Drainage:** As per assessment of storm water drainage network, the city does not have a separate storm water drainage network. Almost entire road network of the city is covered with the natural drainage system which leads to flooding situation in case of heavy rains during monsoon. As

per the gap analysis, the city requires about 600 km of storm water collection network to reduce the risk of flooding during monsoon in the city. Further, rehabilitation of the existing natural course has to be taken up on priority basis and 80% of channelization of the natural drains is to be completed by 2021. The action plan includes development of storm water drainage rehabilitation plan; rehabilitation of nallahs and up gradation of roadside storm water drains. An investment of Rs. 261 Crores has been identified for improvement of the storm water drainage.

*Traffic and Transportation:* Solapur is the city having city transportation system for more than 60 years. However presence of the public transportation system in the city is not pre-dominant. The vehicular composition of the city comprises of 80% two wheelers. As per the development plan of the SMC there are close to 3000 km of the roads in the city. Of course all 3000 km roads are not developed and only 600 km of the road network in the city is developed. Also the condition of the road surface of the existing roads is not good and the ends of the right of way are earthen. This is leading to spreading of dust particles and increasing the air pollution due to movement of the vehicles on the unpaved road stretches. The CDP has adopted a holistic approach towards development of roads and traffic situation in the city where in it is considered to develop the existing city roads in the short term and installation of traffic signals at most of the traffic junctions in the city. It is also considered that 240 km of the important roads in the city would be converted to the cement and concrete roads. The CDP has also considered development of flyovers, multi-level parking facilities and provision of additional buses for movement of the people in the city. An investment of Rs. 11242.48 Crores has been identified for improvement in the Traffic and Transportation sector along with street lighting and associated storm water drainage in the city.

*Housing and Basic Services for Urban Poor:* The key challenges her are dilapidated housing and lack of service coverage in terms of individual toilets and social infrastructure facilities. The pucca housing should be provided to the slum dwellers in the city. Further, the service levels should be improved such that the slums should have water supply, sewerage, door-to-door waste collection, CC roads, and street lighting facilities. The strategy outlined focuses on achieving by 2021, 100% housing for the urban poor; access to water supply, open drains, sanitation, 100% coverage of CC roads to UGD access to health and education facilities.

Action plan include categorization of slums, integrated development of slums through adoption of slum networking strategies and rehabilitation of slums through development of Pucca housing, construction of housing, providing access to health and education by implementing health action plan and education action plan as well as livelihood restoration through activity centers and skill development programme. An investment of Rs. 5210.24 Crores has been identified for improvement in this sector.

*Social Infrastructure:* The key challenges in social and cultural infrastructure space are lack of adequate education infrastructure for pre-primary, primary, and higher secondary education. Further there is a need for development of health care infrastructure at both neighborhood and city level. Further, Socio-cultural infrastructure like community centers is to be developed in the city. The requirement for development of schools, hospitals, socio cultural facilities and parks and playgrounds has been assessed as per the URDPFI guidelines. Apart from the comparative assessment with the URDPFI guidelines, based in the consultation with the city officials, it is considered to develop new vegetable markets, development of lakes, development of a Theme Park, night shelters, re-development of an old public zoo is also considered. An investment of Rs. 1766.30 Crores has been identified for improvement in this sector.

*Urban Governance:* Efficient urban governance systems are the backbone of the any city management eco systems. Solapur being an old city governance agency needs substantial



improvement in the city governance systems and up to date use of technology. Various class of the city post the first round of the consultation, over email, have requested to improve the governance system of the city through implementation of efficient e-governance system for the city. The CDP has considered development and implementation of the e-governance system for the city where in most of the city services should be made available online along with the payment gateway facility. It is also considered to re-engineer the processes of the governance and reduce the time taken for the service delivery by the SMC. Also, implementation of the new system without raising the capacity of the existing staff is not desirable. Thus, the CDP has considered development of a training and a capacity building center for SMC. Overall, for improvement of the governance system in SMC, it is envisaged that an investment of Rs. 36 Crores is required.

*Urban environment, Disaster management and Climate change:* There are about three water bodies within SMC limits. Under the eco budget, five water bodies are being preserved with an aim to improve the environment and reduce the pollution in the city. The key goal here is to ensure preservation of water bodies; improve ground water recharge and invest in beautification at the water bodies.

The action plan includes mapping of water bodies, eviction of encroachments, and construction of rainwater harvesting pits, implementing pollution mitigation strategies, take up energy conservation and diligent impact assessment and monitoring for infrastructure projects.

The cope up with the natural and manmade disasters in the city, establishment of Disaster management cell at SMC with emergency response system has been proposed. Further, climate change mitigation measures like Solar street lighting along major arteries and Rooftop Photovoltaic paneling on Government and institutional buildings have been proposed for investment. An investment of Rs. 107 Crores has been identified for improvement in this sector.

*Heritage Conservation:* The city has considerable number of heritage structures. In view of heritage potential in the city, establishment of heritage cell at SMC headed by an Architect; creation of Heritage Conservation Fund to undertake small scale restoration works of the identified heritage structures; Preparation of DPRs for restoration and refurbishment of listed heritage structures and installation of direction signage and information boards at appropriate locations in the city have been proposed. An investment of Rs. 37 Crores has been identified for conservation of various heritage structures within the city.

*Improvement of Fire Services of SMC:* Fire services are the important services in addressing the small as well as large scale incidents in the city which may have the involvement of a human life. The CDP has also covered the up-gradation of the fire department of SMC by providing latest technology equipment and creation of additional fire stations in the city. An investment of Rs. 55 Crores has been identified in this sector.

*Street Lighting:* Key issue in the street lighting sector is the coverage, of all the roads in the city only 45% of the roads are covered. The CDP has considered has improvement in the sector by replacement of the existing fixtures with light emitting diode (LED) based fixtures which consume less energy compared to the conventional fixtures which will in turn reduce the electricity bills of the corporation. Apart from the replacement of the fixtures, it is also envisaged that the remaining roads should be covered with LED based street lights. To implement the strategies in this sector, it is envisaged that an investment of Rs. 261.86 Crores is essential. Also the action plan for the sector suggests implementation of day light savings and automation in street light operations.

Summary of Investments

*Under the CDP as a long term strategy, an investment of Rs. 23,720 Crores has been identified of which, development of roads and transportation sector comprises of 46% of the investments. However, of the identified investments some of the investments are priority needs which need to be made by 2021 i.e. short term. An investment of Rs. 8143 Crores is identified as a short term need. In the short term water supply, traffic and transportation and sanitation are considered as priority and these sectors contribute close to 56% of the identified investment.*

*SMC Investment capacity and Financial Operating Plan: The investment capacity of SMC is assessed through a financial operating plan (FOP), which gives a multi-year forecast of finances for the medium term. In line with the phasing of identified projects in the capital investment (CIP), the FOP has been generated for the same period for SMC. A salient feature of the FOP is that all outstanding dues, including debt and non-debt liabilities if any, are also taken into account. Accordingly, the annual accounts of SMC for the period between the financial years 2008-09 and 2012-13 were used to determine past trends for both revenue and expenditure items and to arrive at appropriate growth assumptions for each of the income and expense items. After forecasting the revenue account, the CIP has been loaded on to cash flow. The FOP is generated to assess the investment sustaining capacity of SMC.*

*The project funding structure comprises grants under the New Urban Renewal Mission framework (accounting for 90% of the funding under the new Urban Development Mission); internal surplus and debt are considered to meet the balance fund requirement. The level of investment that SMC can sustain is determined by studying the overall surpluses/year-to-year opening balance and debt-service coverage ratio (DSCR). A spread sheet FOP model has been customized to depict the financial position of SMC. The investment sustaining capacity of SMC is assessed based on the FOP assumptions. The model was used to calculate the overall surpluses under various scenarios involving combinations of internal revenue improvement, state support, financing terms, etc.*

*Given the existing financial position of SMC, the revenue and capital accounts of SMC are projected against the growth scenario. The FOP is generated from the sustainable investment point of view in line with the current growth trends against the identified investment.*

*The overall investment estimated is Rs. 8143 crores (on constant prices). However, as per the current prices, the estimated investment would be Rs. 9365 Crores (which includes the cost escalation and physical contingencies). It is observed that without any external support and under the business as usual scenario, SMC is not in a position to implement any projects. Based on the availability of grants and post implementation of the revenue improvement measures in this City Development Plan, SMC can take up priority projects in the area of sewerage and sanitation, solid waste management, and traffic and transportation worth of Rs. 443 Crores in addition to their regular capital investments to the tune of Rs. 50 Crores per annum. Thus there is need to augment investment capacity by implementing revenue enhancement measure and implement mandated reforms to enable it to access state and central grants i.e. achieve improved case investment capacity.*

*Given the importance of Solapur in the region, it is very important to improve the basic infrastructure facilities to attract the investment and industries in the city and further to boost the economic development in the region.*

*Therefore, SMC should aim to implement the improved case investment capacity (Rs. 443 crores) with grant support for state and central governments.*

*To be able to make the identified investments and to sustain these investments in future it is suggested that the SMC takes following measures;*

- *Reforms to be implemented on priority basis in property tax to improve the coverage and collection efficiency; the reform could be policy levels change to streamline the processes of the department to ensure improved efficiency in collection of tax.*
- *Water and sewerage tariff structure is to be revised immediately. SMC should explore the volumetric tariff structure for the metered water connections.*
- *SMC may levy the user charges on SWM services – SMC may explore this initiative as part of property tax.*
- *SMC may explore the outsourcing of certain function to reduce establishment expenditure.*
- *SMC should introduce the practice a where in the new construction of the critical assets such as WTP, STP, and SWM plants are given along with the responsibility of operating and maintaining them for a period of at least 5 years.*
- *SMC should curtail the regular capital expenditure over the next 5-10 years and only priority works in wards should be taken up.*
- *SMC should explore the PPP route to implement either the projects or project components.*

*Thus the CDP embodies the approach methodology and implementation action which can facilitate the development of the Solapur. However to facilitate this there is also need to streamline and strengthen the institutional arrangements to implement the development plan. In this context it is important that requisite institutions system and capacities are in place. The SMC has over the years undertaken several initiatives to reform the urban governance and implement reforms at the city level. However there is need to further and deepen these initiatives, these and associated aspects are also discussed in the report.*



# 1. Project Background

## 1.1 Context

The need for an overall urban improvement and development to sustain the economic growth momentum post the liberalization era first found its expression in the mandate of JNNURM launched by the Government of India in 2005. The project endeavored to bring about an improvement in urban quality of life and make them as investment destinations. The programme derived its initial rationale from the “National Common Minimum Programme” of the Government of India that laid stress on expansion of physical infrastructure and therefore, comprehensive urban renewal and slum development could be taken up. The second rationale for such a large scale programme was derived from India’s International commitment to achieving the Millennium Development Goals and therefore, the Government of India (GoI) proposed to

- facilitate investments in the urban sector; and
- Strengthen the existing policies in order to achieve these goals.

In recognition to the above mandate, the JNNURM programme was conceived. The scale of the programme was aimed to be in a mission mode primarily to make the cities to realize their full potential and become engines for growth. It was opined that the urban sector contributes to over 50% of the country’s Gross Domestic Product (GDP) and therefore, focused attention is required for urban infrastructure development.

As already mentioned above, the JNNURM is the first flagship national programme for urban development of this nature and size by the Government of India. The programme sought to bring about a change in the very manner of looking at urban development. It recognized the importance of two major aspects for urban development in the country including

- the need for urban infrastructure improvement in order to improve quality of life and sustain the local economy as well as to attract more investments; and
- the need for investment for carrying out the urban infrastructure improvements.

In doing the above, the programme brought about the necessary awareness among the Urban Local bodies (ULBs) for planning and implementation of projects, need for systematizing the urban services and their management, the need for involving stakeholders in project planning and raising revenues for the urban areas that can sustain the urban infrastructure. Significant emphasis was given to urban governance reforms and the need to link reforms with investments. Assistance therefore, to the state governments and ULBs was proposed to flow through a reforms linked plan. Introduction of such reforms were considered crucial for developing sustainable infrastructure that would include,

- efficient management of created physical assets so as to increase self-sustainability and
- enhance efficient service delivery.

Both these aspects were to be achieved through the agenda of reforms in the cities.

### Progress

Over the past seven years, the programme has committed over Rs 286 billion for 552 projects involving a total investment of over Rs 620 billion. Some of the key achievements of the project include:

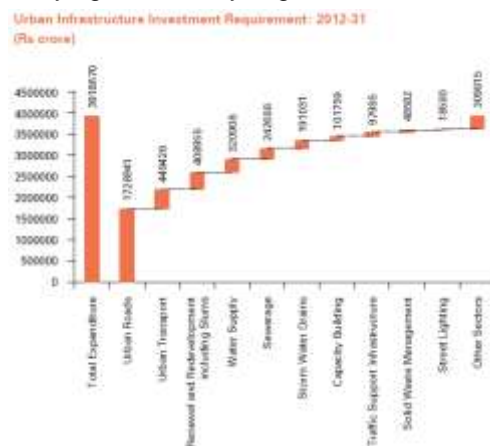
- The mission has been successful in catalyzing multi-year investments and reformed development in urban infrastructure.
- There has been visible improvement in the delivery of municipal services in many cities.
- Some cities have prepared development/master plans for the first time. There is also greater awareness in the ULBs for the need to develop systematic plans for improvement in infrastructure. There is also an increase in aspiration levels among communities and there is a demand for better infrastructure and services.
- Several projects especially in transport sector have been taken up within the JNNURM framework that has significantly improved the quality of life in the cities.
- There has been good progress in implementation of reforms at policy level at state and central level. Most of the states have framed their policies on reforms and started implementing the same. ULBs are started implementing the reforms in the areas of accounting and e-governance

While there has been significant change in the urban sector due to JNNURM at the same there has been challenges which needs to be addressed going forward

- CDP was seen as an investment plan for projects in the immediate term and not as a vision document for the city with very limited cities revising the same.
- While preparing the CDP, consultations with the stakeholders was limited and mostly restricted to the line departments and parastatal agencies.
- The pace of project execution has been found to be slow. Some states have been able to take greater advantage of the programme than others.
- Cities have also not been very successful in leveraging JNNURM funds to raise finances on their own or to attract private or PPP-based investment.
- The ULBs are not in a position to take over all the functions mentioned under 12th schedule of 74th CAA at present. Most ULBs are also not in a position to take over functions like roads and bridges, water supply sewerage, drainage and urban forestry due to their present incapacity to do so.
- Institutional strengthening and capacity buildings initiatives are yet to initiate in most of the ULBs. Most of the ULBs are facing capacity related issues such as lack of staff (staff recruitment has not been carried since long)

The Planning Commission of Government of India, through a committee has devised a framework for JNNURM-II. This framework has been prepared after studying and analyzing the success and challenges arising from JNNURM-I and the initiatives taken by other Ministries in Urban Development.

The High Powered Expert Committee (HPEC) report further identified about Rs 39 lakh crores of investment in infrastructure in the urban areas of India.



## 1.2 Revised CDP under CBUD Project

### 1.2.1 CBUD Program

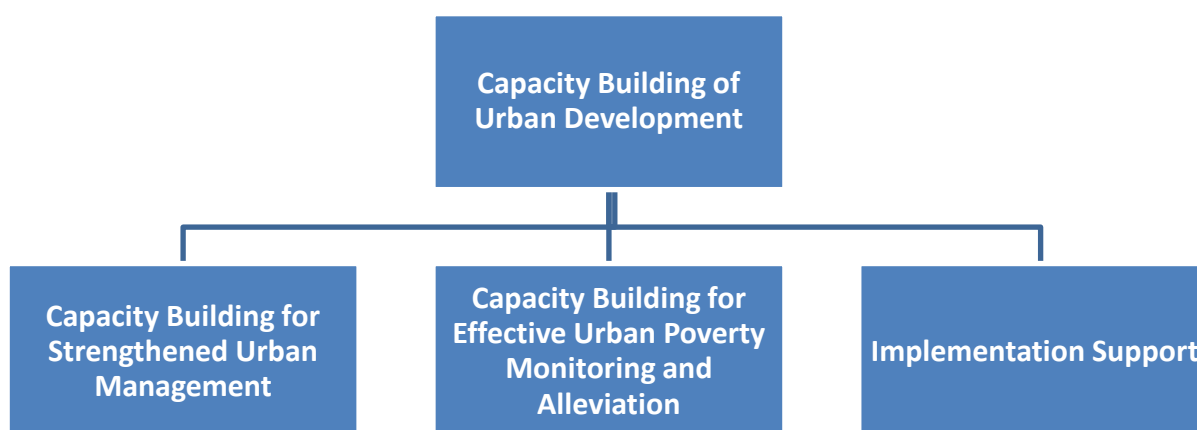
In order to give an impetus to reforms under JNNURM, the MoUD and Ministry of Housing and Urban Poverty Alleviation (MoHUPA) have launched a new project called “**Capacity Building of Urban Development**” (CBUD). The project has been launched with support from The World Bank (WB). The

Gol has received the financing from the WB /International Development Association (IDA) towards CBUD project. The broad aim of the CBUD project is to address the major constraints of urban development and specifically focus on the capacity building requirements for successful urban management and poverty reduction across the selected ULBs in India.

The project will contribute to Gol's overarching objective of creating economically productive, efficient, equitable and responsive cities. Achieving this objective, will help sustain high rates of economic growth, accelerate poverty reduction, and improve services, especially to the urban poor.

The project has following three components:

**Figure 1: CBUD Project components**



- 1) **Capacity Building for Strengthened Urban Management.** This component is aligned with the infrastructure and governance sub-mission of JNNURM and will thus support technical assistance across the several urban management topics.
- 2) **Capacities Building for Effective Urban Poverty Monitoring and Alleviation** these capacity building initiatives are aligned with the basic services to the urban poor sub-mission. They reflect the need for building information systems, sharing experiences, and designing strategies on urban poverty alleviation.
- 3) **Implementation Support.** This component will support a national Project Management Unit (PMU) for providing overall technical and managerial support during the implementation of the Programme. The PMU will have a critical role in promoting and support the project.

### 1.2.2 Preparation of Revised CDP under CBUD Program

In order to identify broader issues for intervention and areas of assistance pertaining to development of city, City Development Plans (CDPs) which were already available for most of the cities under the JnNURM is required to be revised as per the revised CDP Guidelines (April 2013) issued by Ministry of Urban Development.

The MoUD has identified 30 cities across India under the CBUD project to facilitate the support. The MoUD invited proposals and entrusted CRISIL Risk & Infrastructure Solutions (CRIS) with the responsibility of preparing the CDP.

### 1.3 Revised CDP Guidelines – Key Areas of Emphasis

The revised guidelines issued by MoUD further incorporates additional aspects which broadly are as follows and this aspects shall be covered while preparing both the Fresh and Revised CDP

- Formation of CDP Committees – Policy and Technical
- Inclusion of Heritage, Health and Education sector in the CDP
- Stress on infrastructure management aspects
- Outcome parameters of projects
- Revenue enhancement initiative, Expenditure management initiatives and Asset management initiatives
- Special emphasis on PPP projects
- Transit oriented development.

Apart from the above points, some of the other key areas of importance in the revised guidelines are as follows.

#### 1.3.1 Vision Led Planning

The revised guidelines specify that unlike the past CDPs the vision for city need to be more detailed. They need to be based on understanding the SWOT for the city, the needs and priorities of the people of the city. The people must be encouraged at workshops and consultation sessions to visualize their future of the city, their aspirations and the consequent growth that they anticipate in the city. This vision finally can be translated into respective sectorial visions.

#### 1.3.2 Resource based planning

Every city in India in the context of its regional location has particular strengths in terms of its resource endowments. Such resources need to be assessed and their strengths realized for city development. The approach for plan preparation could be: a) national resource led planning for cities endowed with natural resources like water bodies) OR b) Economy based (for an industrial or trading city), OR c) Tourism based for heritage cities OR d) combination of the above. This helps in settling the city apart from the rest. This approach can be identified based on:

- 1) Existing city strengths and its opportunities,
- 2) Regional role of city in the context of state development, and
- 3) Needs of the city.

#### 1.3.3 Participatory Approach

As already mentioned above, the revised CDP guidelines have specified that the CDP be treated as a “living document”. For this periodic revision and updation of the CDP is necessary. Such revisions have to and must be conducted with a participatory planning approach. The CDP outlines that Local area plans need to be prepared in consultation with the ward committees to fulfill the expectations of the citizens. Also, the guidelines specify that such an approach is necessary to ensure equity concerns and poverty issues are integrated in the CDP. Consultations also need to be carried out at every stage of the plan preparation and implementation. The citizens must be able to prioritize and choose their needs for infrastructure development.



### **1.3.4 Equity concerns, poverty and local economy development**

Poverty and local economy development go hand in hand. Understanding of the local economy would help in devising appropriate infrastructure development strategies that can help in/be conducive to the growth of local economy and thereby nurture local talent and resources. These need to be given adequate focus in the present CDP exercises and therefore help in not just local economy development but also in regional economy development.

The 12th five year plan has also started a mission for National Urban Poverty Alleviation (NUPAM) for targeting housing and poverty alleviation based on recommendations of the NUPAM identifying the issues of poverty and housing in city and implementation status of programmes such as RAY, IHSDP, etc. Integration of these aspects would be crucial in making the CDP relevant to state and central government policies.

### **1.3.5 Capacity Building in ULB**

The ULBs presently face serious human resource shortage for planning, development and urban management activities (including operations and maintenance, monitoring and evaluation, financial management and procurement). This issue has been highlighted by the study on appraisal of JNNURM projects as well. The guidelines have proposed that the CDPs must address this issue as to the gaps in such capacity can be addressed.

Also, it has been suggested in the guidelines that urban reforms need to be done with greater participatory approach. The strategies to arrive at the vision for the city should be linked to the reform agenda. ULBs should be asked to furnish the reforms and propose a time line to achieve the same. Administrative and structural reform should be made mandatory and carried out as soon as possible. Financial thresholds need to be decided and adhered to in terms of the central assistance under JnNURM being given as a soft loan or a grant. This approach would help in designing an appropriate capacity building strategy.

### **1.3.6 Sectorial Action Plans with Goal Oriented Targets**

The revised guideline specifically also lay out the need for preparation of sectorial action plans that have targets that are oriented towards specific goals. Action plans are specifically required for sectors including Local Economic Development Plan, Infrastructure Development Action Plan, Housing and poverty alleviation action plan, City Mobility Plan, Heritage Management Plan (Where needed), Financial Management Plan, Institutional and Capacity Building Action Plan and Environment Management Plan (including disaster management). Such sectorial plans would be based on clearly identified goals. Also, Inter-sectorial as well as intra-sectorial linkages need to be addressed through the CDP.

### **1.3.7 Monitoring and Evaluation Arrangements**

The guideline clearly spells out the need for monitoring and evaluation at regular intervals as to the extent of implementation of the CDP. Also, development of such monitoring arrangements would go a long way in securing community participation who can be involved in the process of monitoring.

## 1.4 Objective of the assignment

The CDP aims to identify an integrated solution to the challenges facing the city. It recognizes the economic growth strategy as well as the actions that would be required by various agencies to ensure the sustainable development of the city. The CDP is the ULB's strategy that presents the vision of a desired future for the city, and the mission statements on how the ULB, together with other stakeholders, intends to work towards achieving this long-term vision. The CDP incorporates the assessment of city on majorly four levels: Socio Cultural and Economic Environment; Physical Environment; Infrastructure Services and Institutions; Urban Poverty and Heritage.

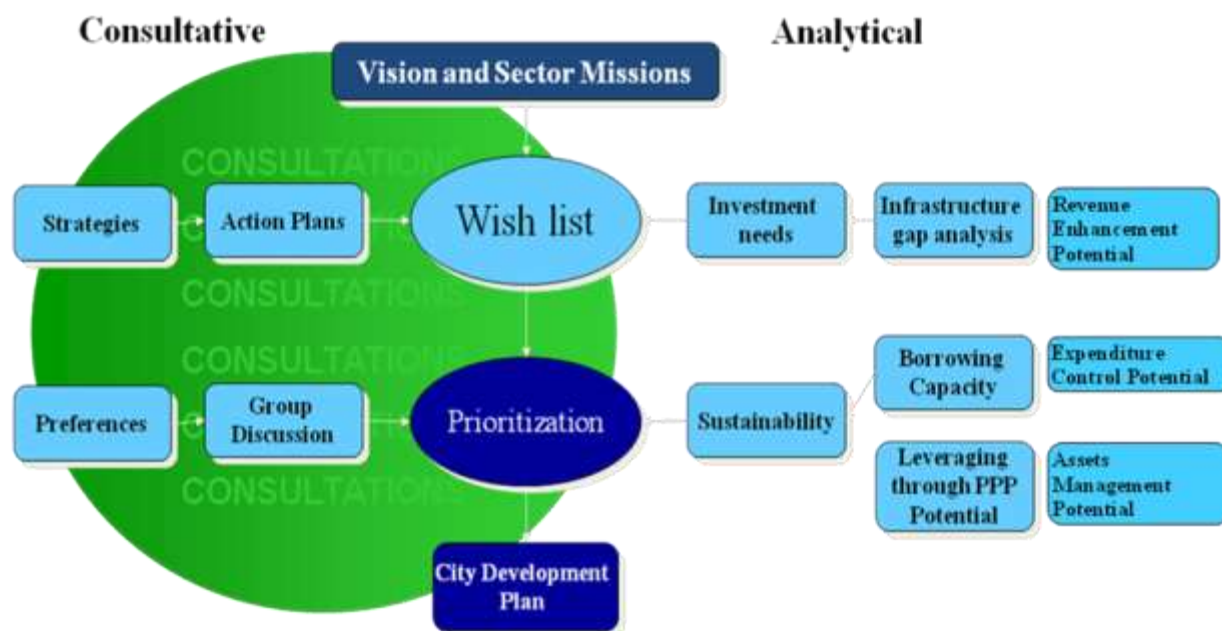
The primary objective of this assignment is – to revise and update the existing CDP.

The scope of work in brief shall entail –

- Profiling the present status of the city, giving an in-depth analysis of its demographic, economic, financial, infrastructure, physical, environmental and institutional aspects
- Based on the above analysis, the consultant shall develop a perspective and a vision for the city, which would be prepared in consultation with its relevant stakeholders. In order to achieve the vision, a formulation strategy for bridging the gap between where the city is at present and where it wishes to reach need to be prepared.
- The CDP should provide for a City Investment Plan (CIP), based on which the concerned ULB will be able to access funds under central/ state government schemes as well as from own and other sources based on priority actions and projects identified in the CDP.
- The document should also provide Financial Operating Plan (FOP) to direct the ULBs for mobilizing various financial resources to implement the identified projects. The inter-sectorial and intra-sectorial issues need to be addressed by the CDP.
- Preparation of the CDP will consist of city development strategies that will emerge out of a structured consultative process. The process will enable elected representatives, key staff of departments of Municipal Corporation/ Municipal Council, Para statal agencies and other institutions, policy makers and the citizens to participate and plan for spatial, social and economic development of the concern cities.
- The CDP has to adhere to the latest revised toolkit prepared by the MOUD for CDP preparation published in April 2013.

## 1.5 Approach and Methodology

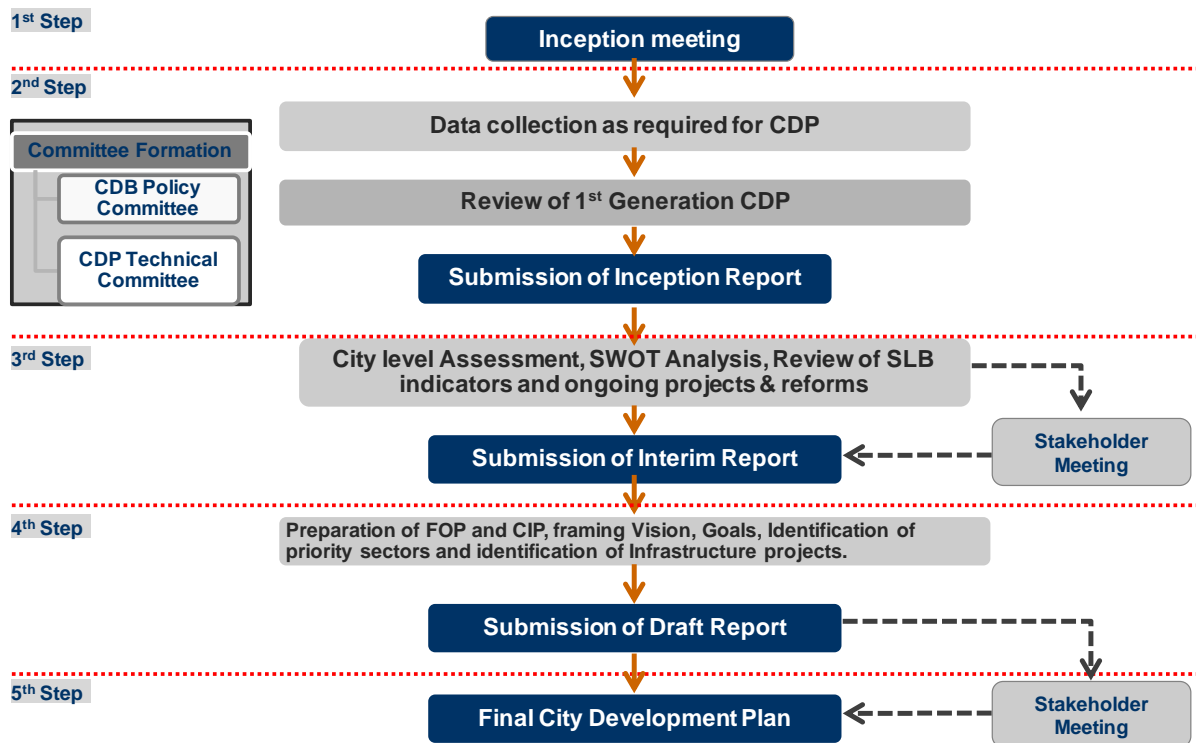
The approach to the assignment is based on consultative and analytical assessment of the existing situation. The inputs from stakeholders would be used to prioritize areas of development and to formulate the strategies in order to make the revised CDP an implementable document. The approach adopted in revised CDP preparation is presented in the figure below.

**Figure 2: Revised CDP approach**

The Revised CDP is prepared for the period of next 30 years, i.e. 2041. It will be a forward-looking consensus program for the city that outlines the path with respect to the following aspects;

- **Infrastructure Development** – Assessment, gap analysis, arriving at investment requirement (short term and long term) and prioritization of various services provided by Municipal Corporation - water supply, sewerage, storm water drainage, roads, traffic & transportation, street-lighting, solid waste management, firefighting, education, health, etc.
- **Slum Development** – Prepare a programme for the development of slum pockets in the city. This includes access to all the basic services as well as housing for urban poor.
- **Economic Development** – The revised CDP will focus critically on tapping the existing potential and identifying key economic development opportunities for the city.
- **Social Development** – The revised CDP will take into account the social development needs of the city such as the need for hospitals, education institutes, and recreational centers.
- **Institutional Development** – Assessment of capacity-building required for ULBS to undertake development of city.
- **Financial sustainability** - The revised CDP will assess the revenue sources, areas of expenditure and current and future investment requirement of the city. Based on this, it would arrive at a sustainable investment capacity and would suggest measures to improve revenues and control expenditures.
- **Reform Assessment plan** – The revised CDP will also discuss status of various reforms undertaken by the ULBS to bring about improvements. These reforms are in the areas of accounting, e-governance, property tax, user changes, building byelaws, etc.

Moreover, the approach is based on the philosophy of developing workable solutions. The methodology for undertaking the work of preparation of Revised CDP is provided in the figure below. Broadly there are five stages in a sequential order to undertake this work.

**Figure 3: Revised CDP preparation methodology**

## 1.6 Brief on 1<sup>st</sup> Generation CDP

The Solapur Municipal Corporation prepared their first city development plan in 2006. The approach for the first CDP was consultative. Various consultations with the different sections of the city stakeholders were held. The vision for Solapur formulated by the SMC at the time of previous CDP is as under.

### “To Develop Solapur into a Responsive Regional Economic Center”

Following to the city vision the CDP also enlisted mission and goals to be completed in order to achieve the vision for Solapur. The Development mission and goals were as presented below;

- Trigger economic development through infrastructure provision, capitalizing on its locational advantage and other endowments including Religious Tourism, Education headway and Healthcare potential.
- Provide good quality of life to the citizens of the city in an integrated, equitable and sustainable manner, with specific focus on the poor and disenfranchised
- Provide Responsive, Efficient, and Transparent Governance and Urban Management, so as to sustain economic development and quality of life
- Strive for financial self-sufficiency and sustainability

### 1.6.1 Investment Proposed in 1<sup>st</sup> Generation CDP

The CDP prepared by the SMC, envisaged projects to be implemented in phases. Of which the critical projects to be implemented in immediate priority, followed by the projects to be implemented on short term basis and long term projects for the projected population of the city till the CDP plan period of 30

years. The following table presents the sector wise identified projects and corresponding investment required to implement the project.

**Table 1: Sector wise investment in 1st Generation CDP**

S. No.	Sector	Short Term Investment Envisaged (Rs in crores)	Long Term Investment Envisaged (Rs in crores)
1	Water Supply	686.00	2295.00
2	Sewerage and Sanitation	273.23	2036.30
3	SWM	80.55	476.50
4	Storm Water Drainage	51.12	774.00
5	Roads/ Traffic/ Transportation	259.05	1396.20
6	Street lighting	5.25	-
7	Urban Poor	92.29	369.14
8	Environment	NA	
9	Others	55.00	
	Total	1502.49	7347.14

Source: CDP 2006, SMC

## 1.7 Brief on Various studies in the city

- City Sanitation Plan for Solapur (2011):** Apart from the CDP prepared in 2006-07, the SMC has prepared a city sanitation plan (CSP) in 2011. The CSP identified investment of Rs. 877.67 Crores for improvement of the sanitation facilities in the city. Of the total investment, investment for additional toilets was Rs. 13.79 crores, Investment for sewerage, solid waste management; water supply was Rs. 299.22 Crores, Rs.11.17 Crores, Rs.285.90 Crores respectively. Additionally the CSP identified investment for storm water drainage, environment improvement and capacity building. However, from the during the city visit, it was understood that implementation of proposals from the CSP is yet to initiate in SMC.
- Comprehensive Mobility Plan:** Apart from the CSP, the SMC is in process of appointing an external agency to assist SMC in preparation of the comprehensive mobility plan (CMP) for the city. The SMC has recently prepared the master plan for the basic services i.e water supply and sewerage services which is under the approval in SMC and hence was not available for review.
- General Assessment Survey and Mapping of Properties on GIS:** Recently SMC has undertaken a progressive a progressive step towards improvement of the municipal revenue. The SMC had not undertaken any comprehensive study for assessment of properties in the SMC area in the past. Currently the SMC has initiated a project for general assessment and GIS mapping of all the properties within the municipal jurisdiction.

## 1.8 Brief Scenario after 1<sup>st</sup> Generation CDP

The CDP prepared by the SMC was put up for approval from the general board of the municipal corporation. Approval for the CDP was accorded by the general board and CDP was supposed to be taken up for implementation. It is understood based on various discussions with the stakeholders of the SMC, that post preparation of the CDP, in absence of the delegation of the duties, the projects identified under the CDP were not prepared and further process of project conceptualization and implementation was not undertaken for various projects except for a project for improvements in water supply and sewerage sector.

## 1.9 Key processes undertaken for CDP preparation

The process for revision of the CDP was initiated in September 2013 with conducting an Inception on 6<sup>th</sup> September 2013 at Solapur. SMC officials were briefed on the CDP preparation process and the role of the SMC and other technical as well as non-technical departments in the preparation process etc. Also, explained the relevance of various technical committees as envisaged in revised CDP preparation Toolkit issued by the Ministry of urban development (MoUD).



### 1.9.1 Data Collection

Secondary data on various sectors were collected from respective departments. During the data collection process, we also collated the reports and studies undertaken by the SMC such as, city sanitation plan, detailed project report for water supply, sewerage, urban transportation etc.. Further, we carried out series of meetings and discussions with key stakeholders of the city.

### 1.9.2 Technical and Policy Committee Formation

SMC has formulated both policy and technical committees in line with the revised toolkit. Besides the policy level committee, the technical committees too are already formed in Solapur. The details of the committees formed by the SMC is presented in the Annexure – 4-- Details of Committees

### 1.9.3 Stakeholder's Consultations

#### 1.9.3.1 Inception Stage- Kick off meeting – Solapur Municipal Corporation

The process of revision of the CDP of Solapur had commenced in the month of September 2013. CRIS team conducted an inception meeting with SMC officials on 4<sup>th</sup> September 2013 to appraise on the revision of CDP process and the way forward. Subsequently, the review of 1<sup>st</sup> generation CDP

was carried out and inception report has been submitted to MoUD as well as SMC on 30<sup>th</sup> September 2013.

### 1.9.3.2 Data Collection Meetings

Subsequent to the kick off meeting in the month of September, during the subsequent months the team of CRIS made visits to various departments of the SMC as well as other city stakeholders to collect the information w.r.t the services being provided and the issues faced in the service delivery. The following table presents the dates and the details of the data collection meetings undertaken by the team of CRIS.

**Table 2: Meetings and Discussions for revision of Solapur CDP**

Sr No	Date of Meeting	Department	Meeting Details
1	September 2013	Health Department, SMC	<ul style="list-style-type: none"> <li>▪ Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>▪ Detailed explanation w.r.t the information request form prepared by CRIS.</li> <li>▪ Discussion with the attendants w.r.t the issues in the sector w.r.t health, sanitation and solid waste management and requesting a site visit to the system various components related to the solid waste management in the city.</li> <li>▪ Present Members: Medical officer of Health, Zonal Officers (ward officers). Chief Sanitary Inspector.</li> </ul>
2	September 2013	Property Tax department	<ul style="list-style-type: none"> <li>▪ Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>▪ Detailed explanation w.r.t the information request form prepared by CRIS.</li> <li>▪ Discussion with the attendants w.r.t the issues in the sector w.r.t implementation and collection of property tax and recovery of arrears etc.</li> <li>▪ Also understanding of the implementation of the property tax system as well as the tax management calendar in SMC</li> </ul>
3	October 2013	City Engineer	<ul style="list-style-type: none"> <li>▪ Detailed explanation w.r.t the information request form prepared by CRIS.</li> <li>▪ Discussion with respect to the activities undertaken by the department and the institutional structure of the department.</li> <li>▪ Discussion with the attendants w.r.t the issues in the sector w.r.t building permission and undertaking capital projects</li> </ul>
4	November 2013	City Mobility Committee	<ul style="list-style-type: none"> <li>▪ Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>▪ Discussion of the functions of the committee and various issues raised by the committee during their meetings.</li> </ul>
5	November 2013	Public Health Engineering Department	<ul style="list-style-type: none"> <li>▪ Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>▪ Understanding the delivery structure of the water supply</li> </ul>

Sr No	Date of Meeting	Department	Meeting Details
			<p>and sewage collection services within the city and existing gaps in the service delivery.</p> <ul style="list-style-type: none"> <li>Arrangement of the site visit to the various components of the infrastructure components in the city w.r.t water supply and sewerage collection.</li> </ul>
6	January 2014	Solapur Municipal Transport	<ul style="list-style-type: none"> <li>Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>Data collection of the service components of the municipal transport services in the city and the information w.r.t the financial position of the municipal transport undertaking. And collection of the recent studies undertaken by the department</li> </ul>
7	January 2014	INTACH Solapur	<ul style="list-style-type: none"> <li>Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>Data collection w.r.t the heritage structures in the city and their condition.</li> <li>Site visit to the heritage structures in the city.</li> </ul>
8	January 2014	Industries Association MIDC Akkalkot road and Hotgi Road	<ul style="list-style-type: none"> <li>Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>Data collection w.r.t the number of industries operating in the MIDC and issues faced by them.</li> <li>Discussions w.r.t the turnover of the industries housed in this MIDC.</li> </ul>
9	January 2014	Solapur Bidi Workers Association	<ul style="list-style-type: none"> <li>Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>Discussion with the head of the association to understand the extents of the Bidi industries in the city and the number of workers involved in Bidi rolling</li> <li>Discussions to understand the turnover of the Bidi industry and the issues faced by the industry.</li> </ul>
10	January 2014	Commissioner of Police (Traffic)	<ul style="list-style-type: none"> <li>Discussion w.r.t the CDP revision exercise being undertaken by CRIS.</li> <li>Discussion relate to the traffic and transportation related issues</li> <li>Do scissions related to issues related to traffic signals in the city.</li> </ul>

The above table presents the major focused group discussions and consultations undergone by the CRIS to collect the city level data for the services and understand the city specific issues. However it should be noted that the all the discussions undertaken are not mentioned as some of the discussions may be repetitive in nature.

### 1.9.3.3 Interim Stage Stakeholder's Consultation

To ensure a participatory and inclusive development process CRIS team in association with SMC organized a consultative workshop on 10<sup>th</sup> December 2013 at SMC Conference hall. Objectives of the workshop were to discuss about status and performance of service delivery mechanism in Solapur, City SWOT analysis, to understand aspirations of the citizen on city development and framing of the vision for Solapur.





#### 1.9.3.4 Draft Stage Stakeholder Consultation

A two day stakeholder consultation at draft stage was conducted on 20<sup>th</sup> and 21<sup>st</sup> of July 2014 at SMC council hall. The first day of the consultation was dedicated for the representatives from the political wing of the SMC, officials of the SMC and the local media. The first day consultation had 104 participants from the various departments of the SMC as well as the members of the General Board of the SMC..

The commissioner of SMC chaired the consultation and welcomed the gathering along with the City mayor. The CRIS team made a presentation on city level assessment, sector wise demand gap analysis, projects identified and capital investment plan for the city. Further, CRIS team discussed on the financial sustainability of SMC to take-up the identified projects under the capital investment plan.

CRIS team also requested the stakeholders to provide their inputs/ suggestion on the proposed projects for the city. In addition to this either in writing or through email of the CRIS team member. The minutes of the meeting is presented in the Annexure – 14

**Figure 4: Stakeholder Consultation at Draft CDP stage – Day 1 (20<sup>th</sup> December 2014)**



**Figure 5: Draft CDP Consultation workshop – Day 1 (20<sup>th</sup> December 2014)**



**Figure 6: Draft CDP Consultation workshop – Day 2 (21<sup>st</sup> December 2014)**



**Figure 7: Draft CDP Consultation workshop – Day 2 (21st December 2014)**



## 2. Introduction to the City

### 2.1 Regional Setting

Solapur is an important node and plays a critical role in the district as headquarter for district administration. Solapur houses all the administrative offices of the district level administration and has a strong industrial presence. Solapur historically is regarded as an industrial city prominently having the textile units. One of the key events triggering the industrial growth was starting up the railway in Solapur in 1860.

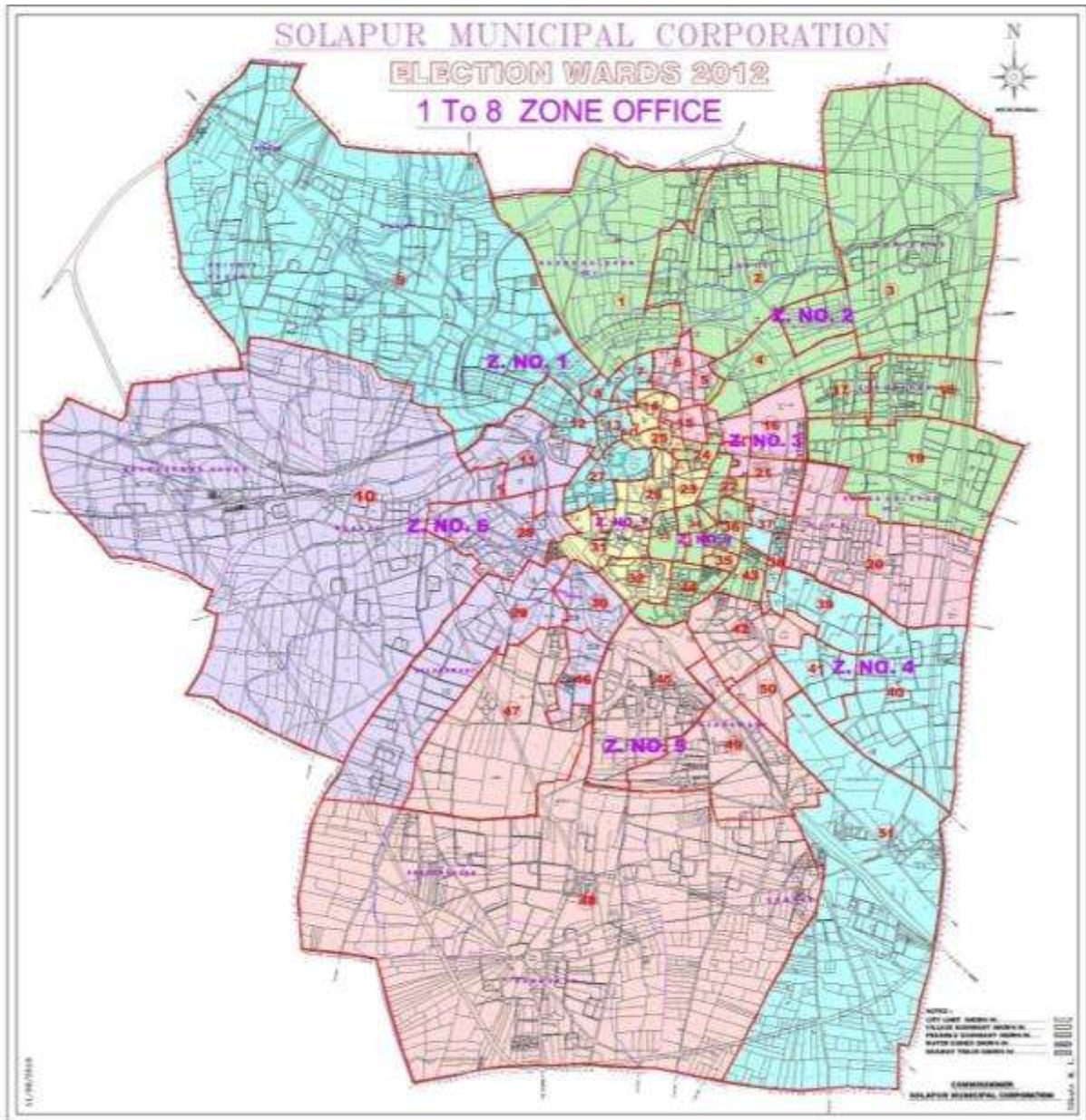
### 2.2 Administrative Boundary

Solapur lies in the basin of river Bhima and the municipal jurisdiction of the city encompasses an area of 178.57 km<sup>2</sup>. It accommodated a population of 8.72 lakh as per census 2001 which grew to 9.51 Lakh as per Census 2011. Solapur expected tremendous development in late nineties which resulted in the city limits expansion from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup> in the year 1992 but the population growth was not contingent to the increase in the area of the city. The city is currently sub-divided into eight administrative zones and these eight zones are further sub-divided in to 51 wards. The details of zones and corresponding wards are presented in the table below;

**Table 3: Details of zones and wards in Solapur**

Sr No	Zone No	Number of Wards	Corresponding Wards numbers
1	Zone – 1	6	7,8,9,12,13, 27
2	Zone – 2	7	1,2,3,4,17,18, 19
3	Zone – 3	6	5,6,15,16,20, 21
4	Zone – 4	6	37,38,39,41,40,51
5	Zone – 5	6	42,50,45,47,48, 49
6	Zone – 6	6	10,11,28,29,30,46
7	Zone – 7	6	14,25,23,26,31, 32
8	Zone – 8	8	22,24,33,34,35,36, 43,44
	<b>TOTAL</b>	<b>51</b>	

Figure 8: Solapur Municipal corporation area



## 2.3 Location and Connectivity

Solapur is well connected by neighboring major cities in Maharashtra as well as Andhra Pradesh and Karnataka. The city is connected with Pune through national highway number 9 (NH-9) which also passes through Hyderabad.

The city lies centrally in the basin of river Bhima and the watershed of river Adila (a tributary of river Sina). The city is rested on hard rock and acts as a gateway to Bhima and Krishna Basin. Solapur district is surrounded by Ahmednagar district in North, Osmanabad and Andhra Pradesh in the east, Sangli and Karnataka to the south and Satara and Pune district to the west. It is located at 17°.10" and 18°.32" north-latitude and 74°.42" and 76°.15" east longitude. It has an average elevation of 457 meters above mean sea level.

Solapur is well connected by roadways and railways to all major cities in Maharashtra and neighboring states. The city is connected with Karnataka by four National Highways –9 via Pune and Vijayvada. NH-13 to Mangalore; NH 211 to Dhule and NH 204 to Ratnagiri and Nagpur. It is also connected with important cities in Maharashtra such as Nagpur, Sangli, Kolhapur, Nanded etc. Busses from Maharashtra and Andhra Pradesh state transport corporation operate from the Solapur bus stand.

**Figure 9: Location - Solapur**

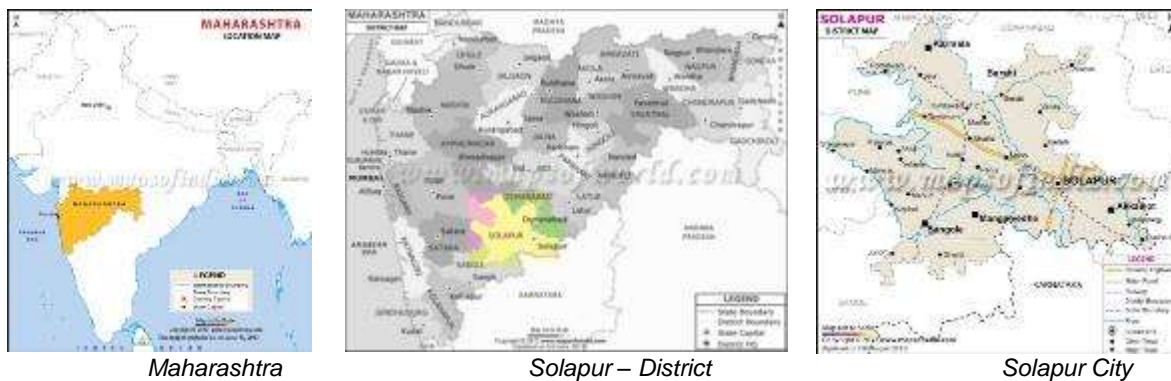
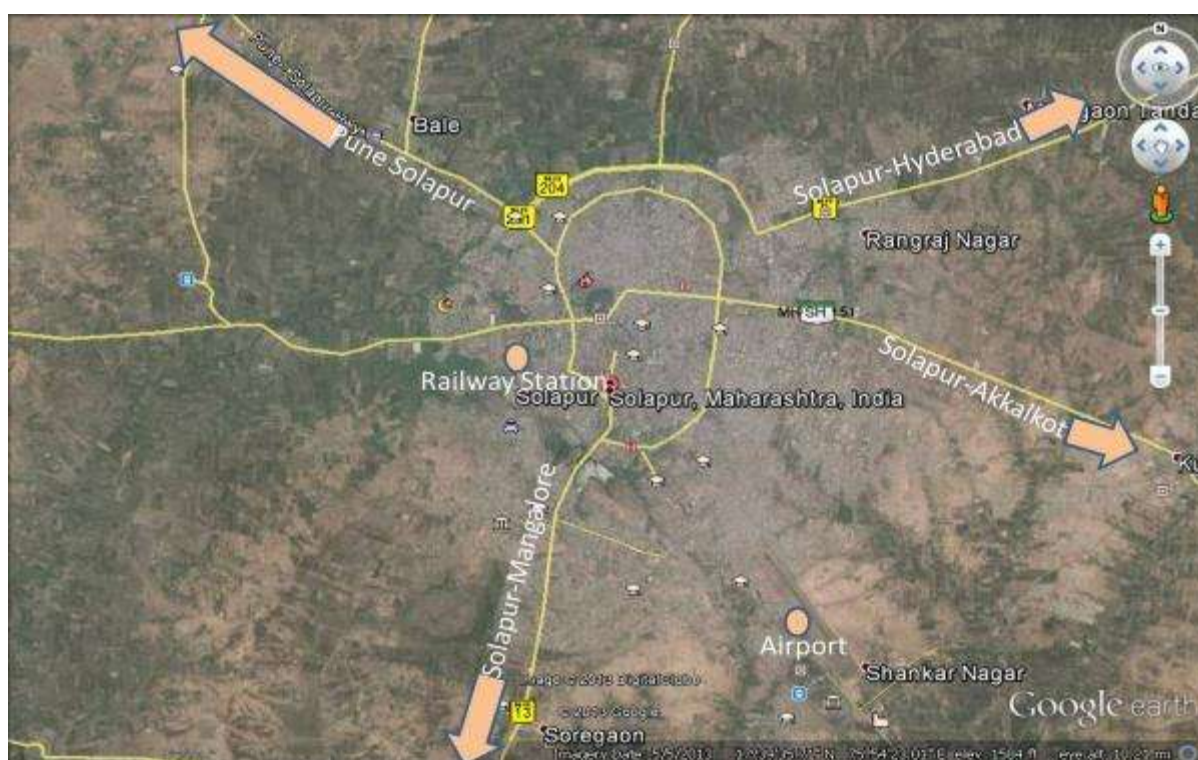


Image courtesy – Maps of India

**Figure 10: Connectivity of Solapur to major urban centers**


## 2.4 Defining the Study Area

The jurisdiction of the Solapur Municipal Corporation was last revised in 1992. Current area of the city is 178.57 km<sup>2</sup> and administratively the city has 51 electoral wards and eight administrative zones. The CDP is being revised and updated for the same jurisdiction. The current population of the city, as per census 2011, is 9.51 lakhs.

## 2.5 Physical Setting

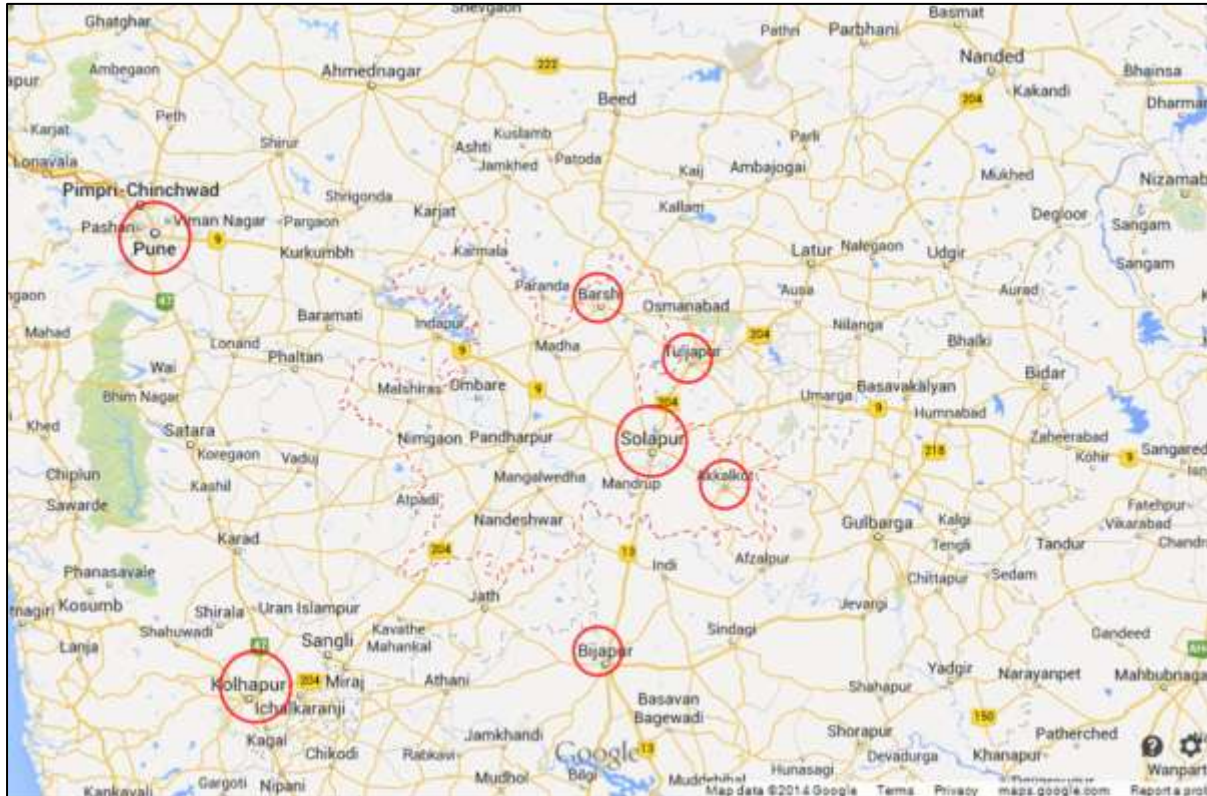
### 2.5.1 History and Regional Importance

The word Solapur is said to have been derived from word “Sola” meaning sixteen and “Pur” meaning villages. The city is formed with a conglomeration of sixteen villages. The second theory is that Solapur is not derived from sixteen villages but has a different history. The theory is that the town was called Sonnalage in the inscriptions of Shivayogi Shri Shankaracharya. This eventually came to be pronounced as Sonnalagi. Eventually with time with changes in the ruling dynasties the name changed and it came to be called as Sandalpur during Mughal rule and eventually Solapur which was pronounced by British as Sholapur. In the nineteenth century, the city was a part of Ahmednagar district. In 1930, the city enjoyed freedom for three days when the British rule was overthrown in Solapur by the locals. After independence in 1956, the city was a part of State of Bombay. In 1960, it became an independent district in the state of Maharashtra.

Solapur is the major regional center in the district from the perspective of the trade, commerce and availability of the health and education infrastructure. Apart from being the major center for trade,

Solapur is a head quarter for the district administration housing all district level offices. The city also houses weekly markets as well as it is the center for the district level Agriculture Produce market for trading activities.

**Figure 11: Regional setting - Solapur**



Topography and Geology

### 2.5.1.1 Topography

The district gazetteer of Solapur, 1984 has reported the topography of the city of Solapur. As per the gazetteer the city lies about 457 m above sea level on the water shed of the River Adila, a feeder of the River Sina which it joins at Nandur about eight miles to the south-west of the city. The city stands in the center of a large plain, the nearest hill called Daval Malik being eight miles to the east, while on the north at a distance of twelve miles rises Savar-gaon Dongar and about ten miles further north-west is the Ekruk tank, or as it is generally called the Hipparga lake, and to the north, about half a mile on the Tuljapur road, is the old Sholapur water-works engine house and about 500 yards further north runs the Selgi stream from east to west.

The rock on which the city is built is a hard '*murum*' almost approaching trap. Except to the north and the east where there is some rich cotton soil, the rock in places near the surface is barely covered by soil. In the rains the surroundings of the city are green and pleasant whereas at other times the city gives bare and uninteresting appearance.

### 2.5.1.2 Geology

Black cotton soil is found abundantly in the region. The depth of soil in different areas in the city varies from 7.5 cm to more than 90 cm. It is estimated that around 10% of the area has the shallow soil with the depth of 7.5 cm. No minerals of economic importance are found in the city. But, the city is rich with minerals which can act as building materials. The flood plain of Bhima river is rich with minerals



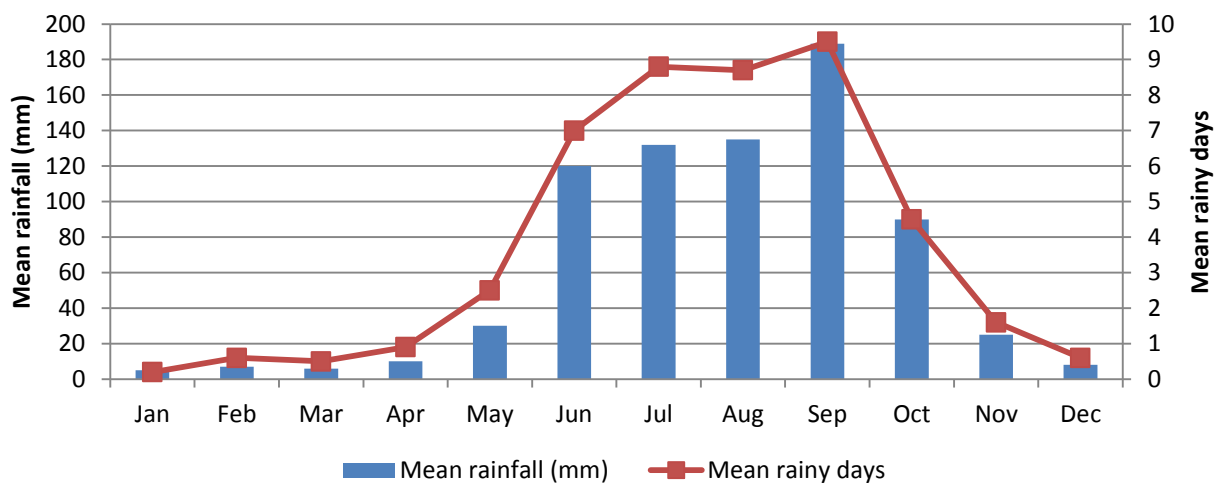
which support growth of cash crops such as sugar cane and cotton. This has acted as an initial boost for economy of Solapur.

## 2.5.2 Climate Parameters

### 2.5.2.1 Rainfall

The city falls into the semi-arid category with a history of scanty to medium rainfall. The average annual rainfall in the area is around 30 inches. The rainy season lasts for around one and half month (42-45 days in a year).

**Figure 12: Rainfall data for Solapur (average of 1961-1990)**



Source: website of Indian Metrological department

### 2.5.2.2 Temperature

Solapur has a tropical climate with very hot summers and pleasant winters. In summers, the maximum temperature is 42° C and minimum temperature is 28° C. In winters the maximum temperature is 27°C and the minimum is 13°C. The humidity is in the range of 51-82% and the average evaporation is 7.6 mm/day.

### 2.5.2.3 Humidity

As per the district gazetteers department, the air in the district is highly humid during the months of south-west monsoon and mostly dry during the rest of the months of the year. The most dry span of the year is summer season when the humidity is between 20 and 25 per cent on an average in the afternoons.

### 2.5.2.4 Wind Direction

The the district gazetteers department published that, winds are light to moderate in force with some strengthening during the period May to August. In the south-west monsoon season winds are mainly from directions between south-west and north-west. In the period October to December winds blow from directions between north-west and south-east in the mornings and between north and east in the afternoons. In the next four months winds are variable in direction. In May winds are mostly from directions between west and north.

## 2.5.3 Agriculture, mineral and industry

### 2.5.3.1 Agriculture

As per the district industrial profile published by the ministry of micro, small and medium enterprises (MSME), the topography of the Solapur district is divided in three natural zones.

- **Eastern Zone:** This comprises of Barshi, North Solapur, South Solapur and Akkalkot talukas. The soil is medium to deep black and of rich quality. Jawar, Bajra and pulses are the main crops of this zone.
- **Central or Transitional Zone:** Mohol, Mangalwedha, eastern part of Pandharpur and Madha taluka are covered by this zone. Like to moderate soil and uncertain rainfall marks this zone. Both Kharip and Rabbi Crops are grown in this part.
- **Western Zone:** Karmala, Sangola and Malshiras talukas and western parts of Pandharpur comes under this zone. In this part the soil has shallow and poor moisture retention characteristics and the region has scanty and uncertain rainfall. Rabbi crops mainly grown in Karmala, Pandharpur and Madha Talukas while Kharip crops like Bajra and Groundnut are grown in Sangola and parts of Malshiras talukas.

### 2.5.3.2 Mineral

The Ministry of MSME in their profile prepared for the Industrial scenario in Solapur also inscribed the information regarding the availability of minerals in the Solapur

**Table 4: Availability of minerals in Solapur district**

Sr No	Mineral	Remarks
1	Lime Stone	Throughout the whole district the rock is trap, nodular lime stone or kankar is everywhere abundant. At Sholapur unslaked lime fit for whitewash.
2	Building Stone	The building stone of the district is trap or basalt found either in quarries or in boulders strewn over the 'murum' plain. The stone used at Sholapur is brought less than fifteen miles from Chincholi, Darphal, Haglur, Kegaon, Kondi, Lamboti, Pakni, Savleshvar, and Shelgi. The Savleshvar quarries supply slabs four to six feet long, and the Chincholi and Lamboti quarries large stones for rollers, five feet long and about three feet in diameter. Rubble is taken from quarries about a mile from Sholapur, the best of which is owned by one Bhau Ghongade. In Barsi trap stones four to six feet long are brought ten to eighteen miles from Gharipuri,
3	Road Metal	Road metal is commonly made from the boulders which strew the murum plains in various parts of the district. At Sholapur it is mainly taken from quarries.
4	Charcoal	In Sholapur Sub-division at Bhanddarkavtha, Halgur, Telgaon, Venchur, and several other places small quantities of <i>Babhul</i> wood charcoal are made. Charcoal is largely imported from the Satara and Kolhapur states of Jamkhandi; Miraj, and Sangli. As it is safe from the attacks of white ants and other insects, the wood of the nim, <i>Azadirachta indica</i> , is largely used for building. Its light yellow colour deepens with age. Besides as fuel and in making carts, sugarcane mills, ploughs, and other field tools, babhul wood is largely used for building. It is of a deep reddish colour and is very lasting.

Source: Brief industrial profile of Solapur district, MSME development Institute.

### 2.5.3.3 Industry

Solapur historically has been a city with substantial industrial units functioning in and around the city. As per the information from the district information commissioner, there are 12126 MSME (11794 manufacturing units and 326 service units) and 76 large scale production units are registered in the district. All these units in the district generate employment close to 1,00,000 people. Majority of the industrial units are related to production of products related to textile.

### 2.5.4 Water Resources

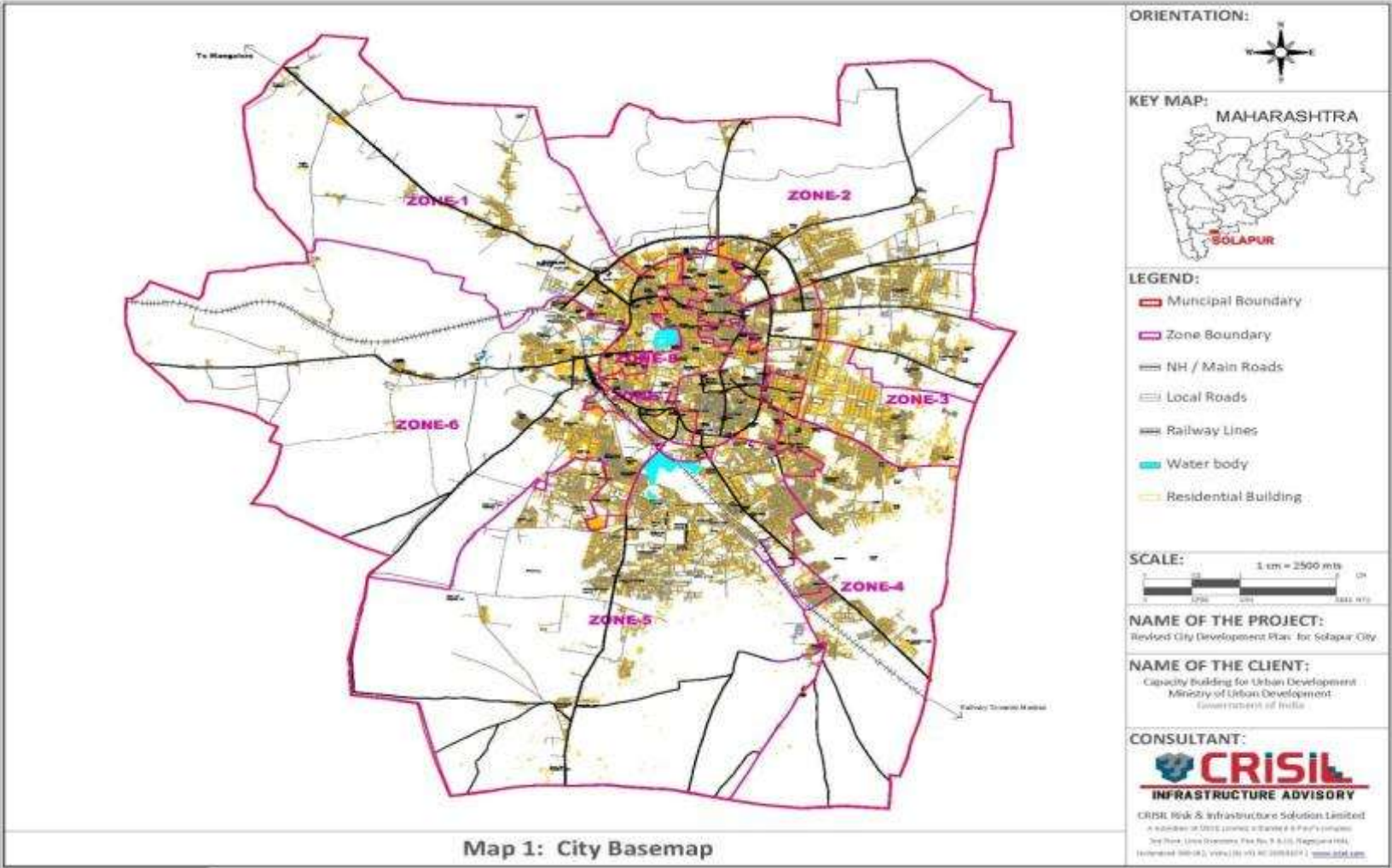
There are three major lakes in Solapur district. Koregaon lake, Ashti lake and Ekruk lake. Ekruk lake is the oldest source of water for the city of Solapur.

- **Koregaon Lake:** The Koregaon lake lies 21 km north-east of Barsi and is formed by throwing two earthen dams across two separate valleys. The larger dam on the west is 995 feet long and seventy-one feet high in the center. The smaller dam on the south-east is 300 feet long with a greatest height of twelve feet. The drainage area is 11.39 km<sup>2</sup>. The original depth of the lake near the dam seems to have been fifty feet, but several centuries of silt have much lessened its depth and reduced its storage capacity.
- **Ashti Lake:** The Ashti lake lies in the Madha sub-division twelve miles north-east of the large town of Pandharpur. The lake is formed by throwing across the Ashti stream, a feeder of the Bhima, an earthen dam 12,709 feet long, with a greatest height of 57.75 feet.
- **Ekruk Lake:** The Ekruk lake, the largest artificial lake in the Solapur district, lies five miles north-east of Sholapur. The scheme was prepared in 1863 and sanctioned in 1866. It comprises a reservoir formed by an earthen dam 7,200 feet long and seventy-two feet in greatest height and three canals. The dam is thrown across the valley of the Adhila, a feeder of the Sina, which has a drainage area of 414 km<sup>2</sup> above the lake. The lake is sixty feet deep when full, and holds 3,350 millions of cubic feet. The area of water surface is 4,640 acres.

### 2.5.5 Forest Resources

The forest availability is also the one criteria in the development process as in the case of fire wood which is still be used as a fuel in rural households. The area under forest is very much essential for the limiting the greenhouse gases. The total forest area in Solapur district is 60 thousand hectares.

Figure 13: City Base map



## 3. Demographic Profile

### 3.1 Background

#### 3.1.1 Population and Urbanization – Maharashtra

Maharashtra, from being a second most urbanized state in the country (as per Census 2001) has become a third most urbanized state in the country behind Tamil Nadu (48.45 percent urban population) and Kerala (47.72 percent urban population) in Census 2011. As per the Census 2011, highest number of souls living in urban areas (5.08 Crores) is in Maharashtra.

As per Census 2011 population of Maharashtra is 1124 lakh of which 616 lakh (54.78 percent of total population) is the rural population and remaining 508 lakh (45.22 percent of total population) resides in the urban areas of the state. In terms of percentages, 45.22 percent of population is residing in urban areas of the Maharashtra which is quite higher than the national level average of 31.6 percent. During the last decade (2001-11) the urban population has grown by 23.7 percent as against the growth of 10.3 percent in rural population. The respective figures at national level are 31.8 percent and 12.2 percent. During the last decade, population of 155 lakh is added in the State. Of these, 97.26 lakh population is added in urban areas only and remaining 57.68 lakh is added in the rural areas. In terms of percentages 62.8 percent of population added during 2001-11 is in urban area only whereas this figure at national level is 50.1 percent. Highest percentage of urban population (in percentage terms) is in two districts viz., Mumbai and Mumbai-suburban. Other districts having high percentage share of urban population are Thane (76.92 percent), Nagpur (68.30 percent) and Pune (60.89 percent). The urban population of Solapur district is 32.40 percent of which 68 percent (9.51 lakh) resides in the Solapur Municipal Corporation area.

### 3.2 Population Growth Trend – City

Solapur grew rapidly as an industrial town in 1970s. This is also reflected in the population growth during the same period. The decadal growth was very high between 1971 and 1991, when the down turn of the textile industry begun.

**Table 5: Population trend of SMC**

Year	Population	Decadal Growth (%)
1971	3,98,361	-
1981	5,14,660	29.24
1991	6,04,215	17.36
2001	8,72,424	44.39
2011	9,51,558	9.07

Source: Census of India

It can be observed from the above table that the population growth of Solapur was at its peak during 1981-91 owing to the industrialization of the city and opening up of new industries in the textile sector. The population growth during 1991-2001 is exponential. However, the high population growth during this period was resultant of the increase in the city limits from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup> in 1992 by

merging of 13 villages in the city limits. This expansion resulted in to increase of city's population and thus higher growth rate. During 1981-91, due to closure of the textile mills and diminishing industrial growth, the diminishing population growth is observed. Further, in the last decade (2001-11) growth of the population has come down to 9.07% from 17.36% in 1981-91 which depicts that the annual population growth is below the natural growth rate i.e. 0.87%.

### 3.3 Population Density

Overall density of the core city has been high over the years until the increase in city limits in 1992. The city area has been changing over the years in last four decades and hence the density pattern varies. In 1971 the density of the city was 17149 persons per km<sup>2</sup> which increased to 20159 persons per km<sup>2</sup> in 1981. In 1992, 13 villages adjoining to SMC were merged in the municipal area increasing the area of SMC jurisdiction from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup>. This increase in the municipal area resulted in decline in the gross population density from 20159 to 4886 person per km<sup>2</sup> in 2001 and further it increased to 5329 person per km<sup>2</sup> in 2011. The table below presents the change in the gross population density in the city during last four decades.

**Table 6: Decade wise population and density**

Year	Population	Area (km <sup>2</sup> )	Gross Density (persons / km <sup>2</sup> )	Persons per hectare
1971	3,98,361	23.23	17149	171
1981	5,14,660	25.53	20159	202
1991	6,04,215	33.03	18293	182
2001	8,72,424	178.57	4886	49
2011	9,51,558	178.57	5329	53

Source: Census of India and SMC

#### 3.3.1.1 Population Density – Ward Wise

As per the Census 2011 figures, the area under the SMC is divided in to 98 census wards and eight administrative zones. Since the ward wise area (in km<sup>2</sup>) is not available, ward wise population density could not be assessed. On observation of the ward wise population it is found that ward 90 has the maximum population of 18677 and ward No.19 has the minimum population of 6767. Of the total 98 wards five wards are having population more than 15000, 26 wards are having population between 10000 and 15000 and 67 wards are having population between 5000 and 10000. A ward wise population is provided in the Annexure – 7 of this report.

### 3.4 Average Household Size

The information provided in the census 2011 is assessed to arrive at the variation in the size of an individual household in Solapur. Total number of households in the city has increased from 1.61 lakh in census 2001 to 1.88 lakh in census 2011 and the average household size has reduced from 5.41 to 5.05 during the same period. When compared to the average size of household at the state and national average, the size of an individual household in Solapur is higher when compared to the state average of 4.6 and a national average of 4.85 as per census 2011.

### 3.5 Literacy Rate

Solapur is major district center with major educational facilities like pre-primary, primary, secondary, higher secondary schools and degree colleges for the nearby towns and villages. However as per the information available from census 2001 and 2011, literacy rate of Solapur has declined from 76.8 % in 2001 to 73.3 % in 2011. The reduction in the literacy levels of the city is probably due to out-migration of the literate population of the city for better employment opportunities.

**Table 7: Literacy levels in Solapur**

S. No.	Year	Population	Total literates	Literacy rate (%)		
				SMC	State	Country
1	2001	8,72,424	670022	76.8	76.88	65
2	2011	9,51,558	697327	73.3	82.91	74

Source: Census of India

It is also observed from the information that the Solapur had more number of literates compared to the total population in the city when the figures are compared with the same number at the national average in 2001 census. Looking at the figures in the latest census, this figure has gone down compared to the national average implying that literates from city are migrating out for better education and employment opportunities.

### 3.6 Sex Ratio

The trend in sex ratio of SMC shows that the average sex ratio (number of females per 1000 male) of the city has improved from 962 in 2001 to 978 in 2011 in other terms the sex ratio has become more favorable to the females in the city. When compared to the sex ratio of the district, state and country, the ratio of SMC is higher than the district level ratio of 938, state level average ratio of 929 and country level average ratio of 940. The table below presents the increase in sex ratio over the last decade.

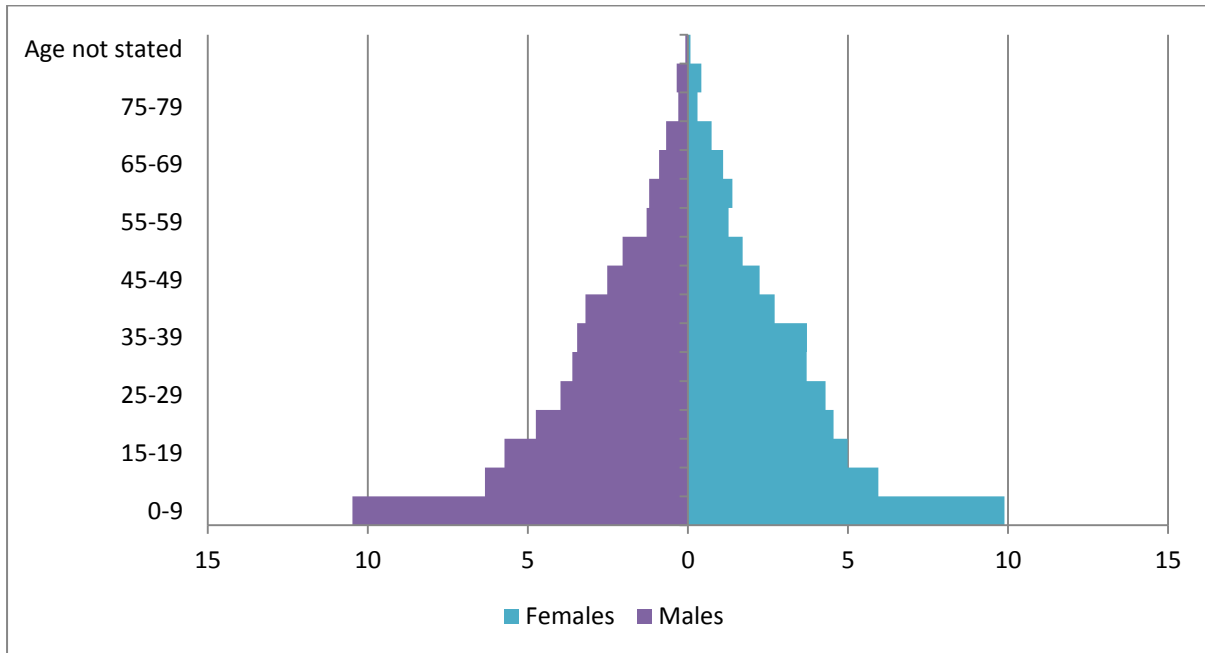
**Table 8: Trend in sex ratio of Solapur**

S. No.	Year	Male	Female	SMC	State	Country
1	2001	4,44,734	427690	962	922	933
2	2011	4,81,064	470494	978	929	940

Source: Census of India

#### 3.6.1 Age-Sex Pyramid

The following chart presents the distribution of the population into the specific age group as per the census 2001 information. As reported in the census, India has one of the largest proportions in the younger group in the world. 35% of the total population of the country has been in the age group of 0-14 years and 41% population is less than 18 years of age. As compared to this Solapur city has 32.7% population in the age group of 0-14 years and 38.9% age is less than 18 years of age.

**Figure 14: Population distribution as per the age group (Census 2001)**

*Census of India 2001*

An analysis of an age sex pyramid has been carried out to estimate the working group population, and further to determine the dependent population in the city. According to Census 2001, age-wise population has been considered and the relative proportion of the population in each age group has been determined. For the purpose of the analysis, 0 to 19 years age group is considered as child dependents; 20 to 59 years age group is considered as working age; and above age of 60<sup>1</sup> are considered as aged dependents.

As indicated in the figure above, 44.34% of the males were dependent children and 6.78% of the males were dependents due to their age; about 49% of the males were in the working age group. In the case of females, 42.53% were dependent children and 8.06% were dependents due to their age and 49% were in the working age group category.

### 3.7 Scheduled Cast and Scheduled Tribe Population

The total schedule caste (SC) population in the city is 138078 while the scheduled tribe (ST) population is 17982 as per the 2011 census. Thus the total SC and ST population is 156060 with total male population of 78444 and total female population of 77616 revealing to a sex ratio of 989 which is quite higher than the district, state and the national level average. The present SC and ST population contributes to 16.4% of the total population in the city.

**Table 9: SC and ST Population**

Category	2001	2011	Growth
SC	117393	138078	17.62%

<sup>1</sup> Numbers for which age was not specified has not been included in the overall percentage of the age groups.



ST	18038	17982	-0.31%
Total	135431	156060	15.23%
Percentage of Total Population			

Source: Census of India 2001 and 2011

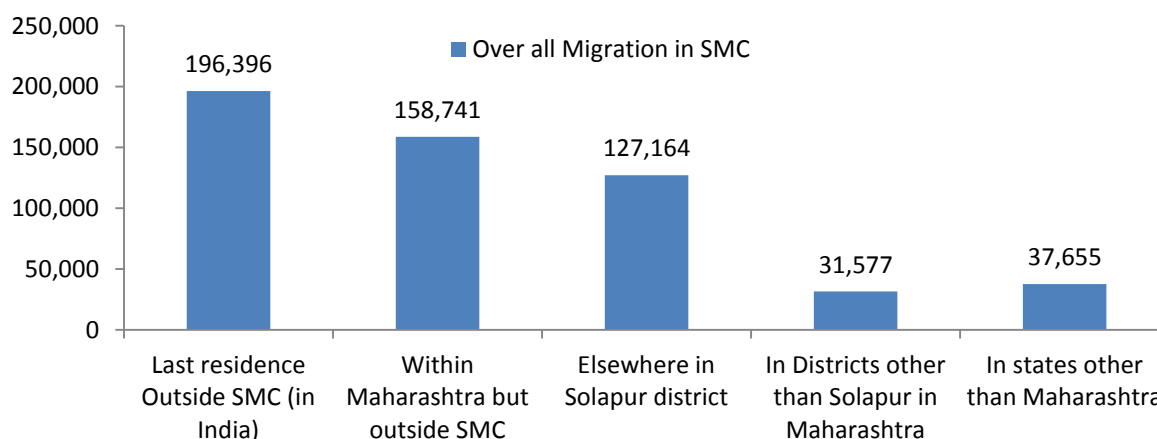
### 3.8 Migration Trends

Migration is movement from one place to another place during a specific time period. It is thus place and time specific. It also has direction, from and to. Migration is one of the most important components of population change. The migration data for Solapur is not available for the census 2011. Hence, the migration has been analyzed as per the information available in census 2001. Census provides the information based on the duration of residence and accordingly provides the information on migration. For the purpose of the assessment of migration in SMC area, all durations of residences are considered to assess the trends in migration.

#### 3.8.1 Overall Migration

As per the information available in the census 2001, 22.51% population (1.96 lakh) in the city at the time of enumeration is migrant population which has resided outside the SMC. As per the information, 81% of the migrants in the city are from within Maharashtra and remaining 19% are from other states of India. It shall also be noted that of all the migrants to the city from the state, 80% (65% of total migrant population) are from the Solapur district itself and rest 20% are from other districts of Maharashtra. Following figure presents the migration trends in SMC.

**Figure 15: Over all migration in SMC**



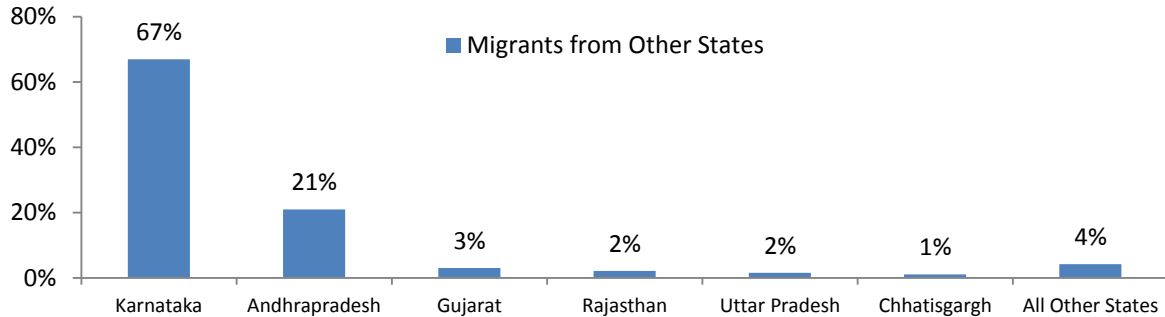
Source: Census of India, 2001

#### 3.8.2 Migrants from the other states

As mentioned above, of all the migrants to the city, 19% are from other states of India. Census (2001) while recording the information covers 34 states from which migrants to the city are counted. In case of Solapur, of the total migrants from the other states; 88% of the migrants are from the adjoining states of Karnataka (66.93%) and Andhra Pradesh (21%). Other major states contributing to the

migrants to Solapur are Gujarat (3.00%), Rajasthan (2.13%), Uttar Pradesh (1.59%) and Chhattisgarh (1.12%).

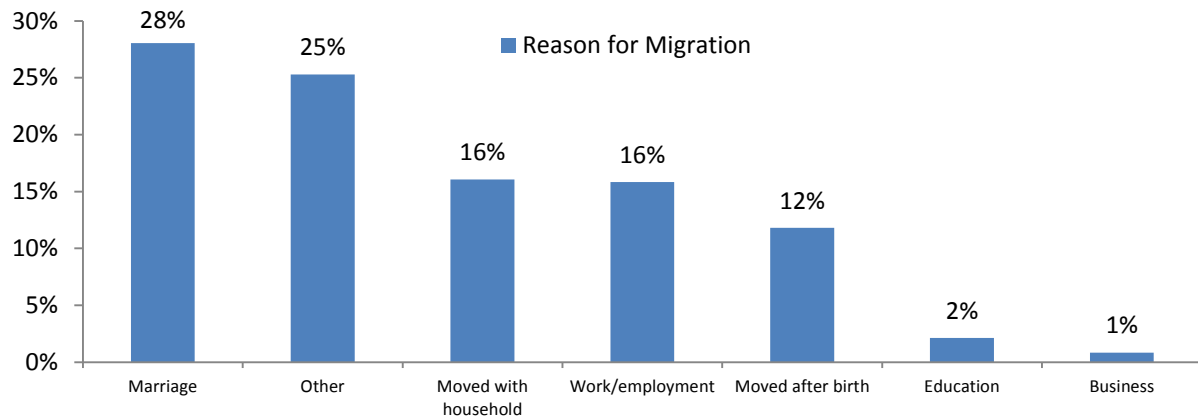
**Figure 16: Migration from other states in SMC**



Source: Census of India, 2001

### 3.8.3 Reason for Migration

Most of migrants to the city are in the city due to social causes i.e. shifted to the city because of marriage and moved with household. People moving for the employment are only 17% (work, employment and business) of total migrants.



Source: Census of India, 2001

## 3.9 Key Observations

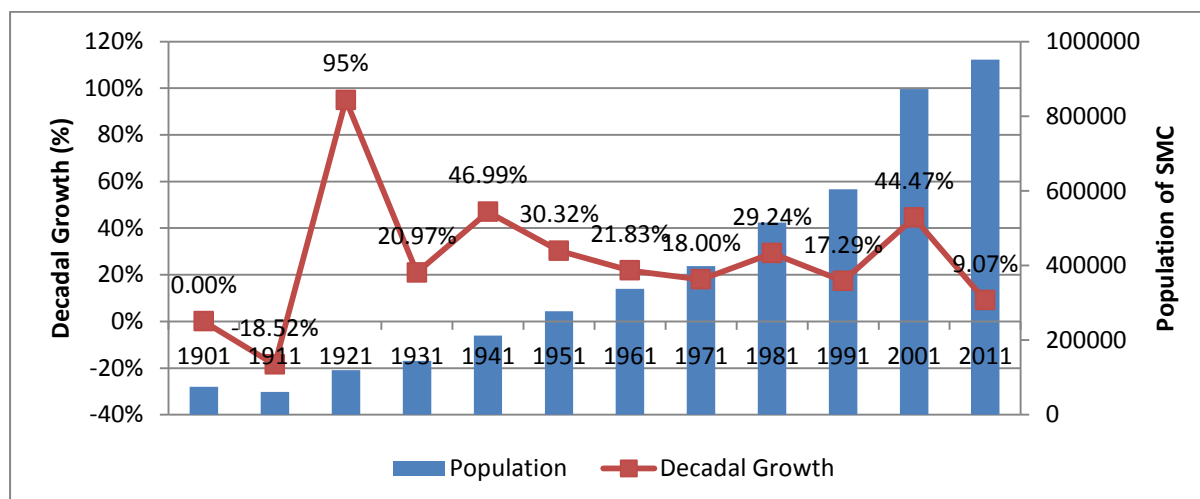
- Actual population growth of the city is lower compared to the development plan prepared in 1997 and the city development plan prepared in 2006-07.
- Solapur is the district headquarter and the only municipal corporation in the district. Decadal population growth of the population has dropped from 44% to 9.07% from 91-01 to 01-11. The annual growth rate in the last decade has been lower than the natural increase.
- Increase in the jurisdiction of the SMC in 1992 (from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup>) has resulted in huge pressure on the city administration of the SMC for extending the basic services to the extended city areas.

- When compared to the performance of state as well as the country in terms of the literacy rate, performance of SMC has deteriorated as the literates has reduced from 77% to 73% from 2001 to 2011. This may have resulted because of outmigration of the educated population from Solapur to other large cities of Maharashtra.
- About 49% of the population is in the working group category. Also, the child dependency ratio is higher than senior citizen dependency.
- Of the total city's population in 2001, 23% is formed by the migrants to the city from across India. And of all the migrants to the city from other states majority are from Karnataka (67%) followed by Andhra Pradesh (21%).
- The city has witnessed a sudden increase of 15.23% in SC and ST population in the last decade. Also the percentage share to the total population of the SC, ST population has increased from 15.52% to 16.40% in the last decade. This states that the population in slums in the city has increased.
- The slum population in the city has increased by 34% in the last decade from 2.18 lakh to 2.92 lakh.

### 3.10 Population Projections

The past trend of population growth of the city reveals that city has grown below one percent per annum during the last decade. The decadal growth has been declining since the 1971-81. The decade of 1991-2001 has shown a substantial increase in the population because of merging thirteen villages in to the limits of SMC resulting in to sudden increased of the city population.

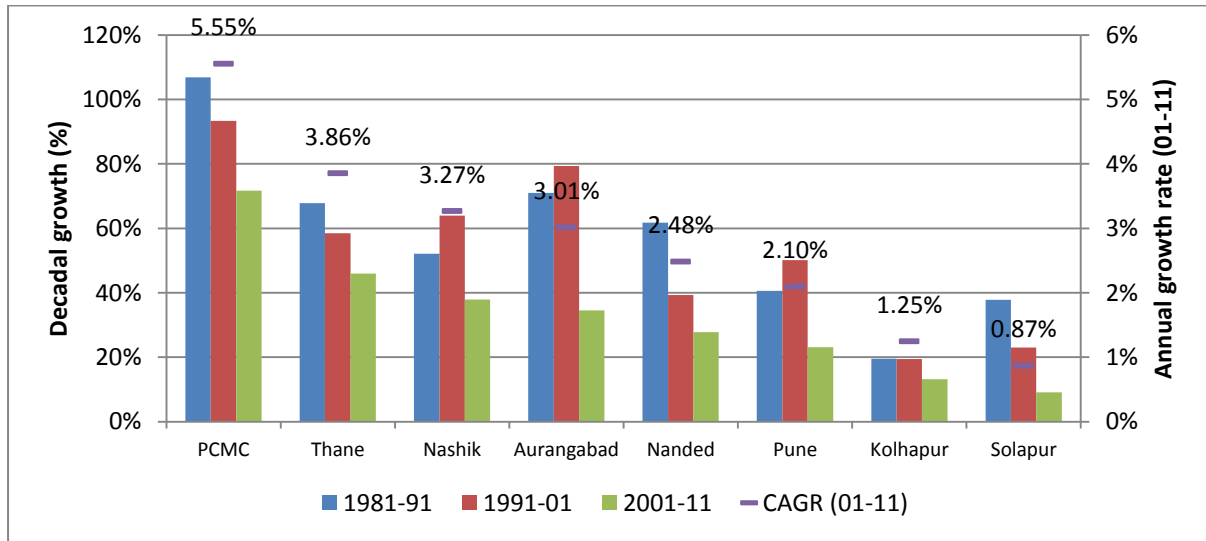
**Figure 17: Historical population growth of Solapur**



Source: Development Plan of SMC and Census of India

To assess how the city has been growing when compared to the other major cities of the state, population growth of the major cities in Maharashtra is compared with Solapur. The figure below presents the population growth during last three decades in major cities of Maharashtra and annual growth rate of population during 2001-11.

**Figure 18: Population growth of major cities in Maharashtra**



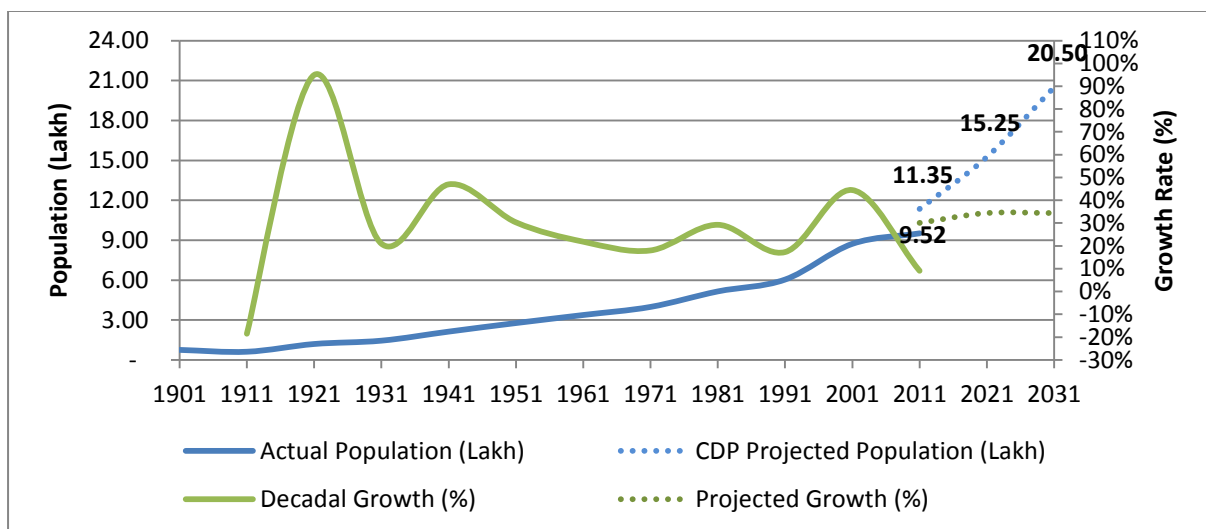
Source: census of India and CDP of cities obtained from respective city's website

From the above figure it can be observed that during the last decade of 2001-2011, Solapur is growing at much lower growth rate when compared to major cities in Maharashtra. It can also be observed that the growth rate of the population in SMC has been on a declining trend since last three decades.

### 3.10.1 Population Projections (City Development Plan, 2007-2012)

The city development plan (CDP) prepared by SMC in 2007, projected the population of the city for the horizon period till 2031. The CDP while projecting the population adopted a fixed growth rate per annum for the inner city area and extended city areas separately. It was assumed that the inner city area of the Solapur will grow by one percent and the overall city population will grow by three percent.

**Figure 19: Comparison of actual vis-à-vis projected population of SMC as per CDP (2007-12)**



Source: City Development Plan, Solapur (2006-07) and Census of India

As presented in the above chart, the previous CDP had projected that the city will grow to a population of 11.35 lakh by 2011, 15.25 lakh by 2021 and 20.50 lakh by 2031. However the as per the

census 2011 information, city's population has grown to 9.51 lakh as against the envisaged population of 11.35 lakh in the previous CDP. Also it should be noted here that the population growth of the city was provided in the development plan prepared in 1997 and if the population be compared with the projected population in the development plan, there is a substantial gap in the current population vis-à-vis the envisaged population.

### 3.10.2 Method Adopted - Population Projections (Revised CDP – Current)

While comparing the projected population of SMC as per development plan (1997-2017) as well as the CDP prepared in 2006-07, w.r.t the current population as per the Census 2011, it is observed that the population is growing at a slower rate than it was envisaged in the development and CDP.

For the revision of the CDP of SMC, the population has been projected through various methods. The methods adopted for projecting population for the city are polynomial methods, arithmetic increase, incremental increase, geometrical projection, exponential, power, log and growth rate method. The projected population using various methods is presented in table below.

**Table 10: Population projection methods for Solapur**

Sr No	Method	2011	Growth (2001-11)	2021	2031	2041	Growth (21-31)	Growth (31-41)
1	Polynomial 2 <sup>nd</sup> Order	<b>951558</b>	9.06%	1,075,571	1,169,046	1,247,395	8.69%	6.70%
2	Incremental Increase			1,217,591	1,611,357	2,132,857	32.34%	32.36%
3	Geometrical Progression			1,227,327	1,583,016	2,041,786	28.98%	28.98%
4	Exponential			1,294,049	1,623,649	2,037,200	25.47%	25.47%
5	Power			1,052,202	1,148,466	1,238,944	9.15%	7.88%
6	Log			987,268	1,042,332	1,090,030	5.58%	4.58%

Source: CRIS analysis

### 3.10.3 Basic Assumptions for Population Projections

Solapur, when compared to other cities in the state of Maharashtra is growing at a much lower population growth than the other cities of Maharashtra. For the current revision of the city development plan, the population is projected considering the following factors; which will in turn contribute to growth of population in the city.

- It has been planned that a new industrial estate along the Solapur-Pune road will be developed. This industrial estate will create employment and will lead to industrial growth in the city.
- Solapur is the only major urban center in the district; recently many of the cement companies are setting up Cement grinding units which will give a support to the economy activities in Solapur.
- Till now the issue was infrastructure provision was dealt in a piece meal manner in Solapur Municipal Corporation. Recently the administration of the SMC has proactively worked upon providing infrastructure in a holistic manner and prepared master plans for the basic services

i.e. water supply and sewerage. This was a much needed effort from the administration from both the industrial growth as well as the resident population of the city.

- Connectivity to major city of Pune till recently was only through a two lane undivided highway to four lane divided carriage way highway. The national highway authority of India (NHA) in 2009 had taken up a task of upgrading this highway through PPP and the construction activities for the project has already over. This will lead to reduction in travel time from Pune and Solapur and will also be a catalyst for development of industrial estate along Pune Solapur highway.

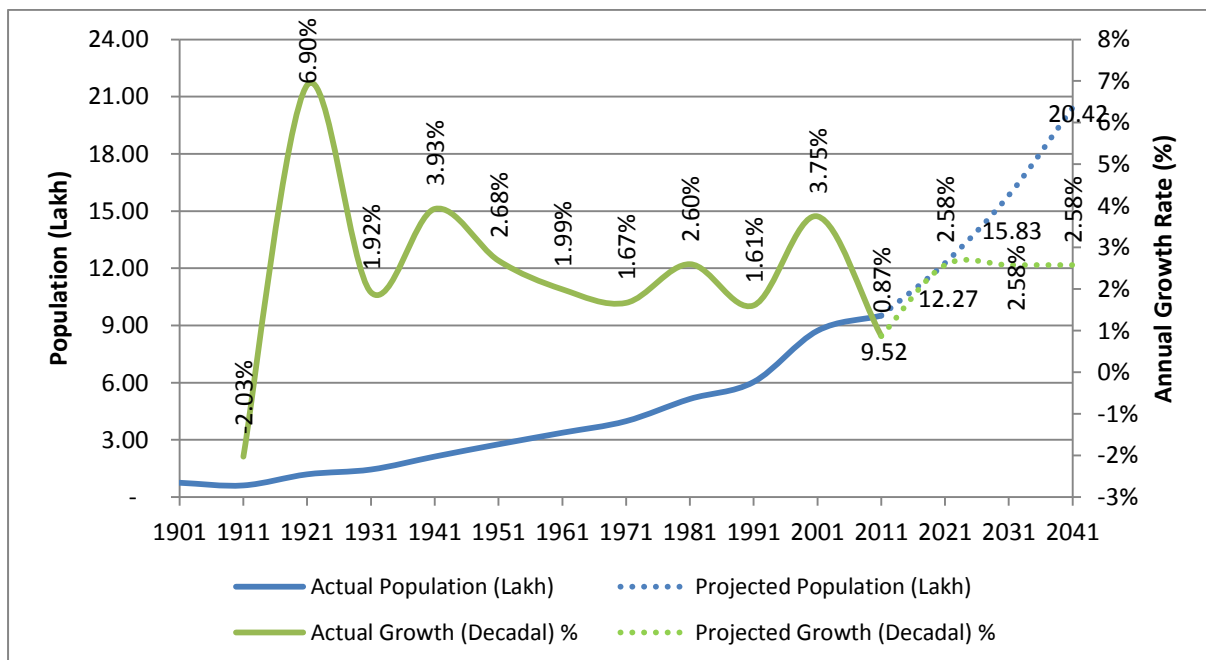
Considering the above mentioned parameters, it is envisaged that the population of the Solapur city will grow rapidly in the current decade and would stabilize in the coming next two decades.

### 3.10.4 Recommended Population Projections

The projected population under various methods has been compared with the population projections finalized in the 1st -generation CDP, water supply master plan and the development plan. The population figures as per the development plan of SMC are presented in section 5.4.1 of this report. The incremental and polynomial 2nd order projections are slightly on the higher side when compared to the population finalized in the water supply master plan.

Based on the above factors, the population trends during the past four decades and the projected population in various studies and methods, the **geometric projection method was found appropriate**. As per this method, the population would increase to 15.83 lakhs and 20.41 lakhs in 2031 and 2041, respectively. The final population projection of Solapur is presented in the figure below.

**Figure 20: Projected Population - Solapur**



It is envisaged that the population of the Solapur would increase by close to 2.63 percent annual growth in the following decades owing to the new industries to be setup in and around Solapur and the infrastructure improvement measures being taken up by SMC. The new Industries likely to come

up are cement manufacturing industries close to Solapur Pune highway. The final projected population is presented in the table below.

**Table 11: Recommended Projected Population (2041) - SMC**

Year	2011 (Actual)	2021	2031	2041
Population	9,51,558	12,27,327	15,83,016	20,41,786
Growth Rates		28.98%	28.98%	28.98%

Source: CRIS Analysis

## 4. Economic Profile of the Town

### 4.1 State's Economic Profile

Maharashtra has 35 districts which are, for administrative purposes, divided into six revenue divisions' viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur. Maharashtra has a long tradition of having statutory bodies for planning at the district level. For local self-governance in rural areas, there are 33 Zilla Parishads, 351 Panchayat Samitis and 27,906 Gram Panchayats. The urban areas are governed through 26 Municipal Corporations, 219 Municipal Councils, 7 Nagar Panchayats and seven cantonment boards.

Mumbai, the capital of Maharashtra and the financial capital of India, houses the headquarters of most of the major corporate and financial institutions. India's main stock exchanges and capital market and commodity exchanges are located in Mumbai.

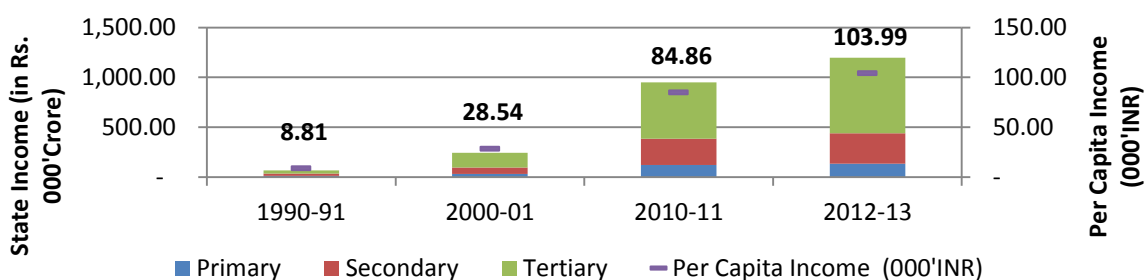
#### 4.1.1 Gross State Domestic Product

As per the state economic census 2013-14, the gross state domestic product (GSDP) at constant (2004-05) prices is Rs. 8,25,832 Crores during 2012-13, as against Rs. 7,77,791 Crores in 2011-12, showing an increase of 6.2 percent as per the first revised estimates. GSDP during 2012-13 at current prices is Rs. 13,23,768 Crores, showing an increase of 12.6 per cent over the previous year.

#### 4.1.2 State Income

The state income during 2000-01 to 2012-13, as presented in the state economic census, has increased from Rs. 2,43,584 Crores to Rs. 11,96,754 Crores at an annual growth rate of 14.19 percent. It should be observed from the figures provided in the economic census, that the share of the primary sector to the total state income has reduced from 13 percent to 11 percent during the period. As against this, the share of the tertiary sector has increased from 60 percent to 63 percent during the same period. Also the share of the secondary i.e. the industrial sector has reduced from 27 percent to 25 percent.

**Figure 21: State income and trend in per capita income of the state**



Source: Economic survey of Maharashtra, 2013-14

Also as presented in the figure, the per capita income during the same period has increased from Rs. 28.54 thousand to Rs. 104 thousand at an annual growth rate of 11.38%.



## 4.2 Industrial Scenario of Solapur district

Solapur being located on an important junction of the North – South railway line, had a good base for industries. There are approximately 98 medium and 8,986 smaller industries in the district. Chaddars, (Solapur bed sheets) have earned Solapur a reputation and fame for their durability and novel designs. The handloom and power loom weaving industry provides employment to a large number of workers. Solapur has the largest Beedi<sup>2</sup> industry in Maharashtra and is also known for its market in oilseeds. It is home to one of the oldest Industry group in India- the Kirloskar group, which sowed the seeds of industrialization by establishing a factory at Solapur way back in 1900. The company was hived off to Kirloskar Ferrous Industries Limited- KFIL. The company is a major industry in Solapur and is instrumental in generating good revenue for the city. Solapur also houses a large industrial estate developed by the Maharashtra Industrial Development Corporation (MIDC) on the Akkalkot road of Solapur. Apart from the MIDC the city also houses the Co-operative industrial estate, Solapur co-operative industrial estate, in the city.

### 4.2.1 Industries in the district

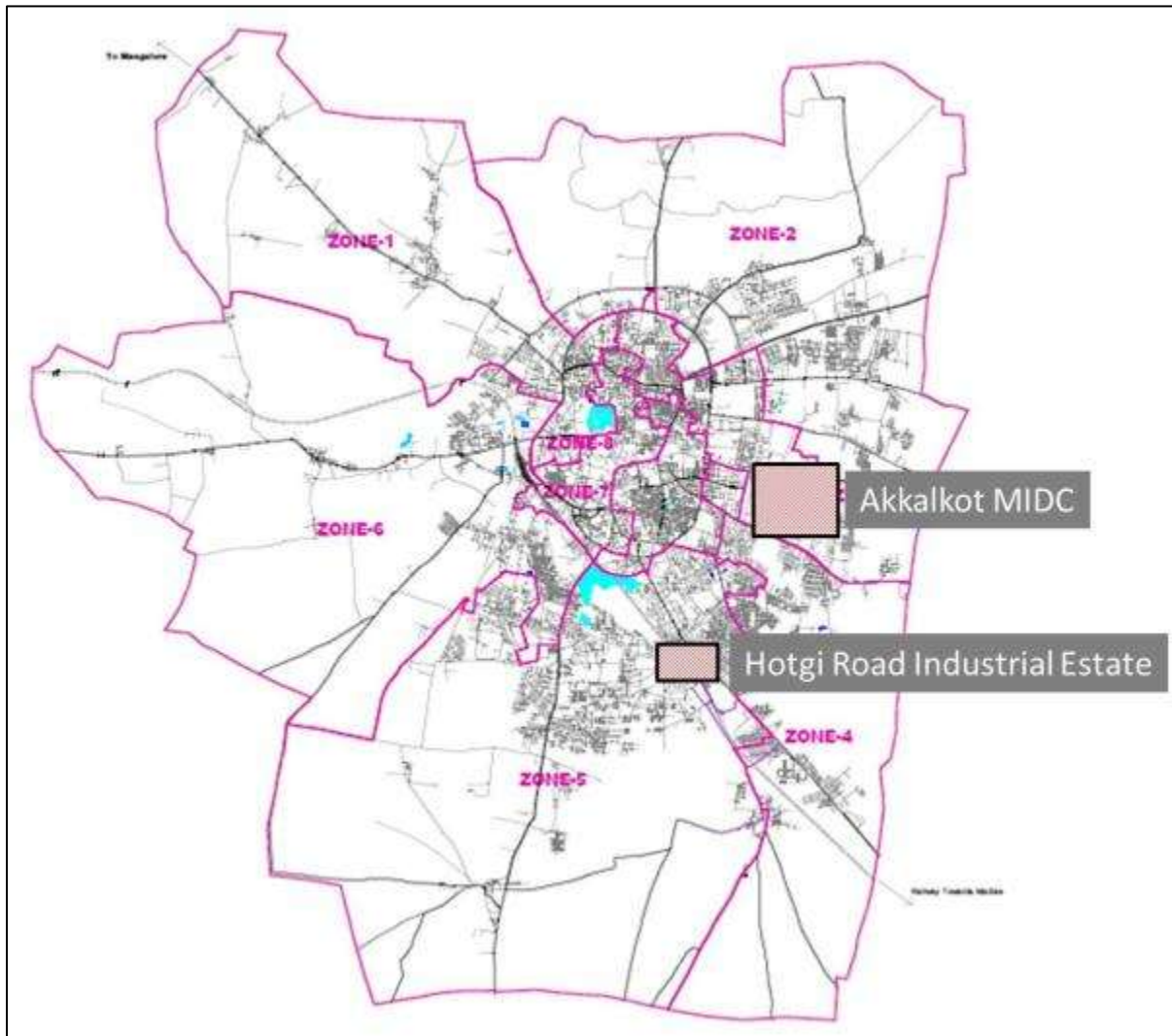
As per the information available from the Ministry of Micro, Small and Medium Enterprises, government of India, Solapur is the home to handloom and power loom weaving industry which provides employment to a large number of workers in the district. There are around 6000 power loom industries operational in the Solapur district. Out of these 300 establishments are registered under Mumbai Shops and Societies Act 1948 and the other 3000 are registered under factories Act 1948. There are about 25000 Power loom and about 30000 workers are employed. On the Jackard power loom the main production is the famous Solapur Chadders (Bed Sheet /Quilt), towels and napkins. These workers receive their payments on the 'Piece Rate' basis, based on category of the product. As the 'Piece Rates' of various products are different there is variation in workers earnings. As per the traditional piece rate system the worker gets Rs. 70 to 90 per day on an average. Beedi industry is the second important industry in Solapur. There are 115 units of 29 various Beedi factories. In these 115 units there are about 70000 lady workers and 1725 factory workers in the district.

## 4.3 Industries in SMC

There are two industrial area housed in the jurisdiction of the SMC. One is the Hotigi Road Industrial Estate which houses the small scale industries and the other one is the MIDC area located close to the Akkalkot road which is called as MIDC-Akkalkot in the local terms.

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<sup>2 2</sup> A beedi is a thin, Indian cigarette filled with tobacco flake and wrapped in a tendu or possibly even *Bauhinia racemosa* leaf tied with a string at one end. Source of definition is Wikipedia

**Figure 22: Location of Industrial areas in SMC**

#### 4.3.1 The Solapur Industrial Co-Operative Estate Ltd, (Hotgi Road)

The Solapur Industrial Co-Operative Estate located on the Hotgi Road was established in 1960. The industrial estate has been provided 65 Acre of land on long term lease for 99 years by the Government of Maharashtra. There are a total of 141 small and medium scale enterprises functioning in this estate and generating direct employment of 2000-3000 as informed by the estate society. Apart from the direct employment, the estate is supporting 10000-15000 dependents of the employees working in the industrial estate. All the plots available for the allocation for setting up a small scale industry are already been allotted and there is no scope for expansion in this industrial estate. Major industries setups in this industrial estate are;

- Chetan Foundry Limited
- Saibaba Cotton Waste Spinning Mill
- Premier Filters private limited
- Laxmin Industries

These industries are facing major issues w.r.t provision of infrastructure and maintenance thereof by the SMC. Based on the discussions with the industries following issues emerged which needs to be addressed.

- **Roads:** The roads inside the premises of the Industrial estate were constructed 10-15 years back and are not maintained since then. Leading to bad condition of the internal roads. Since the association does not have the sufficient funds and expertise to repair the roads, the condition of roads has worsen.
- **Street Lights:** The Corporation has not provided the street lighting inside the estate area and the same is being provided and managed by the association of the industrial estate itself.
- **Drainage:** As per the information made available during the discussions, only 30-40% of the area under the estate has been covered under the drainage and the industries located in the non-covered areas are discharging their waste in to open gutters. Since there are no industries in this estate generating harmful effluent, it is not creating the any kind of pollution in the estate.
- **Water Supply:** Availability of water in the industrial estate is a major concern. The estate was allocated a plot for construction of a water tank in 2002. The SMC constructed the elevated water tank in the allotted plot and in 2005-06 and since then the water tank is not filled with water since scarcity of the water. The industries are resorting to use the water through tankers for the industrial as well as the potable uses.
- **Waste Management:** There is no service w.r.t waste collection and disposal is provided by the SMC in the industrial estate. During the visit to the estate for discussions it was also found that the bins for secondary collection of waste are too not provided in the estate area.

#### 4.3.2 MIDC – Akkalkot Road

The MIDC Akkalkot was established in 1972 admeasuring an area of 216.48 Hectares. Of the total industries units in this MIDC, 73% units are textile units manufacturing chaddars, terry towel and napkins. There are total 657 units functioning in this MIDC area the breakup of which is provided in the table below.

**Table 12: Type of Industries in MIDC-Akkalkot**

Sr No	Type of Unit	Number of Units	% of total
1	Fabrication	6	0.91%
2	Engineering and Pharmacy	18	2.74%
3	Chemical	17	2.59%
4	Electrical/Tiles/Tyre/Pharma	140	21.31%
5	Textile Units	476	72.45%
	<b>Total</b>	<b>657</b>	<b>100%</b>

Source: MIDC Akkalkot

Prior to the expansion of the municipal limits of SMC, the MIDC was outside the SMC limits and supply, operation and maintenance of the infrastructure within the MIDC area was the responsibility of MIDC. In 1992, with increase in the municipal jurisdiction of SMC, MIDC became the part of SMC municipal area. Recently a three million liters a day (MLD) capacity of an effluent treatment plant (ETP) was constructed by the MIDC under the financial assistance from the textile cluster

infrastructure development scheme (TCIDS) initiated by the Government of India. There are approximately 60,000 people working in the MIDC and approximate annual turnover of this MIDC is Rs.960 Crores. The major issues faced by the MIDC are the infrastructure requirement and maintenance thereof by the SMC following concerns are raised by the MIDC officials during the discussions

- Transport facilities for the workers to and fro to the industrial estate.
- Warehouse facilities for the small scale power loom industries.

### 4.3.3 Beedi Industry in SMC area

Beedi rolling is another major economic activity in Solapur area employing about 80,000 people of which majority are women. The Beedi industry is almost 100 years old and there is an association looking after the welfare association of the workers in this industry. There are approximately 14-15 license holders in SMC area involved in manufacturing and trading of the finished Beedi. A worker in this industry rolls approximately 1000 beedi per day and receives Rs.114 per (January 2014 rates) 1000 rolled beedi. The workers in this industry also get maternity benefits, provident fund, bonus and leave from their employer. As per the annual report of the Laal Batwa Beedi Kaamgar union of 2010-11, there are a total of 23 brands of Beedi which are manufactured in the Solapur city. Following are the factors emerged in reduction of the output of the beedi industry;

- Prior to 1989, the sale and purchase of the Beedi Patta (Tendu Leaves) was not monitored by the Government i.e. the forest department. In 1989, the Government of India made this Tendu Leaves as Nationalized Non-Wood forest produce and the transaction of these leaves was governed by the Government. The led to limited choice availability to the purchasers at the rates fixed by the Government.
- The United States of America banned the import of the Beedi from India owing to the reports stating involvement of child labor in the Beedi Industry.
- The Government promotion of ban on smoking led to further reduction of the production.



## 4.4 Informal Commercial Activity

Street vending is an indispensable economic activity in urban India. It is the largest informal sector which caters to the livelihood of the urban poor. Since the era of economic reform in the country, the sector has faced many challenges. Street vendors count for about 2 per cent of the population and provide 'affordable' as well as 'convenient' services to a majority of the urban population.

Report on Conditions of Work and Promotion of Livelihoods in the Unorganized Sector, 2007 of the National Commission for Enterprises in the Unorganized Sector (NCEUS), suggest that the vendors'

earnings are very low although they vary from trade to trade and from location to location. The men's average daily income is around Rs. 70 in most cities and women earn considerably less – Rs. 40 per day.

Articles 39 (a) of the Constitution clearly mention that the State shall in particular direct its policy so that - (a) the citizens, men and women equally, have the right to an adequate means of livelihood. To improve the condition of urban street vendors, Government of India made numerous legislative attempts starting from the regulation of hawker trade in Bombay Municipal Corporation in 1980 till The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.

Of the major attempts made, The National Policy on Urban Street Vendors, 2009<sup>3</sup> was a comprehensive attempt that promoted spatial, legal and participative means of improving the conditions of the urban street vendors. According to this policy, a 'Street Vendor' is defined as 'a person who offers goods or services for sale to the public in a street without having a permanent built-up structure.' The policy was somewhat similar to its predecessor and got a feeble response from the states, to overcome the shortcomings of this policy a draft bill entitled 'Model Street Vendors (Protection of Livelihood and Regulation of Street Vending) Bill, 2009 was introduced but Governments did not take sufficient legislative action. However, the Bill was critiqued to have ignored many pressing issues. The foremost problem that it overlooked was the issue of natural markets which sprang up in places where consumers found them useful. Further, it ignored the vending rights of those who were already selling on the street, still the policy was somewhat able to recognize certain issues related to the street vendors and has provided certain powers to ULBs to regulate, monitor and promote street vendors in towns / cities.

The policy recognized and explicated the positive role of street vendors in providing essential commodities to people at affordable prices and at convenient places. It also recognized the need for regulation of street vending by way of designated 'Restriction-free Vending', 'Restricted Vending' and 'No Vending' zones based on certain objective principles. Overall the Policy meant to foster a congenial environment for the urban street vendors to carry out their vocation and at the same time ensuring that it does not lead to overcrowding or unsanitary conditions at public spaces and streets.

#### **4.4.1 Street Vending in SMC area**

Street vending is not a prominent activity in the city. However there are certain locations such as Hutatma chowk, Siddeshwar Temple road, Station Road, Central Bus stand road, etc. in the city where the night street food markets are present.

#### **4.4.2 Specific Norms for the Urban Local Bodies**

- Spatial Planning norms - demarcation of vending zones
  - ◆ The demarcation of hawking zones should be city/town specific. The master plans, zonal plans etc. should take into account the natural propensity of the street vendors to locate

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<sup>3</sup> In 2004, the National Urban Street Vendors Policy (NSVP) was announced. It was the first national level regulatory framework on street vending which was left to the States to adopt and implement. In 2009, the NSVP was revised and a Model Draft Bill on the subject was presented by the Central government. The States and Union Territories were to implement the National Policy for Street Vendors of 2004, taking into account this Model Bill. However, it received a feeble response from the States and soon demands were made for a mandatory central legislation on the subject. (National University of Juridical Sciences, 2012)

in certain places at certain times in response to patterns of demand for their goods/services.

- ◆ City authorities should provide sufficient spaces, designated as 'vendors markets' in layout plans at locations of natural markets and they should permit mobile vending in all areas even outside the designated markets, unless designated as 'no-vending zone' through a participatory process.
  - ◆ Designation of vendors markets / no-vending zones should not be left to the sole discretion of any civic or police authority but must be accomplished by a participatory process by a Town Vending Committee ( which for large towns / cities may be constituted on the basis of wards ) whose membership may be as follows: Municipal Authority, Traffic and Local Police, Public Land Owning Authority, Associations, Representative from associations of Street vendors, representative from lead Nationalized Bank / Commercial Bank.
- **Quantitative norms-** refer to the norms on amount of space and facilities to be provided for vendors' markets by the civic authorities. At the town / city level enough space should be designated for vendors' markets at least to the extent of 2% to 2.5% of the total city population. The facilities that are required to be provided at the vendor markets invariably include: solid waste disposal facility, Public toilets to maintain cleanliness<sup>4</sup>, Aesthetic design of mobile stalls/ push carts, electricity, drinking water facility, protective covers to protect their wares as well as themselves from heat, rain and dust and Storage facilities including cold storage.
  - **Regulatory Process:** The policy thrusts on having the system of registration of hawkers and non-discretionary regulation of access to public spaces in accordance with the planning standards and nature of trade/ service. The **Town vending committee<sup>5</sup> / Ward vending Committee** has the power to register the vendors<sup>6</sup>. All vendors in each city should be registered at a nominal fee and the registration should be renewed after every three years. The TVC should issue identity cards to the vendors and it should charge a monthly fee for access to various services. For better system of regulation, there should be direct linkage between the urban local bodies (ULBs) and hawkers for collection of: registration fee, - monthly maintenance charges<sup>7</sup>, fines, if any, etc. The Town vending Committee / Ward Committee should monitor the hawking activity of a particular ward and the quality of the services provided, take corrective action, if required, report to City level Committee, if required and recommend revaluation / changes in specified norms for hawking.<sup>8</sup>

<sup>4</sup> In spite of the government's fervent concern regarding public sanitation and safety, a number of public events, bazaars, religious festivals and other activities take place on our streets with the whole-hearted approval of government authorities.

<sup>5</sup> The committee has no fixed tenure and there is no removal mechanism mentioned.

<sup>6</sup> The National Policy on Urban Street Vendors, 2009. Under Provision 4.5.4 of this Policy, the Municipal Authority is under an obligation to undertake a comprehensive census of the existing vendors in consultation with the Town Vending Committee for the purpose of granting them lease to vend. Hence, we see that here the burden of registration is on the Municipality, which significantly smoothens the exercise of registration and to a large extent simplifies the process for street vendors.

<sup>7</sup> Every street vendor is under an obligation to pay periodic maintenance charges for the civic amenities and facilities provided in the vending zone as may be determined by the local authority. Thus, these provisions impose a monetary burden on street vendors.

<sup>8</sup> Concentration of powers in the hands of the municipal authorities that do not have any representation of street vendors.

## 4.5 Occupational Structure

The composition of the work force conveys a picture of the way of life of the people and their social and economic activities. The total work force is 354935 in 2011. The majority of the work force is main workers, 93% of the working population is main workers, and 7% are marginal workers.

**Table 13: Sectorial distribution of workers in Solapur**

Year	Sector	Workers	Non Workers	Primary	Secondary	Tertiary	Non-Workers
1971	% of total population	113374	284987	0.82	15.02	12.62	71.54
	% of working population			2.88	52.76	44.36	-
1981	% of total population	159853	354807	0.55	2.16	28.35	59.41
	% of working population			1.76	6.95	91.29	-
1991	% of total population	187609	416606	0.75	14.62	15.68	32.72
	% of working population			2.38	47.08	50.54	-
2001	% of total population	303622	568856	1.14	6.03	27.63	65.2
	% of working population			3.26	17.32	79.42	-
2011	% of total population	354931	596627	1.28	4.04	31.98	62.7
	% of working population			3.44	10.83	85.74	-

Source: Census of India 2011 and SMC CDP.

From the above table it can be inferred that the sectorial distribution of workers shows that the major concentration is in the tertiary sector, owing to gradual shift from the secondary sector. It can be observed from the data of the last decade that the percentage of secondary workers compared to the total workers has reduced from 47.08% in 1991, to 17.32% in 2001 to 10.83% in 2011.

The reasons behind reduction in the population working in the secondary sector can be attributed to the diminishing growth of the industries in the city. Also another key observation from the above can be referred is that the population working in the tertiary sector has grown from 50.54%, to 79.42% to 84.74% during the same period. This implies that population working in the secondary sector in the city is taking up jobs and work in the trade and commerce activities resulting in to increase in the population working in the tertiary sector. The character of the city has changed from being a traditional industrial city to a district level hub for the trade and commerce activities in the district. Following are the major activities in the city which leads to the tertiary employment for the workers in the city.

- District level agricultural produce market
- Presence of higher educational facilities
- Presence of better healthcare facilities
- Major trade center connected to Pune.
- Headquarters for district administration
- Presence of large scale retail activities supporting the existing textile industries.
- Weekly trade markets in the city

- Major linkage of trade routes of the major trade centers within the Solapur district.
  - ◆ Sholapur-Nanded via latur
  - ◆ Kolhapur-Miraj-Sholapur trade route
  - ◆ Satara-Pandharpur-Sholapur trade route
- Tourism facilities for the major fairs in the city i.e. the famous Gadda Yatra,
- Tourism activities for the tourists visiting the important tourist destinations in and around the city.

## 4.6 Workforce Participation Rate

The worker population of the SMC has increased by decadal growth rate of 17% during the last decade with an annual increase in the worker population of 1.57%. As compared to this the non-worker population which contributes to 60-65% of the city's population has grown by a decadal growth of 4.88% with an annual increase of 0.48%. According to the provisional Census of 2011, the workforce participation rate (WPR) in SMC has improved marginally from 35% to 37% during the last decade. The table below shows the WPR for Solapur.

**Table 14: Work participation rate**

S. No.	Details	2001	% of total Pop	2011	% of total Pop	Growth (%)	CAGR (%)
1	Total workers (main + marginal)	303,590	34.80	354935	37.30	16.91	1.57
2	Total Non-workers	568,888	65.20	596623	62.70	4.88	0.48
	<b>Work Participation Rate (WPR)</b>		<b>34.80</b>		<b>37.3</b>	-	-

Source: Census of India

## 4.7 Workers Classification

The workers' classification has been carried out on the basis of main workers' data available from 1981 to 2011. The workers have been classified into the primary sector, secondary sector and tertiary sector. The primary sector workers comprise agriculture and cultivation labourers. The secondary sector comprises manufacturing and household industries. The tertiary sector comprises workers involved in the service sector, trade and commerce, and informal business activity.

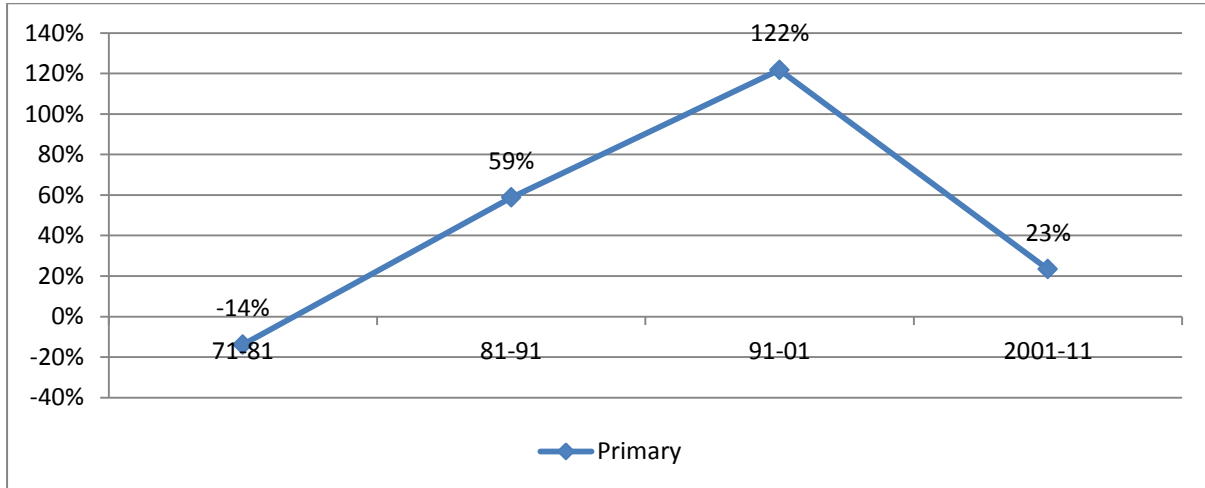
### 4.7.1 Primary Sector

As indicated in the figure below, the main workers involved in the primary sector have registered an improved growth rate from negative 14% in 1971-81 to 59% in 1981-91. This further improved to 122% in 91-01, due to increase in urbanization in the city; also, there was a shift from agriculture and cultivation to the industrial and service sectors. On the other hand, the present decade (2011) has registered a nominal growth rate of 23% as compared to 2001. In absolute terms, the primary sector workers increased in number from 9898 in 2001 to 12210 in 2011.



In view of the urbanization potential of the city, it is predicated that agricultural practice in the newly merged areas would be restricted. Hence, the primary sector may be steadily decreasing from the next decade onwards as happened during 1981 to 2001.

**Figure 23: Primary sector growth from 1971 to 2011**



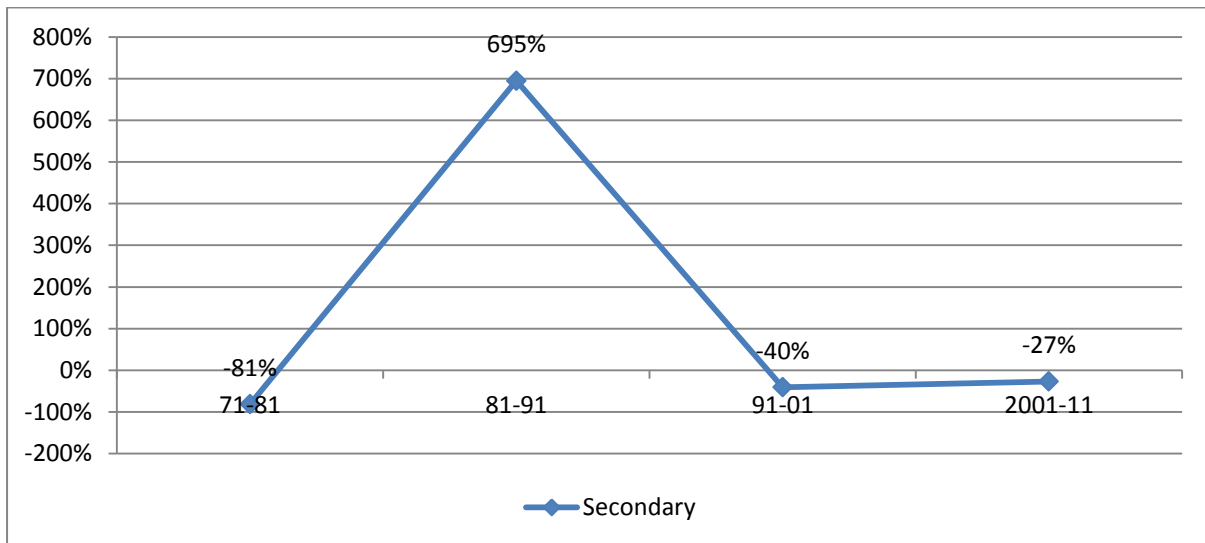
Source: Census of India and CDP of Solapur

#### 4.7.2 Secondary Sector

As indicated in the figure below, the trend in the secondary sector’s growth rate has been inconsistent over the last three decades due to fluctuating industrial scenario in the city. The growth rate showed a drastic variation from negative 81% in 1971-81 to 695% in 81-91 and subsequently declined to negative 40% in 91-01. This decline in growth was due to diminishing industrial growth in the city and closures the erstwhile mills in the city.

In the present decade (2001-11), the growth has marginally improved to negative 27% from negative 40% in the previous. In absolute terms, the net decrease in main workers is 14,148. It has been observed that except for the agricultural resource-based industries, there is no scope for the development of secondary sector activities in the city.

**Figure 24: Secondary sector growth from 1971 to 2011**

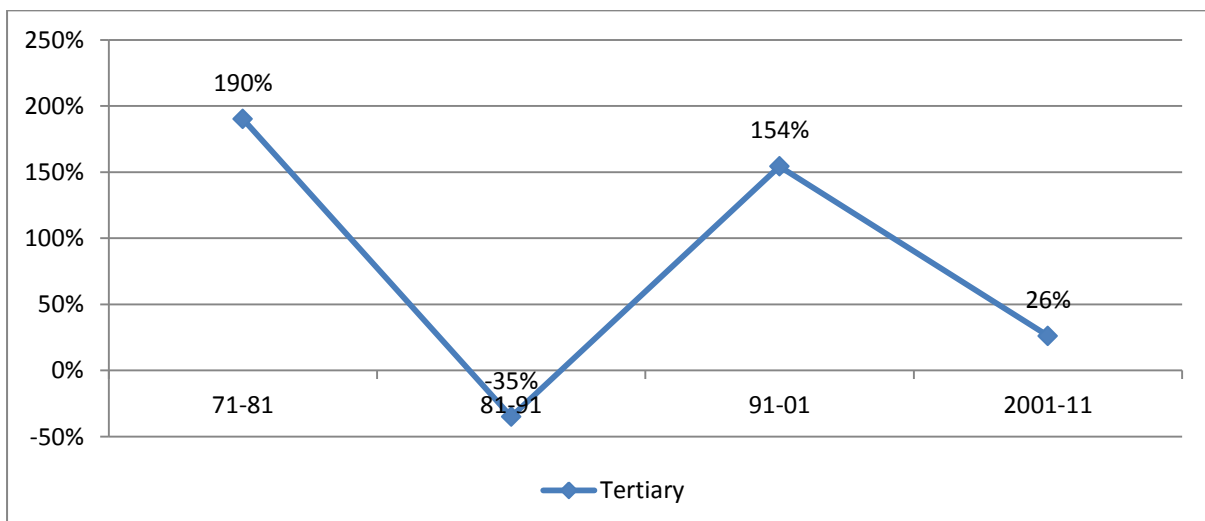


Source: Census of India and CDP of Solapur

### 4.7.3 Tertiary Sector

As indicated in the figure below, the main workers in the tertiary sector registered a growth rate of 190% in 1971-81 which increased to negative 35% in 1981-91. During the successive decade, the growth rate improved to 154%. During current decade (2001-11), it declined to 26%. In absolute terms, workers in the tertiary sector increased from 2.41 lakhs in 2001 to 3.04 lakhs in 2011. This was because the city offered ample opportunities in trade and commerce and the service sector. Further, the informal economy is proliferating and is promoting livelihood opportunities.

**Figure 25: Tertiary sector growth from 1971 to 2011**

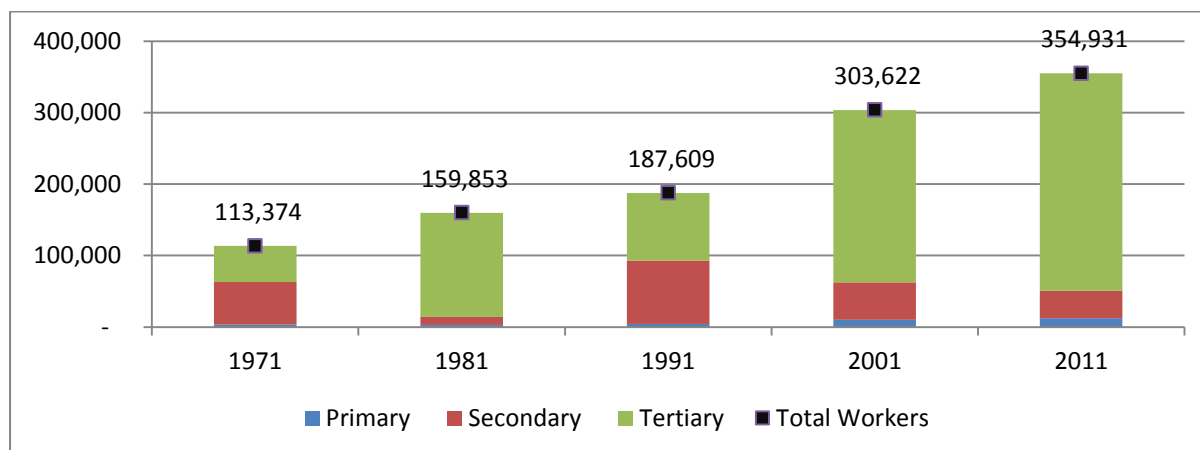


Source: Census of India and CDP of Solapur

Overall, there was a shift from the primary sector to the tertiary and secondary sector during the decade 1981 to 2001. However, the trend has reversed in the present decade because of merging of new areas which are primarily engaged in agriculture. Except for the decade 1991 to 2001, there has been no growth in the secondary sector. The tertiary sector has emerged as a major contributor to the

economy in the last three decades. As indicated in the figure below, the growth rate in total main workers was nominal during 2001.

**Figure 26: Sectors' Performance from 1971 to 2011**



Source: Census of India and CDP Solapur

## 4.8 Key Issues

- From the assessment of the workers population in the city during last four decades, following observations are made;
  - ◆ Workers in the secondary sector have reduced from 53% in 1971 to 11% in 2011 of the working population. This represents the diminishing growth of the manufacturing sector.
  - ◆ Workers in the tertiary sector have increased from 44% in 1971 to 86% in 2011. This implies that the activities in the economic activity in the city have shifted from the manufacturing base to the trade base.
- The city needs diversified economic base to increase the availability of the employment opportunities in the city.
- The city needs to provide a growth regime for the industries to open up new units in and around the city.
- Warehousing areas for the textile industries are lacking in the city. By providing additional warehousing facility through alternative financing modes support to the industry could be provided.
- Major issues faced by the industrial estates in the city are of unavailability of the water required for the industrial uses. This leads to shifting of the industries outside from Solapur.
- As discussed in the section, current industries in the city are facing lot of issues due to non-availability of appropriate infrastructure and allied services. An improved infrastructure services in the industrial area of the city will provide support to the industries.
- Connectivity from the residential areas to the industries needs to be enhanced by the corporation.
- Currently waste generated from the industries is dumped in the open nallas. Common effluent treatment plants for the industrial estates are required.
- Plots in the Akkalkot MIDC are already allotted and there are no plots available for any future growth.

## 5. Physical Planning and Growth Management

### 5.1 Constituents of Planning Area

Solapur Municipal Corporation (SMC) was established on 1<sup>st</sup> May 1964, with 23.23 km<sup>2</sup> jurisdiction area. The Corporation was constituted under the provisions of Bombay Provincial Municipal Corporations Act, 1949, (now Maharashtra Municipal Corporations Act, 2012) and is also governed by the provisions of 74<sup>th</sup> Constitutional Amendments Act 1992 (CAA). Municipal jurisdiction of SMC was expanded at various times. Presently the municipal jurisdiction of SMC covers 178.57 km<sup>2</sup> area which accommodates population of 9.51 lakh as per Census 2011. The time-line for original city extension is presented below:



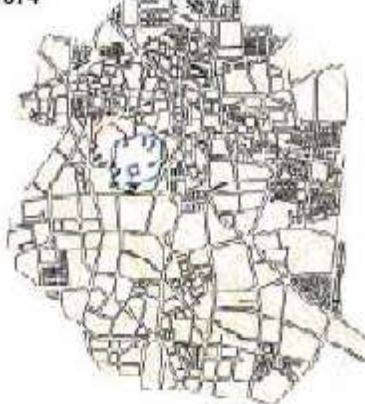



**Table 15: Chronology of events in expansion of Solapur municipal limits**




Date	City Limit Details	Extension	Area in km <sup>2</sup>
29/09/1967	Original City Limit		23.23
01/07/1979	Vijapur and Hotgi road area included in SMC	First Extension	2.30
01/04/1989	Salgarwadi, Beedi Kamgar Vasahat and S.No. 23 of Shelgi added in SMC	Second Extension	7.50
05/05/1992	Thirteen surrounding villages included in SMC	Third Extension	145.54
<b>TOTAL</b>	<b>Area as on 05/05/1992</b>		<b>178.57</b>

Source: Solapur Development Plan, 1997-2017

#### 5.1.1 Development of Solapur City

As reported in the city development plan of Solapur, the Solapur municipal council was established on 1<sup>st</sup> August 1852 and since then development of Solapur city begun once the railway line to Solapur was established in 1860. The CDP prepared by the SMC provides the details of the spatial growth of the city over a period of time which is presented below as well.

<p><b>1866</b></p>  <p>The Municipal limit first defined in 1865 includes 13 Peths with the population of 28616. Opening of Solapur Railway station</p>	<p><b>1872</b></p>  <p>During this period Municipal limit was extended to include 19 Peths with population of 53403</p>	<p><b>1874</b></p> <p>18/4</p>  <p>Additional development at this stage includes Modikhana and Sardar bazar</p>
<p><b>1881</b></p> <p>B1</p> 	<p><b>1893</b></p>  <p>Additional development at this stage includes</p>	<p><b>1927</b></p> <p>1927</p>  <p>Addition of area of Shekij Village.</p>

<p>Additional development at this stage includes Solapur Mill and N.G Mills and surrounding area</p>	<p>Goli Bar Maidan</p>	<p>Addition of Shelgi Village in the North</p>
<p><b>1955</b></p>	<p><b>1978</b></p>	<p><b>1989</b></p>
 <p>Addition of area of Ex-criminal tribes settlement (Settlement colony). Municipal Corporation</p>	 <p>1978</p> <p>1<sup>st</sup> extension area along Hotgi and Bijapur road</p> <p>First Extension area along Hotgi and Bijapur road</p>	 <p>1989</p> <p>2<sup>nd</sup> Extension area i.e. Salgarwasti, Beedi Kamgar Vasahat some area of Shelgi Village</p>

Source: CDP Solapur

### 5.1.2 Urban Planning in Solapur

The urban planning function of Solapur has been managed by the town planning department of SMC as per the Maharashtra regional and town planning (MR&TP) Act. The town planning department of the SMC is the responsible for preparation and implementation of the development plan. Since the department lacks the in house capacity of preparing the development plan, the state government of Maharashtra deposes an assistant director of town planning (ADTP) for preparation of the development plan. Current development plan (1997-17) was prepared under the assistance from the ADTP.

The development plan for Solapur, prepared in 1997 and approved in 2004, describes the existing as well as the proposed land use for Solapur. As per the development plan, twenty percent of the city area (mainly the core city area) is developed and it accommodates various urban amenities along with the residential area. Total undeveloped area constitutes about 80% of the total land in the city. This is mainly due to the expansion of the city limit to 178.57 km<sup>2</sup> by merging additional 13 villages and the area, which remained undeveloped due of lack of basic infrastructure. Following figures are the development plan prepared for the original city limits (Plan-B) and the extended limits of the city (Plan-A). It should be noted here that during the visits to the city the department of town planning of the city revealed that development of the extended areas cannot be taken up by the corporation because of lack of sufficient funds and technical expertise.

Figure 27: Plan-A Development plan for extended areas of Solapur (1997-2017)

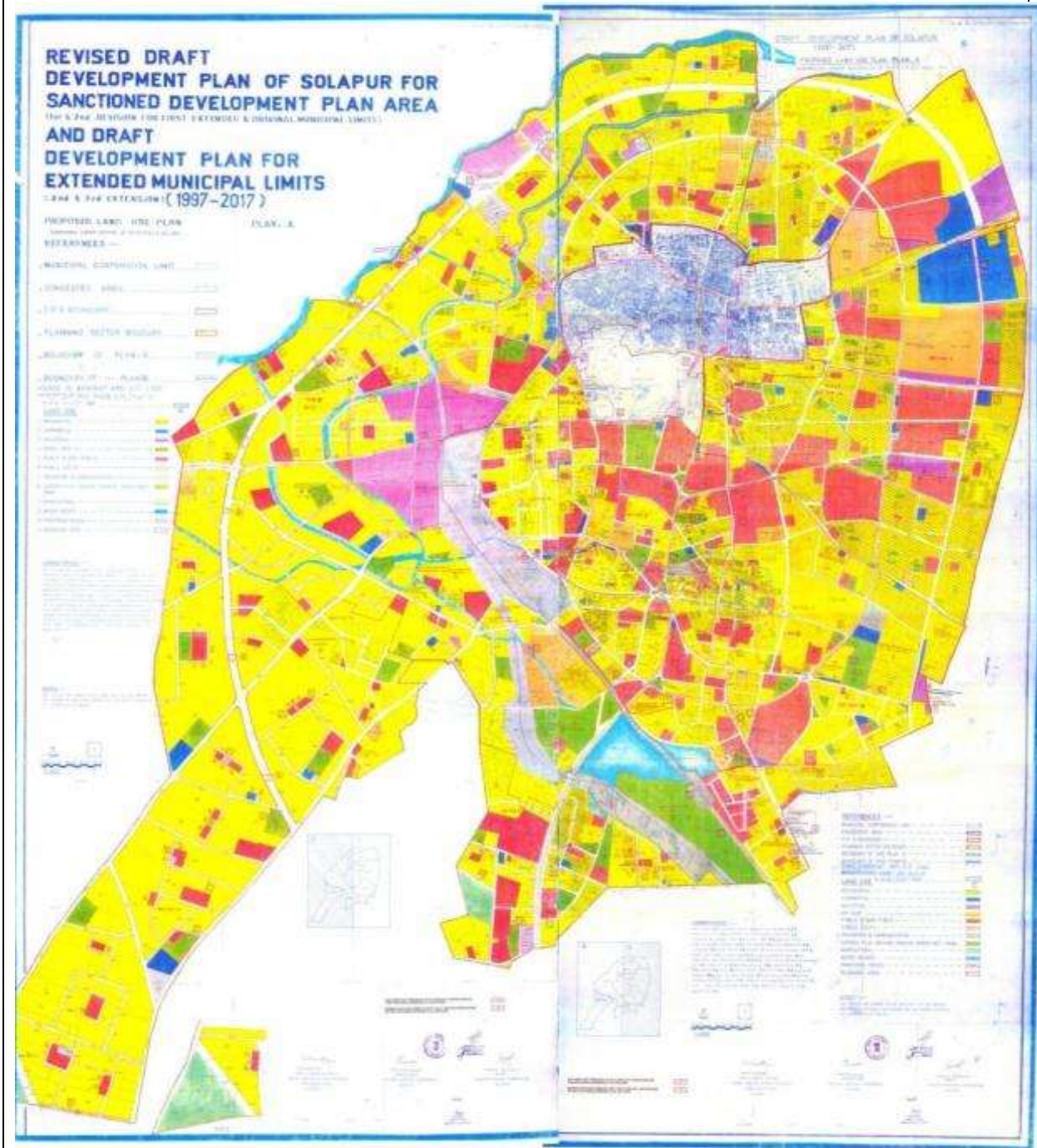
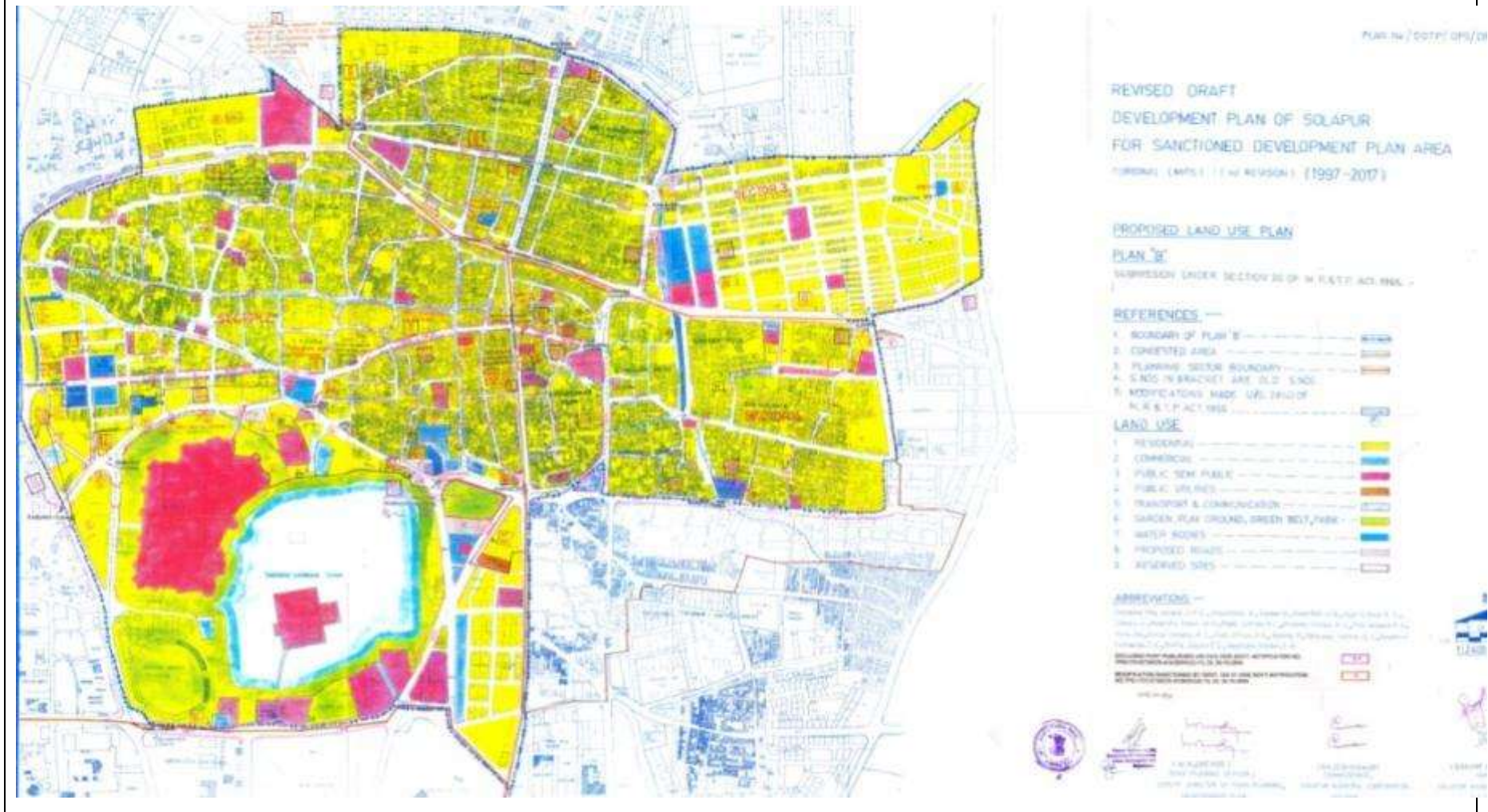




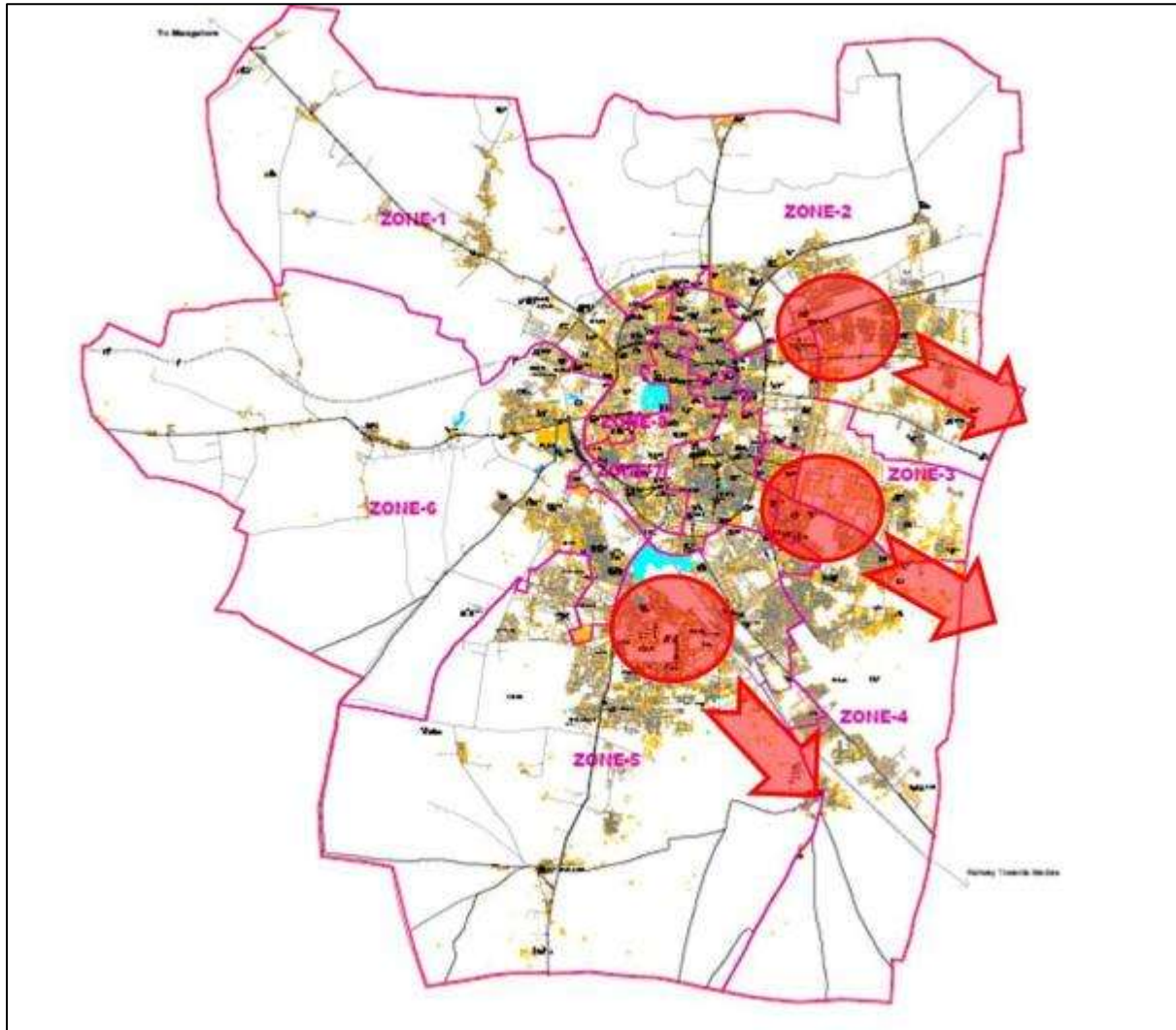
Figure 28: Plan-B Development plan for original city limits of Solapur - 1997-2017



## 5.2 Spatial Growth Trends

Solapur has access points from all the four direction. From the north Beed-Solapur highway is entering in to city and in the south direction the national highway 13 connects Solapur with Managalore. The state highway 151, which passes through the Solapur, connects Barshi with Akkalkot in Solapur district.

**Figure 29: Growth directions of Solapur City**



Based on the discussions with the town planning department of the SMC, it can be mentioned that the city is growing in the direction along the roads connecting to Hyderabad and Akkalkot. The main reason attributable to the growth direction may be the proximity to the MIDC located between the Akkalkot road and Hyderabad road and major work force working in this industrial estate comes from Andhra Pradesh and Karnataka. Also it should be noted that the growth of the city is happening at a very slow pace, as only 20% of the area has been developed when compared to the development plan prepared in 1997 which was approved by the State Government in 2004.

## 5.3 Land Use Analysis

The development plan for Solapur city, prepared in 1997, describes the existing (1994) as well as the proposed (2017) land use pattern for Solapur. As per the development plan, 25% of the city area was developed and it comprised of various urban amenities along with the residential area. The total undeveloped area constituted about 75% of the total land under the jurisdiction of the SMC. This was mainly due to the expansion of the city limit to 178.57 km<sup>2</sup> including additional 13 villages and the area around which remained undeveloped because of lack of infrastructure.

### 5.3.1 Existing Land Use

Table below presents the land use break up in Solapur. Since the current land use break up for the SMC area is not available, the prevailing land use presented in the development plan is presented here. The development plan proposed an increase in the residential area from 1160.4 ha to 6513.41 ha an aggregate increase of 461%. However as per the discussions with the department officials, there is no significant development in the extended areas of the city due to lack of infrastructure and basic amenities.

**Table 16: Land-use proposed in the Development plan of Solapur**

Land Use	Existing (1994)			Proposed (2017)		
	Area (Ha)	% of Total Area	% of Developed Area	Area (Ha)	% of Total Area	% of Developed Area
Residential	1160.4	6.50%	25.44%	6513.41	36.47%	56.59%
Mixed Use	121.2	0.68%	2.66%	1191.97	6.67%	10.36%
Industrial	287.2	1.61%	6.30%	452.76	2.54%	3.93%
Commercial	167.5	0.94%	3.67%	204.96	1.15%	1.78%
Transport and Communication	896.2	5.02%	19.65%	1027.08	5.75%	8.92%
Public and Semi Public	680.84	3.81%	14.93%	652.9	3.66%	5.67%
Public Utilities	40.96	0.23%	0.90%	75.48	0.42%	0.66%
Garden, play ground				260.75	1.46%	2.27%
Burial Cremation Ground	76.96	0.43%	1.69%	84.81	0.47%	0.74%
Water Bodies	377.43	2.11%	8.27%	492.04	2.76%	4.28%
Agricultural Land	11926.61	66.79%	-	6348.34	35.55%	55.16%
Vacant Land	1369.2	7.67%	-	-		
SPA-I (MIDC+MHADA <sup>9</sup> )	460	2.58%	10.08%	553	3.10%	4.80%
SPA-II (MHADA)	293	1.64%	6.42%			

<sup>9</sup> MIDC – Area under the Maharashtra Industrial Development Corporation and MHADA is the area under the Maharashtra Housing and area development authority.

land Use	Existing (1994)			Proposed (2017)		
	Area (Ha)	% of Total Area	% of Developed Area	Area (Ha)	% of Total Area	% of Developed Area
Total Area	17857.5	100.00 %		17857.5	100.00 %	
Developed Area	4561.69	25.54%		11509.16	64.45%	
Un Developed Area	13295.81	74.46%		6348.34	35.55%	

Source: Development Plan of Solapur (1997-2017)

### 5.3.2 Comparison with URDPFI guidelines<sup>10</sup>

The land use of Solapur as provided in the development plan has been compared with urban and regional development plan formulation and implementation (URDPFI) guidelines to assess the adequacy of existing areas under various land uses. As indicated in the table below, the city lacks adequate land use share under residential, industrial, public and semi-public, and recreational categories. Commercial and transportation use is meeting URDPFI guidelines.

**Table 17: Existing land use and comparison with URDFI guidelines**

Category	URDPFI guidelines	Existing	Meets the benchmark
Residential	40-45%	25.44%	<b>No</b>
Commercial	3-4%	3.67%	Yes
Industrial	8-10%	6.30%	<b>No</b>
Public & Semi Public	10-12%	14.93%	Yes
Recreational	18-20%		Yes
Transportation	12-14%	19.65%	Yes
Agricultural/Vacant/Forest and water bodies	<b>Balance</b>	<b>74.46%</b> <sup>11</sup>	-

#### 5.3.2.1 Residential

Out of total developed area, residential development is about 25%. The core residential area is encompassed within the inner ring road. This core area is developed along north-western side of the Siddheshwar temple. The recent developments are observed between the Bijapur and Hotgi road on the Southern side of temple.

The residential development is mainly observed as highly dense multiple and single family, detached dwellings. The high density residential units have developed in form of squatter development. This

<sup>10</sup> For large cities – 5 lakhs to 10 lakhs population

<sup>11</sup> Land Use comparison for SMC has been carried out w.r.t the developed area of the town. The area under the Agriculture uses and vacant land are considered as un-developed area which in case of SMC are substantial i.e. up to 75% of the overall land use. This variation in the use of the land is due to expansion of city limits in 1992 from 33.33 km<sup>2</sup> to 178.57km<sup>2</sup>.

development was observed mainly after the industrial downfall in Solapur. Mixed land usage has marginally developed which occupies about four percent of total developed area. In the core city mixed development in form of commercial and residential is observed whereas in the eastern part of Solapur mixed development is developed in the form of small scale industry (Beedi factory) and residential.

### **5.3.2.2 Commercial**

The commercial use is spread over an area of 3.67% sq. km. It is observed that the share of commercial land use is meeting the URDPFI requirement. This is due to the fact that the city is a commercial center of the district apart from being a district headquarters. Also, traditionally Solapur being an industrial city, it has also become a major center for allied trade and commerce activities. The commercial areas are located in the central part of the core city such as Shanivar Peth, Mangalwar peth, Laxmi Market area etc.

### **5.3.2.3 Industrial**

The industrial development occupies 6.30% of the total developed area. After the textile crisis in 1981 the Industrial growth within the city diminished. Most of the industrial development had developed along the outer ring road on the eastern and western side. The Beedi industries in the form of small scale industries have developed in the south-eastern part. In Solapur the Akkalkot Road MIDC estates is spread over 216.48 hectare. The MIDC was established in 1972 and is located on east side of Solapur city.

### **5.3.2.4 Public and Semi Public Zones**

The public, semi-public area which includes schools, hospitals, crematorium ground, public gardens, parks open spaces and libraries occupies 20.30% of the total developed area. It is observed that within the city large area is occupied by the burial grounds as both Lingayat and Muslim community need the facility according to the custom practice. Solapur City is well laid city because of rail and road connectivity. The road network constitutes only 5.24% of the total Solapur city area, this includes National and State highways also. The core city is encompassed within two ring roads which if developed efficiently can resolve most of the congestion issues within the city. The roads developed within the city area, are not adequate to accommodate the traffic load. These roads have also been encroached in some parts of the city. The road network does not cater efficiently to the areas which were merged in to the municipal limits in 1992.

### **5.3.2.5 Roads and Transportation**

The roads and transportation zone contributes to only about 19% of the total land use which is adequate when compared to the guidelines. As per the URDPFI norms at least 12-14 % of the land should be under roads and transportation zone. The road network of the city comprises of major roads NH-9, NH-13, SH151 etc. passing throughout the city. Ring radial pattern road network forms the city core of the city. The newly developed roads connect the residential areas within the city.

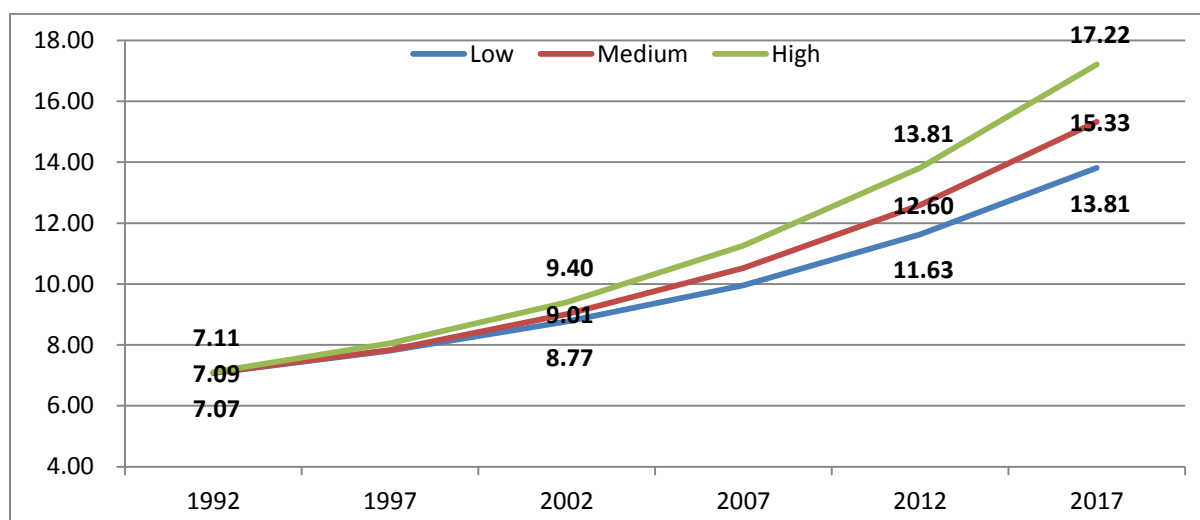
## **5.4 Critical Appraisal - Development plan (1997-2017)**

The statutory development plan of Solapur was prepared in the year 1997 for the next 20 year i.e. 2017. This development plan prepared by SMC, as a process, was required to be approved by the state government and the same was approved by the state government in 2004. Following are the observations on the prevailing development plan of the area under the SMC;

- The development plan of Solapur was approved by the state government in the year 2004. In the development plan as presented in Table 16, the developed area was 45.62 km<sup>2</sup> (as per existing land use analysis undertaken in 1994) as against this the developed area considered in the development plan was 115.01 km<sup>2</sup> which was more than double of the existing developed area.
- As per the development plan, the city was expected to grow by close to 4.74% per annum to consume the proposed land use as per the proposed development plan.
- When this is compared with the population growth of the city during the decade previous to the decade in which the development plan was prepared, the growth of the population was only 1.6% i.e. the population of Solapur was increased from 5.14 Lakh in 1981 to 6.03 Lakh in 1991 registering an annual growth of 1.6%. This presents the evidence that the development plan was prepared over ambitiously and would create huge expectations from the SMC for provision of services.
- Also based on the discussions with the head of the town planning department in SMC, it was found that since the preparation i.e. after 17 years (till 2014), of the development plan, additional 17% of the area is developed which implies that the slow growth of the population is resulting in to low pace of development along with other issues such as unavailability of requisite funds acquiring land for developmental projects.
- It is also to be observed that the area of the corporation has increased from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup> i.e. more than five times the original city limits. However, the development plan lacked in providing the phasing of the development to guide SMC in undertaking the developmental activities in a staged manner with the available resources.
- The development plan only focused on the special allocation of the land use. However the resources required for developing the city in terms of financial resources as well as the human resources was lacking.

#### 5.4.1 Population Projection as per Development Plan

The development plan was prepared for the period of 20 years and presented the projected population in the slabs of five years. The population was projected for 2002, 2007, 2012 and 2017. As per the development plan, three sets of assumptions were made for assessment of the future population in SMC. Low, medium and high growth rate assumptions were made for projecting the population. It can be observed from the population figures that, fixed set of annual growth rates were adopted for projecting the population in block of five years. These growth rates were established based on the past population trends and assumptions w.r.t anticipated economic changes in the city. However while comparing the population figures with the actual population as per Census 2011, it has emerged that the population of Solapur has grown at a slower rate than anticipated in the development plan. As per the development plan, if we compare the population figures with 'Low' set of assumptions, the projected population for 2011 was 11.29 lakhs vis-à-vis census (2011) population of 9.51 Lakhs.

**Figure 30: Population projections as per the development plan of SMC**

Source: Development Plan, SMC

## 5.5 Urban Planning Functions and Reforms

The town planning department at SMC is headed by a town planner who is supported by an assistant town planner (ATP) and further by the department staff at the main office such as town planning supervisors and draftsmen. The town planning department at the head office will only approve the building plans after due consideration of various byelaws and site visits.

### 5.5.1 Urban Planning Functions

#### Master plans and land use plans

The development plan for Solapur city, prepared in 1997 and approved in 2004 by the state government, describes the existing as well as the proposed land use pattern for Solapur. As per the development plan, twenty percent of the city area is developed and it accommodates various urban amenities along with the residential area. The total undeveloped area constitutes about 80% of the total land. This is mainly due to the expansion of the city limit to 178.57 km<sup>2</sup> including additional 13 villages and the area around which remained undeveloped because of lack of infrastructure. The assistant director town planning (Pune division) supported in preparation of the development plan for the SMC. It is observed that the plan once prepared and approved by the State government, is then handed over to the SMC for implementation through the town planning department of the SMC. It has been observed that the plan is handed over to SMC without any financial support from the state government and nodal agencies to implement its recommendations regarding development of roads, subdivision of plots and other common areas.

#### Building Plan approval process

With respect to building plan permission in SMC, the applicant has to submit the duly-filled form in the head office for further approval after paying the requisite scrutiny fees. The proposal file would then be verified by the town planning department, approved, and submitted to the town planner for further approval. The building permission process has been carried out as per the land use uses prescribed in the development plan.

Information regarding all new proposals and approvals (commencement / occupation certificate) is shared to concerned departments within SMC (including the tax department). A copy of the approval is handed over to tax department for updating the property tax records. The entire building plan approval process is handled through the Auto DCR software.

## 5.6 Key Issues

- Developed area of the Solapur is only 17% compared to the total area of the city. This is due to large scale increased in the area in 1992.
- SMC could not take large scale developmental projects due to limited financial resources. Also acquisition of land for projects is an issue.
- City has huge potential for development in terms of industrial and educational hubs, but the support from state (in terms of transfer of government land for developmental projects) is limited for new projects pertaining to the city.
- In absence of financial resources, the development post preparation of the development plan is very limited. Support to implement the development plan in terms of funding or grants is essential.
- Lack of in-house capacity to prepare the master plans/land use plans for the city, unavailability of qualified town planners in the department and lack of awareness about latest planning tools and techniques.



## 6. Social Infrastructure

### 6.1 Background

Solapur, being a head quarter of the district, is the hub for education and medical facilities. The city houses major general as well as multi-specialty medical facilities in the region. Solapur is also an education hub having major education institutions such as Walchand Institute of Technology and Dr. V.M Medical College. Further to these, the city has a wide range of education institutions like Solapur University, technical and management colleges, and research institutions established by the government and private organizations. SMC is playing a major role in the provision of primary and secondary education facilities in the city.

### 6.2 Existing Situation – Health

Solapur has major health facilities in the city, which serve the city population as well as that of the nearby villages and towns. The health Infrastructure available within corporation can be divided under three categories – state government, Municipal Corporation's and private healthcare facilities. Out of the total 3679 indoor beds available in the city hospitals, 76% is contributed by the private sector and the remaining is contributed by the Corporation. In terms of the contribution towards the operations theatres, almost 93% of the operation theatres are operated by the private sector medical facilities.

#### 6.2.1 Health Care Facilities

As per the information available from the SMC, there are various large scale hospitals in the city. Following table provides the details of the large scale hospitals in the city.

**Table 18: Large scale health facilities in Solapur**

Sr No	Name of the Hospital	Bed Capacity
1	N.M Wadia Charitable Trust Hospital	264
2	Ashwini Sahkari Rughalay	305
3	Yashodhara Super Speciality Hospital	150
4	Siddeshwar Cancer Hospital	100
5	Lokmangal Jeevak Hospital	100

Source: Health department of SMC

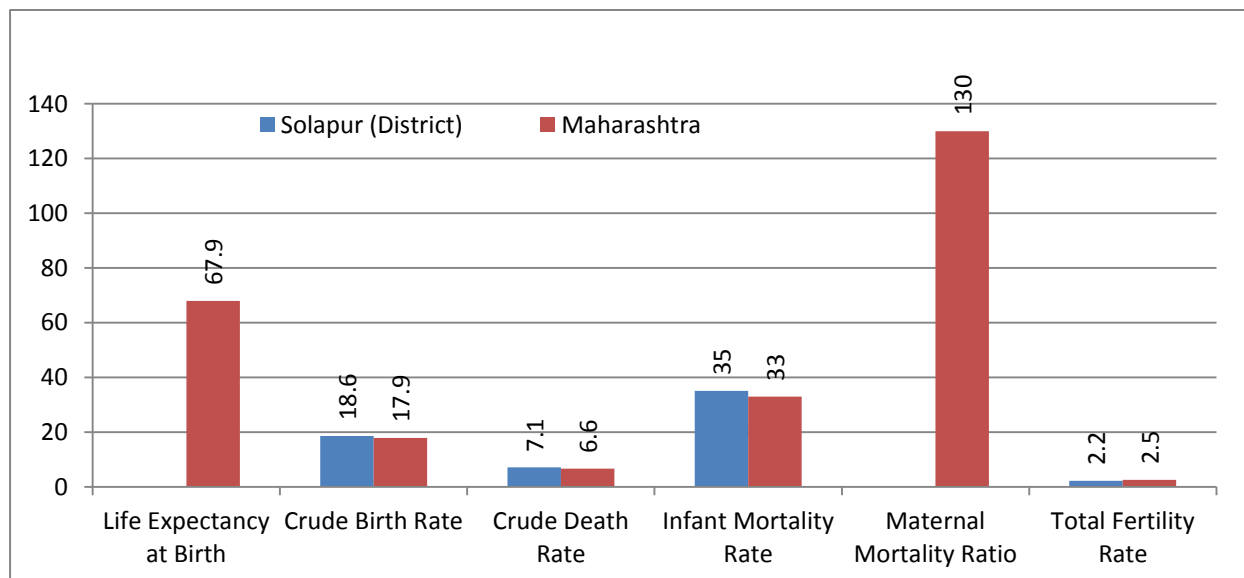
#### 6.2.2 Public Health Indicators

Public health management in the rural areas of the state of Maharashtra is the responsibility of the Zila (District) Parishad (Administration). The Zila Parishad (ZP) functions under the state's rural development department. Chief executive officer (CEO) is the administrative head of the ZP and is assisted by the district officer of health (DoH) for health and medical facilities in the district. The health department of the ZP implements following programs initiated by either state or the central government through the local healthcare facilities;

- General Health Services
- Epidemic Control Measures
- Reproductive and Child health programmes - This includes family welfare programmes, health services for children, health for 40 plus, Aids control.
- National T.B. control programme
- National Leprosy Eradication Programme
- National Malaria Prevention Programme
- National Programme for the prohibition of blindness
- National Pulse Polio Immunisation Programme

To implement these programs at the district level; there are 68 primary health centers (PHC) 329 sub centers and five Ayurvedic hospitals in the district. The following figure presents the value of the public health indicators as per the health status report for the state of Maharashtra, published by the public health department of the government of Maharashtra.

**Figure 31: Public health indicators in Solapur district**



Source: Health Status report of Maharashtra 2009

The infant mortality ratio of Solapur district is 35 infant deaths per 1000 live births, which is higher than that of the state (33 infant deaths per 1000 live births). Also, Solapur district stood first in population control for the year 2012-13 with a total fertility rate (average number of children born to a woman in her lifetime) of 2.2 against 2.5 achieved by Maharashtra.

### 6.2.3 Role of SMC in Health Programs

The Health department of SMC is headed by the medical officer of Health (MOH) who is supported by health officers and sanitary inspectors at zone levels. The Health section of SMC carries out regular medical camps in slum areas in the city for the distribution of malaria medicines. SMC also runs the national and state level vaccination as well as other health programs in the government health facilities in Solapur.

Annual accounts of the SMC are assessed 2008-09 to 2012-13 to assess the nature of expenditure incurred towards the public health services in Solapur. During the assessment period, the expenditure by the health department has increased from Rs. 6.90 Crores to Rs. 10.39 Crores registering an annual growth of 10.78%. About 70% of the expenditure has been made towards establishment costs.

Also under the national urban health mission (NUHM) a proposal of Rs. 17.23 Crores for improvement of health services in SMC run medical facilities.

#### 6.2.4 Comparison with URDPFI Norms

The existing health care facility has been compared with the URDPFI guidelines to check the current status of health care infrastructure and further identify the gap in the health care facilities. As on date, the demand for dispensaries, nursing homes, polyclinics and general hospital has met the requirement. Moreover, the existing facilities are on the higher side as compared to URDPFI guidelines.

Solapur has ample amount of medical and healthcare facilities in the city. Supply of these facilities from the private sector side contributes in majority. The information w.r.t the Bombay Nursing Home Registration Act regarding all the available health facilities in the city was not available with the corporation. Since the major user group of the medical and health facility provided by the SMC is from the urban poor class, the gap assessment has been carried out considering availability of the infrastructure to cater to the urban poor population in the city. As indicated in the table below, the city has only 15 dispensaries while the requirement is for about 19. However, considering the overall city level supply of health infrastructure from the private sector, the existing numbers of dispensaries are appropriate. Further, the comparison with the status of infrastructure with the guidelines reveals that the city needs veterinary hospitals and dispensary facilities for pet animals and birds.

**Table 19: Health care facilities in Solapur**

Health care facility	URDPFI Guidelines	Requirement as per guidelines	No. of hospitals	Gap	Met the Benchmark
Dispensary	1 for 15000 population	19	15	4	No
Nursing home, child welfare and maternity centre	45000 to 1 lakh population	8	6	2	Yes
Polyclinic	1 for 1 lakh population	40	3	37	Yes
General Hospital (NBC)	1 for 2.5 lakh population	1	1	-	Yes
Diagnostic centre	1 for 0.5 lakh population	7	6	1	No
Veterinary Hospital for pets and animals	1 for 5 lakh population	1	0	1	No
Dispensary for pet animals and birds	1 for 1 lakh population	3	0	3	No

*Note: It shall be noted here that the above assessment does not include category wise number of facilities provided by the private sector. Thus, the demand gap in these facilities could not be assessed on actual basis*

### 6.3 Existing Situation – Education

Solapur historically was an industrial city and an important regional center for quality educational institutions. The city has important regional education centers in various disciplines, including

engineering, medicine, law, management studies, and architecture and agriculture sciences. This has resulted in Solapur having a large population of students from nearby towns studying in educational institutions in the Solapur city. SMC is providing primary and secondary education in the city through the municipal schools. Following table provides the details of the primary education facilities in the city run by the SMC.

**Table 20: Details of the primary schools in Solapur**

Sr No	Particular	No of School Building	Students	No of Teacher Enrolment	Dropout
1	Primary	258	113031	2103	28.23
2	Secondary	93	15969	2677	
3	Higher Secondary	51			
	Total	402	129000	4780	

Source: Education Department of SMC

As per the information received from the education department, there are 1.13 lakh students enrolled in the primary schools run by the SMC. Also there are 2103 teachers working in the primary education in Solapur. Considering these numbers, the students to teacher ratio for primary schools work out to be 54. As against this, in the secondary schools, the ratio works out to be of 6 pupils per teacher. There are 93 secondary school buildings in Solapur imparting education to around 16000 pupils in the city in the government run schools.

### 6.3.1 University and Colleges

Solapur University has been established since August 2004. The jurisdiction of the university at present is Solapur district. There are various colleges and institutions affiliated with the Solapur University. At present there are 129 Colleges in the district are affiliated by the University.

Other prominent educational facilities present in Solapur are Walchand Institute of Technology (WIT) which is a well-known engineering institute in the city. The city also has a medical collage attached to the general hospital run by the State government.

### 6.3.2 Comparison with URDPFI Norms

The existing education facilities have been compared with the URDPFI guidelines to assess the current supply of education facilities and further identify the gap in the services when compared to the guidelines. It is observed that the city has adequate facilities in terms of higher education and graduation schools. However, the city lacks sufficient schools at the primary, pre-primary and secondary school levels. As per the URDPFI norms, there is a deficit of 32 schools at the pre-primary level. Further, the city lacks integrated schools with hostel facilities and schools for the physically challenged.

**Table 21: Existing education facilities' comparison with URDPFI guidelines**

Social infrastructure	URDPFI Guidelines	Actual requirement for 2014	Existing 2014	Met the Benchmark
<b>Pre-primary to secondary education</b>				

Pre-primary, nursery school	1 for 2500 population	416	384	<b>No</b>
Primary school	1 for 5000 population	208	258	No
Senior secondary school	1 for 7500 population	139	96	No
Integrated school (with hostel facility)	1 for 90000 to 1 lakh	10	0	<b>No</b>
School for physically challenged	1 for 45000 population	23	2	<b>No</b>
School for mentally challenged	1 for 10 lakh population	1	1	<b>Yes</b>
<b>Higher education</b>				
College	1 for 1.25 lakh	<b>10</b>	<b>44</b>	Yes
Technical education	1 for 10 lakh population	<b>1</b>	<b>5</b>	Yes
<b>Professional education</b>				
Engineering college	1 for 10 lakh population	<b>1</b>	<b>5</b>	Yes
Medical college	1 for 10 lakh population	<b>1</b>	<b>2</b>	Yes
Other professional college	1 for 10 lakh population	<b>1</b>	<b>3</b>	Yes
Nursing and paramedical institute	1 for 10 lakh population	<b>1</b>	<b>8</b>	Yes

Source: SMC and URDPFI Guidelines

## 6.4 Recreational Facilities

Solapur being a district has variety of recreational facilities in the city. Traditionally also Solapur has played an important towards contribution in cultural history of the state. Solapur fort and the Siddeshwar lake has traditionally been the major attraction for the recreational activities. The city houses various parks and gardens as recreational spaces in the city.

### 6.4.1 City Level Parks

The city parks, gardens and water bodies essentially act as green zones and provide recreation facilities in the city. Also the night food bazar at the Hutatma Chowk near the new SMC building acts as the routine recreational space. The ground in front of the Siddeshwar temple is the place to conduct major fairs and acts as the major recreational space. There are altogether 32 gardens / parks in the SMC area which are maintained by SMC. Of these, Mahatma Gandhi Bag located near Solapur fort is considered as city-level Park. Other gardens are scattered across the city and serve mainly as the neighborhood parks. Based on the visit to these gardens and subsequent discussions with the garden superintendent it was felt that development of these parks with modern landscaping and recreational facilities is a much needed activity. Also during the stakeholder consultations suggestions were made by the stakeholders that unused gardens / parks which are in the vicinity of the high traffic areas should be converted as parking since they are not used as a recreational spaces. This states that the condition of the recreational spaces is in such a condition that the residents of the city are ready to put to any other use than a recreation space.

### 6.4.2 Comparison with URDPFI guidelines

Assessment of the existing recreation facilities has been carried out in comparison with the URDPFI guidelines to assess the gap in provision of the recreation facilities as per the guidelines. As indicated in the table below, additional 294 hectares area under parks is required in the city. In addition to this shortage, most of the play areas have no standard space, and the total extent of the area is inadequate in most of the areas.

**Table 22: Comparison of existing parks with URDPFI guidelines**

Category of park	No. of parks required	Unit area in Ha	Required area in Ha (2014)	Existing area in Ha (2014)
Housing Area	1 for 5000 population	0.5	103.89	86.53
Neighbourhood	1 for 15000 population	1	69.26	
Community	1 for 1 lakh population	5	51.94	
District	1 for 5 lakh population	25	51.94	
Sub city	1 for 10 lakh population	100	103.89	
<b>TOTAL</b>			<b>380.93</b>	

Source: SMC and URDPFI Guidelines

### 6.4.3 Playgrounds and Stadiums

The Indira Gandhi cricket stadium is the major city-level stadium located near park maidan close to the new municipal corporation building. The maintenance of the stadium is being taken care of by the SMC spread across an area of 6 acres. There is an another stadium within the SMC area which is called a Jila Krida Sankul (District Play Ground) which is managed by the district sports authority. During the city visit it was found that the stadium lacked proper maintenance and the latest apparatus for sports activity.

### 6.4.4 Key Concerns

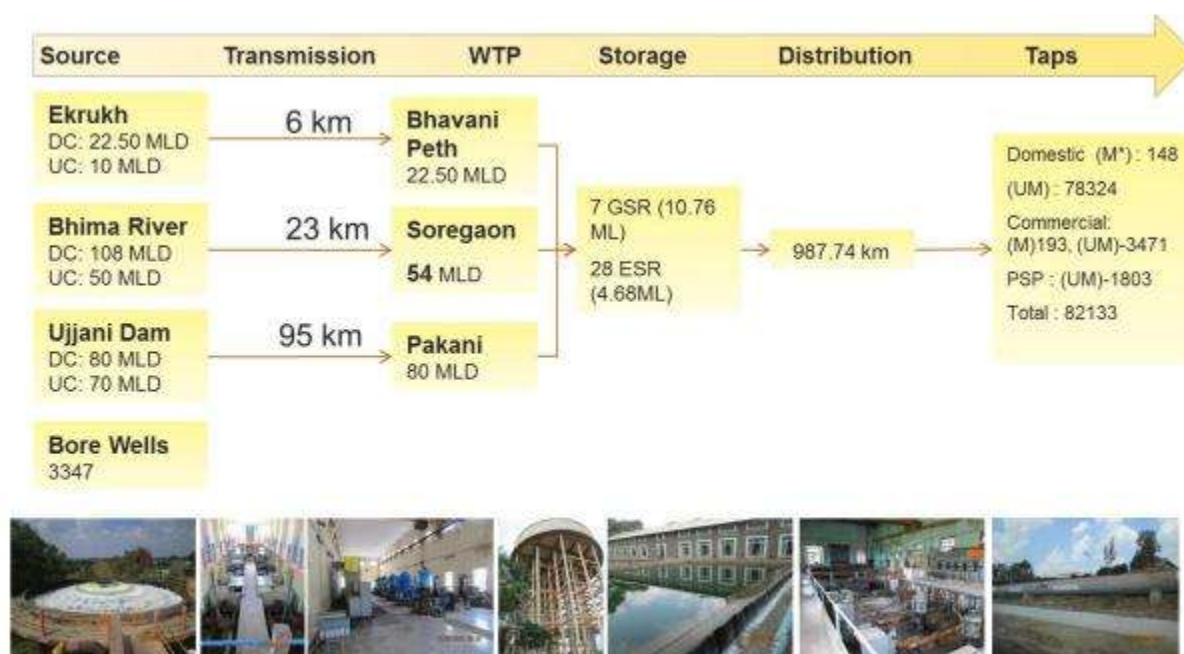
- As per the URDPFI norms, there is a huge deficit in the area required under parks and playgrounds. It is observed that the city core is already saturated and identification of land for recreation in the core city is a challenge.
- City level parks and neighborhood parks need face up-liftment as per the latest landscaping trends.
- State of the public gardens needs adequate maintenance, in absence of which during the stakeholder consultation the stakeholders also suggested to convert the parks in the congested areas in to parking facilities.
- The status of the cricket stadium in the city is dilapidated and needs appropriate maintenance from time to time.
- Financial assessment of the corporation states that only 2% of the total revenue expenditure is done towards preservation of parks and gardens. This may be due to scarcity of water in the city.
- The city does not have a stray animal management system being monitored by the SMC. In city currently animal welfare organizations such as people For Animals.

## 7. Infrastructure and Services

### 7.1 Water Supply

Solapur Municipal Corporation (SMC) is responsible for providing water supply services within the jurisdiction of SMC. At present, SMC is supplying treated water through a distribution network or tankers within the core city area which is densely populated and the extended areas of the city (13 villages merged in SMC in 1992). The city administration currently supplies 130 million liters per day (MLD) of water. Considering the estimated population of 2014, the gross daily per capita rate of water supplied is 129 liters per capita per day (lpcd). Following sub sections provides the assessment of the existing water supply system, future demand and the existing institutional arrangement for the service delivery of water supply in the city. The figure below provides the value chain of the water supply services and further sections highlight the key concerns of the water supply system in Solapur.

**Figure 32: Value Chain - Water Supply Services**



\* DC-Design Capacity, UC-Utilized Capacity, M- Metered connection, UM: Un-Metered connections, PSP-Public Stand Post

#### 7.1.1 Existing Situation

##### 7.1.1.1 Sources of Supply

Currently Solapur receives water from three sources, Ekrukh Tank near village Hipparga about 6 km north of the main city, Bhima River at village Takli about 23 km south of the city and Ujjaini Dam reservoir about 95 km west of the city.

Ekrukh Scheme: The Ekrukh dam was built 150 (1860's) years ago. This dam is at eight km from Solapur and water from this dam is received at the Bhavani Peth water treatment plant (WTP) through gravity. After deduction of accumulated silt over such a long period of operation, it has 61.61 million

cubic meters (mcm) as the available storage capacity. However in 150 years many small and medium size water harvesting structures have developed in the catchment and the yield into the reservoir has reduced drastically. That is why the dam which once supplied 27 million liters per day (MLD) of water to Solapur is not in a position to supply water more than 10 MLD.

**Bhima River Water Supply System:** The Bhima River is another source which is located at 30 km from Solapur. This source is developed since 1964. Ujjani Dam, which is in the upstream of the Bhima River, was constructed in 1988. Before the construction of the dam at Ujjani, the source on the Bhima River could supply 108 MLD of water throughout the year to SMC. After construction of construction dam, the water flow in the river has declined and this source yields only 50 MLD water during non-monsoon months. The water is therefore required to be released from Ujjani dam in the Bhima River which stretch 207 Km up to Auj Bandhara, the location where the water is tapped to be supplied to the SMC. This length of travel of water leads to substantial transmission losses and hence irrigation department is unwilling to let out water at this source during the non-monsoon months and insists lifting water from the Ujjani Dam from its dead storage and convey to Solapur. In non-monsoons only 50 MLD of water is available from Bhima River and during monsoon months 108 MLD can be pumped to the city.

**Ujjani Dam Water Supply System:** This water supply scheme was constructed in 1988 at Ujjani (95 Km from City) to supply 80 MLD of water. Out of this, 15 MLD is reserved for the MIDC and Solapur is receiving 70 MLD for domestic uses. Ujjani Dam has about 54% of dead water storage and it is quite large in comparison to the requirement of the city's water requirement in the prospective 30 years. The following table presents the details of the source, distance from the city and current utilization levels.

**Table 23: Sources for raw water supply to Solapur**

Sr No.	Name of Source	Type of Source	Distance from WTP (km)	Commissioning year	Designed Capacity (MLD)	Current Capacity (MLD)
1	Ekrukh Tank	Lake	6	1932	22.50	10.00
2	Bhima River	River	23	1964	108.00	50.00
3	Ujjani Dam	Dam reservoir	95	1996	80.00	70.00
	Total				<b>210.50</b>	<b>130.00</b>

Source: Public Health Engineering Department (PHED), SMC

Of all the three sources in the city the Ekrukh tank goes dry during the summer months. The only dependable source of water to the city is the Ujjani dam which is 95 km away from the city and transmission losses in this source are substantial. Of the total capacity of 210 MLD, only 62% capacity is available due to age old pumping machinery and unavailability of water during summer.

#### 7.1.1.2 Raw water transmission and Treatment

The raw water sourced from the above mentioned sources is transmitted to the respective water treatment plant. The raw water from the Ekrukh tank is directed to the WTP located at Bhavani Peth area through gravity main pipeline. The WTP at the Bhavani peth is the oldest treatment plant in Solapur which was developed during the British rule and inaugurated for use in 1932. The water from the other two sources i.e. transmitted to the respective WTP by means of pumping. The following



table provides the details of the source, its corresponding treatment plant and current capacity of the treatment plant.

**Table 24: Water treatment plants in SMC**

Sr No.	Source	Treatment Plant	Distance from Source (km)**	Design Capacity (MLD)	Utilisation level (MLD)	Efficiency (%)
1	Ekrukha Tank	Bhavani Peth	8	22.50	10	44.44%
2	Bhima River	Soregaon	23	108	50	46.30%
3	Ujjani Dam	Pakni	100	80	70	87.50%
	TOTAL			210.5	130	

Source: PHED of SMC



Soregaon Treatment Plant

Bhavani Peth Treatment Plant

The SMC had undertaken a water and energy audit of the water supply system in 2007. As per the study, water losses during each stage (except distribution stage) of system were assessed by an external agency appointed by SMC. As per this study, total water lost during raw water transmission and treatment of water was 12.92% (8.93% in raw water transmission and 3.99% in treatment). However this study is seven years old and to assess the current losses in the system, a fresh water audit should be carried out covering all the stages of the water supply system, i.e. raw water transmission, treatment, pure water transmission, and distribution.

### 7.1.1.3 Storage, Distribution Network and Service Connections

#### 7.1.1.3.1 Storage

Administratively, the SMC is functioning through eight zonal offices and one head office. Currently in SMC area there are elevated service reservoirs (ESR) and seven Ground Level Reservoirs (GLR) at 35 locations in the city. The total storage capacity available is 62 million liters (ML) which is approximately 50% of the daily supply.



Over head tanks (OHT) in Solapur

### 7.1.1.3.2 Distribution Network

The water distribution network in SMC is managed by the six zonal offices of the corporation. Total length of the distribution network in the city is approximately 988 km. The zone wise length of the distribution network is presented in the table below. Further, the distribution network of the city is managed through respective storage reservoir (29 such reservoirs). Annexure – 12 of this report presents the name of the location of the storage reservoir and the areas covered by the reservoir.

**Table 25: Zone wise length of distribution network in SMC**

Zone	Length of the Distribution Network (km)
Zone-1	193.35
Zone-2	130.42
Zone-3	137.55
Zone-4	121.57
Zone-5	224.62
Zone-6	180.26
<b>TOTAL</b>	<b>987.77</b>

Source: PHED of SMC

As per the information provided by the officials during the discussions, the water supply system of the core city area is quite old. Also the water is supplied on every alternate day and not on daily basis. Due to intermittent water supply and age old distribution network, the water supply pipe lines are corroded and are highly prone to leakage and seepage in the pipelines. Due to these factors the quality of the water supplied in certain areas of the core city is below the acceptable standards.

### 7.1.1.3.3 Water Supply Connections

SMC has two types of consumer water supply connections, domestic and commercial. In SMC all water supply connections above 1" (one inch) size are metered. Currently there are 341 (0.4% of total connections) metered connections in the city. However the information on functional meters is not available. These metered connections are provided majorly to industries and large scale institutions.

**Table 26: Water supply connection details in SMC**

Type of Water Connections	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Metered</b>					
Domestic					148
Non-Domestic					193
Commercial/ Industrial					
<b>Total Metered</b>	-	-	-	-	341
<b>Unmetered</b>					
Domestic		58,864	62,408	65,924	78,324
Non-Domestic		2,729	3,006	3,187	3,471
Commercial/ Industrial					

Type of Water Connections	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Total Unmetered</b>	-	61,593	65,414	69,111	81,795
<b>Total No. of Connections</b>	-	61,593	65,414	69,111	82,136

Source: PHED of SMC

Water supply connection in the SMC has grown from 0.61 Lakh in 2009-10 to 0.82 Lakh in 2012-13 growing at 10.07% per annum.

#### 7.1.1.4 Water tariff, Collection efficiency

##### 7.1.1.4.1 Tariff

All the water supply connections in SMC are charged, based on yearly tariff w.r.t. size of the piped connection. Current per annum tariff for the smallest (1/2" / 15mm) size of connection is Rs. 2756 for domestic consumers and Rs.11556 for commercial consumers. It should also be noted that all connections above 1" (one inch) size are provided only through metering and these metered connections are charged based on volumetric rate i.e. they are charged on per kilo liter basis of water drawn from the system. SMC has fixed a one-time charge for new connection; domestic and commercial consumers based on the size of connection. The following table presents the tariff of water to be charged to the consumers in SMC area.

**Table 27: Water tariff details -- SMC**

Sr No	Connection Size	Domestic		Commercial	
		Yearly (Rs.)	Metered (Rs. /KL)	Yearly (Rs.)	Metered (Rs. /KL)
1	1/2" Inch	2756	11.25	11556	35.10
2	3/4" Inch	6876	11.70	23108	35.10
3	1" and above	only on meter	12.60	only on meter	37.80

Source: PHED of SMC

##### 7.1.1.4.2 Collection Efficiency

In SMC, water tax is collected annually along with property tax. There is a separate billing system for the metered water supply connections based on the rates fixed for volumetric consumption. The current demand of the water taxes has increased from 2011-12 as the yearly water tariff for consumers was revised from Rs. 2250 per year in 2010-11 to Rs. 2756 per year in 2011-12. The assessment of demand collection figures reveals that collection efficiency for current demand was 49% in 2008-09; which improved to 58% in 2011-12 and further improved in 2012-13 to 69%. The same figures for the arrears were 12% in 2008-09; which improved in 2011-12 to 20% and declined in 2012-13 to 16%.

**Table 28: Water Charges: Demand collection and balance statement**

Demand Collection Balance Statement - Rs. Lakh	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Demand -Rs. Lakh</b>					
Arrears	4582	4764	3591	5658	4694

Current	1890	1868	1497	2356	2090
<b>Total Demand</b>	<b>6473</b>	<b>6632</b>	<b>5088</b>	<b>8014</b>	<b>6,784</b>
<b>Collection - Rs. Lakh</b>					
Arrears	460	707	530	801	538
Current	923	819	800	1037	1225
<b>Total Collection</b>	<b>1,383</b>	<b>1,527</b>	<b>1,330</b>	<b>1,838</b>	<b>1,763</b>
<b>Balance - Rs. Lakh</b>	<b>5,090</b>	<b>5,105</b>	<b>3,758</b>	<b>6,175</b>	<b>5,022</b>
<b>Collection Performance - %</b>					
Arrears	10%	15%	15%	14%	11%
Current	49%	44%	53%	44%	59%
<b>Total</b>	<b>21%</b>	<b>23%</b>	<b>26%</b>	<b>23%</b>	<b>26%</b>

Source: Property tax department of SMC

Also as observed from the table above, the current demand has reduced from Rs.18.68 crores in 2009-10 to Rs. 14.97 Crores during 2010-11. This has resulted as the tax demand from the city extension areas has reduced from Rs. 8.75 Crores to Rs. 4.70 Crores. The reason stated by the officials of the SMC was that the earlier demand figures included demand from the non-existent connections.

#### 7.1.1.5 Operation and Maintenance of Water Supply services

Operation and maintenance of the water supply system in SMC is carried out by the public health engineering department (PHED) headed by a public health engineer (PHE). Operation and maintenance of the water supply system in SMC is bifurcated between the zonal offices and the head office. Major capital works as well as operation and maintenance of the source and WTPs is undertaken from the head office. Regular operations and maintenance activities including addressing the citizen complaints is managed by the engineering staff of the respective zonal offices. Table below, presents the component wise operation and maintenance expenditure of water supply works in SMC.

**Table 29: Details of the O&M cost for water supply service (Rs. Lakhs)**

Expenditure Component	2007-08	2008-09	2009-10	2010-11	2011-12	CAGR (%)
<b>Electricity Charges &amp; Oils</b>	1,402.86	1,287.68	1,248.47	1,459.01	1,626.26	3.76%
<i>Cont<sup>f</sup>. to total O&amp;M Exp. (%)</i>	62%	61%	58%	60%	63%	
<b>Establishment</b>	323.97	323.93	348.99	411.02	452.95	8.74%
<i>Cont<sup>f</sup>. to total O&amp;M Exp. (%)</i>	14%	15%	16%	17%	18%	
<b>Raw Water Charges</b>	287.65	253.77	263.09	274.63	211.61	(7.39%)
<i>Cont<sup>f</sup>. to total O&amp;M Exp. (%)</i>	13%	12%	12%	11%	8%	
<b>Repairs and Maintenance</b>	183.23	193.18	178.03	185.51	139.27	(6.63%)

Expenditure Component	2007-08	2008-09	2009-10	2010-11	2011-12	CAGR (%)
<i>Cont<sup>n</sup>. to total O&amp;M Exp. (%)</i>	8%	9%	8%	8%	5%	
<b>Chemicals</b>	61.30	60.94	101.80	116.75	127.96	20.20%
<i>Cont<sup>n</sup>. to total O&amp;M Exp. (%)</i>	3%	3%	5%	5%	5%	
<b>Others</b>	3.00	2.29	2.95	2.32	15.26	50.22%
<i>Cont<sup>n</sup>. to total O&amp;M Exp. (%)</i>	0%	0%	0%	0%	1%	
<b>Grand Total</b>	<b>2,262.01</b>	<b>2,121.80</b>	<b>2,143.34</b>	<b>2,449.24</b>	<b>2,573.29</b>	<b>3.28%</b>

Source: Analysis of annual budget books of SMC

As presented in the table above, major component of the operation and maintenance expenditure of the water supply operations is towards the payment of electricity charges (61%) followed by establishment expenditure (16%) and cost of raw water purchase (11%) from the irrigation department and purchase of chemicals for water purification (4%). Major component of the operation and maintenance expenditure goes towards the payments of the electricity charges because of the distance from the city to the Ujjani Dam which is close to 100 km.

#### 7.1.1.6 Projects under JNNURM

The CDP 2007-13 envisaged an investment of Rs. 686 Crores in the water supply sector. As against identified investment, a project costing Rs. 71.99 Crores was sanctioned under the UIDSSMT. At present the project is nearing completion and more than 95% of the construction works for the project are completed. Following components are added to the existing capacity of the water supply system of SMC.

**Table 30: Capacity Augmentation under UIDSSMT for water supply sector**

Sr No	Particular	Capacity Addition
1	Transmission Mains	42 km
2	Storage Capacity (16 ESR + 1 MBR*)	18.5 ML
3	Distribution Network	212 km

Source: PHED of SMC

#### 7.1.1.7 Existing Service Levels

The following table presents existing service levels of water supply services in SMC as per the prescribed benchmark of the MoUD.

**Table 31: Service Levels - Water Supply**

Water Supply	Unit	Value	MoUD Benchmark

\* ESR – Elevated Service Reservoir, MBR- Mass Balancing Reservoir

		(2011-12)	
Coverage of water supply	%	37.00	100
Per capita supply of water	lpcd	125.00	135
Extent of metering of water supply connections	%	0.42	100
Extent of Non- Revenue Water	%	42.00	20
Continuity of Supply	hours	1.00	24
Quality of Water supplied	%	61.00	100
Efficiency in redressal of customer complaints	%	52.00	80
Cost recovery in water supply services	%	56.00	100
Efficiency in collection of water supply related charges - Current demand	%	33.00	90
Coverage of water supply connections in slums	%		100

Source: SMC

### 7.1.2 Future Demand

The clear water demand has been calculated on the basis of per capita water supply demand and average water supply losses. Per capita water requirement for the future period has been considered as 160 lpcd including the losses this is in line with the detailed project report prepared by the SMC recently. The table below presents the total water demand for current, intermediate and ultimate year water requirement.

Based on the per capita water supply demand, clear water demand has been forecasted considering the population projections finalized in the demography section. Accordingly, the city would require around 196 MLD of clear water by 2021, 253 MLD by 2031 and 327 MLD by 2041. The detailed gap analysis has been discussed under the sector plans. The water supply demand projection for the design year has been presented in the table below. SMC has recently prepared a water supply master plan for augmenting the water till the ultimate year demand for 2014. The table below also presents the water demand assessed in the water supply master plan.

**Table 32: Water supply demand projections**

Indicator /year	2014	2016	2021	2031	2041	2046
Per capita Water Supply Demand	160		160	160	160	
Population (projected) -CDP	102705 3		122732 7	158301 6	204178 6	
Daily water demand (MLD)	164		196	253	327	

Indicator /year	2014	2016	2021	2031	2041	2046
Population (projected) –Master Plan		118831 5		154604 7		220361 6
Demand as per master plan (MLD)		188		245		350

### 7.1.3 Water Supply System Post 1<sup>st</sup> Generation CDP– Status Review

The 1st generation CDP was prepared in 2005-06. The box below provides an overview of the water supply system at the time of preparation of the 1<sup>st</sup> generation CDP.

**Table 33: Scenario at the time of 1<sup>st</sup> generation CDP**

Parameters	Description
Sources of water supply	<ul style="list-style-type: none"> <li>The 1<sup>st</sup> generation CDP mentioned three sources, which were catering the water supply needs of the Solapur city.</li> <li>Of the three sources, Ujjani Dam was the biggest source supplying 50-60 MLD water, followed by Bhima River (30-40 MLD) and Ekrukh Lake (10-11 MLD)</li> <li>Thus the total capacity at source at the time of the 1<sup>st</sup> Generation CDP was 150 MLD</li> <li>Apart from the above mentioned sources, as reported in the Previous CDP, the SMC had drilled 2541 wells for ground water extraction in the city.</li> <li>Though the city had three water sources, only the Ujjani dam water was available throughout the year, the other two sources were not perennial.</li> </ul>
Water treatment	<ul style="list-style-type: none"> <li>There were three treatment plants at the time of first generation CDP. One at Bhavani peth of 27.5 MLD capacity, one at Tarkarli treating water from Ujjani Dam and Bhima river of 108 MLD Capacity.</li> </ul>
Storage and distribution system	<ul style="list-style-type: none"> <li>The had not covered the storage and distribution system in detail.</li> </ul>
House service connections	<ul style="list-style-type: none"> <li>In terms of the coverage the CDP mentioned that about 95% of the population is covered through piped water supply and the remaining 5% of the population is provided water through tankers.</li> <li>The CDP did not cover the quantitative information on the house service connections and a comparative assessment of coverage w.r.t the number of households in the city.</li> </ul>
Per capita consumption / duration of water supply	<ul style="list-style-type: none"> <li>As reported in the previous CDP, the city residents used to get water supply in every alternate days and the duration of the supply was not mentioned in the report.</li> <li>The gross water supplied to the residents was mentioned as 100 liters per capita per day (lpcd) and 20% system losses were considered leaving 80 lpcd net water supply to the residents.</li> </ul>
User charges	<ul style="list-style-type: none"> <li>Not discussed in the previous CDP.</li> </ul>
Cost recovery	<ul style="list-style-type: none"> <li>Not discussed in the previous CDP.</li> </ul>
Collection efficiency	<ul style="list-style-type: none"> <li>Not discussed in the previous CDP.</li> </ul>

Source: Review of the CDP of Solapur (2007) by CRIS

The discussion with various stakeholders identified the following challenges:

- Water supply system (Ekrukh Tank) for the Solapur was developed in 1872,
- Most of the old system was in dilapidated condition
- Zoning of the water supply system was not developed which led to cross connections, leakages, head loss and increased consumption of power.
- Coverage of the water supply network was only up to the core city areas. The newly merged areas were not covered with the water supply network.
- Substantial mismatch between number of house service connections and assessed residential properties.

The CDP also assessed the water demand-supply assessment for the year 2031 based on the population projection. It assessed a demand of 287 MLD for the SMC. Considering the sources available at the time of preparation of the CDP, the deficit of water supply was estimated as 240 MLD.

Accordingly, to improve the water supply system, the CDP envisaged an investment Rs. 686.00 Crores covering following aspects:

- Remodeling, Transmission and Distribution System for Solapur City

### Status of Projects

The status of projects undertaken for improvement of water supply sector has been discussed in the section 7.1.1.6 of this report.

### Impact on Service levels

Indicator	Status at the time of preparation of 1 <sup>st</sup> generation CDP (2006-07)	Current Situation (2014)
Coverage of water supply connections	ND	42%
Per capita water availability at consumer end - lpcd	80	<b>90</b>
Extent of metering	ND	0%
Extent of NRW	ND	42%
Continuity of water supply	Alternate day	1 Hr (alternate day)
Efficiency in redressal of complaints	ND	52%
Adequacy of treatment and quality of water supplied	100%	-
Cost recovery	ND	56%
Collection efficiency of water charges	ND	33%

ND – Not Data available from the previous CDP

### 7.1.4 Institutional Framework for Water Supply System

In SMC, the public health engineering (PHE) department is the responsible section of the local body looking after the capacity augmentation, operations and maintenance of the water supply system. The PHE department is headed by a public health engineer, who is assisted by a deputy engineer and assistant engineer in project implementation, operations and maintenance of the assets.

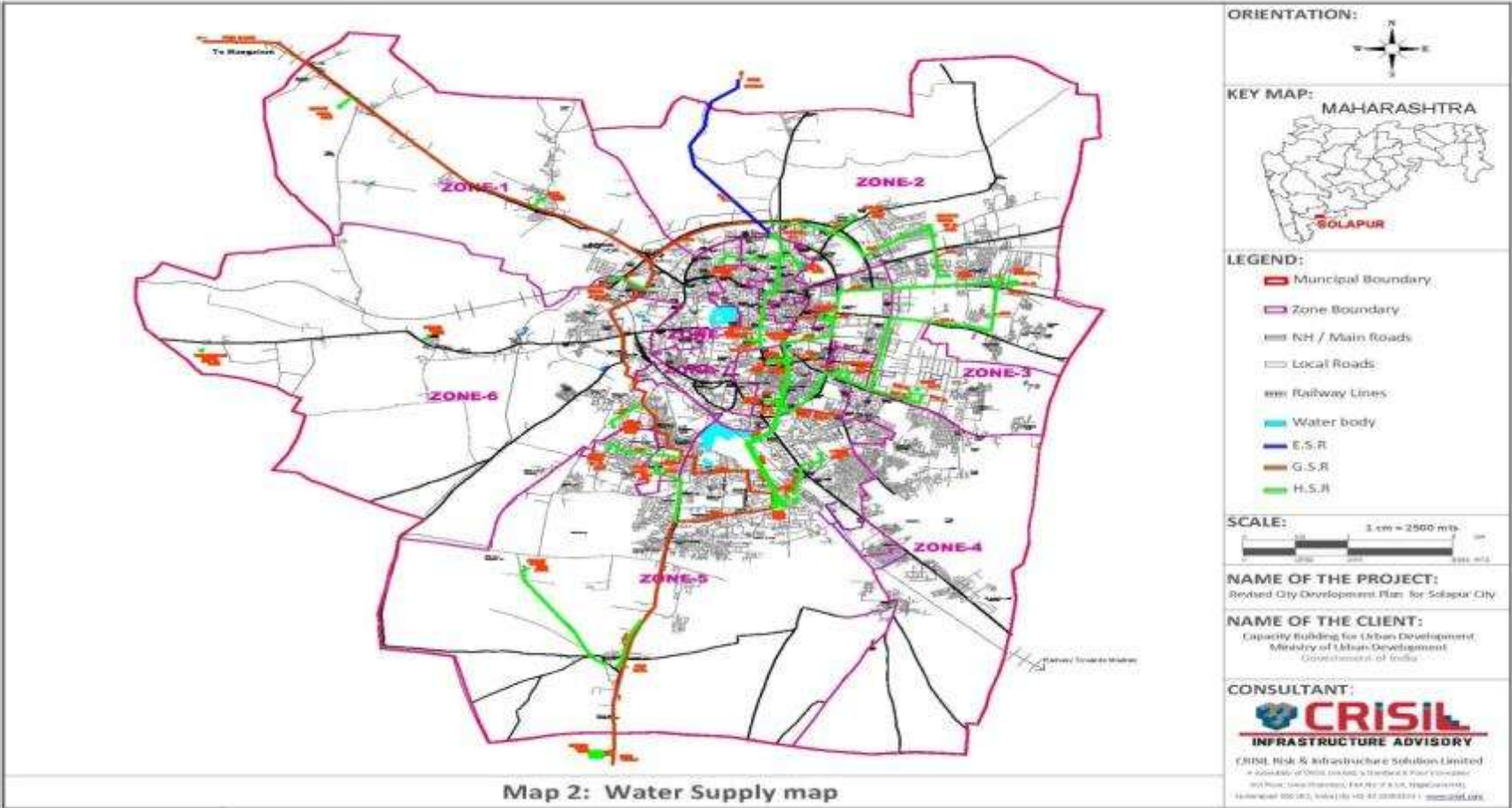


For ease of the administration of the water supply system, in SMC, the major capital augmentation works and operation and maintenance thereof is undertaken by the head office. The operation and maintenance of the distribution network is undertaken by the respective zonal office. Also redressal of the consumer complaints is managed by the respective zonal offices. Management of sewerage services is also undertaken by the PHE department of SMC.

### 7.1.5 Key Issues

- As per the service level benchmarking (SLB) handbook of the Ministry of Urban Development (MoUD), the coverage of water supply is defined as the percentage of households having individual water supply connections to the total number of households in the city. Currently, if it is assumed that each water supply connection is connected with one household the coverage of water supply services works out to be 37%. However the exact number of households connected with individual water supply connections is not available and the same needs to be assessed by the SMC to arrive at the exact coverage of the water supply services as per SLB.
- Also the length of the distribution network is 987 km. When compared to the road length in the city, i.e. 1902 km the coverage of the supply network works out to be only 52%.
- The per capita water supplied in terms of liters per capita per day (lpcd) is 125 as against the benchmark of 135 lpcd. Of the total water supply connections, 341 connections are having the meters installed against 82,136 total water connections. This works out to be 0.42% as against the prescribed benchmark of 100%. W.r.t the non-revenue water, Information about the exact amount of non-revenue water being provided by the SMC is not available.
- At present with the available sources of water, SMC is able to supply only 2 hours of supply once in two days as against the benchmark of 24 hours.
- According to the SLB, recovery of the operation and maintenance cost should be 100%. Cost recovery for the current year is 56%. During the assessment period, average collection efficiency (for the year 2008-09 to 2011-12) of the water charges in SMC is only 31%. The indicator wise SLB, the current indicator value and the gap is presented in the figure below.
- Of the three water sources available to the city only one source is a dependable which is 95km away from the city. Ekrukh tank, the oldest water source to the city goes during summer months.
- Collection efficiency of the water tax remains below 40% during the assessment period. This states that the condition of water supply is poor.
- City area (extension) are still un-covered by the piped water supply system.
- Water supply network in the old city area is too old leading to frequent leakages and cracking.
- Operation and maintenance cost recovery in the water supply sector is only to the extent of 33% of the total demand and 70% of the total demand (2012-13)
- Arrears in water tax are almost 70% of the total water tax demand

Figure 33: Water Supply



## 7.2 Sewerage and Sanitation

Sewerage and sanitation is one of the key areas of concern for SMC. The city lacks organized sewerage system in the extended area and the only sewage treatment facility located Degaon is dysfunctional. Hence currently all the waste water generated in the city is disposed in open nallas. SMC with financial assistance under Maharashtra Suvarna Jayanti Nagarothan Mahabhiyan (MSJNM) scheme of the state government is constructing additional three treatment plants to treat the sewage generated in the city. Construction of these three new sewage treatment plants (decentralized at three locations with total treatment capacity of 103.5 MLD) is in progress, the same needs to be expedited. The detailed assessment of the existing sewerage system includes sewerage generation, sewerage network, treatment facility and sanitation system in the city is discussed in the section below. Further, the section highlights the key issues in the sewerage and sanitation system.

**Figure 34: Value Chain - Sewerage Services**



### 7.2.1 Existing Situation

The existing sewerage system is more or less limited to core city which is densely populated. In year 1992, 13 villages around the Solapur were merged in to the city limits increasing the area of the city from 33.03 km<sup>2</sup> to 178.57 km<sup>2</sup>. The existing sewage collection network was developed way back in 1968. The total length of the existing sewage collection system is 338 km and the diameter of the collection pipes vary from 150 mm to 1950 mm. The total flow of the collected sewage is received at the location of Degaon sewage treatment plant (STP) by gravity only. This treatment plant of the Solapur city has outlived its life and currently it is dysfunctional and the sewage generated in the city is drained in open nallas in the city.



*Disposal of sewage in open nalla at Degaon*

*Dysfunctional STP at Degaon*

*Open Nallas in Solapur*

During the city visit and the visit to the dysfunctional STP it was understood that from the collection network of sewage system, sewage water is being extracted from the manholes for the agricultural purpose.

#### **7.2.1.1 Generation and collection**

As mentioned in the section on water supply services, Solapur currently receives 130 MLD of water on daily basis. Considering 80% of the water supplied coming to the sewerage network, current sewage generation is approximately 104 MLD. Of the total waste water generated in the city, approximately 50 MLD of sewage is disposed into the Nalla near Degaon STP. Thus the collection efficiency of the existing network works out to be 48 percent. The coverage of the existing collection network is restricted to the core city area and the rest of the areas are resorting to use of onsite disposal facilities i.e. septic tanks.

#### **7.2.1.2 Sewerage Charges**

Till the year 2010-11 SMC had not implemented separate sewerage charges for the properties having sewer connection. Since SMC is implementing the sewerage project under MSJNM, separate sewerage charges were introduced in 2010-11. As per the circular introduced; domestic properties having a sewer connections will be charges Rs. 600 per annum and all non-domestic properties having sewer connection will be charged at Rs.1200 per annum. Collection of sewerage charges was RS. 30 lakhs in 2010-11 and increased to Rs. 6.36 Crores in 2012-13.

#### **7.2.1.3 Collection System and Coverage and Treatment**

The total length of the sewerage network in the city is approximately 338 km limited only to the old city area. Currently there are total of 2,12,970 properties in the city, of which approximately 90,500 properties are covered with direct connections to the sewer network. These properties having direct sewer connection are mostly from the core city area having the old sewage collection network. The collected sewage is then pumped in to the network leading to the STP located at Degaon through various pumping stations. Currently there is one sewerage network improvement and augmentation of the treatment capacity project which is approved under MSJNM, is being implemented. The city till year 2005-06 was treating the collected sewage from the city at the treatment plant located at Degaon. The treatment plant is dysfunctional, which was also reported in the earlier CDP, and the sewage generated in the city is disposed in the open Nallas. Though after completion of the current project under the MSJNM, the SMC would have adequate treatment capacity as three STPs are being constructed and the total treatment capacity available would be 103.5 MLD.

#### 7.2.1.4 Projects under JNNURM

CDP- 2007-13 envisaged a total investment of Rs. 273 Crores for the augmentation of various components as well as for enhancing the sewerage system coverage to the city area. The cost of projects approved under the MSJNM is Rs. 187.36 Crores. The project under implementation will increase the coverage of the sewage collection network as well as provide the treatment facility to treat 100% sewage generated in the city. At the time of preparation of the CDP, 40% of the works have already been physically completed and the construction works for the remaining components are in progress. Following table presents the capacity augmentation under the project being implemented under MSJNM.

**Table 34: Capacity Augmentation under MSJNM for Sewerage sector**

Sr No		Unit	Zone-7	Zone-8	Zone 3,5,6	Total
1	UGD Network	Km	53	58	42	153.00
2	Pump House	LL	1.7	8.3	30	40.00
3	Raising Main	Km	3	1.62	0.5	5.12
4	STP	MLD	15	12.5	76	103.50

Source: Quarterly progress report (QPR) – Sept 2013

#### 7.2.1.5 Household Sanitation

As per the information gathered from the SMC, there are 266 public toilets in the city. The total available seat capacity in the city is 5327. When compared to the slum population of the city, which is dependent on the public convenience systems, with the number of toilet seats, 55 persons are dependent on one toilet seat for their sanitation needs which is very high. Also based on the visual inspection during the visit to Solapur, it has emerged as the access to the public toilet is very poor and thus users resort to using the area around the toilets for sanitation purpose. This has become a prominent issue due to improper maintenance of the public toilets across the city and unavailability of the water and sewer connections to the public toilets.

**Table 35: Sanitation facilities in Solapur**

Sr No	Sanitation Details	Numbers
<b>A</b>	<b>Individual Disposal Systems</b>	
1	Septic Tanks	
1.1	Domestic	37688
1.2	Non-Domestic	754
2	Low Cost Sanitation Units	9466
3	Dry latrines	Nil
<b>B</b>	<b>Public Convenience Systems</b>	
1	Number of Public Convenience (Non-Slum)	246
1.1	Total Seats	5090
2	Number of Public Convenience (Slums)	20
2.1	Total Seats	237

Source: Health department of SMC

### 7.2.1.6 Existing Service Levels

The following table presents existing service levels of sewerage services in SMC as per the prescribed benchmark of the MoUD.

**Table 36: Service Levels – Sewerage Services**

Sewerage		Value (2011-12)	SLB
Coverage of Toilets	%	61.00	100.00
Coverage of sewerage network services	%	30.00	100.00
Collection efficiency of sewerage network	%	-	100.00
Adequacy of sewerage treatment capacity	%	-	100.00
Quality of sewerage treatment	%	-	100.00
Extent of reuse and recycling of sewerage	%	-	20.00
Efficiency in redressal of customer complaints	%	53.00	80.00
Extent of cost recovery in sewerage management	%	-	100.00
Efficiency in collection of sewerage-related charges	%	-	90.00

Source: SMC

### 7.2.2 Future Generation

The sewage generation has been calculated with an assumption that 80% of the water supplied. Accordingly, the sewage generation has been projected as 157 MLD for 2021; 203 MLD for 2031 and 261 MLD by 2041.

### 7.2.3 Sewerage and Sanitation Sector Post 1<sup>st</sup> Generation CDP – Status Review

The 1st generation CDP was prepared in 2005-06. The box below provides an overview of the Sewerage system at the time of preparation of the 1st generation CDP.

Parameters	Description
Coverage of sewerage network	<ul style="list-style-type: none"> <li>■ The Sewer network covered about 60-70% of the core city area (18.66% of the total city area).</li> <li>■ 256 km length of sewer network mainly covering the core city area.</li> </ul>
House service connections	<ul style="list-style-type: none"> <li>■ No information on the house service connections was provided in the previous CDP</li> </ul>

Parameters	Description
Sewerage treatment	<ul style="list-style-type: none"> <li>▪ One STP of 54 MLD capacity was located at Degaon. The said STP was reported as non-functional in the previous CDP as it had out served its designed life and the same was de-commissioned.</li> <li>▪ The sewage generated in the city was directed to the natural drains and was discharged into the Shelgi Nala.</li> </ul>
User charges	<ul style="list-style-type: none"> <li>▪ No information on the user charges been provided in the previous CDP</li> </ul>

The discussion with various stakeholders identified the following challenges:

- Coverage of the sewerage network was limited to the core city area only
- Network within the core city area was struggling with the issues of choking due to increase in population and breach of the pipeline network.
- The only STP (54MLD) located at Degaon was dysfunctional and collected sewage was disposed in open drain (Shelgi Nalla).
- Provision of sanitation facilities in the slum areas was not on priority basis and slums were lacking basic sanitation facilities.

The CDP also assessed the sewerage demand based on the water supply demand. It assessed the waste water generation of 260 MLD.

The CDP had envisaged an investment of Rs. 273 crores to improve the sanitation services in the city. The components include following components;

- Collection network
- Pumping Stations and conveyance System
- Sewerage Treatment plant
- Low Cost Sanitation
- Land Acquisition.

### Status of Projects

The status of projects undertaken for improvement of Sewerage sector has been discussed in the section 7.2.1.4 of this report.

### Impact on Service Levels

Indicator	Status at the time of preparation of 1 <sup>st</sup> generation CDP (2006-07)	Current Situation (2014)
Coverage of toilets (%)	ND	61%
Coverage of sewerage network service (%)	19%	30%
Collection efficiency of wastewater network (%)	ND	ND
Adequacy of wastewater treatment capacity (%)	0%	0%
Quality of wastewater treatment (%)	ND	0%
Extent of reuse and recycle of treated water (%)	0%	0%
Extent of cost recovery in wastewater management (%)	0%	0%
Efficiency in redressal of complaints (%)	ND	53%

Indicator	Status at the time of preparation of 1 <sup>st</sup> generation CDP (2006-07)	Current Situation (2014)
Efficiency in collection of charges (%)	0%	0%

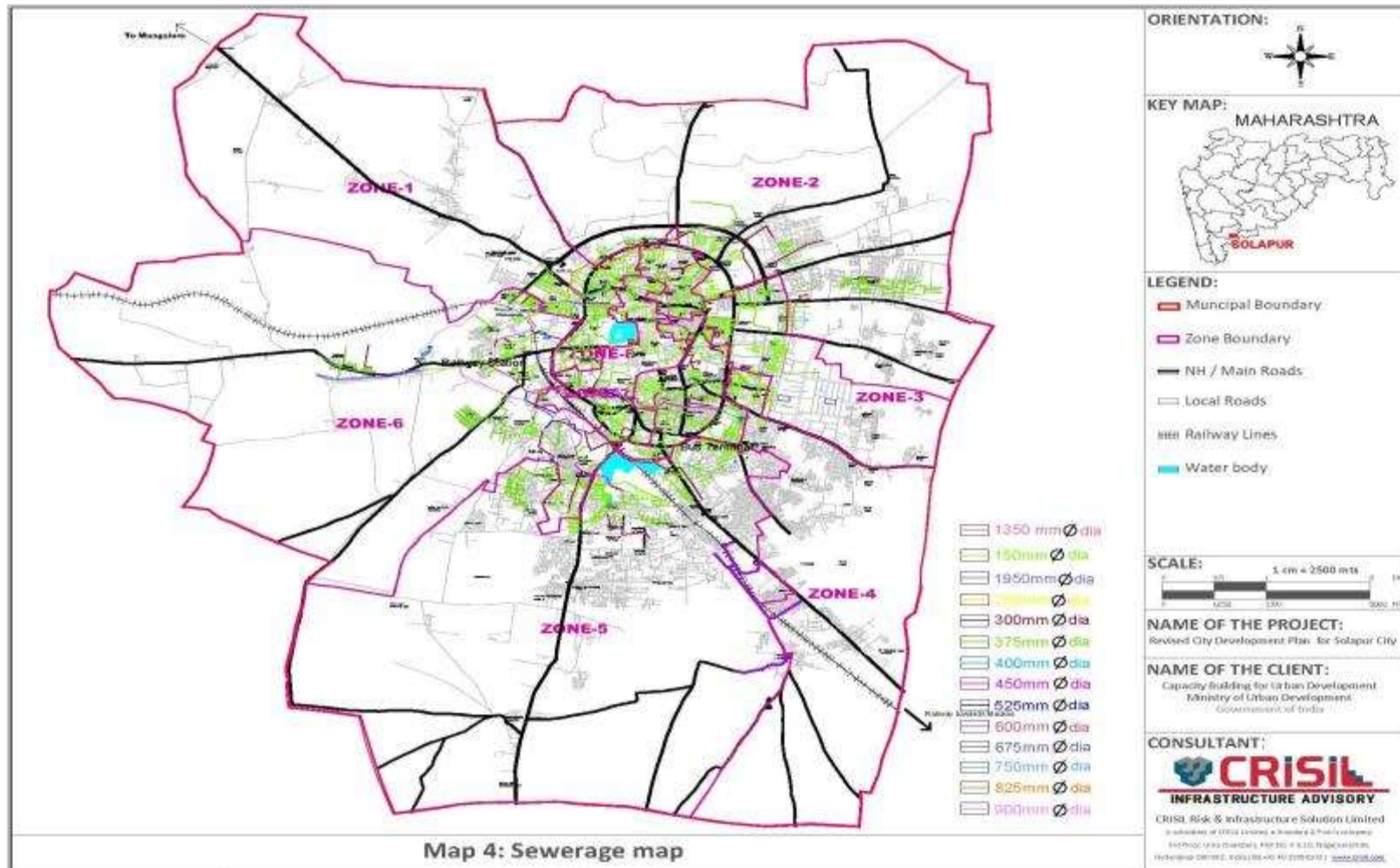
ND- No data available in the previous CDP

#### 7.2.4 Key Issues

- Sewage water is being extracted to be used for the agriculture purposes illegally by the farmers from the manholes of the sewer pipelines enroute to Degaon STP.
- According to the service levels for sewerage prescribed in the SLB handbook of MoUD, the performance of SMC is poor. The coverage of households is only 61% as against the benchmark of 100%.
- Another indicator for performance measurement is 100% adequacy of waste water treatment capacity. Presently there is no treatment plant available and SMC is discharging 100% sewage generated in to open nallas.
- Recovery of the operation and maintenance cost for the sewerage sector difficult to establish as the operation and maintenance cost for the sewerage is not available. User charges for sewerage services are implemented in the year 2010-11. The Collection efficiency of the sewerage charges in SMC is only 52%.
- Existing treatment plant has outlived its life. Sewage generated in the city is disposed in open Nalla
- It has been observed that, the sewage water is used for agriculture purpose by direct suction at various locations.
- Sewage collected from the households is drained in open drains across the city
- Almost 20-30% of households in the city depend on septic tanks.
- Scarcity of public toilets in the city and open defecation is predominant across the slum areas in the city
- Toilets in the slum areas are not maintained and people defecate in open just outside the toilets. Also the number of slum residents depending per seat of toilet is as high as 55.
- The information w.r.t the storm water needs to be prepared and areas with frequent water logging needs to be addressed by providing storm water drains.



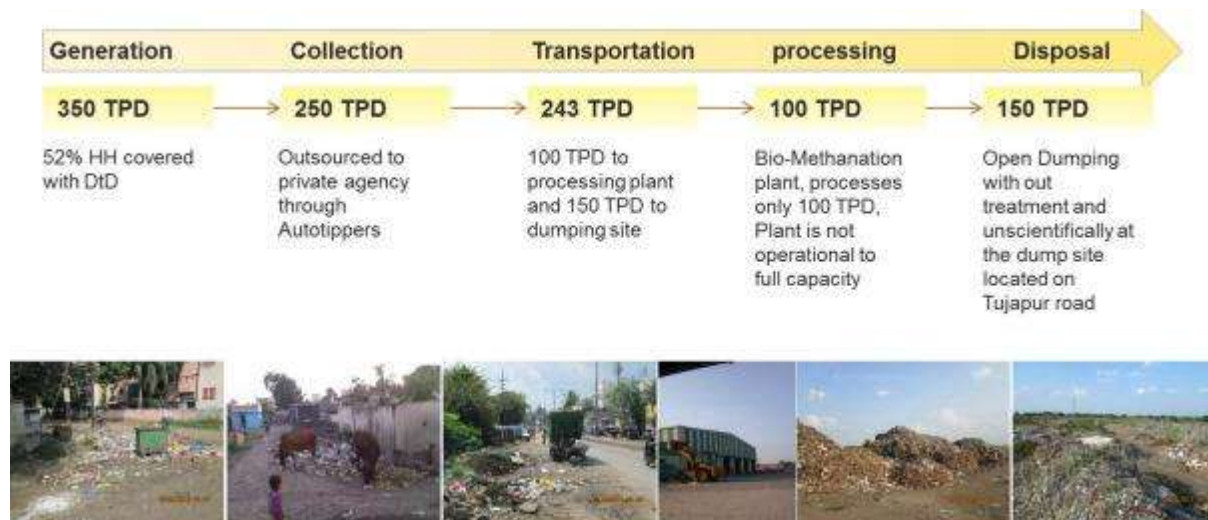
Figure 35: Sewerage Map



### 7.3 Solid Waste Management

The health department of SMC is responsible for solid waste management (SWM) services along with other key health related services like cleaning of drains, operations and maintenance of SMC run health facilities, registrations of births and deaths, food safety concerns, etc. The health department is headed by the medical officer of health (MOH), who is assisted by the assistant medical officers, ward officers, sanitary supervisors, sanitary inspectors, and sanitation workers. Following section presents detailed assessment of the existing SWM system which includes waste generation, collection, transportation and treatment facility. Further, the section highlights the key issues associated in the SWM sector.

**Figure 36: Value Chain - Solid Waste Management**



#### 7.3.1 Existing Situation

Total waste generated in the city is approximately 350 to 400 tons per day (TPD) considering the population of 9.51 lakh (census 2011). The Health department of SMC is managing municipal solid waste from source to its final disposal through private contractors as well as in house team of sweepers for street sweeping, under the supervision of medical officer of health (MOH). Door to door collection of waste in Solapur has been outsourced to the private operator.

Waste collected from the door to door collection is transported to the transfer station and further to the disposal yard by private agencies. About 70% of the total waste generated in the city is collected from various points and transferred to the disposal yard. The transportation of unattended waste from open plots and slums is done manually and/or mechanically through variety of vehicles as these areas are not covered while street sweeping.

In 2004, SMC entered into an agreement with CICON Environment Technologies Pvt. Ltd (CETL) for processing the waste generated in the city on build, own, operate and Transfer (BOOT) basis under which CETL set up a special purpose vehicle (SPV) named Solapur Bio-Energy Systems private limited (SBESPL) for setting up a waste processing plant. The by-products of the process are bio-gas, and compost.

The SPV has already constructed a processing plant near Tuljapur disposal facility which processing approximately 100 TPD of waste in to the Bio-Methanation plant and the rest of the waste is dumped directly into the disposal site on Tuljapur road and Bhogaon Khat Depot.

### 7.3.1.1 Waste Generation

Municipal solid waste can be broadly divided into four major categories as per the source of generation: domestic waste, commercial waste, institutional waste, and industrial waste. Most of the case, industrial waste is not considered as a part of municipal waste, but in most of the Indian cities, industrial waste gets mixed with municipal waste and local bodies have to manage this waste.

**Table 37: Source-wise quantity of solid waste generated in Solapur**

Sr. No.	Source Category	Quantity of Waste Generated (tons/day)	% contribution
1.	Domestic Waste	175.00	50%
2.	Street Sweeping	82.00	23%
3.	Commercial	35.00	10%
4.	hotel and restaurant	7.00	2%
5.	Market Waste	11.00	3%
6.	other	40.00	11%
	<b>Total</b>	<b>350.00</b>	

Source: Health Department of SMC

### 7.3.1.2 Collection and Transportation

In Solapur the collection and transportation of the waste is outsourced to the private agency. The collection activity to be undertaken by the private player includes the primary as well as secondary waste collection from all sources except sweeping of streets. Street sweeping is undertaken by the municipal employees of the SMC. As per the information from the SMC, currently only 52% of the households are covered with the door to door collection. For secondary collection of waste, SMC has placed 1033 bins in the city with an average storage capacity of 1.5 tons.



Status of secondary collection points in Solapur

**Table 38: Solid waste Management facilities in Solapur**

SN	Indicators	Unit	Value
1	Total waste generation	TPD	350
2	Per capita waste generation (2013)	grams / day	331
3	Collection of waste	TPD	250

SN	Indicators	Unit	Value
4	No. of dust bins	Numbers	1033
5	Total capacity of dustbins	m <sup>3</sup>	1549.5
6	Avg. spacing of dustbins	M	1890
7	No. of vehicles	Numbers	30
8	Frequency of collection	trips/day	1
9	No. of disposal sites	Numbers	2
10	Distance of disposal point	km	6

Source: Health department of SMC

### 7.3.1.3 Processing and Disposal

SMC has entered an agreement with CETL to develop and operate an integrated waste processing facility on BOOT basis. Presently, approximately 100 TPD of waste is processed on daily basis. The plant currently produces electricity for its captive consumption and is in process of procuring preferential tariff for the power generated from the Bio-Methanation plant to be able to process 100% of waste received at the processing plant. Currently, the plant is processing only 100 TPD of waste (of 250 TPD waste collected ) going forward the plant will process 100% of the waste received at the processing plant and generated electricity to be distributed in to the local power grid. SMC has not developed any scientific landfill facility for disposal of the un-processed waste. Waste which is not processed into this plant is disposed at the land around the Processing plant located at the Tuljapur road. It shall also be noted that the waste collected from slaughter houses is also directly disposed on to the disposal ground near the processing plant. There are agriculture fields in the vicinity of this site which are subject high environmental hazard due to percolation of the leachate generated in the disposal facility impacting the soil as well as the ground water conditions. The SMC should be give highest priority to develop a scientific landfill facility to address the environmental hazard situation at this site.



*Disposal ground and processing plant at Tuljapur Road*

### 7.3.1.4 Existing Service Levels

The following table presents existing service levels of sewerage services in SMC as per the prescribed benchmark of the MoUD.

**Table 39: Service Levels - Solid Waste Management**

Solid Waste Management		Value (2011-12)	SLB
Household level coverage	%	51.00	100.00
Efficiency of collection (MSW)	%	71.00	100.00
Extent of segregation (MSW)	%	-	100.00
Extent of recovery (MSW)	%	-	80.00
Scientific disposal (MSW)	%	-	100.00
Complaints Redressal	%	48.00	80.00
Extent of cost recovery	%	-	100.00
Efficiency in collection (SWM charges)	%	-	90.00
Houshold level coverage of solid waste management services in Slums	%		100.00

Source: SMC

### 7.3.2 Future Generation

For the purpose of SWM projection, the waste generated per capita for the current year (2014) has been considered as 354 grams per capita per day. Accordingly the average per day waste generation has been estimated as 364 TPD and annual waste general as 1.33 lakh tons.

The norm of per capita waste generation has been projected at 1.33% to assess the future waste generation in the city. Accordingly, the annual solid waste generation has been calculated till 2041. Based on the solid waste generation estimates, the infrastructure requirement for primary and secondary collection, transportation, landfill, and treatment capacity has been estimated and the same has been discussed in the sector plans.

**Table 40: Future solid waste generation in SMC**

Year	Projected population (Lakhs)	Per capita Waste generation (gram /capita)	Average per day waste generation (tons)	Annual (tons)
2014	10.27	354.00	363.58	132,705.49
2021	12.27	389.00	486.50	177,572.99
2031	15.83	444.00	714.10	260,648.23

Year	Projected population (Lakhs)	Per capita Waste generation (gram /capita)	Average per day waste generation (tons)	Annual (tons)
2041	20.42	506.00	1,049.67	383,131.01

### 7.3.3 SWM Sector post- 1<sup>st</sup> Generation CDP – Status Review

The 1st generation CDP was prepared in 2005-06. The box below provides an overview of solid waste management at the time of preparation of the 1st generation CDP.

Parameters	Description
Waste generation	<ul style="list-style-type: none"> <li>The waste generation was about 380 metric tons (MT)</li> </ul>
Collection	<ul style="list-style-type: none"> <li>The Door to door collection in SMC covered approximately 25% of the area.</li> <li>Major collection happened through secondary collection points.</li> </ul>
Waste treatment	<ul style="list-style-type: none"> <li>There were two dump sites reported in the previous CDP. One at Tuljapur (55 acres) and another at Bhogaon (18 Acres).</li> <li>Waste received at Bhogaon site was processed through composting.</li> <li>No scientific landfill facility available with SMC.</li> </ul>
Cost recovery	<ul style="list-style-type: none"> <li>Information on the user charges and corresponding cost recovery was not discussed in the CDP.</li> </ul>

The discussion with various stakeholders identified the following challenges:

- low coverage (25%) of door to door waste collection from the city
- Efficiency of the waste collection was low (75%)
- absence of the waste treatment facility
- absence of comprehensive institutional mechanism (solid waste management cell) in the city administration

The 1<sup>st</sup> generation CDP had assessed the waste generation by 2031 to be 717 MT considering 350 grams per capita norm of waste generation. To improve the SWM system, an investment of Rs.80.55 Crores was envisaged covering the following aspects:

- Garbage Compactors
- Collection and Disposal
- Landfill Site (Remediation)
- Landfill Site (New)

However, the SMC has not taken up any projects for improvement of the municipal waste collection and transportation infrastructure in the city. The processing facility at Tuljapur road has been developed on a public private partnership basis (PPP). The Processing facility is expected to process the organic waste through bio-methanation and generate the electricity. The processing facility is not running at the full capacity and not able to process the 100% of the waste collected from the city.

### Impact on Service Levels post previous CDP

Indicator	Status at the time of 1 <sup>st</sup> generation CDP (2006-07)	Current Situation (2014)
HH level coverage of SWM services (%)	25%	51%
Collection of municipal solid waste (%)	72%	70%
Extent of segregation of municipal solid waste (%)	0%	0%
Extent of municipal solid waste recovered (%)	0%	0%
Extent of scientific disposal of solid waste (%)	0%	0%
Extent of processing of solid waste (%)	0%	0%
Extent of cost recovery in SWM services (%)	0%	0%
Efficiency in redressal of complaints (%)	ND	43%
Efficiency in collection of user charges (%)	66%	24%

From the above table it is evident that, there has been no substantial improvement in the solid waste management sector in the Solapur city. While visiting the city the issue of managing the municipal solid waste was very much evident. The current situation of the solid waste management in Solapur is presented in the subsequent sections.

#### 7.3.4 Institutional Framework for SWM

Solid waste management in Solapur is managed at two levels i.e. at the central level at the head office and another at the ward / zone level. All the policy decisions and capital asset augmentation works related to the waste treatment facility are taken care at the head office level. The ward and zone offices manage the day to day operations of the solid waste services through the sanitary inspectors and sanitation supervisors.

#### 7.3.5 Keys Issues

- The service level indicators reveals that the, performance of SMC in terms of household level coverage and collection efficiency of the MSW are poor as only 52% of the households are covered under door to door collection.
- In terms of segregation of waste, as in the case of most of the Indian cities, SMC is also not been able to segregate and collect the waste in segregated manner.
- The performance indicators that need urgent attention are scientific disposal of solid waste, collection efficiency of waste, and recovery of the operation and maintenance expenditure, which is high due to huge establishment expenditure.
- Coverage of door to door collection is only 52% in the city
- Insufficient secondary storage capacity leading to spillage of waste on roads
- Unplanned secondary storage leading to open dumping of waste in city areas

- Street sweeping on all city roads is not practiced and the existing staff is not adequate to cover all city roads.
- No user charge is being collected for solid waste management in the city leading to zero cost recovery.
- Processing facility not operational and is processing only 100 tons of waste on daily basis as against 250 tons of waste collected from the city.
- Waste collected from the city is dumped directly on site located near to Tuljapur road without any processing.
- No project is planned for development of scientific landfill for the city and internal capacity to manage solid waste management activities is lacking.



## 8. Traffic and Transportation System

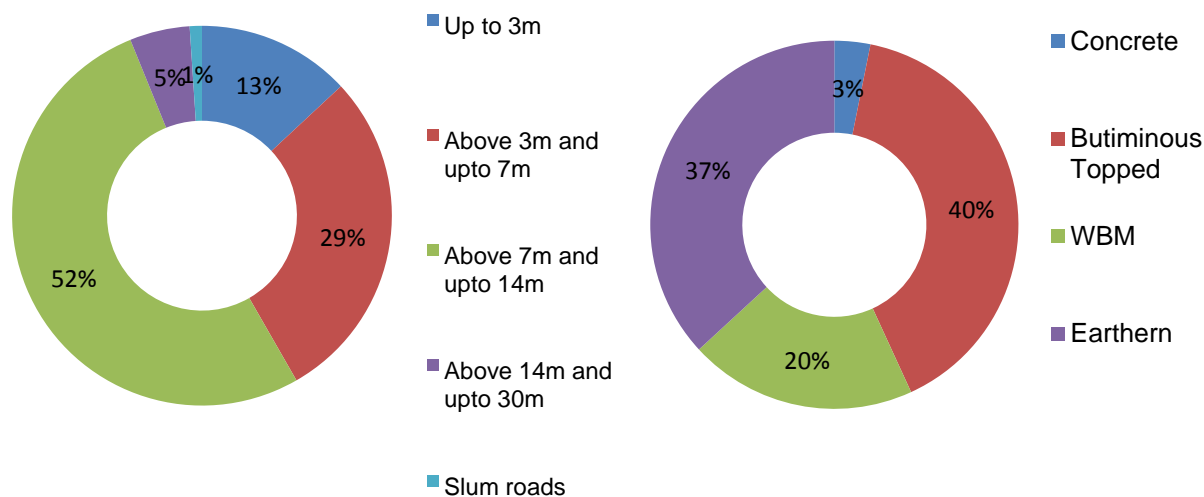
### 8.1 Existing Road infrastructure

#### 8.1.1 Road Hierarchy

In SMC the city engineer department is responsible for development of roads in the city. Solapur being a city of industrial importance has a comprehensive road network in the city. Also the city is well connected to the nearby regional centers like Pune, Aurangabad, Beed etc. Also there are certain sections of the important national highways and state highways pass through Solapur. The Map provided at the end of this section– provides the existing road network in the city. The total road length in the city is 1903 km. The following two figures provide the type of roads according to their width as well as according to their top material. As per the road hierarchy presented in the figure below; 42% roads are under the classification of other roads, 52% roads fall under the classification of collector roads and remaining 6% roads fall under sub arterial and arterial roads.

With regard to the condition of roads, as presented in the figure below, 63% roads are surfaced and 37% roads are un-surfaced. Majority of these un-surfaced roads are in the extended city areas.

**Figure 37: Category of roads in Solapur municipal corporation area**





Roads in solapur city

As presented in the figures above, it can be observed that 37% of the roads are un-surfaced and this is the main reason of air pollution in the city.

#### 8.1.1.1 National and State Highways

Solapur is well connected to the regional centers through various national as well as state highways and also various national highways (NH) pass through as well as originate from Solapur. As per the information received from the SMC, total 50 km of NH and state highways pass through the city. The highway wise details of the highways are provided in the table below;

**Table 41: Details of highways passing through SMC**

Sr No	Highway No	Type of Highway	Stretch	Total Length (km)
1	9	National Highway	Pune-Sholapur-Hyderabad-Vijayawada -Machilipatnam	841
2	13	National Highway	Sholapur-Chitradurga-Shimoga-Mangalore	691
3	211	National highway	Solapur-Osmanabad-Aurangabad-Dhule	400
4	MSH-71	State Highway	-	NA
5	MSH-151	State Highway	Barshi - Virag - Solapur - Akkalkot - Aaland	NA

Source: National Highways Authority of India (NHAI) website and Maharashtra Public Works Department (PWD) website



Image Courtesy – Google Maps

### 8.1.2 Important Junctions

Municipal limits of Solapur are spread in 178.57 km<sup>2</sup> and as per the information available from the town planning department 80% of the area is un-developed. Major traffic junctions in the city are housed in the old city limits and the area recently developed. From the traffic and transportation perspective, following are 10 major traffic junctions present in the city;

- |                               |                 |  |
|-------------------------------|-----------------|--|
| 1) Railway Station area       | 4) Lucky chowk  | 8) Ashok chowk                                     |
| 2) Panjrapol (Bus Stand Area) | 5) Rang Bhavan  | 9) Shivaji Chowk                                   |
| 3) Sat Rasta                  | 6) Park Chowk   | 10) Chatrapati Sambhaji chowk (on Pune Solapur Rd) |
|                               | 7) Kontam Chowk |  |

As per the information from the detailed project report prepared for purchase of additional buses for SMT, majority of these intersections are non-signalized and face traffic management issues during the peak traffic influx hours.

**Figure 38: Important Intersection in Solapur**

Image and location marked from – Google Earth

### 8.1.3 Bridges, Flyovers and Interchanges

Majority of the city's population in the city has been residing in the core city area. There are very few major residential colonies outside the core city area. As per the discussions with the city official's majority of the trips from the core city to the extended areas are for institutional purpose i.e. for education commercial purposes and at present there are no major bridges, flyovers in the city.

### 8.1.4 Non-Motorized Transport facilities

The city has inadequate pedestrian infrastructure. There are no foot over bridges, sub-ways, pedestrian-only traffic signals. In fact the city lacks in providing dedicated non-motorized transport (NMT) lanes and parking facilities for cycle rickshaws operating in the city.

## 8.2 Existing Traffic and Transportation System

### 8.2.1 Traffic Volumes

Planning of roads in the Indian cities follows the standards set under the planning and development guidelines and the standards set forth by the Indian road congress (IRC). Major classifications of

roads in the city area are main arterial roads (40m-50m width), sub arterial roads (20m-25m width) collector roads (15 md width) and other roads (up to 10 m width). These classifications of roads are worked out based on the carrying capacity of road in terms of the traffic handling capacity in the peak hour with a desired travel speed.

Current traffic volumes on the any of the road sections in the peak hours determine the load of vehicles on the road section in the given direction vis-à-vis the carrying capacity of the road section. Traffic volume on any given roads section are essential to determine the volume (existing traffic) by the capacity (as per the classification) ratio which in turn states the traffic condition on the road. To assess the exact traffic volume on the city roads, detailed surveys w.r.t traffic volume counts need to be carried out along with other traffic and transportation related studies for the city. Till the time this report was prepared no such study was undertaken by the SMC and exact traffic volumes at the road sections and junctions is thus not available.

In absence of the comprehensive traffic and transportation study for the Solapur Municipal Corporation area comment on the traffic volumes are made based on the visual observations in the city while conducting the city visit. Following are the roads stretches which observe major traffic volumes during the peak traffic hours;

1. Road stretch from park Chowk to Central Bus station
2. Road connecting central bus station, railway station up to Saat Rasta
3. Road stretch from Saat Rasta connecting to the Hyderabad Bijapur bypass road
4. Road stretch from Panjrapole Chowk to end of the Hyderabad Bijapur bypass
5. Road stretch from Park chowk to pani ki tanki chowk.

**Figure 39: Road stretches with high traffic volume in Solapur**



Source: Google Earth

### 8.2.2 Modes of Transport

Major mode of transportation used by the citizen of the city is two wheelers. The motor vehicle statistics of the Solapur reveals that of the total 4,55,810 vehicles registered in the city till 31<sup>st</sup> March 2011, of which 3,64,806 are two wheelers which constitutes 80% of the total vehicles in the city. When the same figures for the subsequent year are assessed, it can be seen that total vehicles in the city has grown to 5,07,486 registering a growth rate of 11.33%. While the modal share of the two

wheelers remains at 80%. Also as mentioned in the subsequent section, the estimated population using the public transport facilities in the city is close to five percent when compared to the estimated population in 2013. The following table presents the composition of vehicles registered in the city implying the modal share of the transportation in the city.

**Table 42: Vehicle statistics for Solapur city**

Sr No	Type of Vehicle	As on Mar '11	As on Mar '12	Growth (%)	Modal Share in March'11	Modal Share in March'12
1	Two Wheelers	364806	407562	11.72%	80.03%	80.31%
2	Four Wheelers	31032	34448	11.01%	6.81%	6.79%
3	Goods Vehicle	23970	25279	5.46%	5.26%	4.98%
4	Tractors	13151	16612	26.32%	2.89%	3.27%
5	Trailer	12559	12962	3.21%	2.76%	2.55%
6	Auto-Rikshaws	8614	8569	-0.52%	1.89%	1.69%
7	Taxis	984	1150	16.87%	0.22%	0.23%
8	Buses	447	404	-9.62%	0.10%	0.08%
9	Other Vehicles	247	474	91.90%	0.05%	0.09%
	Total	455810	507460	11.33%	100.00%	100.00%

Source: Motor transport statistics of Maharashtra 2010 – 2011 and 2011-12

### 8.2.3 Public Transportation

Before independence, the facilities for public transportation in Solapur were provided by private companies. The Solapur Municipality had implemented the Bombay Municipal Burrows Act (1925) and started local bus services in Solapur from 10-01-1949. In 1978 the services of bus transportation were extended to Hotgi Road, Industrial Places, Sugar factories, Airport, M.I.D.C., Vijapur road and nearby villages, while developing the city.

Currently the urban public transportation in Solapur is managed by the Solapur municipal transport (SMT). Major users of the public transportation in the city are the students and senior citizen of the city. As per information currently 45,000 passengers use the bus service operated by the SMT. this implies that five percent of the city's estimated population in 2014 use the public transportation facility. At present, SMT is operating 106 own buses and additional 40 buses are taken for operations on hire basis on 39 bus routes. The ownership of hired buses remains with the private operator; however the manpower for running the operations is supplied by SMT. Because of the operational losses, the private operator supplies only 18 to 20 buses effectively for city bus operations. Considering the age wise distribution of the 106 buses, around 70% of fleet (69 out of 106) are at least 15 years old and face high operation cost, breakdowns and high pollution levels.

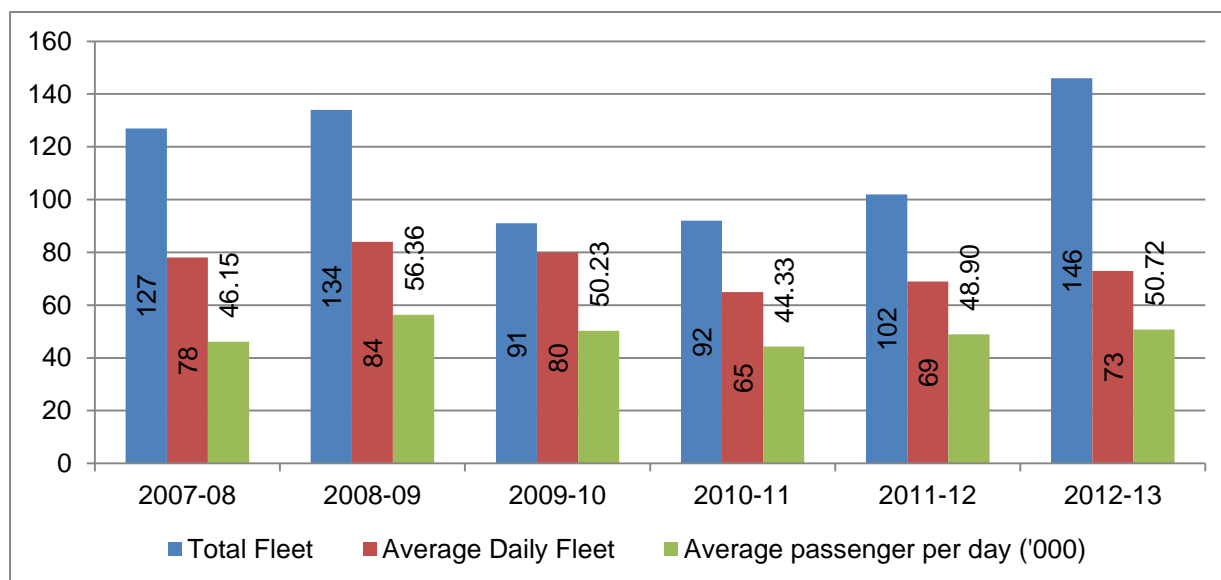


Buses and bus depots in Solapur

### 8.2.3.1 Public Transport Ridership

As presented in the figure below, there has been no substantial increase in the public transport ridership in SMC from 2007-08 to 2012-13 owing to the condition of the buses available with the SMT. Also the available fleet of the buses is not entirely owned by the SMT and is rented from the private agencies which puts the additional financial burden on SMT. As presented in the figure below; when compared to the total available fleet with the SMT (combined fleet from the private operators as well as from the private suppliers) is 146 buses. As against this the average daily fleet available for operations remains in the range of 65-80 buses i.e. 45 percent to 55 percent of the total available fleet.

Figure 40: Passenger and fleet details of SMT



Source: detailed project report for Solapur Municipal Transport (SMT)

### 8.2.4 Parking facilities

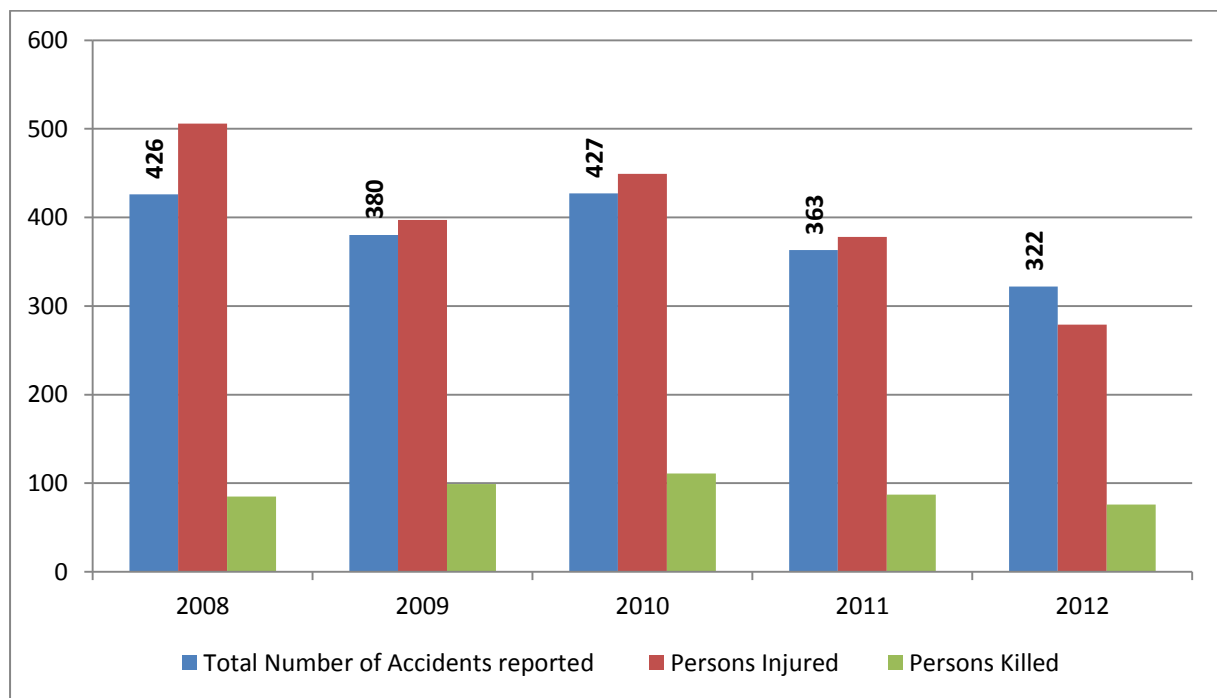
Most of the internal road network specifically the network in the core city area faces major difficulty of congestion and unavailability of the full right of way (ROW) due to encroachment for haphazard on street parking. The city lacks in provision of sufficient and dedicated off street parking facilities. Also the on street parking is not managed and maintained in structured manner. This is effectively reducing

the network capacity and further adding the congestion level. Vijapur Road, Karkhana Road, Akkalkot Road, Park chowk, Zilha Parishad road, Saraf Katta, Kontam chowk area, Station road, Navi peth are the main areas crowded with unauthorized on-street parking.

### 8.2.5 Safety and Traffic management measures

The mixed nature of roads, improper junction geometries and un-signalized junctions lead to major accidents in Solapur. Following figure presents the statistics of the road accidents in Solapur.

**Figure 41: Road accidents in SMC**



Source: Motor transport statistics of Maharashtra 2010 – 2011 and 2011-12

It can be observed from the above figure that the number of accidents in the Solapur city has decreased from 426 in 2008 to 322 in 2012. Also the persons injured during the road accident have decreased from 506 in 2008 to 279 in 2012. This shows that improvement measures w.r.t the road conditions and traffic management in the city are taken by the traffic police department. If we assess the ration of injuries to the number accidents as well as the casualties per accident occurred, it is observed that the despite of the number of accidents have reduced, the casualties per incident have increased.

## 8.3 Review of Institutional System

### 8.3.1 Review of Institutional system

The Solapur Municipal Transport (SMT) is the city bus service operator and act as SPV and arm of the SMC. It collects fare, maintains buses and operates on the approved routes. Any proposal for changes in the bus services (like fare revision, route re-structuring) generally goes for approval to the standing committee / general body in SMC and then to the regional transport authority (RTA). The RTA comprises district collector, superintendent of police and deputy regional transport officer (RTO).



The SMC however for the operational purposes maintains separate budgeting system, the major capital works for augmentation activities are undertaken by the SMC.

### 8.3.2 Financial Performance of SMT

The financial performance of the SMT is presented in the table below;

**Table 43: Financial Performance of SMT**

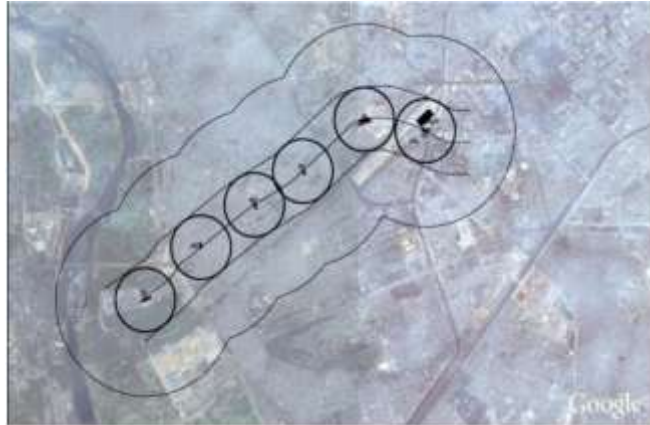
Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
Ticketing Revenue	1,071	1,359	1,275	1,134	1,245	1,295	3.87%
<i>Contr<sup>n</sup> to revenue (%)</i>	84%	82%	83%	78%	78%	70%	
Other Revenue	199	295	265	321	348	563	23.10%
<i>Contr<sup>n</sup> to revenue (%)</i>	16%	18%	17%	22%	22%	30%	
<b>Total Revenue</b>	<b>1,270</b>	<b>1,654</b>	<b>1,540</b>	<b>1,455</b>	<b>1,593</b>	<b>1,858</b>	<b>7.90%</b>
Salary	475	532	575	516	495	763	9.94%
<i>Contr<sup>n</sup> to expenditure (%)</i>	27.39%	30.42%	32.60%	28.17%	24.53%	32.82%	
Fuel	682	755	734	732	610	922	6.22%
<i>Contr<sup>n</sup> to expenditure (%)</i>	39.33%	43.17%	41.61%	39.96%	30.23%	39.66%	
Tyres and Tubes	28	57	65	45	30	26	-1.47%
<i>Contr<sup>n</sup> to expenditure (%)</i>	1.61%	3.26%	3.68%	2.46%	1.49%	1.12%	
Spare parts	528	381	362	513	849	567	1.42%
<i>Contr<sup>n</sup> to expenditure (%)</i>	30.47%	21.77%	20.51%	28.01%	42.07%	24.39%	
Interest	-	-	-	-	-	11	-
<i>Contr<sup>n</sup> to expenditure (%)</i>	-	-	-	-	-	0	
Taxes	20.66	24.30	28.19	25.84	34.03	36.07	11.79%
<i>Contr<sup>n</sup> to expenditure (%)</i>	-	-	-	-	-	-	-
<b>Total Expenses</b>	<b>1,734</b>	<b>1,749</b>	<b>1,764</b>	<b>1,832</b>	<b>2,018</b>	<b>2,325</b>	<b>6.04%</b>
Operating Ratio	1.37	1.06	1.15	1.26	1.27	1.25	

Source: SMT

From the above it can be observed that the operating ratio of the municipal transport undertaking is always above one which states that the expenditure on the operations of the buses are always above the income received from the traffic and other related revenues. This means that the transport undertaking is not in a position to undertake new capital investment for procurement of new buses through internal resources.

## 8.4 Transit Oriented Development

Transit oriented development (TOD) is a recent trend in creating vibrant, livable, compact, walk-able communities around or along transit (rail/bus) systems to achieve a higher quality life by reducing car dependency. TOD is defined as a high density, mixed use type of development close to transit services.



TOD is compact, mixed use development near new or existing public transportation infrastructure that provides housing, employment, entertainment and civic functions within walking distance of transit. The pedestrian-oriented design features of TODs encourage residents and workers to drive their cars less and ride public transit more. A 500 m area around the transit station is considered a 5-minute walking distance in the vicinity of transit stations.

Indian cities traditionally have high density and mixed use type of development. In such a context, TOD might already be a reality in some form in Indian Cities.

### 8.4.1 Combination of Public Transport and Land use

Transit oriented development (TOD) is an integrated approach to land use and transport planning. The primary goal of transit-oriented development is to shift the auto-centric realm of urban living to a transit-centric realm of urban living.

TOD is ideal for high capacity systems such as metro rail, monorail, high speed rail, regional rail systems or high capacity bus based mass transit systems. The systems can be selected depending on the current and future needs, geographical factors, funds availability, etc. Unfortunately, most of the Indian cities Master Plans have not integrated the transport system plans into them.

### 8.4.2 TOD in India

TOD was implemented in most developing countries since the 80's but this emerging trend is slowly catching up in India, with the advent of the Mass Rapid Transit System (MRTS) in the form of metro rail services and high speed transit corridors.

In India, as of now Delhi has started looking towards TOD as a solution to its mobility and air quality issues. The city recently prepared a TOD policy document regarding the development of Delhi metro stations.

Cities such as Delhi, Mumbai, Ahmedabad and Surat are already looking towards TOD. Medium size cities like Visakhapatnam, Pimpri Chinchwad are also planning their transit (bus based) systems taking into considerations of TOD.

#### Advantages

TOD has the potential to boost transit ridership and minimise the traffic impacts of the new transit infrastructure by providing trip end land uses. The pedestrian oriented environment offers greater mobility.

Transit helps in mitigating sprawl by increasing densities near the stations. It enables corridor development in a city, making it easier to provide infrastructure. Also, transit investments are economically viable as they have greater economic benefits in comparison to highway investments

### Challenges

The availability of land is a crucial requisite for TOD development or redevelopment. In a green field development, the volatile land market poses challenges of acquisition, land valuation, rehabilitation, and compensation along with many other deterring factors. In a brownfield TOD, it is crucial to integrate the existing structures, land use and road network. The R & R issues are more complex and numbers of stakeholders are much more.



### 8.4.3 City Vs TOD

The CDP suggest that at the master planning stage, it is important to integrate transportation with land use to take advantage of agglomeration economies and minimise likely congestion diseconomies. Also provision should be made for adequate physical and social infrastructure such as power, water, waste management, communication, etc. along with affordable housing along identified transit corridors.

The success of TOD will depend on efficiency of public transportation and its connectivity with dedicated corridors, conducive local conditions, development control regulations and proper coordination between various stakeholders (transport authorities, urban development authorities and various para-statal agencies). As mentioned earlier, Indian cities are potential for TOD corridors development by implementing long term infrastructure development strategies. While preparing the Comprehensive Mobility Plan for Solapur, the CMP should clearly cover the feasibility of the TOD considering the current developments in the city and the proposed development in the development plan prepared by the SMC for 2017. Also the CMP should cover a convergence of the TOD policy and the development plan to have a sustainable development for the city.

## 8.5 Issues and Key Challenges

- Major portion of the roads in the city are unpaved road i.e. 37% of the total roads in the city are un-paved roads. Movement of vehicles on the un-paved roads leads to increase in soil particles to rise and lead to increased air pollution in the city. Also the time taken for travel on the un-paved is more compared to the paved roads.
- Condition of the paved roads in the certain city areas is deteriorated and needs revamping for smooth traffic movement. To assess the situation of the roads in the city, a detailed road condition survey is essential.
- The paved portion of the paved roads is not covering the entire right of way. Movement of vehicles on the un-paved road width leads to increase in air pollution due to movement of vehicles on the un-paved portion.
- Condition of public transportation in the city needs up-gradation, Of the total estimated population of the city in 2013, only five percent of the population use public transport.

- The SMC has a bus fleet of 146 buses for the public transportation in the city. As mentioned in the section 70% of the buses are more than 15 years old. Of the total bus fleet in the city, only 50% is available for daily bus operations.
- In absence of the dedicated parking spaces in the core city, and commercial activities in the core city lead to use of the available row for on street parking reducing the available right of way for traffic movement.
- In Solapur, 13 intersections are having the automated signal indicators. Considering the road length of the city, additional 20 junctions / intersections in the city are to be provided with automated signals.
- Solapur is in a process to prepare the comprehensive mobility plan (CMP) for the city. The CMP should be prepared and the transit oriented development model for the city need to be assessed and included in the CMP for as a long term development model for the city.
- As per the suggestions received in the stakeholder consultations, the city lacks ring road connectivity for the through traffic for the heavy vehicles generating traffic problems in the core city areas having substantial traffic during peak hours.
- Low coverage of street lights, of the total road length of 1902 km in Solapur only a length of 872 km is provided with street lighting.

## 8.6 Traffic and Transportation Sector post- 1<sup>st</sup> Generation CDP – Status Review

The 1st generation CDP was prepared in 2005-06. The box below provides an overview of traffic and transportation sector at the time of preparation of the 1st generation CDP.

### 1<sup>st</sup> generation CDP scenario

The length of roads, as reported in the CDP, was 1099.33 km. The discussion with various stakeholders had identified the following challenges:

- Inadequate availability of the right of way (RoW) in the core city area considering the volume of traffic
- Unavailability of sufficient RoW for the roads proposed in development plan due to encroachment by the hawkers and on street parking.
- unavailability of adequate parking facilities in the city
- Insufficient width of the rail over bridges and road over bridges causing the bottleneck during peak traffic hours.
- Inadequate street lighting in the city on major roads.
- Absence of the city transportation services.

To improve the condition of the roads, the 1<sup>st</sup> generation CDP envisaged an investment of Rs 264.30 Crores covering improvement of the existing roads as well as constructing new roads in Solapur.

#### Status of the project

Post first generation CDP, the SMC prepared a project of Rs. 234.96 Crores for improvement of roads in Solapur and is being implemented by the SMC. The project was approved under the financial assistance from MSJNM scheme. The physical progress of the project till the month of August 2014 was close to 7%.

### Post CDP Scenario

### 1<sup>st</sup> generation CDP scenario

The SMC post CDP, undertook mapping all the roads in the city on geographical information system (GIS). The total road length in the city today is 1903 km. It is assumed that at the time of preparation of the first generation CDP, accurate information on the length of roads in the city may not be available with the corporation. Thus, comparison based on today's situation may not be appropriate.

### Current status

The situation of the topping of the major roads in the city needs substantial improvement. It is evident based on the visit to the city that substantial emphasis should be given towards development of new roads as well as re-carpeting of the existing roads is necessary.

The section below provides a detailed overview of the existing street lighting based on our interaction with the key stakeholders, SMC officials.

## 8.7 Street Lighting

### 8.7.1 Existing Situation

In SMC, the street lighting is managed by the street lights department. The capital works related to the street lighting is handled by the head office and the day to day operation and maintenance of the street lights is undertaken by the respective zonal offices. The department provides various types of fixtures for street lighting which includes, tube lights, sodium vapor lamps and high mast lamps the capacity of the fixture is provided according to the requirement of the location of the street light. Of the total street lights provided by the SMC, 37% are tube lights and 63% are high power lights providing higher illumination levels on the streets. In terms of coverage of street lights, SMC lacks in providing 100% coverage of the roads in the city. Of the total roads in the city, only 45% roads are covered with the street lighting provided by the SMC. The average distance of the lights on the roads covered is 28 meters. The street lighting in SMC is managed manually and there are no automatic on/off switches installed on the lines. Maintenance of the street lights is carried out by the respective zonal offices and maintenance is carried out only after the breakdown of the street light is reported.

**Table 44: Various types of lamps for streetlight installed in Solapur**

Sr no	Type of Lighting	Number of Units installed	Percentage of Total (%)
1	High Mast Lamp (HML)		
1.1	HML – 400 W	332	1.12%
1.2	HML – 250 W	224	0.75%
2	Sodium Vapor Lamps (SVL)		
2.1	SVL-250W	7355	24.72%
2.2	SVL-150W	7249	24.36%
2.3	SVL-70W	2540	8.54%
3	Tube Light	10938	36.76%

Sr no	Type of Lighting	Number of Units installed	Percentage of Total (%)
4	Others	1120	3.76%
	<b>TOTAL</b>	29758	

Source: Street Light department of SMC

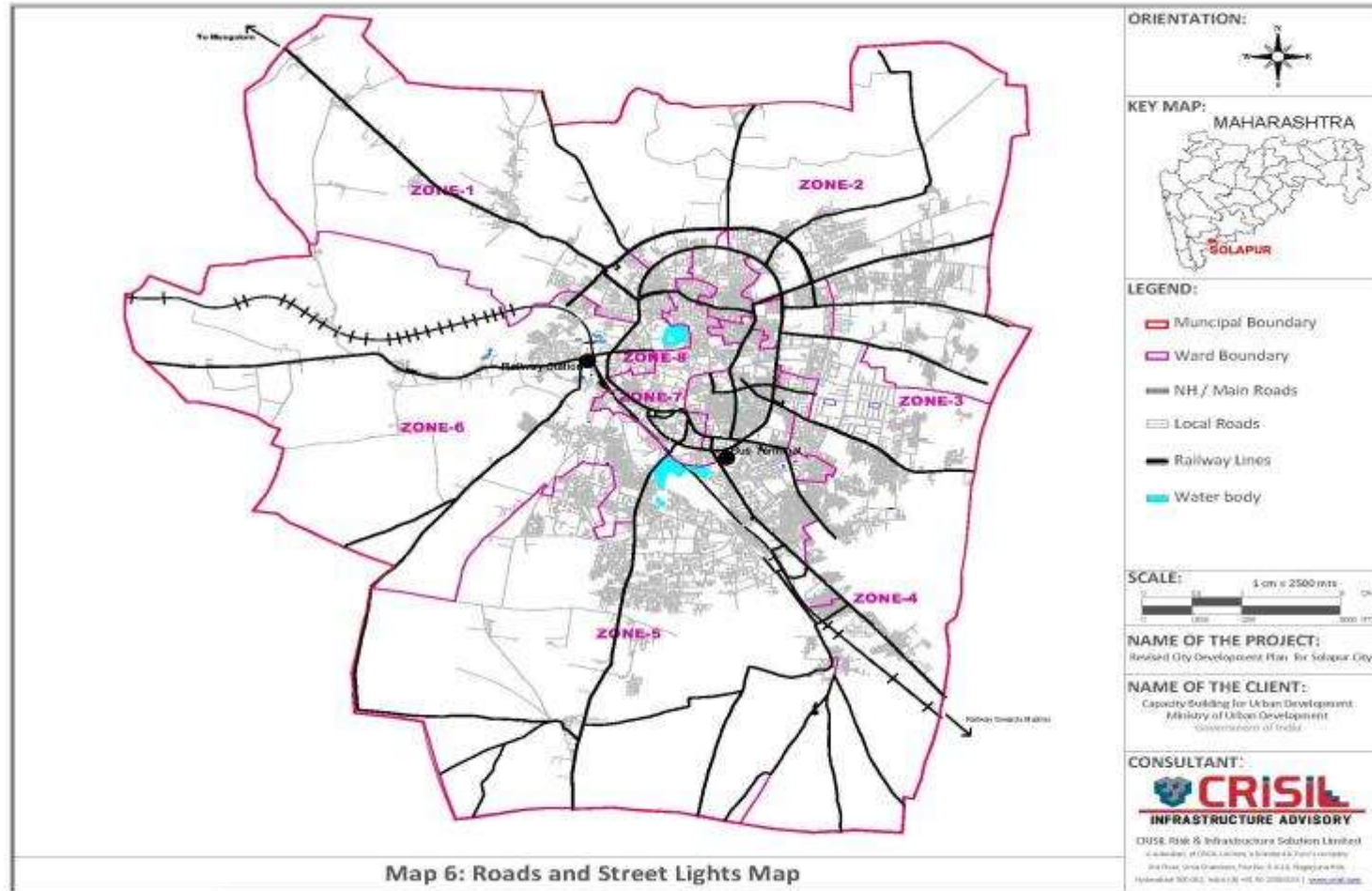
### 8.7.2 Pre and post 1<sup>st</sup> Generation CDP

1 <sup>st</sup> generation CDP scenario
Apart from mentioning the current situation of the street lighting, the CDP has not discussed any other detail of the street lighting in Solapur. To augment the street lighting system, the 1 <sup>st</sup> generation CDP envisaged an investment of Rs 5.25 Crores.
Post CDP scenario –Street Lighting
The situation of the Street Lighting is very poor. Of the total road length of 1902 km only 872 km roads are provided with appropriate street lighting. Also the average distance street lights provided on the roads is more than 30 meters. The corporation is planning to implement light emitting diode (LED) based street lighting in the Solapur and increase the coverage of existing roads in the city.

### 8.7.3 Key Observations

- **Coverage:** The Street lighting being provided by the SMC does not cover the entire road length in the city area. As per the information received from street lights department, only 872 km is covered by the street lights out of 1902 km.
- The SMC should reduce the use of tube lights in street lighting and include energy efficient street lighting such as light emitting diode (LED) based street lighting.
- At the time of the discussion with the department, it was understood that there is no process of regular energy audits for the street lighting.
- In absence of the centralized monitoring of the street lights, it is difficult to implement the day light savings and the on and off timings of the public street lighting in the SMC and reduce the energy consumption there off.
- There is no practice of regular check ups for the maintenance of the street lights in the city. Maintenance is carried out once the complaints are received from the user.

Figure 42: Roads and Street Lights Map



## 9. Housing and Urban Poverty

### 9.1 Overall Housing Scenario in the City

The city is characterized by medium rise and high density housing in the core city and low rise sparse housing in the extended areas. The last decade has witnessed development of multi rise residential and commercial structures. Also, organized layouts are developing on the western part of the city.

#### 9.1.1 Present availability of housing stock

As per census 2011, the city has 245975 census houses of which 23182 are vacant (9.42%) and the rest 222793 are occupied for various uses. The residential houses accounts for 75% of total houses in the city followed by shops/offices with 8.33%. The Factory/Workshop/ Work shed are accounts for 1.03% of total houses and remaining use accounts for 5.86% of total houses.

When the same figures assessed for the Census 2001, the city had 2.00 lakh census houses. Of the total houses 0.16 lakh (7.75%) of the houses were vacant and the remaining 1.85 lakh (92.25%) houses were occupied. The residential houses accounted for 69% of total houses in the city followed by shops/offices with 8.81%. Factory/workshop/ work shed accounted for 1.44% of total houses and remaining use accounted for 2.05% of total houses.

**Table 45: Housing stock in the city (2001-11)**

Category	2001	2011	% of Total (2001)	% of Total (2011)	Growth (01-11)
Total	200,358	245,975			22.77%
Vacant	15,522	23,182	7.75%	9.42%	49.35%
Occupied	184,836	222,793	92.25%	90.58%	20.54%
Residence	139,093	176,980	69.42%	71.95%	27.24%
Residence-cum-other	17,562	7,711	8.77%	3.13%	-56.09%
Shop, Office	17,653	20,490	8.81%	8.33%	16.07%
School, College	637	766	0.32%	0.31%	20.25%
Hotel, Lodge, Guest House	798	807	0.40%	0.33%	1.13%
Hospital, Dispensary	846	922	0.42%	0.37%	8.98%
Factory, Work-shop, Work-shed etc.	2,887	3,209	1.44%	1.30%	11.15%
Place of worship	1,253	1,748	0.63%	0.71%	39.51%
Other non-residential use	4,107	8,547	2.05%	3.47%	108.11%
No. of occupied locked census houses	0	1,613	0.00%	0.66%	

Source: Census of India 2001 and 2011

As presented in the table above, it is observed that of all the uses for the occupied census houses, there is a sharp decline under the category of residential cum other uses. Also it is observed that census houses' being used for other than residential uses has increased by more than 100%.



## 9.1.2 Quality of Housing Stock

As available in the census 2011, the quality of the housing stock for residential and residential cum other use category was analyzed. The city has 184691 (75% of total census houses) census houses used under the residence and residence cum other use category. Out of these houses, 123498 houses are in good condition (67% of the residential as well as other residential uses) and 58235 houses (31.53% of the residential as well as other residential uses) are in livable condition. Only 2958 (1.60% of the residential as well as other residential uses) houses are in a dilapidated condition.

## 9.1.3 Future Housing Requirement

As per the projected land use for the core city, 36.47% of the area has been earmarked for the residential use for the year 2017. This indicates that additional 6513 ha of area would require for the residential and mixed uses. In order to estimate the housing stock requirement for the next three decades, we have adopted the following assumptions;

- Population projections as finalized in demography section above
- Household size is considered as 5.00 over the next decade, 4.5 for the subsequent decade and 4.00 between 2031 and 2041.
- Residential and mix use would increase by 2% over the next three decades and 10% reduction in the dilapidated houses in the city.

Following table provide the assumptions and housing demand gap assessment requirement in the city for the next three decades.

**Table 46: Future housing requirement for the city**

Year	2,001	2,011	2,021	2,031	2,041
Population/Projected (in lakhs)	872,424	951,558	1,227,327	1,583,016	2,041,786
Household size	5.41	5.05	5.00	4.50	4.00
Total Census houses (In lakhs)	2.00	1.88	2.45	3.52	5.10
Residential and mix land use %	78%	75%	77%	79%	81%
Residential Housing stock (In lakhs) - Demand	1.57	1.41	1.89	2.78	4.14
Residential Housing stock (In lakhs) - Gap		-	0.33	1.22	2.57
Dilapidated Houses (%)	2.10%	1.89%	1.70%	1.53%	1.38%
Residential Housing stock - Dilapidated Buildings (In lakhs)		0.03	0.03	0.04	0.06
Residential Housing stock -Total (In lakhs) - Gap		0.03	0.36	1.26	2.63

Source: CRIS Analysis

Based on the above assumptions, the city will need 5.10 lakh new houses by end of 2041. It indicates that the city would require additional 3.10 lakhs houses by end of 2041. The residential and mix use house would be estimated as 4.34 lakhs houses by 2041. It indicates that the additional 2.83 lakh residential house are required by 2041.

## 9.2 Urban Poverty and Slums

During the visit to the city of Solapur it was found that slum settlements are scattered in most parts of the city. As per the details available, there are a total of 220 slums settlements in the city. Of which 159 slum settlements (72% of the total) are authorized and 61 (28% of total) slum settlements are unauthorized slums. When compared to the Census 2011 population of Solapur, 2.92 lakh people (31% of the city's population) reside in slum areas which was 2.18 Lakh (25% of 2001 census population) while comparing it to the census population of 2001. This implies that the slum population of the city has increased by 34% in the last decade impounding the growth of the city's normal population growth of 9.02%. This indicates that the migrants from other nearby areas are contributing to increase in slum population of the city.



The following table provides the details of slum in Solapur assessed during the detailed slum survey undertaken in 2001. Current detailed socio-economic survey of the slum is in progress under the pilot project for the Rajiv Awas Yojna.

**Table 47: Details of slums in Solapur**

Sr No	Particular	Number of Slums	Population	Households
<b>1</b>	<b>Total Slums in Solapur (2001)</b>	<b>220</b>	<b>218905</b>	<b>45144</b>
<b>1.1</b>	<b>Notified Slums</b>	<b>159</b>	<b>178116</b>	<b>37239</b>
A	On Government Land	45	65050	13737
B	On SMC land	27	27092	5816
C	On private land	87	85974	17686
<b>1.2</b>	<b>Non-Notified Slums</b>	<b>61</b>	<b>40789</b>	<b>7905</b>
A	On Government Land	7	3847	716
B	On SMC land	6	1780	289
C	On private land	48	35162	6900

Source: Rajiv Awas Yojna Implementation Cell, Solapur Municipal Corporation.

As per the above presented figures, of the total slum households, 46% are residing on the government land and rest 54% are on the private land. Of the total notified slum households, 53% are on the government land and the rest 47% are on private land and in the non-notified slums, the figures are 13% and 87% respectively.

## 9.2.1 Policy, Regulatory and Institutional Framework

The Ministry of Housing and Urban Poverty Alleviation (MoHUPA) is the apex authority at the national level to formulate policies, sponsor and support programme, coordinate the activities of various Central Ministries, State Governments and other nodal authorities and monitor the programmes concerning all the issues of poverty, housing in the country and urban employment.

The Urban Poverty Alleviation (UPA) cell of SMC functioning under the City Engineer is the responsible department for the implementation of slum improvement projects and the coordination for various activities in the city. Currently, the UPA cell is focused on community mobilisation and organizing community workshops to implement community development activities.

Apart from the Central and state Government sponsored programmes, there are no programmes supported by multilateral fund agencies in the city. The details of the slum improvement programmes in the city have been discussed in the sections below.

### 9.2.1.1 Projects under Implementation

To provide the housing to the urban poor residing in the slum areas in the city, SMC in the year 2006 submitted a detailed project report (DPR) to construct dwelling units for the slum residents and provide basic services to the dwelling units for approval to the ministry of housing and urban poverty alleviation (MoHUPA). The DPR was sanctioned by the ministry in December 2006 under the integrated housing and slum improvement program (IHSDP) for construction of 1289 dwelling units and provide basic amenities. The total approved cost of the project was Rs. 11.63 Crores. Of the total dwelling units to be constructed, 88 dwelling units were constructed and allotted to the beneficiaries and construction of 371 dwelling units was in progress and for 712 dwelling units the construction was to start. Of the total dwelling units to be constructed under this scheme, 118 dwelling units are to be absolved due to unavailability of land from the state government as the land was owned by the state government. The SMC had requested the state government for construction of dwelling units under the IHSDP program. Substantial time had gone in obtaining the transfer of the land from the state government which resulted in the increase of construction costs of the remaining dwelling units.

### 9.2.1.2 Slum Free Solapur

The city is preparing the action plan for create a slum free Solapur under the Rajiv Awas Yojna (RAY). The socio economic profile of the city slums is being prepared by the SMC and the detailed project report to prepare housing units under the RAY. As a part of the improvement scheme for slums, the SMC has already prepared a pilot scheme for development of nine slums, costing Rs.76.48 Crores, and has been submitted to the central government for funding. Apart from the pilot Project, the SMC has also prepared a Slum Free Solapur plan for providing 65128 dwelling units and redevelopment of 7122 dwelling units under the plan. The plan is planned to be implemented by 2022 with a total project cost of Rs. 6752.12 Crores. The SMC has already established a project implementation unit (PIU) for the implementation of housing project under RAY. The mapping of slums on geographical information system (GIS) is in progress at the SMC.

### 9.2.1.3 Ramai Awas Gharkul Yojna

Apart from the recent urban poor housing schemes launched by the central government, the state government of Maharashtra is implementing the Ramai Awas Gharkul Yojna (RAGY). This scheme is being implemented through the social justice department of the state government. The scheme, which was introduced in 2009-10, envisaged to provide a total number of 10 lakh houses for the poor and below poverty line (BPL) in the state. However, only those, who have registered their names by the

year 2008 as the BPL, were entitled to get the houses. As per the discussions with the city officials, this scheme was available to the slum as well as non-slum population of the city specifically from the scheduled casts. In the phase-I for SMC area the state government sanctioned Rs. 14 Crores under this scheme. Under this scheme Rs. 2 lakh are provided to the beneficiary for construction of house of a minimum 269 ft<sup>2</sup>. Under this scheme a total of 710 units benefited of which 500 units were of urban poor and the remaining was of the private land owner. Also the state government administration sanctioned additional Rs. 16 Crores under the RAGY for SMC.

As per the discussions with the department officials, they are running in to a possible conflict situation where in the slum dwellers who received financial benefit under the RAGY are refusing to use the facility created under RAY as they are not willing to use the flat system as against the on ground upgraded houses available in the RAGY.

### 9.2.2 Sanitation facilities in Slum areas

The sanitation facilities in the slum areas are significantly poor in Solapur. As per the information available, there are total of 5355 toilet seats (Community as well as pay and use) in the slum area in the city. When compared to the slum population of the city, 55 persons are dependent on one toilet seat for their sanitation needs in the city which is very high. Due to this open defecation in the city is commonly prevalent. The SMC has prepared a city sanitation plan (CSP) with assistance from an external consultant. According to the city sanitation plan, there are 225 open defecation spots across the city. It was also observed that there are few open defecation spots just next to the community toilet facilities provided by the SMC due to poor maintenance of the community toilets.



*Sanitation facilities in slum areas*

## 9.3 Housing Sector under 1<sup>st</sup> Generation CDP – Status Review

The previous CDP had discussed the situation of the urban poor in the city. The earlier CDP considered below poverty line (BPL) population representing the population residing in slums. As per the CDP, there were total of 221 slums in the SMC limits. Of the total slums in the city, 158 were declared and 63 were reported to be non-declared slums. The total population residing in the slum areas was 220514.

The CDP had identified an investment of Rs.92.29 Crores towards construction of low cost housing along with the common civic amenities for 25% of the slum based families. However, the document was not clear on which 25% of the slum families to be covered under the housing development project.

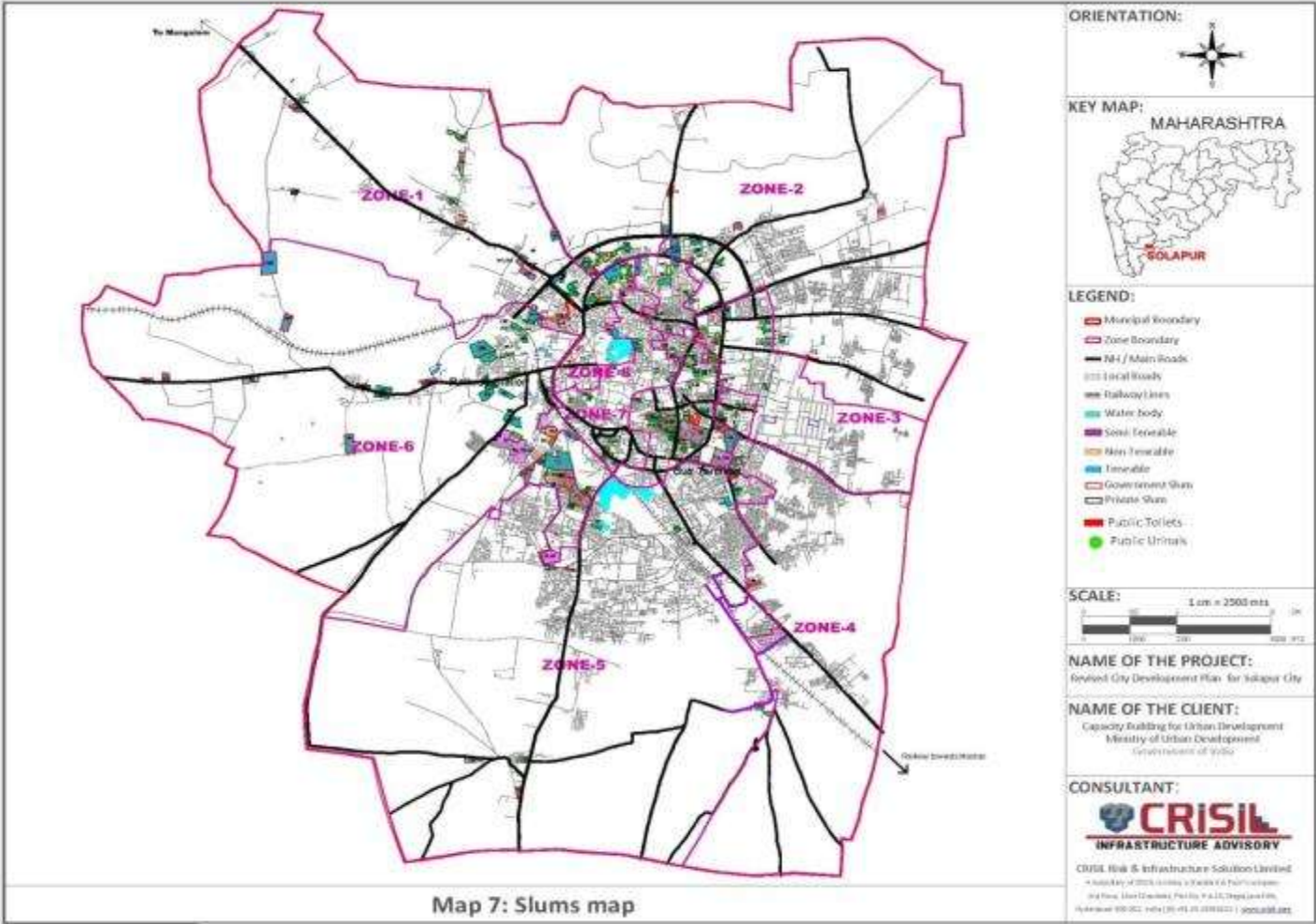
The SMC before the first generation CDP is implementing was implementing housing improvement measures for the slum as well as the vulnerable communities in the SMC area. The SMC was implementing housing improvement projects under the 'Dalit Vasti Yojna' and 'Ramai Awas Yojna, of

the Maharashtra State Government. Post launch of JNNURM, the SMC had taken up housing development for urban poor in the city under the integrated housing and slum development program (IHSDP). The status of the project is presented in section 9.2.1 of this report.

## 9.4 Key Issues

- Population residing in slum settlements in Solapur has grown from 2.18 lakhs in 2001 to 2.92 lakhs in 2011 registering 34 percent growth during the decade. The growth in the slum population is substantially high than the actual increase in population. Also in percentage terms the slum population in the city has increased from 25 percent in 2001 to 31 percent in 2011.
- Non transfer of land for construction of housing for urban poor has led to reducing the number of the housing units under the IHSDP scheme due to escalation in the construction cost of each dwelling unit.
- As per the information available, number of people dependent on each toilet seat is as high as 55 persons per seat. Also during the city visit, it was found that due to poor maintenance of toilets in the slum areas users are resorting to open defecation and using the space around the toilets for defecation.
- Open defecation is prevalent and there are 225 open defecation spots in the city as reported by the CSP.
- There is a conflict in implementing the urban poor schemes as the state supported schemes gives financial assistance to the vulnerable communities (SC/ST) for up gradation of their dwelling units and they are provided with the basic services under the BSUP reform. Given this situation, the slum dwellers are reluctant in moving to the newly built houses under the IHSDP.

Figure 43: Slums Map



## 10. Urban Environment and Disaster Management

### 10.1 Pollution level in the City

Solapur is a major city in the Marathwada region of Maharashtra and is a district headquarters. The city has witnessed increase in the volume of traffic which is one of the major contributors to the pollution in the city apart from the unpaved road widths. Further, the city lacks safe disposal facility of the sewage and municipal solid waste. This is affecting the ground and surface water quality in the city.

### 10.2 Ambient Air Quality in SMC

Maharashtra pollution control board (MPCB) is monitoring the ambient air quality in Solapur city month wise at three locations; in the premises of Walchand institute of technology (WIT), premises of SMC and at the prominent traffic junction called as Saat Rasta (seven roads) since 2000 under the national ambient air quality monitoring program (NAAQM). This is a continuing activity of the board. The air quality parameters, being measured during last three years, include Sulphur Dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>), suspended particulate matter (SPM) and respirable suspended particulate matter (RSPM).

**Table 48: Air quality parameters for Solapur (between Apr-2013 and Apr 2014)**

Sr. No.	Parameter		Standard	Observed value (µg/m <sup>3</sup> )		
			(µg/m <sup>3</sup> )	WIT	SMC	Saat Rasta
1	Sulphur dioxide (SO <sub>2</sub> )	Min	80.00	14.00	10.00	14.00
		Max		17.00	21.00	21.00
		Average		15.45	14.91	16.41
2	Oxides of Nitrogen (NO <sub>x</sub> )	Min	80.00	30.00	15.00	31.00
		Max		40.00	63.00	45.00
		Average		35.12	42.46	34.75
3	RSPM	Min	100.00	177.00	15.00	25.00
		Max		272.00	190.00	296.00
		Average		217.53	96.43	201.63

Source: MPCB sub division, Solapur

From the above table it shall be observed that in all the air quality parameters being monitored by the MPCB, the levels of RSPM are crossing the standards prescribed by the MPCB. The reason stated during the discussions with the MPCB officials as well as other stakeholders of the city is the condition of city roads in Solapur. It is observed that the topping of the city roads is not end to end leaving exposed earth at the both the ends of the right of way (ROW). Vehicle movements on these parts of the roads lead to generation of dust resulting in higher RSPM levels. Also based on the observation of

the city roads, due to wear and tear the topping of certain roads in the city were destroyed and vehicle movements on such roads also adds to the higher RSPM levels in Solapur.

### 10.3 Water Quality

The MPCB is having a divisional headquarter in Solapur is measuring the environment parameters in the entire Solapur District. There are total three water quality monitoring stations monitored by the MPCB of which, the monitoring location at the Soregaon works is located within the city.

**Table 49: Water Quality Parameters at Soregaon Water Works**

Parameter	Observed Values (2013)	Standard as per IS:10500
pH Value	8.25	6.5-8.5
D. O.	5.91	
B.O.D.	4.33	Nil
Total Coliform	272.22	10 MPN/100ml

Source: MPCB Sub Division, Solapur

### 10.4 Noise Levels in SMC

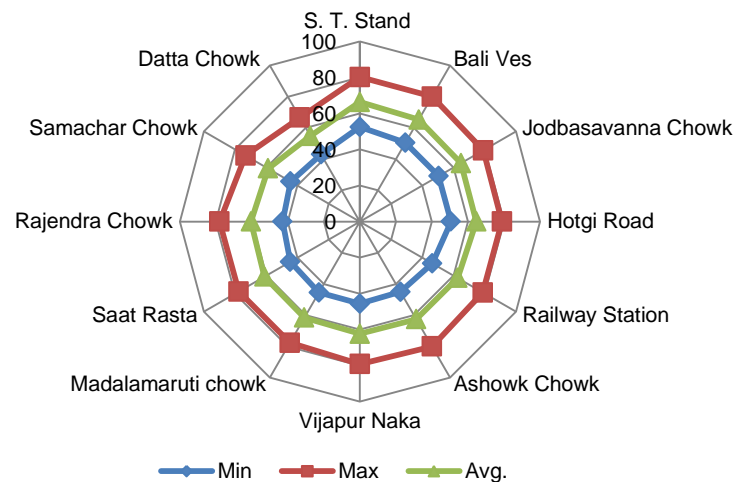
MPCB is the responsible agency for monitoring the various types of pollution levels in the cities of Maharashtra. The major sources of the noise pollution are the vehicles and the use of loud speakers during the public festivals such as Ganesh Festivals and use of fire crackers during Diwali. In Maharashtra the Ganesh festival is the main festival which lasts for ten days and involves large scale of participants. In general, ambient levels of the noise pollution increased considerably during this period.

#### 10.4.1.1 Noise levels during Ganesh festival and Diwali

The Ganesh festival is the main festival in the Indian state of Maharashtra and is observed all across the state be it a small town or a metropolis. Use of loudspeakers and drums is a very common feature during the festival.



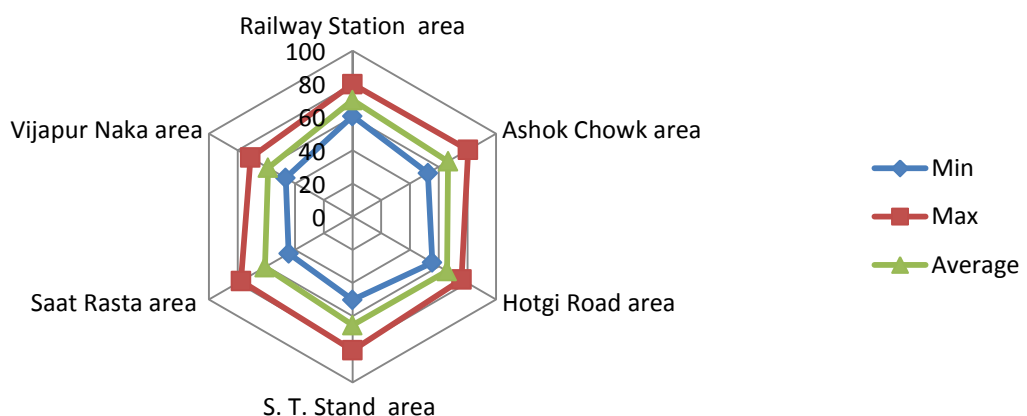
**Figure 44: Noise levels during Ganesh Festival**



Source: MPCB sub-division - Solapur

The observations of the noise levels (in A-weighted decibels) during Ganesh festival are observed during the period between 9<sup>th</sup> September 2013 and 18<sup>th</sup> September 2013. A total of 24 observations registered between 16:00 hours in the evening to 24:00 hours in the night. All the locations where the noise levels are measured are the major junctions or the commercial areas of the city which falls on the route of Ganesh Visarjan (submergence). As per the guidelines of the ministry of environment and forest (MoEF) the permissible decibel levels in the residential as well as any commercial areas are in the range of 55 and 65 respectively in the day time and 45 and 55 during the night time<sup>12</sup>. It can be observed from the above chart that the average decibel levels in the central bus stand and Bali ves area are crossing the prescribed standards (for the day time i.e. 55-65 decibels) owing to the high density of the vehicular movement along with the noise levels generated by the use of loudspeakers and drums during Ganesh festivals.

**Figure 45: Noise levels during Diwali Festival**



Source: MPCB sub-division - Solapur

<sup>12</sup> The standards for the noise in the habitation area are prescribed by the committee formed by the central pollution control board and the standards were later notified in the Environment Protection Act, 1986. Available on the website of Ministry of Environment and Forest.

Similar is the case during the Diwali festival, the decibel levels at all the locations where the measurements were undertaken were crossing the prescribed levels by the MoEF i.e. 45-55 (prescribed levels for the night duration).

## 10.5 Water Bodies

As per the existing land use analysis the area under the water bodies is 3.77 km<sup>2</sup> (8.27% of total developed area). Of which, Siddeshwar Lake and Shambhaji Lake are major lakes in the city.

**Figure 46: Location of Lakes in Solapur**



Source: Google Earth

### 10.5.1 Existing condition of water bodies

#### 10.5.1.1 Sambhaji Lake

The Sambhaji Lake is a perennial lake and has a maximum depth of 4.30 m with a catchment area of about 2500 acres. The water spread area of the lake about 42 acres having a mean annual rainfall of the area is 617 mm. At present, the lake supports diverse aquatic flora and fauna and also attracts many bird species of local and migratory types. The lake has a great Socio-cultural, aesthetic and recreational value. Presently, various nallas are discharging wastewater incessantly in the lake. The lake is polluted by entry of sewage, washing of cloths and animals, bathing, disposal of domestic and biomedical solid waste into the lake.

**Figure 47: Sambhaji Lake- Solapur**



### 10.5.1.2 Siddeshwar Lake

Siddeshwar Lake till about a decade ago was a site for migratory birds and became the ecological haven for aquatic flora and fauna. Few wastewater outlets from the peripheral roads, markets and surrounding regions are directly connected to the lake. Idol immersion during Ganesh festival, disposal of garbage, defecation in surrounding places by people, has led to pollution of the lake water.

**Figure 48: Siddeshwar Lake - Solapur**



Source: Google Earth

## 10.6 Identification of Environmentally Sensitive Areas

As discussed above the major lakes in the city were heaves for the migratory birds and due to pollution of the lake water due to various men made interventions. Currently sewage generated in the city is directly dumped in to these lakes along with washing of clothes, animals, immersion of Ganesha Idols during the famous Ganesha festival of Maharashtra. This polluting activity has impacted to the flora and fauna of these lakes and interventions in these regards on a urgent basis is needed.

Apart from the lakes, the area around the solid waste processing plant is currently being used for dumping the waste collected from the city since the processing plant is not processing 100% waste received from the city. The waste is disposed in open daily to the landfill site located on Tuljapur road and Bhogaon.

The waste is dumped in open, without any treatment, giving rise to contamination of the ground water and the degradation of the soil conditions due to leachate percolation. Open dumped waste serves as breeding ground for disease vector such as flies, mosquitoes, cockroaches, rats and other pests. As per discussions with the officials, the waste is sometimes is taken by local farmers to be used as fertilizer. Most of the waste remains laying down in open causing pollution with the bad odor unless it degrades naturally.

## 10.6.1 Disaster Proneness Assessment of the City

### 10.6.1.1 Floods

Solapur district with ten rivers, each with its number of nallas in the river basin area, are dotted with medium and hundreds of minor dams and K.T weirs indicates that major efforts have gone into creating irrigation for agriculture.

Major flood causing heavy damages occurred on the Bhima River in the year 1996 prior to construction of Ujjani Dam (major water source for city of Solapur). After construction of Ujjani dam, the flood situation is controlled. As such Ujjani Dam is main flood control center. Even then there were heavy floods in 1976, 1980, 1983, 1994, 1997. The water from Bhatghar dam is released in the River Nira. Due to these released water there is a cumulative flood at least once in every two to three years and 215 villages situated on the banks of Bhima and Sina River frequently face the flood situation.

Additionally, when the dams release the surplus water, tendency of flooding the settlements on the downstream has been recorded. The district administration is well aware of the phenomenon and the irrigation department has evolved flood management strategy to coordinate release of this surplus water. The coordination mechanisms and the warning systems need to be strengthened and efforts in this direction are in progress.

### 10.6.1.2 Earthquakes

In 1967, there was high intensity earthquake at Koyna surrounding Satara district during which time Solapur district also experienced these tremors. However, no loss of lives or property was reported for Solapur District. But the earthquake on 30<sup>th</sup> September 1993 with epicenter at village Killari District Latur also affected Solapur District. 11 people died, 226 were injured and 14,183 houses in 524 villages suffered major damages.

### 10.6.1.3 Industrial and Chemical Accidents

In the last 5 years, there were 25 fatal accidents of the workers of the factory and about 31 fires and 1 explosion. There were about 26 workers lost their lives due to accident while working in the factory. However, nobody from outside the factory premises received any injury due to the accident. There was total loss of Rs. 544.93 lakhs in 31 fires inside the factory premises during the last 5 years.

## 10.7 Disaster Management Mitigation Measures

The Disaster (both manmade and natural) mitigation at city level involves management of events to minimize the damage during a disaster and development of standard operating procedures preparedness to cope with the disasters to reduce the risk and losses.

As per the general disaster management structure in India, the administrative head of the district, i.e. district collector is the responsible for disaster management and response within the district.

However, in view of the growing urbanization, decentralization of the disaster management plan is need of the hour. The disaster management plan is needed particularly in short-term recovery, decision-making, which can affect prospects for effective implementation of a mitigation strategy aimed at reducing the long-term risk to human life and property.

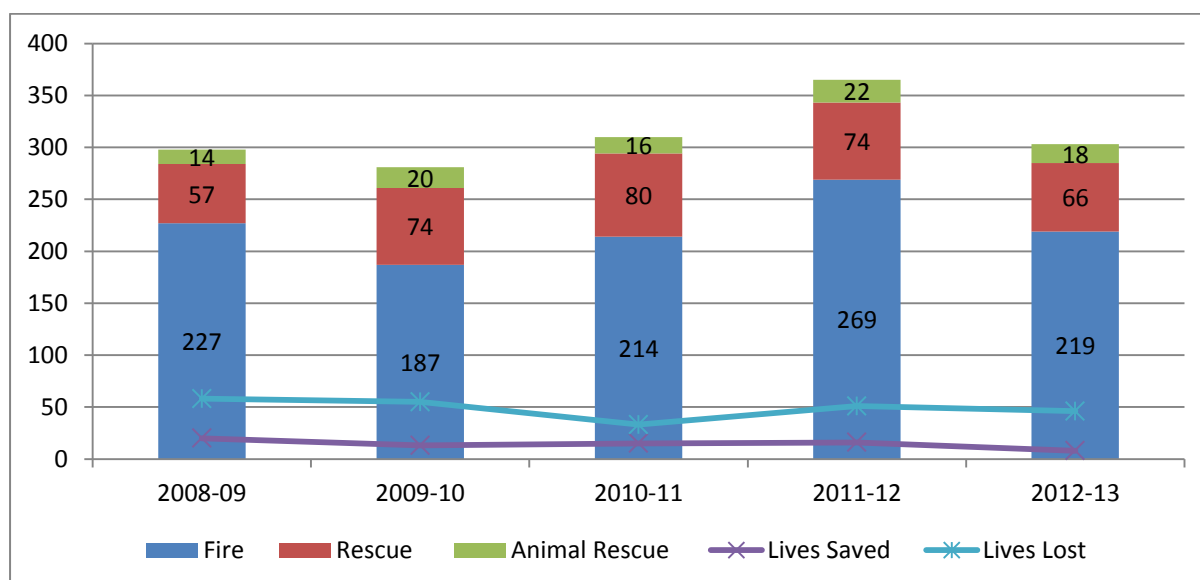
## 10.7.1 Current Disaster Mitigation capacity in SMC

As discussed above, the Solapur is prone to natural disasters like earthquake, floods and manmade disasters like fire outbreaks and road accidents. During the road accident, apart from the loss of assets it also involves injuries / casualties and hindrance to traffic movement. Hence, these events have been considered under manmade disasters.

### 10.7.1.1 City Level

Fire and emergency services are to be provided by each and every urban local body as stipulated as the mandatory functions under the 12<sup>th</sup> Schedule of 74<sup>th</sup> Constitutional Amendment Act. In Solapur, the fire and emergency services are managed by the fire department headed by the Chief Fire Officer (CFO). There are a total of five fire stations spread across the city. In all the calls attended by the Fire department, 60% to 75% calls are related to fire. The following figure provides the details of the fire calls attended by the fire department in last five years and number of casualties and lives saved by the department.

**Figure 49: Fire calls attended by fire department - SMC**



Source: Fire Department of SMC

#### 10.7.1.1.1 Fire Stations

Currently there are five fire stations in the city of Solapur. The five fire stations are located at, Ravivar Peth (Main fire station), Savarkar Maidan, Bhavani Peth, Hotgi Naka, and Akkalkot Naka.

**Table 50: Fire apparatus available at fire stations in Solapur**

Sr No	Name of Fire Station	Type of Station Structure	No. OF fire tender	No. of Rescue Tender	No. of Ladders	Other
1	Ravivar Peth	RCC	1	1	-	BA Set, Cutting Set, Fire Suit
2	Savarkar	RCC	1	-	-	-

Sr No	Name of Fire Station	Type of Station Structure	No. OF fire tender	No. of Rescue Tender	No. of Ladders	Other
	Maidan					
3	Bhavani Peth	Temporary Shed	1	-	-	-
4	Hotgi Naka	Temporary Shed	1	-	-	-
5	Akkalkot Naka	Temporary Shed	1	-	-	-

Source: Fire department of SMC

As presented in the above table, it shall be noted that of all five fire stations in the Solapur city three stations are developed under a temporary shed. The SMC in the disaster management plan should cover development of these fire stations as permanent structures will all facilities as per the standing fire advisory council (SFAC).



Fire apparatus available with SMC

#### 10.7.1.2 Hazard/risk vulnerability analysis

The SMC had prepared a city level disaster management plan way back in 2006-07. This plan should be revised and the revised plan should identify hazard proneness and develop ward level profile of each hazard in terms of its impact high/low/medium. Further, the frequency, magnitude, intensity and spatial extent of each hazard need to be mapped. This should be followed by development of hazard specific resource estimation.

The City's disaster preparedness team, under the direction of the Municipal Commissioner should be responsible for preparation of annual contingency plans (Disaster management plans) and ensuring the effective implementation of disaster mitigation and relief measures in the city.

#### 10.7.1.3 District Level

The district administration of the Solapur has already prepared the off site disaster management plan (DMP) for ascertaining preparedness to act during any kind of disasters in the district. The DMC clearly states formation for the crisis group at the central, state and the district level. The In-charge at the district level is the district collector. Following persons are the members of the district level crisis group.

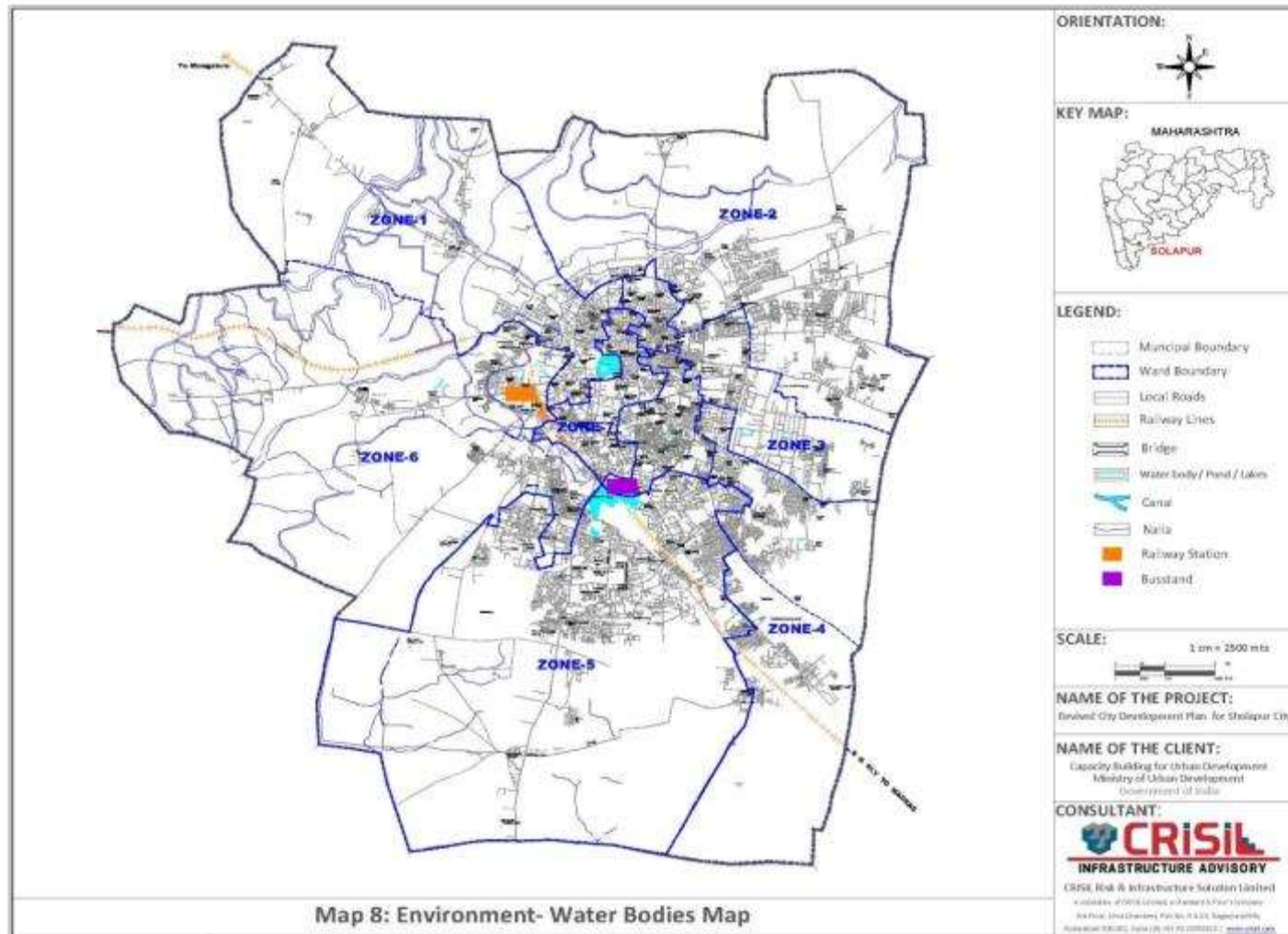
**Table 51: District level crisis group - Solapur**

Sr No	Authority	Responsibility
1.	District Collector Solapur	Overall Incharge
2.	Joint Director DISH Pune	Factories Act 1948

Sr No	Authority	Responsibility
3.	District Emergency Officer	Same as Chairman DCG
4.	Chief Fire Officer Solapur Fire & Rescue	Fire and Rescue
5.	District Information Officer Public Information	Other public Information
6.	Joint Chief Controller Of Explosives Indian Explosives Act	Indian Explosives Act
7.	Chief, Civil Defence Relief	Relief and Rescue
8.	One representative of trade Unions Information & help	Information and Help
9.	Commissioner Of Police Law & Order	Law and Order
10.	District Health Officer/Chief Medical Officer Health & Medical	Health and Medical
11.	Commissioner of SMC	Health and Medical
12.	Dept of Public Health Engineering Public Works	Public Works
13.	RO MPCB EP Act & Rules	Act and Rules
14.	District Agriculture Officer Insecticides Act	Insecticides Act
15.	4 persons nominated by District Collector (DC) Public Communication	Public Communications
16.	RTO Solapur MV Act	Motor Vehicle Act
17.	One representative of industry nominated by DC Resource	Resource
18.	Chairman DCG & District Collector Prepare & Implement Offsite	Prepare and Implement Offsite plan

Source: Office Disaster Management Plan for Solapur

Figure 50: Environment – water Bodies Map





## 11. Climate Change and Sustainable Development

For centuries, human activities have released large amounts of carbon dioxide and other greenhouse gases into the atmosphere. The majority of greenhouse gases come from burning fossil fuels to produce energy, heating houses, and transportation purpose. Deforestation, industrial processes, and some agricultural practices also emit gases into the atmosphere. This has led to Climate change which is refers to any significant change in the measures of climate lasting for an extended period of time. In other words, the climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer. Various evident impacts of the ongoing climate change at broad level are as follows;

- Rise in global average temperature near Earth's surface.
- Change in the monsoon pattern.
- Change in the pattern of wind.
- Increase in incidents of natural calamities such as floods, droughts, earthquake, severe heat waves, cyclones, etc.
- Effect on agriculture yields
- Melting of ice and rise in sea level, etc.

The impacts of the climate change are evident from the past incidents around the countries and presents challenges for the societies and environment. Thus, planning to mitigate the impact of climate change and reduce the emission of greenhouse gases is becoming more important for sustenance of our present societies and to save for future generation. This is possible by adopting sustainable and low carbon emission development measures.

### 11.1 Climate Change and Urban Cities

As per the International Panel for Climate Change (IPCC) 5th assessment report, the cities across the world, due to their rapid population growth and large-scale developmental and economic investments, are at high risk to the impacts of climate change. Most of the rapid growth will take place in the urban areas of Asia and Africa. In view of this, the cities should focus on developing adaptation capacity towards the climate variability.

India's cities are characterized by high density of population, housing stock, and poor infrastructure, which make them all the more vulnerable to climate change. Given that the most valued infrastructure is usually located in cities, the economic and social costs of climate change will be much higher in cities.

For example, cities house valuable communications infrastructure as they do physical infrastructure such as buildings, roads, bridges, and flyovers. Hence, any climate change impacts in the form of damage will be quite expensive. Climate change impacts the physical assets used within cities for economic production, the costs of raw materials and inputs to economic production, the subsequent costs to businesses, and thus output and competitiveness.

### 11.1.1 Learning form the Past

Extreme climate events are expected to become more frequent as a result of climate change. The climate extremes can have devastating effects on human societies. The effects of climate change are expected to have substantial impacts on our human settlements and our development trajectory. Priority health research areas for different risk factors resulting from climate change are presented in the following table.

**Table 52: Risk factors**

Risk factors	Health effects	Priority focus areas
Temperature, humidity, precipitation	Vector borne diseases	Climate related diseases transmission dynamics, improved surveillance
Precipitation, Temperature, water	Water borne diseases	Climate and water related diseases
Local air pollution and stagnant air masses	Air pollution related health effects	Combined effects of climate factors and air pollution, weather related allergens
Extreme heat or cold	Temperature related illness	Improved prediction, warming and response

Source: *Climate change and human health, WHO*

Also, Climate conditions affect the water availability and quality, the timings and intensity of rainfall can affect the transport of the disease causing organisms into the water supply, particularly in lower income areas and slum pockets.

## 11.2 Carbon Footprint and Heat Island Mapping

It is important to understand that all the emitted gases which get trapped into atmosphere are called as greenhouse gases (GHG). Carbon Dioxide, Methane, Nitrogen Oxide and halo carbons are terms as GHG. These GHG emissions stay in atmosphere and the time varies as per the type of GHG emission. As per the Inter panel of climate change the approximate time of stay of various GHG emissions in the atmosphere is summarized in the table below.

**Table 53: Time of stay of various GHG emissions**

GHG emission (Gas)	Approximate time of residence in the atmosphere for years	Global warming potential over 100years
CO <sub>2</sub>	50-200 years	1
Methane (CH <sub>4</sub> )	12 years	21
Nitrous oxide (N <sub>2</sub> O)	114 years	289
Halocarbons (others)	1-50,000 year	5-22,800

Source: *Intergovernmental Panel on Climate Change, 2007 report*

The warming impact of different types of GHG varies according to the warming power of the gas and the length of time it stays in the atmosphere. As shown in table above, carbon dioxide has an atmospheric life of 50 to 200 years. So once emitted into the atmosphere, it has a warming effect over

a long period of time. Methane, for example, has a life of about 12 years, much shorter than carbon dioxide.

The warming power of each gas varies greatly. For example, methane is a much more powerful greenhouse gas than carbon dioxide. Over a 100 year period, a molecule of methane (CH<sub>4</sub>) has 21 times the warming effect as a molecule of carbon dioxide (CO<sub>2</sub>), even though it stays in the atmosphere for only about 12 years of the 100 year period.

To compare the impact of each gas, the warming potential of each gas is computed over a 100 year period as shown in Table 1. The Greenhouse Warming Potential (GWP) is computed for each gas based on its warming power and atmospheric lifetime. As a basis of comparison, carbon dioxide is assigned a GWP of one and the GWP of the other gases are computed in relationship to carbon dioxide. For example, relative to carbon dioxide, nitrous oxide has about 300 times the warming effect. The other gases (halocarbons, per fluorocarbons and sulfur hexafluoride) are also powerful gases.

### 11.2.1 Concept of carbon footprint and its impact

Carbon foot print is a measure to understand the per capita GHG emission levels for a specific area which can be a block, city, region, state, country, etc. which helps knowing the carbon footprint and to understand its impact on the environment. It also helps in understanding the actual CO<sub>2</sub> emissions emitted by the actions of each individual and based on the figures necessary steps to be taken to reduce the carbon footprint to make cities more sustainable.

Socio-economic characteristics play an important role in GHG emissions (primarily consisting of CO<sub>2</sub>). Increase in carbon footprint is having direct and profound impact on environment, human health, economy, flora and fauna, and ecosystems. Thus, understanding the impacts due to increasing carbon footprint are summarized below;

**Table 54: Impacts due to climate change on various sectors**

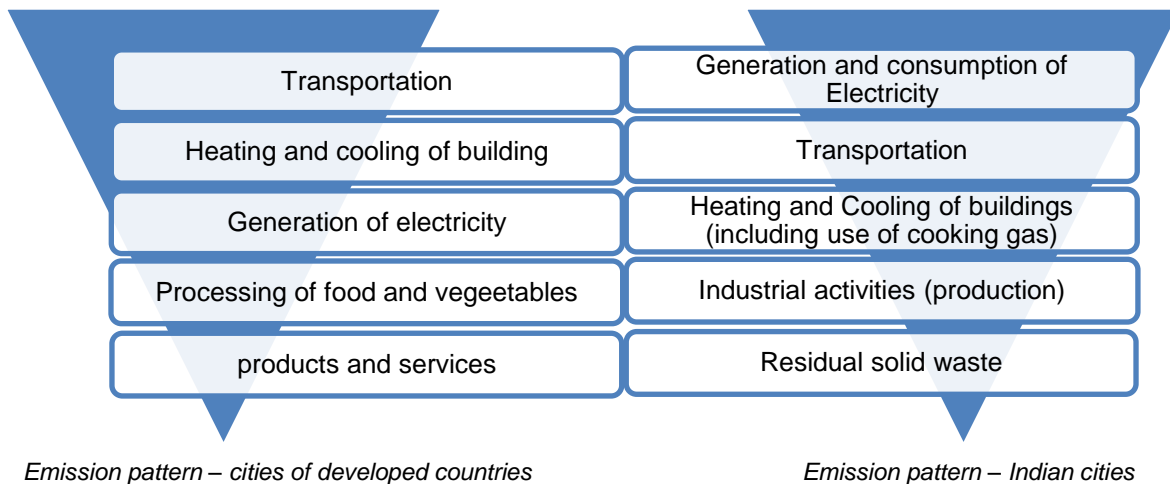
Sector to be affected	Probable affects due to climate change
<b>Impact on Environment</b>	<ul style="list-style-type: none"> <li>■ Rising temperatures, shifting precipitation patterns are changing the growing patterns of plants, heat island effects</li> <li>■ Sea levels rise due to increase in temperature-warmer water occupies more space than cooler water (applicable for coastal cities)</li> <li>■ Increasing solid waste and sewage, and dumping of waste without treatment posing a threat.</li> </ul>
<b>Impact on human health</b>	<ul style="list-style-type: none"> <li>■ More risk to women in agricultural work and children</li> <li>■ Malnutrition caused by the result of climate change on food crops, such as drought that interferes with the growing season</li> <li>■ Diarrheal disease as access to safe water being compromised.</li> <li>■ Vector-borne diseases such as malaria due due rising temperature</li> <li>■ Respiratory problems as asthma and allergies due to increased air pollution</li> </ul>
<b>Impact on Economy</b>	<ul style="list-style-type: none"> <li>■ Affect on local economies dependent on land and natural resources; like agriculture, fishing industry, coral reefs, etc.</li> <li>■ Rise in prices of food grains, vegetables, fruits, etc.</li> </ul>
<b>Impact on Ecosystem</b>	<ul style="list-style-type: none"> <li>■ Erosion of shorelines, destruction of ecosystems, coastal cities</li> </ul>

Sector to be affected	Probable affects due to climate change
	and towns could be displaced by rising seas

Source: CRIS adaptation from the article by author Alyssa Morse; “The Importance of Reducing a Carbon Footprint”, issued in 2010

Based on the review of literature, understanding of the emission pattern from various sectors at a city or urban area level in developed countries and Indian context is shown in the figure below. The pattern shows majority of the GHG emissions are from transportation sector, followed by heating and cooling of building, electricity generation and consumption, production of food processing, and products and services in case of cities in developed countries. But in case of Indian cities the trend observed is different. Majority of the GHG emissions are attributed due to generation and consumption of electricity by the individual citizens of the city, which is followed by the emissions from transport sector, heating and cooling of buildings (including use of cooking gas), industrial sector and residual solid waste.

**Figure 51: GHG emission pattern from various sectors in cities of developed countries and India**



### 11.2.2 Solapur’s Carbon Footprint

A GHG emission is the by-product of smoke from vehicles, heating our homes, using electricity and from other activities in our daily lives. Carbon footprint is the amount of carbon dioxide equivalent of GHG emissions that is emitted through our direct or indirect actions into the atmosphere. The level of GHG emissions in carbon dioxide equivalents is the measure followed to review the level of GHG emissions. Considering carbon dioxide equivalent is due to warming potential of the other gases is more powerful than carbon dioxide, but carbon dioxide emissions dwarf those of the other gases due to its large volume of emissions. To assess the carbon foot print of Solapur a detailed assessment of the fuels used by the city needs to be assessed only after which the exact per capita emissions be assessed.

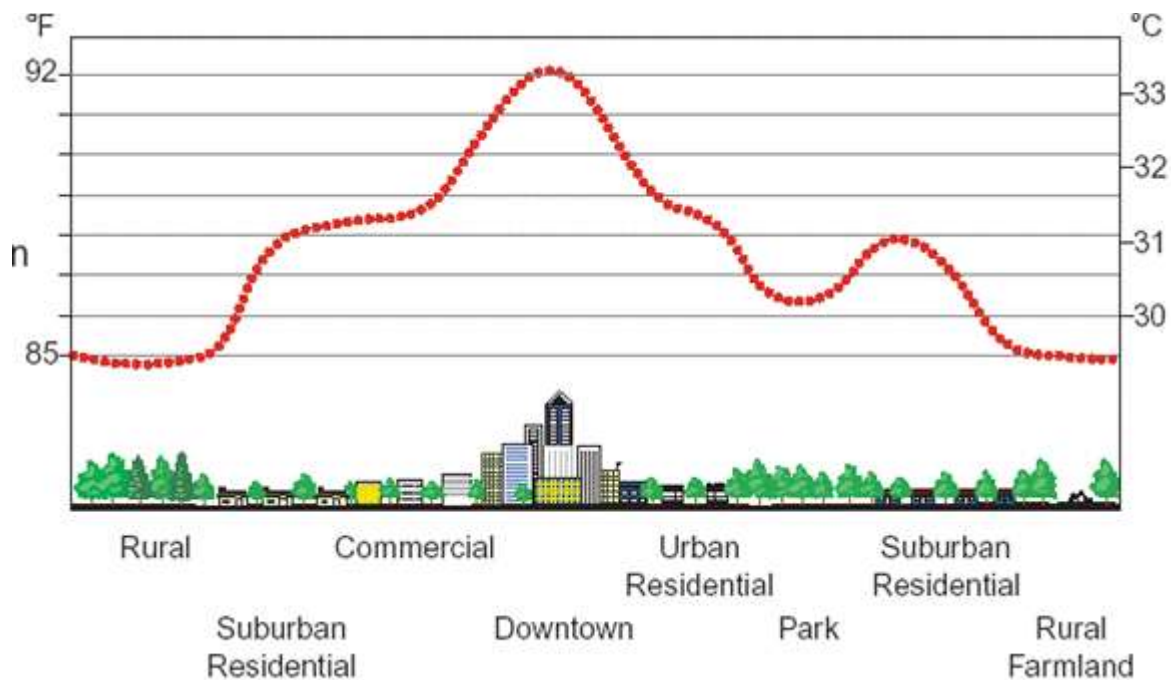
### 11.2.3 Urban Heat island analysis for Solapur

The urban heat island (UHI) can be described as a pattern of temperatures higher in urban areas than in the surrounding areas. Figure below illustrates this temperature distribution during late after hours.

The major concern related to the UHI is air pollution. Higher temperatures increase ozone (O<sub>3</sub>) pollution, because elevated temperatures can trigger the chemical reactions that form ozone.

The surface of the earth has experienced various changes because of anthropogenic activities over the past half century, including mostly deforestation and urbanization. The expansion of urban areas has been an important factor in environmental impacts related to microclimate. Natural land covers are replaced by urban materials, such as concrete, glass and metal. Natural features, including vegetation, water bodies and soil, enhance the retention of thermal energy by a natural mechanism called evapotranspiration, which reduces the amount of thermal energy reaching surface features and the amount of heat re-emitted into the atmosphere. However, anthropogenic activities have resulted in changes in surface energy balances, with an increase in sensible heat flux instead of latent heat flux.

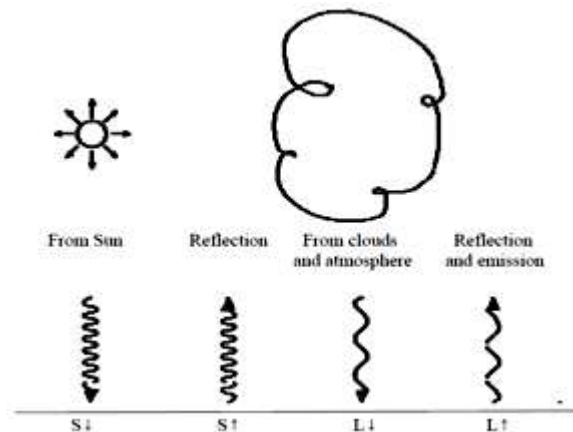
**Figure 52: figure showing the urban heat island and temperature distribution**



Source: Illustrative image depicting heat island profile of the city taken from the website [www.climatecooling.org](http://www.climatecooling.org)

Basic thermodynamics of urban heat island (UHI) is that the surface energy balance is composed of radiative and non-radiative components. Radiative components include incoming and outgoing shortwave and long-wave radiations, and non-radiative components include sensible heat flux, latent heat flux, and the change in energy storage in water. Radiation balance in urban areas and cities is disturbed due to various developments, which neglects the climatic impact that it can create. Basic radiation balance at the surface is show below diagrammatically.

**Figure 53: Radiation balance at the surface level**



For understanding and analyzing the UHI effect for Solapur knowing of its meteorological characteristics and land use pattern is important. Solapur experiences extreme summer maximum temperature

around 42°C. City does not have vertical growth but is recording a rapid horizontal “Radial” growth (Urban sprawl). Solapur is 457m above the MSL with large, open spaces covered with vegetation. The industrial area is located on the periphery of the city. The core city is dominated by the presence of residential as well as mixed use areas. Solapur is developed on black cotton soil and vegetation present in the city is sprawled in all the directions with majority in eastern and western direction. The central core city area is densely built up.

Although a detailed study on micro temperatures has not been carried out, broadly, as indicated in the figure below, the core city area experiences relatively more temperature due to high dense developments. This is followed by medium dense zone with water bodies (like Siddeshwar Lake) and green cover. The peripheral areas have low density and experience relatively lesser temperatures.

**Figure 54: Urban heat island analysis, Solapur**



### 11.3 Impact and imperatives (Climate change variability issues)

For Solapur, the immediate urban development priorities are to provide, water and sewage facilities, transport, health, and social infrastructure in order to manage growing demands. This is due to current demand-supply gap and to consider the future demand well in advance due to high pace of urbanization, and increase in population envisaged. Existing urban development planning and policies at city level generally do not take in to account the impact of climate change as it is still considered as a distant threat and priority to focus on infrastructure creation only.

Ignorance of climate change and its impact could lead to huge economic losses, negative health impacts, associated with high social cost burden, particularly among the vulnerable groups such as the poor, disabled, elderly, and children.

Effective climate-resilience building should therefore be embedded in the regular urban development planning and practices to foster the larger goal of sustainable development. Thus, a policy to bring in climate resilience as an important urban agenda is a starting point towards addressing climate-related impacts and preparing cities for unforeseen climate-related extreme events and variability.

## 11.4 Climate resilience and Carbon reduction strategy

A major challenge for cities facing rapid population growth is to maintain environmental sustainability. A review of a literature indicates that some factors that make cities sustainable include the presence of robust urban infrastructure, good governance and legal framework, participatory approaches for multi-stakeholder interactions, and implementable best practices.

Given the nature of inter-linkages of services within an urban environment and consequently the highly connected nature of risks, policies relating to urban resilience and sustainability essentially need to address multiple sectors and dimensions. This includes, for example, land use planning, energy management, ecosystem services, housing and transport, water supply and sanitation, health services, and waste management, inter alia.

### 11.4.1 Available policies for climate change and disaster resilience

The national government's MoEF deals with climate change issues within the country, as well as related international negotiations. In June 2007, a high-level advisory committee called the 'Prime Minister's council on climate change' was established to coordinate national action for assessment, adaptation, and mitigation. The committee's mandate was to develop a coordinated response on climate change at the national level, formulating action plans and monitoring key policy decisions. The Indian government launched the national action plan on climate change on June 30, 2008. The plan provides a directional shift toward the development of a low-carbon economy through multi-pronged, long-term, and integrated strategies.

**Table 55: Climate change and disaster management policies in India**

Climate change and disaster management policies in India
<ul style="list-style-type: none"> <li>■ National Water Policy</li> <li>■ Disaster Management Act, 2005</li> <li>■ Energy Act, 2003 and National Electricity Policy, 2005</li> <li>■ Energy Conservation Act, 2001</li> <li>■ Coastal regulations policies</li> <li>■ Jawaharlal Nehru National Urban Renewal Mission (JnNURM), 2006</li> <li>■ Nehru Rozgar Yojana</li> <li>■ MSW Management and handling rules, 2000</li> <li>■ National Urban Transport Policy, 2006</li> <li>■ National Housing Policy, 2007</li> <li>■ National Task Force on Urban Perspectives and Policy (three technical groups: Urban Perspectives and Policy, Urban Infrastructure, and Urban Planning): to feed into National Urban Policy</li> <li>■ National Action Plan on Climate Change to outline National Missions on key sectors: solar energy, enhanced energy efficiency,</li> <li>■ sustainable habitat, water, etc.</li> </ul>

Source: Various climate change and disaster resilience reports

### 11.4.2 Solapur's Climate change resilience

The physical resilience in the city has been analyzed in terms of connectivity of roads, access and availability of electricity, and water. Also the social resilience has been analyzed in terms of accessibility to health facilities. The social resilience depends on level of equitable access to basic services. The institutional resilience depends on preparedness of the SMC and other agencies to cope with disasters. The economic resilience is analyzed on the basis of the employment pattern and affordability of the citizens. The ranking of these resilience parameters in the city and the rationale is discussed in the table below.

Based on the climate and disaster resilience index (CDRI) Framework, Solapur's climate and disaster resilience analyzed is shown below and preparedness as per the framework dimension is as follows;

- **Physical dimension**
  - ◆ The city is well connected by road. Various state as well as national highways pass through Solapur. Solapur is centrally located having links to adjoining States of Andhra Pradesh as well as Karnataka.
  - ◆ Presence of good communication in the city and district, which is important for strong communication to be made during pre and post incident.
  - ◆ City lacks presence of diesel generator sets, or any back up electricity which can be used during the time of incident of disaster.
  - ◆ Various places in the district and city are having high vulnerability towards natural disasters like flood, drought, etc. and some of them are vulnerable to manmade disasters like chemical accidents in the industrial areas.
- **Social dimension**
  - ◆ High literacy rate with access to primary and secondary education
  - ◆ Community based disaster management (CBDM) to promote local ownership, address local needs, and promote volunteerism.
- **Economic dimension**
  - ◆ Close to 31% of the population lives in slums which prompts that major population is residing in high vulnerable areas of the city. Also accessibility to these areas is also limited.
  - ◆ Strong social safety net for the vulnerable groups by providing a fallback employment source, when other employment alternatives are scarce or inadequate
  - ◆ Growth engine for sustainable development of an agricultural economy. Through the process of providing employment on works that address causes of chronic poverty such as drought, deforestation and soil erosion, the Act seeks to strengthen the natural resource base of rural livelihood and create durable assets in rural areas.
  - ◆ New ways of doing business, as a model of governance reform anchored on the principles of transparency and grass root democracy
- **Institutional dimension**
  - ◆ Disaster risk reduction measures have been incorporated into plan/policies of education, transportation, and environment sector, whereas for land-use and urban planning plan/policies focus is reducing
  - ◆ Focus on preparation of the city level disaster management plan and implementation of the same is getting reduced as it is not an immediate threat



- ◆ SMC is dependent on external support in times of disaster for mitigating the impact post event i.e. majorly from the district collector.
- ◆ Formal and informal institutions are active during disaster and emergency team is trained twice a year and competent
- **Natural dimension**
  - ◆ Occurrence of natural hazards like floods, heat waves, and droughts, etc. is occasional.
  - ◆ Policies to mitigate the air pollution, waste management system (reduce, recycle and reuse), reduction in water losses, etc. are in place.

### 11.4.3 Review of Various Climate Resilience framework

Through intense literature review for various climate resilience framework developed for assessing climate and disaster vulnerability of any city, following are the two climate resilience frameworks, which are widely accepted and adopted for any climate resilience related studies;

**Table 56: Frameworks for climate resilience related studies**

Sr. No.	Framework	Developed by	Dimensions/variables	Brief about framework
1	Climate and Disaster Resilience Index (CDRI)	Kyoto University, Christina Aid, NIDM, SEEDS	<ul style="list-style-type: none"> <li>■ Physical</li> <li>■ Social</li> <li>■ Economic</li> <li>■ Institutional</li> <li>■ Natural</li> </ul>	CDRI is the framework which has five dimensions and 125 variables. CDRI framework is more of a scoring method which will score the responses based on the predefined values of each of the variable. Framework provides an overview of the existing scenario of the climate and disaster resilience of the city.
2	Hazard, Infrastructure, Socio-economic and Governance (HIGS)	IIED, Rockefeller Foundation, ACCCRN, IRADe	<ul style="list-style-type: none"> <li>■ Hazard</li> <li>■ Infrastructure</li> <li>■ Socio-economic and</li> <li>■ Governance</li> </ul>	HIGS is the framework developed by consortium of <sup>13</sup> IIED, Rockefeller Foundation, ACCCRN, and IRADe; to assess the climate vulnerability and climate change resilience for cities, and a step towards the planning and enabling adaptation for better mitigation of the impacts. The framework has four dimensions and 23 variables.

As of now, climate resilience framework is not been prepared for Solapur. As discussed earlier in the local environment section, as per the discussion with officials, SMC as well as the local division of the MPCB is willing to take up initiatives to protect and safeguard the local environment in the city, hence it is suggested that a baseline assessment of existing environment, disaster and climate change study to be carried out. This study shall be followed by annual review studies and their recommendations

<sup>13</sup> IIED – International Institute for Environment and Development, ACCCRN - Asian Cities Climate Change Resilience Network, IRADe - Integrated Research for Action and Development

should be implemented by SMC and other agencies involved in the area of environment and climate change.

## 11.5 Recommended adaptation strategies

A literature review for arriving at the strategies for mitigating climate change was conducted. The following strategies can be adopted by SMC for mitigating climate change.

**Table 57: Recommended strategies towards climate change mitigation**

Area	Recommended Strategies
<b>Street lighting</b>	<ul style="list-style-type: none"> <li>▪ Street lighting energy efficiency program has high potential of energy savings.</li> <li>▪ Retrofit tube lighting system for 40 watt streetlights and 100 % timer-based operation and installation of power saver and implementing day light savings</li> <li>▪ LED based street lighting and traffic signals</li> <li>▪ Use of energy efficient fixtures</li> </ul>
<b>Building and facilities energy efficiency programme</b>	<ul style="list-style-type: none"> <li>▪ Implementation of measures for lighting and fans such as micro controller for lights and fans, occupancy sensors, capacitors bank daylight sensors with dimmable ballast, electronic ballast and tri-band phosphor tube lights, etc.</li> <li>▪ Energy auditing at building level</li> </ul>
<b>Pumping system efficient projects for water supply and drainage pumping stations</b>	<ul style="list-style-type: none"> <li>▪ Proper pump system design (efficient pump, pump heads with system head)</li> <li>▪ Water and energy audit to reduce unaccounted for water (UFW) Installation of power saver and variable speed driver</li> <li>▪ Power factor improvement, e.g. installation of capacitors, etc.</li> </ul>
<b>Residential/Commercial and Industrial Sector</b>	<ul style="list-style-type: none"> <li>▪ Solar water heating system for buildings</li> <li>▪ Usage of energy efficient appliances in lighting such as 25 per cent households replacing at least one 60 watt conventional incandescent bulb with a 15 watt CFL in the next five years</li> <li>▪ Demand side management programmes such as for efficient appliances, etc.</li> </ul>
<b>Transportation System</b>	<ul style="list-style-type: none"> <li>▪ Development of CNG substation in the city to make CNG operated auto rickshaws, four wheelers and buses feasible and reduce consumption of diesel.</li> <li>▪ Improve public transport system by removing old buses</li> <li>▪ Transport management system along major corridors</li> </ul>
<b>Public Awareness</b>	<ul style="list-style-type: none"> <li>▪ Creating awareness amongst citizens on suitable renewable energy and energy efficiency technologies</li> <li>▪ Awareness activities for school children on renewable energy and energy efficiency measures</li> </ul>
<b>Health strategies</b>	<ul style="list-style-type: none"> <li>▪ Impart awareness about preventive measures</li> <li>▪ Better bio medical waste handling</li> <li>▪ Better health services in urban slum areas</li> <li>▪ Alert system against viral infections and water pollution</li> </ul>

Area	Recommended Strategies
	<ul style="list-style-type: none"><li>■ Awareness of hygiene, healthy practices, sanitation and spread of diseases</li><li>■ Prevention against seasonal disease spread by mosquitoes</li></ul>

## 12. Heritage and Tourism

### 12.1 Historical Importance of the town

The importance of Solapur is unique in the history of India in the sense that this district enjoyed the freedom even before independence. The citizens of Solapur enjoyed the Independence for three days from 9<sup>th</sup> to 11<sup>th</sup> May 1930. The brief history runs like this. After the arrest of Mahatma Gandhi in May 1930, protests and demonstrations against the British rule were held throughout India. Large scale rallies and protests were done at Solapur also. Many citizens lost their lives in the police firings. Due to this the irate mob attacked the police stations. Out of fear the police and other officers ran out of Solapur. During this period the responsibility of law, order and security of citizens was on the shoulders of congress party leaders. Then city congress President Shree Ramkrishna Jaju, with his other congressmen maintained the law and order for a period of three days from 9<sup>th</sup> to 11<sup>th</sup> May 1930.

In the earlier history of the city, the district was ruled by various dynasties such as Andhrabhratyas, Chalukyas, Rashtrakutas, Yadavas and Bahamanis. The name 'Solapur' is believed to be derived from two words 'Sola' meaning sixteen and 'Pur' meaning village. The present city of Solapur was considered to be spread over sixteen villages viz. Aadilpur, Ahmedpur, Chapaldev, Fatehpur, Jamdarwadi, Kalajapur, Khadarpur, Khandervkiwadi, Muhammadpur, Ranapur, Sandalpur, Shaikpur, Solapur, Sonalagi, Sonapur and Vaidakwadi.

### 12.2 Existing Framework for Heritage (Protected and un-protected)

Heritage means significant architectural monuments, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, caved dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science. Heritage plays an important role in the socioeconomic and cultural profile of the city. Urban heritage comprises archaeological sites, remains, ruins, and monuments protected by the archaeological survey of India (ASI) and its counterparts in the states, and also a large number of unprotected buildings, groups of buildings, neighborhood, and public spaces including landscapes.

Urban heritage is classified in two categories, tangible heritage and in-tangible heritage. Tangible heritage includes buildings and physical elements of architectural and historical significance. The intangible heritage includes movable artifacts, handicrafts, folklore, myths, legends, spirituality, traditional knowledge, rites and rituals, festive events, visual and performing arts, music, literature, language, dialects, traditional medicine, culinary traditions etc. which are closely linked to the built heritage.







### 12.3 Heritage conservation initiatives

Till recently the conservation of heritage structures was a neglected area in the urban administration in the city. Solapur being a historic city has substantial number of heritage structures with historical importance. SMC is yet to constitute a Heritage cell in the corporation which will work towards protecting the heritage of the city. Following table presents the prominent heritage structures in Solapur city. Currently, the Indian National Trust For Art and Cultural Heritage (INTACH) is looking

after the heritage conservation and promotion of heritage conservation activities in the Solapur in coordination with the SMC. INTACH is taking up various activities w.r.t heritage conservation and promotion. As of now they have undertaken following activities;

- Listing of built heritage in Solapur
- Listing of Natural Heritage (Solapur Van Vihar)
- Visits to Heritage sites
- Awareness Activities for heritage conservation and
- Follow up with SMC for various conservation projects.

Following table presents the heritage structures in Solapur

	
<p style="text-align: center;"><b>Indra Bhuvan – Now SMC building</b></p>	<p style="text-align: center;"><b>Dr. Kotnis House</b></p>
	
<p style="text-align: center;"><b>NG Mill – Solapur</b></p>	<p style="text-align: center;"><b>Dr. Muley Hospital</b></p>
	
<p style="text-align: center;"><b>Laxmi Market</b></p>	<p style="text-align: center;"><b>Kabadi Building</b></p>

### 12.3.1 Protected Structures in and Outside SMC

As per the Archeological Survey of India (ASI) , there are 244 protected structures across the state of Maharashtra and 15 in the Solapur District. As per this list there is only one structure, the Solapur Fort, in Solapur city which is protected. However, there are various structures in the city which has rich heritage value and depicts the historical values of the Solapur city.

**Table 58: List of protected monuments by Archeological Survey of India in Solapur District**

Sr No	Particular of the Protected Site	Location in Solapur District
1.	Tomb of Begami	Ghodeshwar
2.	Aurangzeb's Fort	Machnur
3.	Old Temple of Sri Siddeshwar (enclosed in a paved court)	Machnur
4.	Covered colonnade ( to the south of the well)	Mahalung
5.	Hemadpanthi Temple of Mahadev	Mahalung
6.	Hemadpanthi Temple of Vithoba	Mahalung
7.	Hemadpanthi Well	Mahalung
8.	Mahadev Stones	Mahalung
9.	Temple of Devi (Yamai)	Mahalung
10.	Old Fort	Sholapur
11.	Gateway and old Maruti temple with Viragal stones on either side.	Velapur
12.	Old doubled shrined temple	Velapur
13.	Old Temple & Viragals or sculptural memorial stones	Velapur
14.	Old Temple of Sarkarvada locally known as Parasnath temple	Velapur
15.	Temple of Haranareshwar & Ardhanarineshwar, one Hemadpanthi tank (small square kunda) & Vinagal stone kept in the comound.	Velapur

Source: Website of the Archeological Survey of India.

## 12.4 Tourism Scenario

Solapur is one of the biggest cities in Maharashtra, situated near the borders with Karnataka and Andhra Pradesh. Solapur is located on the major road and rail routes between Mumbai and Hyderabad, on banks of river Sina.

### 12.4.1 Major Tourist spot

The major tourism spot in Solapur is the Siddeshwar temple. The Gadda Yatra of the Siddeshwar temple is a major religious festival in Solapur during January every year for 15 days, nearly 2.5 lakh

visitors visit Solapur during the festival. Apart from this temple visitors also come to Solapur for a part of their religious circuit visit to Pandharpur, Tuljapur and Akkalkot.

**Figure 55: Tourism circuit in Solapur**

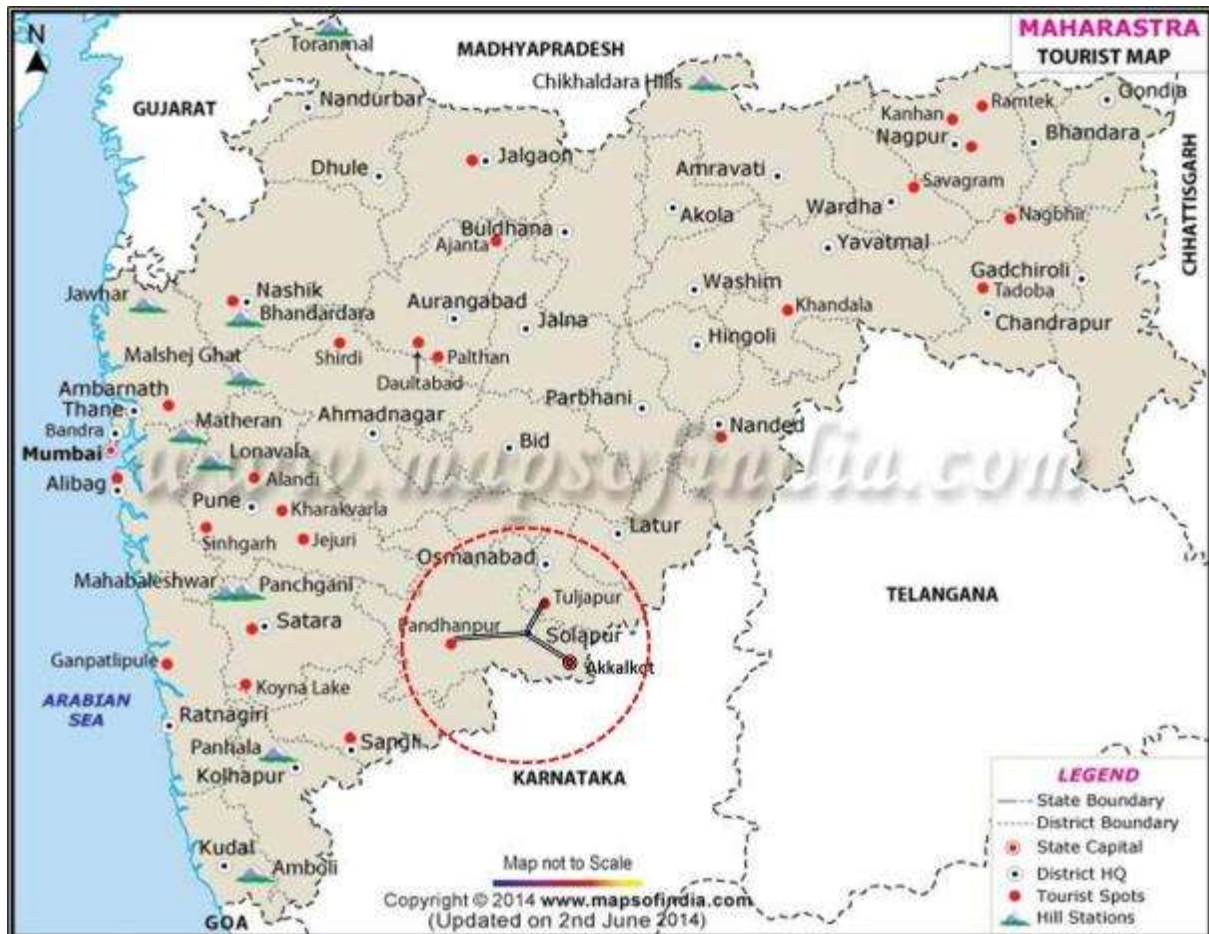


Image Courtesy: [www.mapsofindia.com](http://www.mapsofindia.com)

**Pandharpur** is the holiest place in Maharashtra for Hindus, with its Vitthal-Rakhumai temple on the banks of the Bhima River. This river is also called as 'Chandrabhaga' because of its shape is like half-moon. It is only 70 km from Solapur.

**Akkalkot** is only 38 km from Solapur which is a holy place due to the shrine of Akkalkot Swami is considered to be an important center of Datta. The Vatavriksha Temple of Shri Swami Samartha and Akkalkot Swami math are important religious places, which are visited by many devotees.

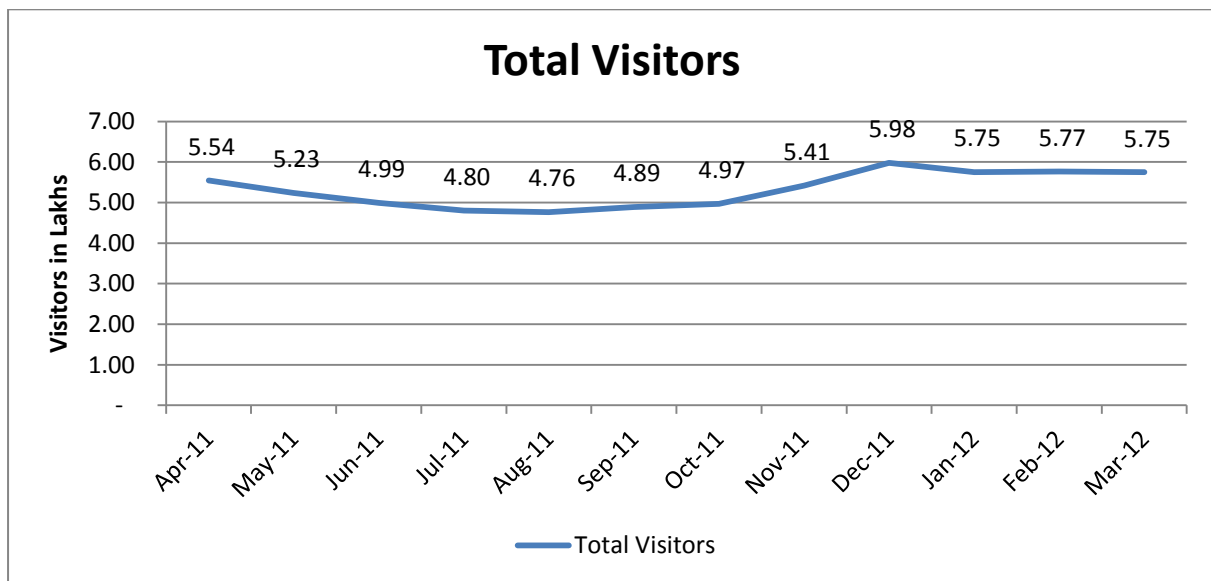
**Tuljapur** is in Osmanabad District, 40 km from Solapur has goddess Tulja Bhavani. She is known as the family deity of Maharashtra and especially Shivaji, the founder of the Maratha Empire.

**Great Indian Bustard Sanctuary:** Great Indian Bustard Sanctuary (established in 1979) is a wildlife sanctuary for the critically endangered Great Indian Bustard (*Ardeotis nigriceps*) at Solapur, Maharashtra, India. The land where the sanctuary is located is drought-prone and semi-arid. The 8,496 km<sup>2</sup> had seven talukas, Mohol, Mhada, North Solapur, Karmala, Nevasa, Karjat and Shrigonda. In September 2006, the Supreme Court of India had issued an order to the state government to form an expert committee to study the area and identify suitable land for the species.

### 12.4.2 Tourist Arrival

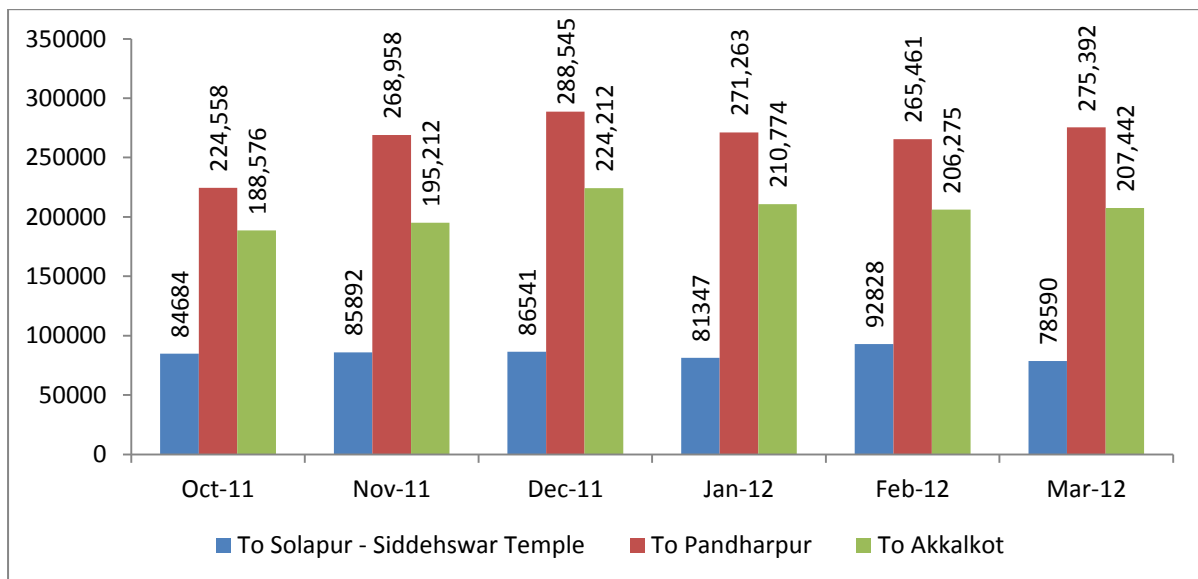
As per the information from the Maharashtra tourism department, during the period between April 2011 and March 2012, about 63.85 lakh tourists visited the Solapur district. As per the information available from the tourism statics of the state, during the period of October 2011 to March 2012 5.10 lakh tourist visited Solapur city and mainly these tourists visited the Siddeshwar temple. This implies that on an average 2500 to 3000 people visit Solapur on daily basis. Also, as indicated in the graph below, December and January are the major tourist seasons in the district and city. During this period major festivals, Gadda Yatra, is celebrated in the city.

**Figure 56: Tourist Trends in Solapur District**



Source: Final Report (2011-12), Tourism Statics of Maharashtra

**Table 59: Destination wise number of tourists visiting Solapur District**



Source: Final Report (2011-12), Tourism Statics of Maharashtra



The above table presents the major destination of the tourists visiting the Solapur District. The figures of the tourist arrivals indicate that of all the tourists visiting during the month, destination of close to 15% tourists is Siddeshwar temple, the destination of close to 48% tourists is Pandharpur and destination of remaining 37% tourists is Akkalkot. This implies that Solapur city lies on an important tourism circuit and there is a huge potential for Solapur to become a tourism transit and entertainment hub if the accommodation and other allied services for the tourists visiting the district is improved.

### 12.4.3 Existing tourist supported infrastructure

Solapur city majorly acts as the tourism gateway for the tourism circuit of Pandharpur, Akkalkot and Tuljapur. According to the information published in the tourism statics of Maharashtra there are total of 65 accommodation units in the SMC area. The availability of rooms after combining all the accommodation units is 1166 with an occupancy ratio of 75%.

### 12.4.4 Existing Tourism Development Initiatives

The city acts as major center for the religious tourism on the Solapur-Pandharpur-Tuljapur-Akkalkot circuit. Recently the central government has approved a tourism infrastructure development project proposed by the Maharashtra government for the Solapur-Akkalkot-Pandharpu-Tuljapur circuit costing Rs. 43.87 Crores).

## 12.5 Fairs and Festivals

Solapur being a historical place and a place with religious and industrial and commercial importance there are a number of objects of interest in the city. The first and foremost amongst the object of interest in the city is its ground fort. On slightly rising ground on the west bank of the Siddeshwar lake, in the south west corner of the city, is Solapur fort.

Another important object of interest in the city is the temple of Siddheshwar in whose honor the Gadda fair is held with great pomp and festivity. It is held to commemorate the marriage of the saint's yogdand (mace) with a female devotee of the saint. Although the fair extends over a period of three weeks of January the most important days of the fair are only five viz. From 12th January, to 16th January, the principal among them being 14th January, (Makar sankrant) Many devotees throng the temple on Mahashivratra and all Mondays doing the holy month of Shravana. Following images provides the glimpses of the famous 'Gadda Yatra' of Solapur.



## 12.6 Key Concern Areas for Tourism Development

- The city has rich cultural heritage and it is considered one other ancient settlements in the state. However, there has been no documentation of the historical legacy in the city.
- The famous *Gadda yatra* fair is organized on the earthen ground in front of the Siddeshwar temple premises. Heavy movement of the people on this ground increases the air pollution due to release of fine sand particles in air.
- Absence of the mobile sanitation vans leads use of open ground for sanitation purposes by the people visiting the fair and processions.
- Large crowds visit the fair site during the night time and substantial waste is generated during the fair. Absence of the waste collection infrastructure lease to disposal of waste on roads.
- The city lacks a museum could be developed to disseminate the rich heritage and historical significance of the city and the developmental activities that had taken place in various periods.
- Presence of an agency such as INTACH in Solapur can be utilized for mapping of heritage structures, conservation plans large scale awareness towards heritage structures.
- Structures like Laxmi market which have heritage potential are in a dilapidated stage and lack preservation.
- The city serves as a transit hub for regional religious tourist activity around the city like Pandharpur, Akkalkot and Tuljapur.
- It has been observed that the potential tourist spots in the city are developing around water bodies. In view of this, SMC should adopt necessary monitoring measures to upgrade the

quality of the water bodies and also continuous monitoring of pollution of water in these water bodies.

- A committee to look after the Heritage conservation activities in the city is not been formed by the SMC.

## 13. Assessment of Institutions, Systems and Capacities

### 13.1 Institutional Framework

The Solapur Municipal Corporation (SMC) is a statutory municipal body for city administration for Solapur. All functions mentioned under the 12<sup>th</sup> schedule of the 74<sup>th</sup> CAA are been transferred to the SMC. Apart from the SMC, the Solapur Municipal Transport (SMT) is the agency involved in management of public bus transportation in the city. Since Solapur is a district headquarter, it also houses the head offices of the district level agencies such as Zila Parishad, district collector, regional transport service (RTO) etc.

### 13.2 Solapur Municipal Corporation

The local body of Solapur city received the status of Municipal Corporation in 1964. It is governed under the provisions of the Maharashtra Municipal Corporations Act, 2012 (MMC). SMC is responsible for the provision and maintenance of the city's civic infrastructure in an area of 178.57 km<sup>2</sup> and its administration.

The governing structure of SMC consists of political (elected) and administrative wings. The political wing is an elected body of councilors headed by a city mayor. The Municipal commissioner heads the administrative wing and is responsible for strategic decisions, operational planning, and management of the corporation.

#### 13.2.1 Functions of SMC

The functions delivered by the SMC include various obligatory and mandatory functions. The obligatory functions include, health and associated services, removal of dangerous buildings, municipal solid waste management, drainage and sewage collection system, water supply, Roads, markets, slaughter houses, washing places, drinking fountains, tanks, wells, etc. Fire safety, Social infrastructure such as Parks and leisure paces, provision of Street Lights, Disposal of dead bodies, Regulating and preventing offensive and dangerous trades or practices, Removing encroachment on Government properties, Registering of births and deaths, providing facilities for Primary education, Welfare measures for scheduled castes and tribes, and establishing and maintaining relief work in times of scarcity or for destitute persons residing within Municipal limits of Solapur.

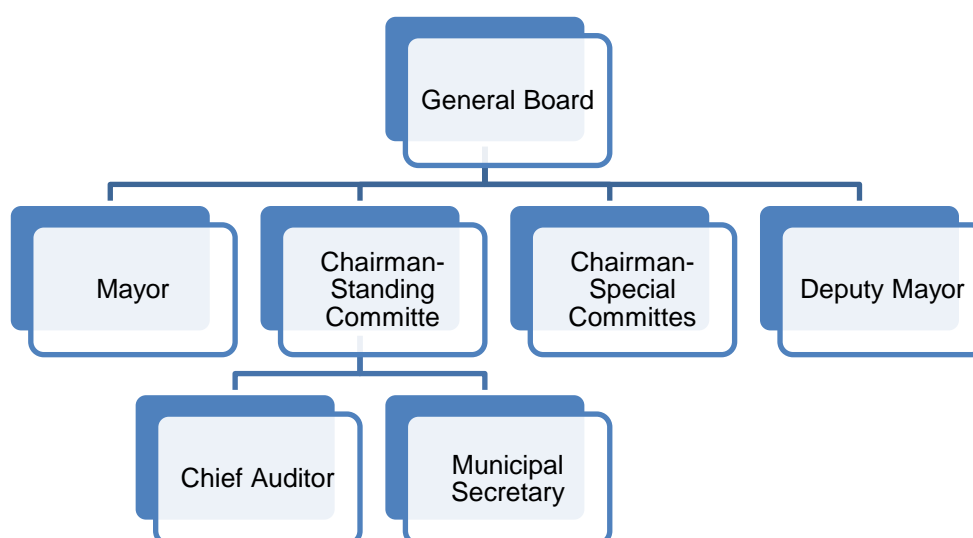
Apart from the above mentioned obligatory functions the SMC is also delivering various discretionary functions such as Public hospitals and homes for destitute and disabled persons Grants and donations to privately run primary and secondary schools, Treatment of sewerage and waste, Town halls, shops, open air theaters, stadiums, rest houses, Transport, Ceremonies, fairs, exhibitions, Destroy harmful animals, Welfare of municipal employees, Sanitary dwellings for the poor and provision of Educational institutions.

## 13.3 Institutional Structure

### 13.3.1 Elected Wing

The institutional structure of the SMC is in line with constitution of India. There is an elected wing of the corporation represented by the elected member from each of the 98 electoral wards in the city. The group of all the elected members and five members from the non-elected political parties form a general board (GB) of the corporation. The GB has all the powers for sanctioning the project and other proposals. The members of the GB among themselves select a sixteen member standing committee headed by the standing committee chairman who is selected by the members of the standing committee. The member of the GB as well as Standing Committee forms various special committees such as, women and child development, city development etc. The following figure presents the structure of the elected wing of the SMC.

**Figure 57: Organizational Structure of the Elected Wing**



### 13.3.2 Administrative Wing

The administrative or the executive wing of the SMC is headed by a Municipal Commissioner, appointed by the State Government from time to time. Generally, the term of a municipal commissioner is for three years. The Municipal Corporation is organized into eight zones for effective service delivery and management. The executive wing of the SMC is organized into 11 major functional departments that are responsible for day-to-day functioning of the Municipal Corporation and delivery of the obligatory as well as the discretionary functions, including planning, engineering, operations and maintenance and other service delivery functions.

## 13.4 Status of 74<sup>th</sup> CAA

The state government of Maharashtra, prior to the launch of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), had transferred certain functions to the urban local bodies in the state. Post launch of JNNURM, the state government has transferred all the functions as mandated in the reform agenda under the tripartite Memorandum of Agreement (MoA) between the SMC, State and Central government.

**Table 60: Status of transfer of functions under 74th CAA**

S. No.	12th Schedule Functions	Status of Transfer and the name of the agency/s responsible
1	Urban Planning including town planning	Urban Planning including town planning function transferred to the SMC. The town planning department of the SMC undertakes the urban planning and town planning activities in Solapur. Current development plan of the SMC was prepared with assistance from the town planning department of the state government.
2	Regulation of land-use and construction of buildings	This function is delivered by the SMC through the town planning department of the corporation.
3	Planning for economic and social development	This function is delivered by SMC through the town planning department of the corporation.
4	Roads and bridges	This function is delivered by the SMC through the City Engineer section of the corporation.
5	Water supply- domestic, industrial and commercial	This function is delivered by the SMC through public health engineering department of the corporation.
6	Public health, sanitation, conservancy and Solid Waste Management (SWM)	This function is delivered by the SMC through the health department of the corporation which is headed by the health officer.
7	Fire services	This function is delivered by the SMC through the fire department of the corporation headed by the Chief Fire Officer.
8	Urban forestry, protection of environment and ecology	This function is delivered by the SMC through the health department of the corporation which is headed by the health officer.
9	Safeguarding the interests of weaker sections society including the handicapped and mentally retarded	A special cell has been created in SMC for implementation of basic service for urban poor (BSUP) projects under the Rajiv Awas Yojna (RAY) for the urban poor in the city.
10	Slum improvement and up gradation	This function is delivered by the SMC through the health department of the corporation which is headed by the health officer. A special cell has been created for implementation of BSUP projects under the Rajiv Awas Yojna for the urban poor in the city.
11	Urban poverty alleviation	This function is delivered by the SMC through the health department of the corporation which is headed by the health officer. A special cell has been created for implementation of BSUP projects under the Rajiv Awas Yojna for the urban poor in the city.
12	Provision of urban amenities and facilities- parks, gardens and playgrounds	This function is delivered by the SMC through parks and the garden department of the corporation.
13	Promotion of cultural, educational, and aesthetic aspects	This function is delivered by the SMC through parks and the garden department of the corporation.
14	Burials and burial grounds, cremations, cremation grounds and electric crematoriums	This function is delivered by the SMC through the health department of the corporation.

S. No.	12th Schedule Functions	Status of Transfer and the name of the agency/s responsible
15	Cattle pounds, prevention of cruelty to animals	This function is delivered by SMC.
16	Vital statistics including registration of births and deaths	This function is delivered by SMC through the birth and death registration department of the corporation, through zonal as well as central offices.
17	Public amenities including street lighting, parking lots, bus stops and public conveniences	This function is delivered by SMC through the street lights department of the corporation.
18	Regulation of slaughter houses and tanneries	This function is delivered by the SMC through the health department of the corporation.

Source: Solapur Municipal Corporation

## 13.5 Governance Reforms

### 13.5.1 Citizen's Charter

The citizen charter for the city is currently under the evolution stage. The timelines of the provision of certain services is stipulated and the same has been uploaded on the website of the SMC. The website section of the SMC provides all the required application forms for the respective services.

### 13.5.2 Implementation of E-Governance

As per the State Government's directives, SMC is implementing e-governance modules by replication of e-governance modules developed by the Kalyan Dombivali Municipal Corporation (KDMC) since 2011. However, the Corporation is facing a number of issues in gap analysis. The Corporation has reported a number of issues during data migration and the need for s

ome customization in various modules to suit the requirement of SMC. At present, SMC is using its old computer programs for the activities given below. Following IT enabled services were initiated in SMC since 1996.

- City tax and extension tax – Printing of all bills, demand register, receipts and issuance of No Objection Certificate
- Birth and Death – Printing of Certificates
- Local Body Tax - Registration fee
- Meter record- generation of bills
- Building permission- partial
- Public Health Engineering- Receipts for new water connections

The following table provides the component wise status of implementation of the E-governance module in SMC.

**Table 61: Status of e-governance implementation**

Module	Status	Remarks
Property tax	Implementation in process	Billing generation is completely computerized. Also the collection of tax at the central office is

Module	Status	Remarks
		computerized. Online payment facility is under development stage.
Accounting	Implementation in process	Gap Analysis and UAT completed
Water supply and other utilities	Implementation in process	Gap Analysis and UAT in progress
Birth and death registration	Implemented	Issuance of Certificates
Citizen's grievance monitoring	Implementation in process	Gap Analysis and UAT completed
Personnel management system	Not implemented	
Procurement and monitoring of projects	Not implemented	
E-procurement	Not implemented	
Project/ward works	Not implemented	
Building Plan approval	Implementation in process	Implemented and Auto DCR has been operational.
Health programs	Not implemented	
Licenses	Implementation in process	Trial entries have started
Solid Waste Management	Not implemented	

Source: Discussions with the computer department of SMC

### 13.6 Capacity building for Urban Poverty Alleviation cell, SMC

The project Implementation Unit for the Rajiv Awas Yojna of SMC is responsible for the implementation of slum improvement projects and the coordination for various slum development activities. The main focus is on community mobilization and organizing community workshops to implement community development activities through their involvement.

Currently, the department coordinates the direct provision of services to slums. Under the urban poverty reduction programmers, the community structures were constructed. In addition, the socio-economic programs, especially those aiming at empowerment of women and weaker sections by generating self-employment through skill improvement.

The team in the PIU coordinates with the supervisory officials from state UPA cell. The project director implements the poverty alleviation programmes through community organisers of each slum. The PIU has two data entry operators and consultants to prepare slums maps on GIS.

Following are the capacity building measures for the PIU:

- Technical assistance for surveying and mapping of the spatial extent and service levels in the slums
- Training to be imparted to data entry operators on IT related matters and MIS



- Training to be imparted to community organisers on urban community development

### 13.7 Key Issues

- SMC, for recruitment of new staff, is currently relying on the rules prepared and adopted by the corporation in the year 1964. Post which the rules are revised and put up for approval to the GB and are rejected by the GB. Corporations need to prepare and adopt the latest recruitment rules.
- All the technical functions are managed at the central office levels, zonal offices and staff is not involved in large scale planning projects. SMC should work towards decentralization of the powers and functions to pace up the development and implementation of works. Also the technical capabilities at the zonal levels need to be strengthened.
- Staffs strength of the SMC is not commensurate to the geographical limits post increase in the jurisdiction in 1992.
- Technical capabilities for implementation of e-governance module are not adequate with the corporation.
- Across the departments there is a lack of technically qualified staff. There is no clear cut role and responsibility, which currently assigned on need basis.
- Training and capacity building is the key for success in urban administration in Solapur. There is no responsible department / officer in SMC for assessing or coordinating the training and capacity building activities in Solapur.

## 14. Financial Assessment

### 14.1 Introduction

Financial Accounting and Management are the principal functions of the Accounts Department headed by the Chief Accountant. The following sub-section provides an overview of the Accounting and the Budgeting system followed by the SMC.

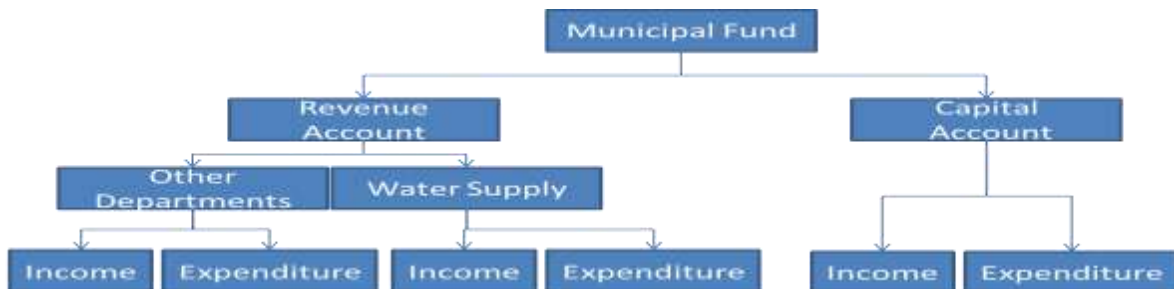
### 14.2 Municipal Accounting System

SMC maintains accounts using the cash based single entry accounting system with the income and expenditure heads maintained on cash basis. All expenses towards regular operations and maintenance are treated as revenue expenses, while expenses on new projects/ investments are treated as capital expenses. The Accounting and the budgeting system adopted by SMC records the various line items of receipts i.e. income and expenditure as per their department and zonal offices.

The entire budget of the SMC is bifurcated in to two major components, i.e. Budget “A” and Budget “K”. The Budget “A” provides the revenue income and expenditure of the corporation except the water supply department. Also the Budget “A” is further bifurcate in three components i.e. part-1 the revenue account, part-2 Advances and Deposits and part-3 capital account which combines all capital income and expenditures made by the SMC. The Budget “K” provides the details of the revenue account of the water supply department.

The revenue sources for SMC can be broadly classified as internal and external. Funds from internal sources include receipts from the operations of SMC in the form of taxes, water and sewerage charges and fees, rents and other charges etc. Funds from external sources include revenue grants from the state and central governments, loans and contributions received for projects etc. The expenditure incurred towards salaries and wages, general administration, operation and maintenance for provision of services and servicing of debt including the payment of interest and the repayment of loans are be classified as revenue expenditure. The expenditure incurred towards creation of assets as well as investments made towards new projects or purchases of equipment etc. meant to create benefits for the SMC over multiple years are classified as capital expenditure. The figure below depicts the Accounting and the Budgeting system adopted by the SMC.

**Figure 58: Accounting and Budgeting System adopted by SMC**



### 14.3 First Generation CDP – Key Features of Municipal Finances

The 1st generation CDP has provided the financial status of SMC for the review period 2001-02 to 2004-05. The status of Revenue account, capital account and collection of taxes and charges is presented below;

**Revenue Income (RI):** Share of taxes (except Octroi) increased from 76.8% to 87.60% in the review period. Share of municipal tax to RI increased from 23.31% to 30.82%. Octroi (now local body tax) emerged as major source of Tax revenue.

**Revenue expenditure:** The establishment expenditure accounted for 59.02% of revenue expenditure in the review period. O&M expenditure accounted for 30.44% of the Revenue expenditure on an average in the review period.

**Revenue surplus/Deficit:** The overall status of Revenue account indicated a net surplus. Revenue surplus transferred to capital account to take up capital works like roads and improvement of slums.

**Capital income:** On an average, the grants accounted for 94% of capital income and rest was other own sources of income.

**Capital expenditure:** Capital expenditure has been directed towards roads, special works and other grant work for improvement of slums. The overall status of the capital account is in deficit.

#### 14.3.1 Financial Indicators

The following table presents the change in the financial indicators from the previous CDP to the current situation. It can be observed from the table below that, the per capita revenue from the own sources has increased by 36% from Rs. 1541 to Rs. 2089. The non-tax revenue to the own sources has increased from 8% to 12% and per capita property tax demand has increased by 9% from Rs. 610 to Rs. 664.

Also it should be noted that the collection performance of the property tax and water charges has improved marginally from 67% and 49% to 71% and 59% respectively. It should also be noted that the per capita expenditure towards the operations and maintenance of the municipal assets has grown by higher rate than the growth of the own revenues i.e. 42% from Rs.1001 to 1423 during the same period.

**Table 62: Comparison of Financial Indicators - 2008-09 to 2012-13**

Financial Indicators	Unit	2008-09	2012-13
Own revenues as a proportion of total revenues	%	99%	96%
Per capita own revenues	Rs.	1,541.49	2088.91
Non-tax revenues as a proportion of own revenues	%	8%	12%
Per capita property tax demand	Rs.	610.12	664.51
Average Annual Rateable value per property	Rs.	NA	NA
Coverage for property tax net	%	NA	NA
Property tax collection performance (Current)	%	67%	71%
Water charges collection performance (Current)	%	49%	59%

Financial Indicators	Unit	2008-09	2012-13
<b>Expenditure Management</b>			
Operating ratio		0.99	1.00
Per capita O&M expenditure	Rs.	1,001.15	1,422.63
Salary as percentage of Revenue Income	%	33%	35%
Salary as percentage of Revenue Expenditure	%	33%	35%
<b>Debt management</b>			
Debt overdue as a proportion of total outstanding debt		NA	NA
Debt serviceability		NA	NA

Source: Annual budget books of SMC

## 14.4 As-Is assessment of Municipal Finances

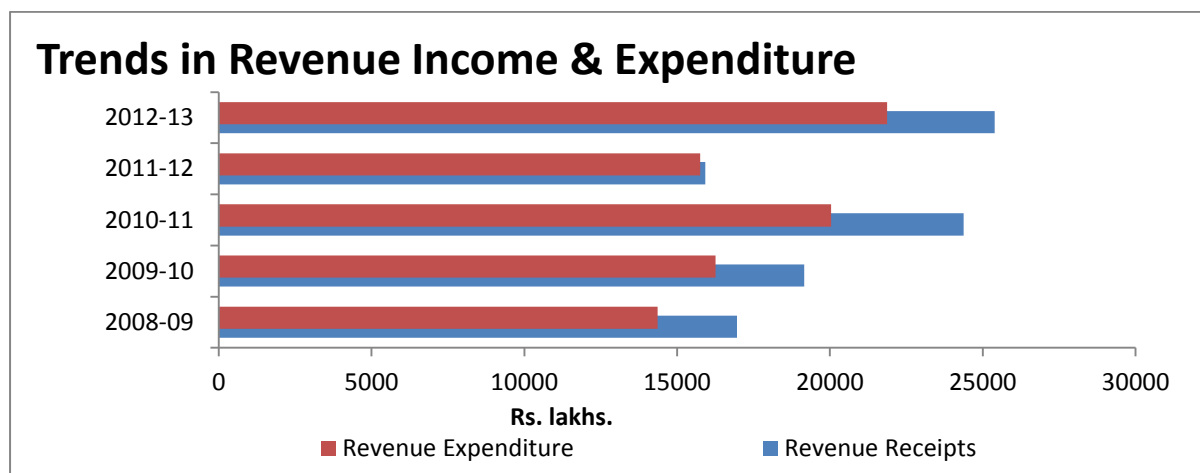
### 14.4.1 Overview of Financial Status of SMC

The finances of SMC have been reviewed for the four years, commencing from the financial year 2008-09 to 2012-13 for which the actual income and expenditure details were available. The items of both receipts and expenditure are classified under revenue and capital accounts as per their sources and uses.

Over the four year period of assessment under consideration, the revenue receipts of SMC has grown from Rs. 169,56 lakh in FY 2008-09 to Rs. 253,89 lakh in FY 2012-13, registering a compound annual growth rate (CAGR) of 10.62%. Over the same period of assessment, the revenue expenditure of SMC has grown from Rs. 143,65 lakh in 2008-09 to Rs. 21872.1 lakh in 2012-13, registering a CAGR of 11.08%. For each of the years under consideration, the revenue income is greater than the revenue expenditure, resulting into a revenue surplus for each year. However, with the revenue expenditure growing at a higher rate than the revenue income, the revenue surplus has decreased over the period of assessment.

For the period of assessment under consideration, the operating ratio for the SMC has been in the range 0.85 (except FY2011-12 where the operating ratio has increased to 0.99) indicating that a revenue surplus of 15% is available for part financing the capital investments of SMC. Though this indicates a poor financial condition for the corporation, a detailed analysis of the revenue account shall reveal the portion of the revenue surplus contributed by the own sources of revenue income of SMC and the portion contributed by the external sources including grants and contribution. This shall give an indication of the financial strength of SMC in terms of its ability to sustain the capital investments through its own sources of revenue income. The same is undertaken in the subsequent sub-sections of this section.

**Figure 59: Review of revenue account of SMC**



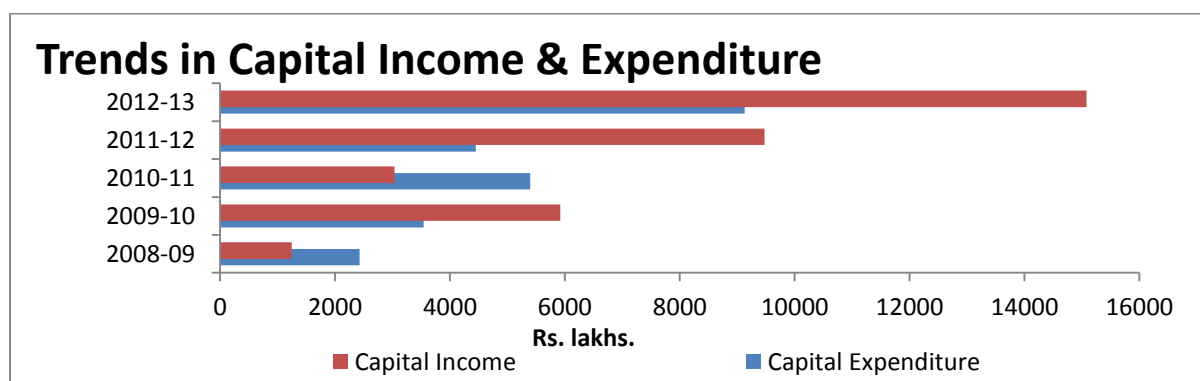
Source: Analysis of the Budget books of SMC

The capital income of SMC is contributed by funds from three main sources including,

- Capital receipts from own sources including the funds generated from the sale of capital assets such as land, sale of scrap materials, development charges collected from the users for the capital assets created etc.;
- Funds from Capital Grants including the UIDSSMT Grants from the Central and State Governments, MSJNMA grants from state government; and
- Borrowed funds in the form of loans from banks and financial institutions

For the four year period of assessment under consideration, the capital receipts of SMC has increased from Rs. 1246 lakh in 2008-09 to Rs. 15082 lakh in 2012-13, registering a CAGR of 87%. During the same period, the capital expenditure of SMC has increased from Rs. 2425 lakh in 2008-09 to Rs. 9128 lakh in 2012-13, registering a CAGR of 39%. The high CAGRs for both the capital income and capital expenditure are indicative of the fact that SMC has undertaken capital investments in projects from various sectors to improve the quality and the coverage of basic civic services. For each year under consideration from 2008-09 to 2012-13, the capital expenditure has been lower than the capital income resulting into a capital account surplus during the assessment period. This indicates that SMC is not able to spend the funds meant for undertaking the capital works in the SMC. A detailed analysis of the capital account is provided in the subsequent sections of this section.

**Figure 60: Review of capital account of SMC**



Source: Analysis of the Budget Books of SMC

## 14.4.2 Financial Status at Glance

Particular	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR%
<b>Revenue Account</b>						
Receipts	16,956	19,159	24,372	15,926	25,389	10.62%
Expenditure	14,366	16,253	20,038	15,754	21,871	11.08%
<b>Surplus/ Deficit</b>	2,590	2,906	4,333	172	3,518	
<i>Operating Ratio</i>	0.85	0.85	0.82	0.99	0.86	
<b>Capital Account</b>						
Receipts	1,245	5,920	3,032	9,474	15,081	86.54%
Expenditure	2,425	3,544	5,394	4,449	9,128	39.29%
<b>Surplus/ Deficit</b>	-1,180	2,376	-2,363	5,025	5,953	
<i>Capital Utilization Ratio</i>	1.95	0.60	1.78	0.47	0.61	

From the above table, it can be inferred that, the corporation is generating surplus on the revenue account which can be used to part finance the capital expenditure in addition to the capital income. The operating ratio (OR) on a year-on-year basis is around 0.85, which indicates there is a capacity of the corporation to fund capital works from the revenue surplus during the assessment period.

However, the trend shows that the revenue expenditure is growing at a marginally higher rate as compared to the revenue income, which may result into deterioration of operating ratio in future. If this trend continues, the revenue expenditure will exceed the revenue income at some point of time in the future resulting into a revenue account deficit. Accordingly, SMC should take the necessary steps to control its revenue expenditure and increase its revenue income.

The capital account of the corporation is showing a surplus in 2009-10 and 2011-12, this is because the SMC received Rs. 28.79 Crores and Rs. 23.72 Crores for the water supply project under the UIDSSMT and the Sewerage project under the MSJNMA of the Government of Maharashtra. The capital utilization ratio of SMC is less than one in 2009-10, 2011-12 and 2012-13, indicative of the fact that SMC has not been able to spend the funds available for the capital expenditure in these years.

The overall financial position of SMC is arrived at by addition of the opening balance for each year to the surplus/ (deficit) of the revenue and the capital accounts and also by factoring in the extraordinary items {income/ (expense)}. Considering the overall financial position of SMC, the corporation is showing a positive closing balance each year. At the same time it important to note that there is no revenue surplus on year on year basis. The operating ratio is increasing. This together is showing a rapidly deteriorating financial situation.

## 14.5 Revenue Account

This sub-section provides an in-depth analysis of the revenue account of SMC, to determine the potential and the capacity of SMC to sustain the extent of planned investments identified under this revised City Development Plan (CDP). The revenue account comprises of two components - income and expenditure.

Income comprises of income generated by the corporation from its own sources and the funds available from external sources. The income generated by the corporation from its own sources comprises of tax revenues including property tax, Octroi, water tax, conservancy tax and various

other taxes and non-tax revenues including rent from leased municipal properties, fees and charges and income from other sources such as interest received on investments made etc. The funds available from the external sources include shared taxes/ transfers and revenue grants from the state and central government.

Expenditure comprises of the expenditure incurred on salaries and wages, operations and maintenance, contribution and donations and towards debt servicing in the form of interest payments on outstanding loans and repayment of outstanding loans.

### 14.5.1 Revenue Receipts

For the purpose of the proper assessment of growth rates the revenue receipts is compared from year 2008-09 to 2012-13. The table below provides a snapshot of the revenue receipts of SMC from 2008-09 to 2012-13.

**Table 63: Revenue Receipts - SMC**

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
<b>Own Sources</b>	14,291.27	16,148.22	19,736.30	14,078.77	20,915.08	9.99%
<b>% of total RI</b>	84.29%	84.28%	80.98%	88.40%	82.38%	
Taxes	10,516.36	12,050.53	14,823.74	9,010.28	13,533.40	6.51%
<b>% of total RI</b>	62.02%	62.90%	60.82%	56.57%	53.30%	
Income from Water Operations	2,239.48	2,349.69	2,566.43	2,592.54	3,351.85	10.61%
<b>% of total RI</b>	13.21%	12.26%	10.53%	16.28%	13.20%	
Income from Sanitation	418.27	484.84	699.07	681.88	1,467.15	36.85%
<b>% of total RI</b>	2.47%	2.53%	2.87%	4.28%	5.78%	
Non Tax Income	1,117.17	1,263.16	1,647.07	1,794.07	2,562.68	23.07%
<b>% of total RI</b>	6.59%	6.59%	6.76%	11.26%	10.09%	
<b>Assigned Rev, Grants &amp; Contribution</b>	2,664.43	3,011.21	4,635.20	1,847.49	4,473.78	13.83%
<b>% of total RI</b>	15.71%	15.72%	19.02%	11.60%	17.62%	
<b>Total</b>	16,955.70	19,159.43	24,371.51	15,926.26	25,388.86	10.62%

Source: Analysis of budget books of SMC

From the above table, it can be inferred that the total revenue receipt has been growing at a CAGR of 10.62%. Of the total revenue receipts, receipts from own sources are the substantial income (80-90%) and the receipts from assigned revenue, grants and contributions ranges from 11% to 19%.

The income from own sources of SMC has been growing at a CAGR of 9.99% and has been contributed by the tax revenue and the non-tax revenue.

During the assessment period the tax revenue has been growing at a CAGR of 6.51% and the non-tax revenue have been growing at a CAGR of 23.07% during the assessment period from 2008-09 to 2012-13.

During the period of assessment, assigned revenues, grants and contribution have registered a CAGR of 13.83%.

#### 14.5.1.1 Own Sources

Receipts from the own sources has been the major component of the revenue receipt. Currently own sources contribute approximately 80%-90% of the total revenue receipts of SMC comprising of Tax revenues comprising of property tax, local body tax (LBT), advertisement tax and other taxes and the Non Tax receipts comprising of rent, license fees, and miscellaneous receipts.

#### 14.5.1.2 Tax receipts

The receipts from Taxes include income from various taxes collected including, property tax, LBT, water tax, conservancy tax, and various other taxes. The receipts from tax have been ranging from approximately 55% to 65% of the revenue receipts of the total revenue receipts of SMC. The table below provides a snapshot of the principal contributors to the Tax revenues.

**Table 64: Receipts from Taxes - SMC**

Taxes	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
Property	1,485.12	1,759.39	1,943.57	2,048.69	2,287.08	11.40%
% of total Taxes	11.75%	12.16%	11.05%	17.24%	12.85%	
Octroi / LBT	8,274.49	9,360.81	11,741.65	6,052.85	10,276.58	5.57%
% of total Taxes	65.49%	64.69%	66.75%	50.93%	57.74%	
Advertisement	0.21	9.21	23.56	21.71	12.15	177.02%
% of total Taxes	0.00%	0.06%	0.13%	0.18%	0.07%	
Water	1,700.64	1,934.93	2,067.95	2,192.53	2,796.67	13.24%
% of total Taxes	13.46%	13.37%	11.76%	18.45%	15.71%	
Conservancy	418.27	484.84	699.07	681.88	1,467.15	36.85%
% of total Taxes	3.31%	3.35%	3.97%	5.74%	8.24%	
Others	756.54	921.11	1,114.96	887.03	957.60	6.07%
% of total Taxes	5.99%	6.37%	6.34%	7.46%	5.38%	
<b>Total Taxes</b>	<b>12,635.26</b>	<b>14,470.30</b>	<b>17,590.76</b>	<b>11,884.69</b>	<b>17,797.22</b>	<b>8.94%</b>

Source: Analysis of the budget books of SMC

Octroi was abolished from Solapur and LBT was introduced in 2011-12. From the above table, it can be inferred that the LBT is the principal contributor to the receipts from Tax. It can be observed that there is a substantial drop (LBT was 65% of tax income in 2008-09 which dropped to 51% in 2011-12) in the tax receipts in 2011-12 when compared to 2010-11 owing to the preparatory stage of the SMC in implementing LBT resulting in low realization of the income from LBT. Income from the LBT has again increased in 2012-13 representing the efforts taken by the SMC to realize the potential of the income from the LBT.

#### 14.5.2 Revenue Expenditure

The revenue expenditure incurred by SMC has been categorized under three broad heads for the purpose of analysis including, salaries, allowances and pension contribution, operations and



maintenance expenditure, and debt servicing expenses. The table below provides a break-up of the revenue expenditure under these three broad heads.

**Table 65: Revenue Expenditure - SMC (Rs. Lakhs)**

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
Establishment	4,764.44	5,285.42	6,485.06	7,127.56	7,547.14	12.19%
% of total RE	33%	33%	32%	45%	35%	
O&M	9,362.62	10,822.61	13,400.38	8,537.08	14,244.01	11.06
% of total RE	65%	67%	67%	54%	65%	
Debt Servicing	175.22	95.22	69.31	4.80	8.48	(53.10)
% of total RE	1%	1%	0%	0%	0%	
Others	63.24	49.87	83.40	84.74	71.60	3.15%
% of total RE	0%	0%	0%	1%	0%	
<b>Total</b>	<b>14,365.53</b>	<b>16,253.11</b>	<b>20,038.16</b>	<b>15,754.18</b>	<b>21,871.23</b>	<b>11.08%</b>

Source: Analysis of budget books of SMC

From the above table, it can be seen that, the total revenue expenditure of SMC has increased from Rs. 143,66 lakh in 2008-09 to Rs. 218,71 lakh in 2012-13, registering a CAGR of 11.08%. The operations and maintenance expenditure incurred by SMC across the various departments account for approximately 55-65% of the total revenue expenditure over the four year period of assessment. During the same period, the expenditure incurred on salaries and wages of employees and workers account for 33-45% of the total revenue expenditure of SMC. The debt servicing expenses account a minimal of 0-1% of the total revenue expenditure.

#### 14.5.2.1 Expenditure on Salaries and Wages (Establishment Expenditure)

Establishment expenditure including pension contribution and revision by the sixth pay commission accounts for approximately 33-45% of the revenue expenditure and has registered a CAGR of 12% over the five year period from 2008-09 to 2012-13. The solid waste department (Health department) and water works accounts for approximately 40-50% of the total establishment expenditure. The table below provides the department-wise break-up of the establishment expenditure over the five year period from 2008-09 to 2012-13.

**Table 66: Establishment expenditure – SMC (Rs. Lakhs)**

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
General Administration	524.04	646.40	764.82	828.51	990.34	17.25%
% of total	11.00%	12.23%	11.79%	11.62%	13.12%	
Public Works	61.64	-	-	-	-	-
% of total	1.29%	0.00%	0.00%	0.00%	0.00%	
Fire, Electricity	177.34	188.79	227.91	289.69	311.57	15.13%
% of total	3.72%	3.57%	3.51%	4.06%	4.13%	
Education, Sports and Youth Welfare	348.29	499.45	663.88	601.88	621.07	15.56%

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
% of total	7.31%	9.45%	10.24%	8.44%	8.23%	
Public Health Department	507.48	538.72	627.07	782.06	742.13	9.97%
% of total	10.65%	10.19%	9.67%	10.97%	9.83%	
Solid Waste Mgmt	1,780.06	1,980.58	2,314.17	2,696.48	2,893.43	12.91%
% of total	37.36%	37.47%	35.68%	37.83%	38.34%	
Estate and Land Acquisition	404.72	442.85	507.35	647.13	590.49	9.90%
% of total	8.49%	8.38%	7.82%	9.08%	7.82%	
Public Spaces	291.36	296.01	347.49	392.95	425.81	9.95%
% of total	6.12%	5.60%	5.36%	5.51%	5.64%	
Water Works	518.82	546.28	850.32	685.03	783.99	10.87%
% of total	10.89%	10.34%	13.11%	9.61%	10.39%	
Sewerage/Sanitation	150.69	146.35	182.05	203.83	188.30	5.73%
% of total	3.16%	2.77%	2.81%	2.86%	2.49%	
<b>Total</b>	<b>4,764.44</b>	<b>5,285.42</b>	<b>6,485.06</b>	<b>7,127.56</b>	<b>7,547.14</b>	<b>12.19%</b>

Source: Analysis of Budget Books of SMC

#### 14.5.2.2 Operation and Maintenance Expenditure

The operations and maintenance expenditure of SMC accounts for a major portion (55-65%) of the total revenue expenditure and has registered a CAGR of 11% over the five year period from 2008-09 to 2012-13. The general administration, public works and water works department accounts for approximately 55-60% of the total operations and maintenance expenditure, the water supply department accounts for approximately 15-25% of the operations and maintenance expenditure and approximately 4%-5% of the operations and maintenance expenditure is incurred on education. The table below provides the department-wise break-up of the operations and maintenance expenditure over the five year period from 2008-09 to 2012-13.

**Table 67: Operation and Maintenance expenditure - SMC (Rs. lakhs)**

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
Estate and Land Acquisition	374.69	668.28	723.12	137.42	1,171.45	32.97%
% of total	4.00%	6.17%	5.40%	1.61%	8.22%	
General Administration	1,139.81	1,312.52	1,550.01	1,666.23	1,661.36	9.88%
% of total	12.17%	12.13%	11.57%	19.52%	11.66%	
Public Works	3,183.65	3,483.77	5,041.65	747.14	4,383.37	8.32%
% of total	34.00%	32.19%	37.62%	8.75%	30.77%	
Fire, Electricity	328.80	406.86	514.84	575.17	744.98	22.69%
% of total	3.51%	3.76%	3.84%	6.74%	5.23%	
Education, Sports and Youth Welfare	550.87	608.30	742.09	672.42	660.51	4.64%

Items	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
% of total	5.88%	5.62%	5.54%	7.88%	4.64%	
Public Health Department	182.70	238.55	287.20	227.62	297.18	12.93%
% of total	1.95%	2.20%	2.14%	2.67%	2.09%	
Solid Waste Mgmt	36.49	132.34	69.77	177.81	310.39	70.77%
% of total	0.39%	1.22%	0.52%	2.08%	2.18%	
Roads, Flyovers and Drainage	41.49	60.70	91.59	59.81	116.09	29.34%
% of total	0.44%	0.56%	0.68%	0.70%	0.82%	
Water Works	1,933.10	2,030.42	1,961.96	2,226.86	2,932.70	10.98%
% of total	20.65%	18.76%	14.64%	26.08%	20.59%	
Sewerage and Drainage	12.40	12.98	19.96	12.16	49.39	41.27%
% of total	0.13%	0.12%	0.15%	0.14%	0.35%	
Public Spaces	27.93	26.57	42.60	50.46	78.61	29.52%
% of total	0.30%	0.25%	0.32%	0.59%	0.55%	
Miscellaneous	1,550.68	1,841.32	2,355.60	1,983.98	1,837.97	4.34%
% of total	16.56%	17.01%	17.58%	23.24%	12.90%	
<b>Total</b>	<b>9,362.62</b>	<b>10,822.61</b>	<b>13,400.38</b>	<b>8,537.08</b>	<b>14,244.01</b>	<b>11.06%</b>

Source: Analysis of budget books of SMC

#### 14.5.2.3 Debt Servicing and Outstanding Loans

The review of annual accounts of SMC reveals that debt-servicing expenses account for only a minimal of 0-1% of the total revenue expenditure; against an acceptable limit of about 25-30%. Accordingly, SMC has an additional leveraging capacity to fund new capital investments.

**Table 68: Debt Statement of SMC (Rs. Lakhs)**

Sr No	Agency	Actual Loan Amount	Repayment Period (Years)	Interest Rate (%)	Outstanding Loan Amount (as on 31 <sup>st</sup> March 2013)
i.	State Government	80.00	20	13.00	54.08
ii.	State Government	50.00	10	14.50	14.84
iii.	State Government	12.00	10	14.50	-
iv.	State Government	200.00	10	14.35	121.17
v.	State Government	50.00	10	13.00	38.20
vi.	State Government	75.00	10	12.75	63.76
vii.	State Government	39.00	10	13.55	26.44
viii.	State Government	4.00	15	9.75	0.56
ix.	State Government	12.00	15	9.75	2.90

Sr No	Agency	Actual Loan Amount	Repayment Period (Years)	Interest Rate (%)	Outstanding Loan Amount (as on 31 <sup>st</sup> March 2013)
x.	State Government	5.00	15	13.00	7.96
xi.	State Government	103.71	26	13.00	134.21
xii.	MJP	2,059.00	NA	NA	1,684.00
xiii.	MJP	1,285.00	NA	NA	1,285.00
xiv.	MJP	222.19	NA	NA	222.19
	<b>Total</b>	<b>4,196.40</b>			<b>3,655.31</b>

Source: Accounts department of SMC

## 14.6 Capital Account

The capital account of SMC accounts for the capital receipts and expenditure from the own sources of SMC, the capital grants received by SMC from the State and Central Governments for implementation of projects under various programs and schemes such as UIDSSMT, MSJNMA etc. and the funds raised through loans from banks and financial institutions. The capital account also accounts for certain committed grants received by SMC for certain specific purposes such as Pulse Polio etc. These committed grants cannot be used for any purpose other than the one for which they are received. Since these grants cannot be used for development purposes, these are not considered as a part of the analysis.

### 14.6.1 Capital Receipts

The capital receipts in case of SMC includes the revenue account surplus to be deployed for capital works, receipts from the government grants for capital projects and loan disbursements taken for implementation of the infrastructure projects.

**Table 69: Capital Receipts - SMC (Rs. Lakhs)**

Item	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
Own Sources	347.97	876.84	1,260.78	3,273.87	11,274.61	138.58%
% of total capital receipts	27.94%	14.81%	41.59%	34.56%	74.76%	
Grants	832.09	5,015.00	1,731.80	6,200.30	3,678.99	45.01%
% of total capital receipts	66.81%	84.71%	57.12%	65.44%	24.39%	
Loans	65.42	28.22	39.18	-	127.71	18.20%
% of total capital receipts	5.25%	0.48%	1.29%	0.00%	0.85%	
<b>Total</b>	<b>1,245.48</b>	<b>5,920.06</b>	<b>3,031.76</b>	<b>9,474.17</b>	<b>15,081.31</b>	<b>86.54%</b>

Source: Analysis of budget books of SMC

From the above table it can be inferred that, the total capital receipts of SMC has increased from Rs. 12,45 lakh in 2008-09 to Rs. 150,81 lakh in 2012-13, registering a CAGR of 87%. A major portion of the total capital income is contributed by the internal sources from the revenue account which is not considered as a capital assessment in absence of the corresponding expenditure. Second major

component of the receipts include project specific grants from State and Central Governments and borrowed funds. The contribution of the external sources has decreased from 72% to 25% from 2008-09 to 2012-13 which is mainly contributed by grants received under various programs with the loans from banks and financial institutions. The capital receipts from external sources have increased from Rs. 898 lakh in 2008-09 to Rs. 3807 lakh in 2012-13, registering a CAGR of 43%. This substantial amount of increase in the grant funds follows the substantial amount of capital investments being undertaken by SMC. It should be noted that the share of the finance commission grants has increased from 48% in 2008-09 to 65% in 2012-13 which has resulted in high growth of grant income along with the grants from UIDSSMT and MSJNMA.

## 14.6.2 Capital Expenditure

The capital expenditure incurred by SMC can be classified as the capital expenditure incurred for various departments for refurbishments and improvements and the capital expenditure incurred towards the creation of new assets through various projects in various sectors. Typically the capital expenditure incurred towards creation of new assets is funded by capital grants. SMC maintains separate income and expenditure accounts for its own sources, capital grants and grants received under UIDSSMT. The table below provides component wise break-up of the capital expenditure incurred for periodic major maintenance and the creation of new assets.

**Table 70: Capital Expenditure - SMC (Rs. Lakhs)**

Capital Expenditure	2008-09	2009-10	2010-11	2011-12	2012-13	CAGR
JNNURM (UIDSSMT)	0	468.88	0	0	0	
<i>% of total capital exp.</i>	0.00%	15.25%	0.00%	0.00%	0.00%	
Gardens	271.23	528.83	462.36	421.70	575.68	20.70%
<i>% of total capital exp.</i>	11.18%	17.20%	8.57%	9.48%	6.31%	
Fire and Electricity	154.20	127.09	471.14	119.59	349.32	22.68%
<i>% of total capital exp.</i>	6.36%	4.13%	8.73%	2.69%	3.83%	
Public Health and Sanitation	0.91	0.75	50.55	33.10	2.00	21.81%
<i>% of total capital exp.</i>	0.04%	0.02%	0.94%	0.74%	0.02%	
Roads	498.58	586.79	1,704.07	1,121.76	1,541.44	32.60%
<i>% of total capital exp.</i>	20.56%	19.08%	31.59%	25.21%	16.89%	
Others	611.77	732.92	780.22	1,270.58	6,100.20	77.70%
<i>% of total capital exp.</i>	25.23%	23.83%	14.46%	28.56%	66.83%	
Water Supply	580.95	782.34	1,439.91	869.97	273.90	-17.14%
<i>% of total capital exp.</i>	23.96%	25.44%	26.69%	19.55%	3.00%	
Development of Drainage	307.44	316.54	486.08	612.41	285.28	-1.85%
<i>% of total capital exp.</i>	12.68%	10.29%	9.01%	13.76%	3.13%	
Total	2,425	3,075	5,394	4,449	9,128	39.29%

Source: Analysis of budget books of SMC

From the above table, it can be inferred that the capital expenditure of SMC has increased from Rs. 2425 lakh in 2008-09 to Rs. 91,28 lakh in 2012-13, registering a CAGR of 39%. A major portion of this capital expenditure is incurred towards creation of new assets through projects (roads, water supply and drainage) undertaken under various schemes accounting for 60-70% of the total capital expenditure. The remaining portion of capital expenditure (30-40%) is incurred towards refurbishment works under various departments, including gardens, fire and sanitation.

However, SMC needs to undertake appropriate planning of the capital expenditure to be incurred and accordingly arrange for the capital receipts, so that the capital receipts are available and drawn commensurate with the capital expenditure.

## 14.7 Summary of assessment – Municipal Finance

- Currently at SMC cash based single-entry accounting system is being followed, lack of qualified staff is affecting the work efficiency of the department also the staff members lack of relevant skill sets and technical knowhow to implement the financial and budgetary reforms.
- There wasn't any formal training of the accounts department staff on accrual based double entry accounting system and most of them lack basic computer knowledge.
- Revenue account is in deficit during the last year of the assessment period. Revenue enhancement measures should be adopted by the SMC.
- Operating ratio of the SMC has remained close to 0.85 which indicates that the SMC has 15% revenue surplus which can be leveraged for additional funding to undertake developmental works.
- The capital account shows huge surplus revealing that the available funds meant for the capital expenditure remains unspent during the year.
- Assessment of new properties and reassessment of ARV of the existing properties is pending for quite longtime also mapping of property tax assessments on the Geographical Information system (GIS) is yet to be taken up.
- In lieu of Octroi SMC has implemented LBT, but most of staff lacks basic understanding of the assessment of the LBT which is a major source of revenue for the Corporation. Also the revenue from the LBT is not as it was from the income from Octroi.
- Computerization of the property tax administration is at a very nascent stage. The department is still carrying certain operations (i.e. tax collection) on manual basis, which if computerized shall improve the efficiency.

Currently the property tax department is functioning in three different wings i.e. core city area, extension areas and the slum areas, thus coordination with central office is challenging.

## 15. City Vision, Development Goals and Strategies

'Vision' in the context of the CDP is a vivid and idealized description of a desired outcome that inspires, energizes, and helps the stakeholders create a future picture of the city with positive changes. It can also be defined as that position which the city aspires to reach in the medium to long term (beyond 5 years but within 15-20 years). It can also be said that vision is a dream with deadlines. It is important that the vision for a city is defined in simple terms, which all citizens can share and identify with.

In the above context, CRIS team in association with SMC organized a consultative workshop in December 13 at SMC's council hall. The objective of the workshop was to discuss the status and performance of the service delivery and to understand the aspirations of the citizens on city development and framing of the vision for Solapur. The workshop was attended by the various stakeholders of the city.

The Municipal Commissioner welcomed the stakeholders and briefed them about the revised city development plan for Solapur and the agenda of the workshop. CRIS team made a presentation on the city level assessment and SWOT analysis. Subsequent to the presentation, a brief question and answer session was conducted to address the concerns of the stakeholders. Further, the vision framing exercise was carried out for the city.

### 15.1 Stakeholder Consultation

The Government of India (GoI) directed in the revised CDP guidelines to prepare the CDP through a process which is consultative and participatory and it requires the involvement of stakeholders at the ULB, regional and state level. At this phase, CRIS team conducted consultative meetings with various stakeholders to discuss about the status and performance of services, aspirations of the citizen on the city development and to ensure a participatory and inclusive development process.

To ensure a participatory and inclusive development process CRIS team in association with SMC organized a consultative workshop on 10<sup>th</sup> December 2013 at 11:00 AM in SMC council hall. Objectives of the workshop were to discuss about status and performance of service delivery sectors in Solapur, City SWOT analysis, to understand aspirations of the citizen on city development and framing of the vision for Solapur.

CRIS team carried our discussions with various stakeholders of the city about priority sectors for service improvement. The table below gives the indicative priority list of sectors to be addressed in the revised CDP of Solapur.

**Table 71: Priority sectors - Revised CDP**

Sector	Description	Rank
Traffic management	Road widening, pedestrian pathways, parking facilities, traffic signals at junctions integration of transport nodes etc.	1
Water Supply	Alternative source of water, number of supply hours, coverage in non-covered areas.	2
Solid Waste Management	Waste segregation, collection, and safe disposal after treatment	3

Sector	Description	Rank
Sewerage and Sanitation	Sewage treatment facility, coverage to un-covered areas and improved public sanitation facilities, open defecation free Solapur	4
Governance	E-governance and online services	5
Urban Poverty	Slum improvement and UPA programs	6
Environment conservation	Conservation of Lakes, reduce water pollution (ground and surface)	7
Economy / Tourism	Promoting Heritage, religious tourism, resorts/theme parks	8
Heritage	Conservation of monuments	9
Affordable Housing	Policies to arrest the increase in land price and construction cost	10

## 15.2 Workshop Process

The date and time of the workshop were already fixed by the Municipal Commissioner well in advance. The same were communicated to the identified stakeholders of the city through written letters and follow up were made through phone calls. On the day of the workshop a very good participation from various stakeholders was observed. The workshop was organized at the council hall of SMC and 60-70 stakeholders participated in the workshop. The stakeholders included city Mayor and council members, Municipal Commissioner, City Police department, Pollution control board, industrial associations, departmental heads, representative from Solapur municipal transport department, educational/academic institutions, health professionals i.e. doctors, Non-Governmental Organizations working for conservation of heritage structure sin the city and trade unions etc.

The Municipal Commissioner welcomed the gathering and briefed them about the CBUD program and process of preparing the revised CDP for Solapur.

Followed by the briefing from the municipal commissioner, CRIS team made a presentation on the city level assessment and SWOT analysis. Subsequent to the presentation, a brief Question and answer session has been conducted to address the concerns on the stakeholders.







### 15.2.1 Citizen Engagement

The CRIS team approached the SMC one day prior to the workshop to discuss the workshop preparations and the arrangements of the venue of the workshop. The CRIS team suggested to the Municipal Commissioner to create a separate email address for the revised CDP in which the citizen can send their suggestions w.r.t any issues related to the city development. The Commissioner accepted the idea and directed the concerned officer to create such email address. Also, the email address was operational on the same day and it was flashed on the website of the SMC to enable all the stakeholders of the city to view and send their suggestions. The email address created to receive suggestions is [solapurcdp@solapurcorporation.org](mailto:solapurcdp@solapurcorporation.org). The same was communicated to all the stakeholders during the workshop and suggestions started coming on the email address from the next day of the workshop.

#### ***Essay writing – My dream city Solapur***

During the stakeholder workshop, the CRIS team suggested to the city administrators that they may organize an essay writing competition which will narrate their aspirations of the dream Solapur city to be in the future. The suggestion was very well received by the city administrators (political as well as executive wing) and was put to implementation. The Municipal Commissioner on 12<sup>th</sup> December 2013 issued a press note asking the citizen of the Solapur to write an essay about their Dream City Solapur and submit the same by 31<sup>st</sup> December 2013. The objective of the exercise is to gather the aspirations of the young generation of the city and suggestions of the stakeholders to be addressed in the process in preparation of city development plan.

SMC received a huge response to the essay writing competition initiated by the SMC for receiving the suggestions from the citizen of the city. In all 207 entries were received by the SMC. The SMC constituted a committee for scrutiny of the received applications and the top three entries were awarded with the prize money and another seven entries were facilitated with the certificate of participation.

#### ***Process of Evaluation***

**Round-I:** To evaluate the received essays on My Dream City Solapur, the SMC constituted a committee of experts in Academics from the well-known educational institutions from the city. In the first round the committee decided to grade the essays in four categories i.e. A,B,C and D. based on the contents of the essay and the clarity of awareness of the city. Wherein the grade 'A' was considered as the better essay compared to others. Of all the experts on the committee, teams of two experts were formed and each team was given 10 essays to evaluate. At the first end of the first round, following categorization was emerged;

- Category – A 10 entries
- Category – B 45 entries
- Category – C 81 entries and
- Category – D 72 entries.

At the end of the first round, the entries which were in category 'C' and 'D', were dropped and further evaluation of the remaining 55 entries was carried out.

**Round-II:** In the round two, more specific evaluation was carried out. In the beginning of the round-II, the committee first fixed the following four parameters to be assessed and each parameter was given a maximum of 25 marks.

- Parameter – I : Innovativeness
- Parameter – II : Logical Thinking
- Parameter – III : Viability of suggestions and
- Parameter – IV : Visionary perspective

Based on the above mentioned parameters, remaining 55 entries were evaluated and the top 10 entries based on marks obtained were finalized for facilitation with prize i.e. cash prize (*first entry Rs.25,000/-, second entry Rs.15,000/- and third entry Rs.10,000/-*) plus the certificate of participation for first three and certificate of participation for the remaining seven. The essays of top three entries are enclosed in the Annexure – 15.

### 15.3 Stakeholder Suggestions / Remarks

During the consultation as well as post consultation, the various stakeholders have provided their observations w.r.t issues in the city as well as the suggestions for city development. These suggestions were provided by the stakeholders in written form to the corporation as well in an electronic form they submitted the suggestion to the special email address created for Solapur CDP.

Sr No	Area of Suggestion	Suggestion / Remark
1	Projects Implementation	<ul style="list-style-type: none"> <li>▪ Land availability is always hurdle in implementation projects. Land for the project should be acquired in advance for speedy projects implementation</li> <li>▪ Technical capability of the team implementing is a must for effective project implementation.</li> </ul>
2	e-governance	<ul style="list-style-type: none"> <li>▪ Initialization of e-services in all the departments as well as the zonal offices of the SMC.</li> </ul>
3	Heritage and Tourism	<ul style="list-style-type: none"> <li>▪ <b>Solapur Fort:</b> Efforts should be made towards keeping the fort in neat and clean state make information and trained guides available, conduct fort walks with experts, have a light and sound show etc.</li> <li>▪ <b>Kotnis Memorial:</b> Should be preserved and entry fees shall be charged and an audio visual room shall be created in the memorial.</li> <li>▪ <b>Heritage Walk:</b> A walk can be designed for tourists starting from Fort and Siddheshvar Temple and Lake including SMC Indrabhvan Building, Rippon Hall Museum, Laxmi Market –Food Mall , Datta Temple, Shubhray Math, Ganapati Ghat, First Church , Navi Peth Ram Mandir, ending with Kotnis Memorial. Trained guides can conduct these walks and tell the tourists about Solapur's special food delicacies, Textile goods made in</li> </ul>

Sr No	Area of Suggestion	Suggestion / Remark
		<p>Solapur and Sholapur's socio cultural history.</p> <ul style="list-style-type: none"> <li>■ <b>Heritage Tour:</b> A mini bus can take the tourists to many heritage buildings in and near Solapur like Hattarsang Kudal Temple, Korovali Temple, Machnur Temple, Umedpur Church, Rupa Bhavani Temple, various other important temples and buildings of historical value, also to textile factories and showrooms and Solapur special food outlets. Hurada parties can be arranged for tourists in the season.</li> <li>■ <b>Nature Trails:</b> Can be arranged for groups of tourists to include Nannaj Wildlife Sanctuary, Smrutivan, Siddheshvar Van Vihar, Gangevadi Lake, Hipparaga Lake, Kambar Talav and Hotagi Talav. A sustainable ecotourism module should be developed which will also boost the economies of respective rural areas.</li> <li>■ <b>Siddheshvar Yatra Festival:</b> This is a unique element attached to the culture of the city life which must be publicized on grand scale and made into a major tourist attraction. Events like like Pushkar Mela or Goa Carnival has given those places a distinct identity. the same can be adopted for Siddeshwar Festival in January every year. Some other activities like local art and crafts mela, National / International level textile products exhibition local food festival, hurada parties can be clubbed with siddheshvar yatra to reach out to the people beyond the city limits and provide the city a distinct identity and an economic activity.</li> </ul>
4	Social Amenities	<ul style="list-style-type: none"> <li>■ Provision of Community halls for social activities to the NGOs</li> <li>■ Provide municipal dispensary in each of the ward of the city</li> <li>■ Public Toilets in each section of the city</li> <li>■ Develop Cultural center in each ward</li> <li>■ Re-Development of all for lakes in the city.</li> <li>■ Conversion of Ripon Hall into a museum providing the details of Solapur' s history, culture and heritage</li> <li>■ Development of planetarium and Aquarium in the city as an amusement facility for children in the city.</li> <li>■ A general civil hospital should be developed in the city extension areas.</li> </ul>
5	Solid Waste Management	<ul style="list-style-type: none"> <li>■ Provide additional vehicles for solid waste collection</li> <li>■ Sweeping of city streets as early as 6:00 am in the morning</li> <li>■ Initiating an IEC campaign for source segregation of waste to rip the benefit in long future</li> <li>■ Additional secondary collection to be placed in the city</li> <li>■ Development around the Tuljapur road has been reduced due to the open dumping of the waste. A scientific landfill facility should be developed on immediate basis.</li> </ul>
6	Industrial Development	<ul style="list-style-type: none"> <li>■ Designing a special package for industries for setting up industries in and around Solapur.</li> <li>■ Creation of Solapur Action Group to work towards creating an industries friendly environment in Solapur.</li> <li>■ Develop a special program for attracting the information technology related companies in the city</li> <li>■ Special schemes for revival of the textile industry in the city</li> </ul>

Sr No	Area of Suggestion	Suggestion / Remark
		<p>should be developed by the corporation</p> <ul style="list-style-type: none"> <li>▪ Development of Industrial Township may be considered in Solapur.</li> <li>▪ Development of housing facilities for textile industry workers</li> </ul>
7	Environment	<ul style="list-style-type: none"> <li>▪ Provide more green space in the city</li> <li>▪ Initiate a massive tree plantation drive</li> <li>▪ removal of stray animals from the city to a designate place</li> <li>▪ Domestic sewage generated in the city is discharged in to open river which is leading in to disease like situation in the downstream villages. Provision of a sewage treatment plant on immediate basis is a must.</li> </ul>
8	Traffic and Transportation	<ul style="list-style-type: none"> <li>▪ Provision of additional traffic signals in the city in high traffic areas</li> <li>▪ Barricading the walkways in the areas near the state transport depot area.</li> <li>▪ Street lighting in the city should be improved and should be provided on all the roads of the city.</li> <li>▪ Development of parking space in large areas of the city.</li> </ul>
9	Sanitation	<ul style="list-style-type: none"> <li>▪ Public urinals and toilets should be removed and separate pay and use toilets of best quality should be developed across the city.</li> </ul>
10	Water Supply	<ul style="list-style-type: none"> <li>▪ metering of all water supply connections or regular supply of water to the citizen of City</li> <li>▪ Recycle and reuse of waste water on BOT basis.</li> </ul>

## 15.4 SWOT Analysis

The competitive position of the city in terms of efficiency in governance, complete economic growth, and sustainable development, and infrastructure efficiency, skilled labor has been analyzed to understand the strengths, weakness, opportunities and threats in the city. The competitive position increases or decreases based on the projects/initiatives taken up by SMC and other parastatal agencies. The present competitive position of SMC (as identified by city stakeholders) has been presented in the table below.

**Table 72: Competitive position of the city**

Parameter	Scale	Remarks
Efficiency in Governance	<b>Medium</b>	Efforts are required in terms of upgrading the governance systems and extent of computerization. Also, currently the city is governed in two sections, i.e. core city area and extended area in certain departments. This should be centralized.
Competitive economic growth	<b>Low</b>	Lack of basic infrastructure is acting as a hindrance for industrial development. City has a huge potential for religious tourism centre in the district.

Parameter	Scale	Remarks
Sustainable environment	<b>Medium</b>	Water conservation efforts apart from the lake conservation projects need to be taken up. Also the lake conservation projects to be implemented on fast track basis.
Efficient Infrastructure	<b>Low</b>	Lack of appropriate solid waste collection infrastructure and sewage treatment facility.
Skilled and motivated workforce	<b>Medium</b>	49% of the population is in working age group. However the total workers percentage in the city is only 37%.
Protected Heritage	<b>Low</b>	Lack of heritage regulation conservation efforts from SMC.
Tourism Development Potential	<b>High</b>	Solapur is a gateway for a religious tourism for the Solapur-Pandharpur-Tuljapur-Akkalkot circuit. Recent tourism development projects approved by the central government will boost tourism activities in the city.

### 15.4.1 SWOT Analysis

The SWOT analysis gives a cursory snapshot of existing potentials that favor growth of city. Further, issues impacting the city development are discussed. The ranking of importance in a scale of High to medium has been developed through interactions with stakeholders and city officials. In case of opportunities and threats, the possibility of occurrence has also been identified.

Solapur being a district headquarter and a traditional industrial city, offers a potential for employment opportunities. However, regardless of offering a conducive environment for trade and commerce in the city, it is yet to cross the million plus mark in terms of the population. The table below presents the strength and weakness in the city.

Strengths	Importance
Conducive environment for habitation and Industrial activity	<b>High</b>
Agriculture based surroundings support the trade and commerce of cash crops (cotton).	<b>High</b>
Solapur is the regional centre for Solapur district.	<b>High</b>
Good connectivity by road and rail	<b>High</b>
Availability of Airport	<b>High</b>
Availability of Higher education infrastructure	<b>High</b>

Weakness	Importance
Depleting industrial growth and number of industries.	<b>High</b>
Low population growth	<b>High</b>
Dilapidated status of the infrastructure in the old city area	<b>Medium</b>
Financial situation of the municipal transport services	<b>Low</b>
Increasing slum population in the city	<b>Medium</b>

The city considered to be the potential religious tourism hub. This would have a very positive impact on the investment environment and employment opportunities. Also, implementation of the projects in hand at SMC would certainly have a positive impact on the service delivery. The SMC is also anticipating funds, as a debt from the housing and urban development corporation (HUDCO) for infrastructure improvement in the city.

On the other hand, the city suffers from lack of proper disposal facilities for sewerage and municipal waste generated in the city. The current practice of disposal could create environmental hazard. Also, the growing number of slums in the city is emerging as a major concern. The following table presents the ranking of identified opportunities and threats in terms of impact on the city and the possibility of occurrence.

**Table 73: Opportunities and threats in the city**

Opportunities	Possibility of occurrence	Impact on city
TO become a tourism hub for religious tourism	High	<b>High</b>
Completion of infrastructure projects in hand	High	<b>High</b>
CBUD project and UIDSSMT city in the second phase	High	<b>High</b>

Threats	Importance	
Depleting industrial growth	High	<b>High</b>
State of current basic infrastructure provision	High	<b>High</b>
Outmigration of the city population due to lack of basic infrastructure	Medium	<b>High</b>
Competition from fast growing cities in the state	High	<b>High</b>

#### 15.4.2 City Level SWOT Analysis

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> <li>■ History of being a big industrial hub (Textile Industry).</li> <li>■ Well established regional settings and inter and intra State connectivity.</li> <li>■ Well connected by road, rail with attractive tourist spots in the surrounding areas and has huge potential to be developed as a Tourist Hub for the region.</li> <li>■ Availability of an Airport</li> <li>■ Projects for improvement of basic services are under implementation in the city</li> <li>■ Substantial area of the city is available for development leading to large scope of guided development.</li> </ul>	<ul style="list-style-type: none"> <li>■ Low population growth due to out migration of the city population.</li> <li>■ Unregulated growth pattern :Land use/ Planning issues</li> <li>■ Diminishing industrial and population growth in the city</li> <li>■ Dilapidated infrastructure in core city area</li> <li>■ Infrastructure gap in the extension areas.</li> <li>■ Shortage of qualified staff for urban management</li> <li>■ Weak financial resource base of institutions and lack of technical capability in urban administration</li> <li>■ Increase in slum population in the city.</li> </ul>

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>▪ City's population has crossed one million mark opening opportunities for funding options for infrastructure improvement</li> <li>▪ CBUD project and potentiality to be city eligible for funding from the central government under the new upcoming urban development mission. in the second phase</li> <li>▪ Available financial assistance from various schemes of the central as well as state government for city development.</li> <li>▪ Potential for religious tourism and regional economic hub.</li> <li>▪ Revival of industrial base of the city is possible by creating tax incentive schemes and dedicating land -use for industries.</li> <li>▪ Opportunities to become an educational and health facility hub in the region.</li> <li>▪ Large scale industries could be attracted through tax benefits for revival of the city economy.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Slow progress of infrastructure projects</li> <li>▪ Lack of capacity for urban management and project implementation</li> <li>▪ Delays in policy formulation and implementation in the area of urban governance/management</li> <li>▪ Lack of high end service sector employment opportunities leading to out migration of skilled human resource.</li> <li>▪ If city finances are not improved, it may lead to non-availability of own funds for developmental works.</li> <li>▪ No capacity for implementing projects through private sector support.</li> <li>▪ Outmigration of city population can lead to gap in qualified resources.</li> </ul>

## 15.5 Vision Statement

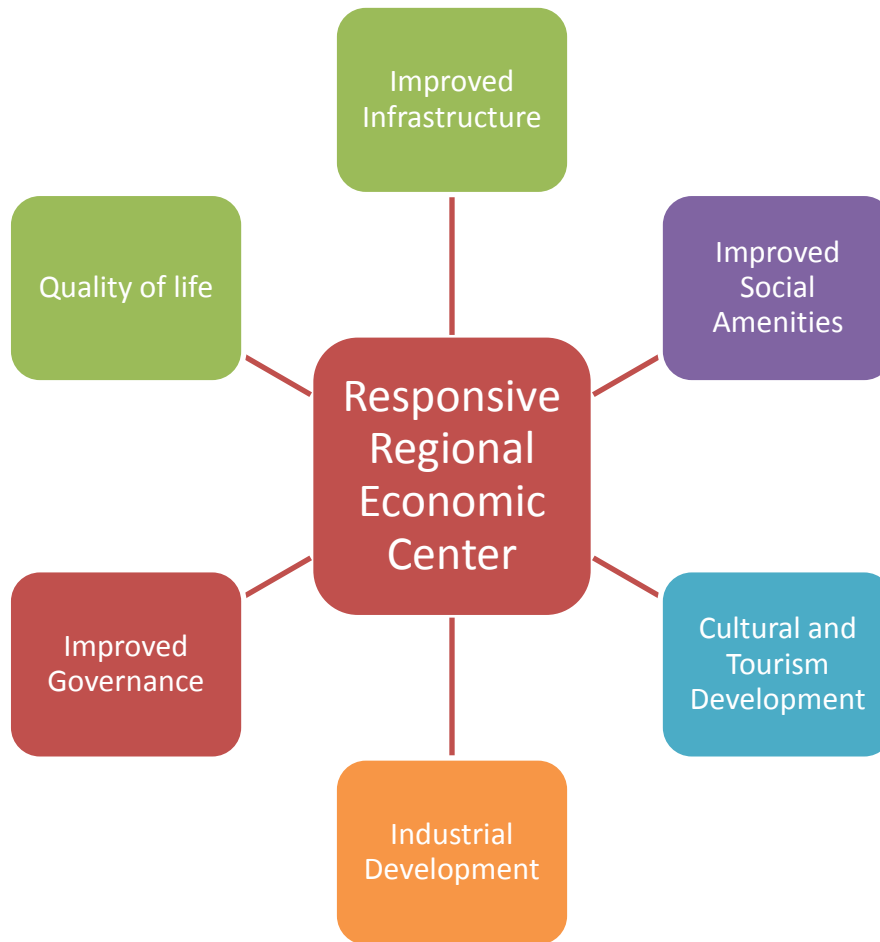
Subsequent to the group discussion on the issues and strategies, the discussion carried out on the city vision. During the consultation meeting the vision statement prepared in the previous CDP was discussed and based on the common consensus that emerged among the stakeholders during the workshop, it was decided to continue with the same vision. The vision statement was framed to balance the competing demands rising from the various sectors as well as from the different stakeholders in the city.

Keeping in view the various economic activities in the city, regional setting with neighboring towns and the existing infrastructure status in the city, the vision for Solapur city was framed as:

***“To revive the glory of Solapur by developing it into a Responsive Regional Economic Center”.***

## 15.6 Milestones

The milestones are defined targets with a measurable scale and specific timeframe for fulfillment of city vision. As observed from the vision statement, the three pillars of the city development are economic growth, quality of life, and environmental sustainability which will in turn make the city as a regional responsive and economic hub.



### 15.7 Development Goals

Based on the city level assessment and the city vision framing, the wish list of the citizens has been translated into the development goals with specific strategies of the key sectors. The sectors such as water supply, sewerage and sanitation, solid water management, storm water drainage, traffic and transportation, urban poverty and slum improvement, local economic development, urban environment, social infrastructure, and heritage management are covered under the development goals. The development goals have been framed on the basis of priority areas, to achieve the common goals for the city and to meet the desired sector specific service level benchmarks and indicators.

**Table 74: Sector-wise developmental goals**

Sector	Vision	Development goals	Action points
<b>Water supply</b>	To provide water supply to all and 24 x 7 water supply with adequate pressure and quality	<ul style="list-style-type: none"> <li>Provide 24 X 7 water supply</li> <li>The quality of the water should meet the CPHEEO standards.</li> <li>Undertake tariff revision and reduction to</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of actual service levels vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>Augment the existing source/identify new sources to meet the future water demand for the city</li> <li>Increase the coverage under water supply and ensure</li> </ul>



Sector	Vision	Development goals	Action points
		achieve 100% O&M cost recovery <ul style="list-style-type: none"> <li>Minimize the energy consumption during water supply operations</li> </ul>	equitable water supply distribution in core areas and newly merged areas. <ul style="list-style-type: none"> <li>Introduce flow meters and bulk meters to measure water losses in the system</li> <li>Introduce domestic meters to ensure judicious usage of water</li> <li>Introduce water monitoring systems like supervisory control and data acquisition (SCADA) to monitor the water supply flow and curb water losses</li> <li>Carry out water and energy audit at regular intervals of four –five years</li> <li>Make rainwater harvesting system mandatory for the upcoming developments in the city</li> </ul>
<b>Sewerage</b>	To provide safe and reliable collection, treatment, and reuse/disposal of wastewater towards an environmentally friendly city	<ul style="list-style-type: none"> <li>Develop decentralised sewerage system and sewerage treatment plants across the city</li> <li>Ensure 100% treatment of sewage generated and safe disposal</li> <li>Explore the reuse and recycled of wastewater to be supplied to the industries</li> <li>Maximize the cost recovery and collection efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of actual service levels vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>Undertake mapping of the existing sewerage connections and database of septic tanks for effective sludge management in the city</li> <li>Ensure 100% collection efficiency of sewage generated.</li> <li>Rehabilitate the existing UGD system in the old city area.</li> <li>Complete the construction of decentralized treatment facilities at the earliest.</li> <li>Undertake feasibility for recycling technologies for the better use of treated water</li> </ul>
<b>Storm water drainage</b>	To provide effective drainage system	<ul style="list-style-type: none"> <li>Mapping of the drainage pattern of the city and existing natural drains.</li> <li>Rejuvenate the existing natural drainage course in the city</li> <li>Minimize the water logging and flooding incidences in the city</li> </ul>	<ul style="list-style-type: none"> <li>Map the entire water regime of the city and changes in natural course</li> <li>Channelize and de-silting of the major natural drainage course in the city and further provide green belt along the natural courses</li> </ul>
<b>Solid waste management</b>	Efficient integrated solid	<ul style="list-style-type: none"> <li>100% door-to-door collection and</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of actual service levels vis-à-vis the benchmarks</li> </ul>

Sector	Vision	Development goals	Action points
	waste management system and complying the MSW 2000 rules and upcoming	segregation of waste at source <ul style="list-style-type: none"> <li>■ Maximize recycling and reuse capacity and minimize disposal at landfill</li> <li>■ Disposal mechanism should be followed as per the CPHEEO norms</li> </ul>	prescribed by the MoUD. <ul style="list-style-type: none"> <li>■ Prepare a detailed project report for bin free city plan for Solapur.</li> <li>■ Effective implementation of outreach mechanisms to improve door-to-door collection and segregation at source</li> <li>■ Increase the secondary collection infrastructure on immediate basis.</li> <li>■ Create a separate solid waste management department and strengthen department with capacity building and exposure site visits.</li> <li>■ Develop scientific landfill site at the earliest.</li> <li>■ Define and implement user charges for solid waste management in the city.</li> </ul>
<b>Traffic and transportation</b>	To make city a transportation node for the region with efficient road network and safe, reliable public transport system	<ul style="list-style-type: none"> <li>■ Increase the share of public transport and minimize traffic congestion</li> <li>■ Minimize road accidents and improve the pedestrian related infrastructure</li> <li>■ Provide parking facilities across the city</li> </ul>	<ul style="list-style-type: none"> <li>■ Prepare a comprehensive traffic and transportation plan for the city.</li> <li>■ Undertake a road condition survey for the entire road network in the city.</li> <li>■ Improve traffic management systems by diverting traffic and creating one-way traffic system in congested roads</li> <li>■ Prepare an inventory of roads to be provided with footpath,</li> <li>■ Route rationalization of the existing bus routes.</li> <li>■ Prepare a business plan for the SMT</li> <li>■ Develop multi-storied parking and paid parking at the identified locations at the earliest.</li> </ul>
<b>Urban Poverty</b>	To become a slum-free city by 2031	<ul style="list-style-type: none"> <li>■ Improve the access to physical and social infrastructure to slum dwellers</li> <li>■ Develop housing for 100% slum population in the city</li> <li>■ Develop livelihood strategies to improve the work</li> </ul>	<ul style="list-style-type: none"> <li>■ Prepare a slum development policy and action plan for the city.</li> <li>■ Appoint a special committee to resolve the issue faced because various prevailing housing schemes (Ramai awas yojna vs RAY)</li> <li>■ The affordable housing for slum dwellers residing in non-tenable areas</li> </ul>

Sector	Vision	Development goals	Action points
		force participation	<ul style="list-style-type: none"> <li>■ <i>In-situ</i> up-gradation in incremental manner in the existing slums</li> <li>■ 100% coverage of piped water supply, public toilets, sewerage network and door to door waste collection</li> <li>■ Undertake a condition survey of toilets in the slum areas and prepare a detailed project report for improvement of the public toilets in the city.</li> <li>■ Prepare operation and maintenance guidelines for sustainable use of the public toilets.</li> <li>■ The aided/Government/Municipal schools should be accessible to the slum dwellers</li> <li>■ The community centres, senior citizen clubs and welfare clubs to be developed in each ward</li> </ul>
<b>Urban environment</b>	To provide a pollution-free and sustainable living environment to the citizens	<ul style="list-style-type: none"> <li>■ Lakes in the city should be developed as a major recreation places in lines of Kankaria Lake in Ahmedabad city.</li> <li>■ Increase the green cover of the city</li> <li>■ The RSPM levels should be below the prescribed standards at any given point of time.</li> </ul>	<ul style="list-style-type: none"> <li>■ Frame a policy to mitigate the various pollutions and effective use of natural resources in the city</li> <li>■ Prepare a project report for lake improvement</li> <li>■ Construct rainwater harvesting pits to balance the ground water levels in the city</li> <li>■ Increase the surface area under green cover</li> <li>■ Cover the uncovered lengths of the road width with foot path to reduce the air pollution levels.</li> </ul>

## 16. Sector Plan, Strategies and Investment Plan

City Investment Plan (CIP) in line with the identified vision for the city has been prepared through a comprehensive process of assessment of gap and through stakeholder consultation. This assessment has also led to the identification of sector specific strategies, implementation actions and associated reforms with specific inputs from stakeholders too.

The strategies adopted primarily have three dimensions; improving the service delivery by efficiency measures, improving service delivery by creating infrastructure assets and improving the governance aspects. This section summarizes the capital investments required for creating infrastructure assets and various strategic interventions required in the implementation of such projects.

The need for the CIP is on account of:

- Assessment of city growth and infrastructure needs
- Scheduling of investments of ongoing projects
- Assigning of priorities within the constraints of available financial resources

The City Investment Plan is the multi-year scheduling of identified and prioritized investments. The scheduling or phasing of the plan is based on

- Studies of fiscal resources availability (for new investments and O & M),
- Technical capacity for construction and O & M, and
- The choice of specific improvements to be carried out for a period of five to seven years.

The phasing of the identified projects and investments is based on the following principles:

- Priority needs, with developed areas receiving priority over future development area
- Inter and intra-service linkages, viz. water supply investments shall be complemented by corresponding sewerage/sanitation improvements
- Size and duration of the requirements, including preparation and implementation period
- Project-linked revenue implications,

### 16.1 Institutionalizing CIP

The CIP is an important element and is significant in terms of the city's administration process and sustainability with regard to the delivery of basic services. The CIP also provides a framework for the annual budget cycle for 6-10 year period in future. The CIP identifies the roles and responsibilities of various stakeholders in the implementation of identified projects. The CIP involved the identification of public capital facilities to cater to the demand of the city population by the year medium and long-term infrastructure needs.

The project identification has been done through a demand-gap analysis of the services and other projects identified during stakeholder consultation. Further project prioritization and strategizing of the investments/ phasing of investment is based on the strategies listed out under each service sector as identified through stakeholder consultations.

The projects derived are aimed at ensuring the optimal and efficient utilization of existing infrastructure systems and enhancing the capacity of the systems/ services to cater to the demands of

future population additions. Certain other projects listed as part of the CIP include developmental projects other than those addressing the core service sectors have been drawn in consultation with the stakeholders.

The CIP and forecasted future needs for provision of capital facilities under each identified sector is presented below. These assets will help to universalize services for the current population as well as accommodate the expected increase in population.

In sectors where long-term planning is required (for example, source development for water supply, sewerage etc.), a 25-year planning horizon is considered. Assets created in such sectors consider the projected population in this horizon. These infrastructure assets would not only guarantee services to its citizens, but also signal a proactive commitment to potential investors considering the region.

## 16.2 Water Supply Sector Plan

As discussed in the water supply section in the previous chapters, the key challenges are lack of perennial water supply sources and the Ujjani Dam is far away from the city, system losses due to old distribution network in the core city area, and uneven water supply distribution across the city. Further, the city extension areas are yet to be provided with the 100% water supply network. The gap analysis presents the current deficit in the system and future requirement for the design year 2041.

**Table 75: Sector Plan: Water Supply**

Sector Goals							
Sector Goals	<ul style="list-style-type: none"> <li>■ Provide 24 X 7 water supply</li> <li>■ The quality of the water should meet the CPHEEO standards.</li> <li>■ Undertake tariff revision and reduction to achieve 100% O&amp;M cost recovery</li> <li>■ Minimize the energy consumption during water supply operations</li> </ul>						
Design parameters							
Design parameters	<ul style="list-style-type: none"> <li>■ Base year as 2014 and design year as 2041</li> <li>■ Demand estimation based on the projected population for SMC and additional 0.25 lakh population per day (floating population)</li> <li>■ Daily water supply demand calculated on the basis of daily per capita water supply norm (160 lpcd including average water supply losses assumed in a decreasing trend)</li> <li>■ 100% treatment capacity and minimum 33% of water supplied as storage capacity</li> <li>■ Distribution network coverage – 100% in habitation areas</li> <li>■ Cost recovery through user charges (100% operation and maintenance expenses)</li> </ul>						
Demand Gap Assessment							
Demand Gap Assessment	Component	Existing Levels	Gap (2014)	2021 (Short Term)		2041 (Long Term)	
				Demand	Gap	Demand	Gap

	Source (Daily Supply in MLD)	130.00	36.22	196.37	66.37	326.69	196.69
	Distribution network coverage (km)	987.77	915.09	2383.66	1,395.89	2419.55	1,431.78
	Elevated Storage capacity (MLD)	4.68	50.73	65.46	60.78	108.90	104.22
	Treatment capacity (% of Water Supply)	210.50	-	196.37	-	326.69	116.19
<b>Desired Outcomes</b>							
Desired Outcomes	<b>Component</b>	<b>2017</b>	<b>2019</b>	<b>2021</b>			
	Network coverage to households	70%	90%	100%			
	Per capita supply (LPCD)	135	135	135			
	24/7 water supply	50%	70%	100%			
	Quality of water	100%	100%	100%			
	Non-revenue water	30%	30%	20%			
	Consumer metering	50%	70%	100%			
	Cost recovery	100%	100%	100%			
<b>Action Plans</b>							
Improvement Area	Actions by SMC						
Service levels and Information Management	<ul style="list-style-type: none"> <li>■ Asses the actual service levels provided by the SMC in water supply sector vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>■ Prepare an information management system to assess the performance of the water supply system vis-à-vis the benchmarks on real time basis.</li> <li>■ Prepare information system improvement plan (ISIP) for water supply sector.</li> </ul>						
Increase the household coverage level	<ul style="list-style-type: none"> <li>■ Increase water supply coverage through individual service connections.</li> <li>■ Provide water supply to extended areas and uncovered areas.</li> </ul>						
Water Supply System	<ul style="list-style-type: none"> <li>■ This focuses would be on partial or complete refurbishing of the existing water distribution pipeline in the core city area.</li> </ul>						

Rehabilitation Plan	<ul style="list-style-type: none"> <li>The old, defunct, and inadequate piping system needs to be replaced.</li> </ul>
Comprehensive Water Supply Plan	<ul style="list-style-type: none"> <li>This focuses on source augmentation, adequate storage, and distribution network and treatment facilities for future requirement.</li> </ul>
Operation and Maintenance Plan	<ul style="list-style-type: none"> <li>Undertake an asset inventory and prepare an asset management plan for the SMC.</li> <li>Prepare operation and maintenance manual for all assets of water supply department along monitoring mechanism.</li> <li>Training calendar to be prepared and trainings to be imparted to all the staff members throughout the year on O&amp;M of assets</li> <li>Conduct workshops on water supply and other services to educate the citizens about water conservation techniques, minimizing wastage of water.</li> <li>Trainings for expenditure control, energy saving measures, and reduction of O&amp;M cost on key services.</li> </ul>

### 16.2.1 Capital Investment Plan

Table 76: CIP- Water Supply

Project	Sub project	Estimated cost in Rs. Crores
<b>Source Availability</b>	<ul style="list-style-type: none"> <li>Express Gravity Canal from Ujjani Dam to Hipparga Lake (Ekrukh Lake) – 100 km</li> </ul>	1200.00
<b>Augmentation of Source</b>	<ul style="list-style-type: none"> <li>Augmentation of sources to meet the demand of water up to 2041.</li> </ul>	606.34
<b>Distribution Network – New</b>	<ul style="list-style-type: none"> <li>Implementation of distribution network for providing coverage to un-covered areas of SMC (1431 km)</li> </ul>	286.36
<b>Distribution Network – Refurbishment of Old</b>	<ul style="list-style-type: none"> <li>Refurbishment of the old water supply pipelines in the old city area</li> </ul>	258.00
<b>Augmenting Storage capacity</b>	<ul style="list-style-type: none"> <li>Construction of group of elevated and ground service reservoirs for the water supply system.</li> </ul>	31.27
<b>Treatment Capacity</b>	<ul style="list-style-type: none"> <li>Augmentation of the water treatment capacity to treat 100% of the water sourced from the source before supplying to the city. (116 MLD by 2041)</li> </ul>	58.09
<b>Metering</b>	<ul style="list-style-type: none"> <li>It is proposed to change the house connections with new medium density polyethylene (MDPE) pipes and install the automated meter reading (AMR) devices to each</li> </ul>	91.82

Project	Sub project	Estimated cost in Rs. Crores
	connection.	
<b>Total investment envisaged (2041)</b>		<b>2440.05</b>
<b>Total investment envisaged for 2021</b>		<b>2368.93</b>

## 16.2.2 Possible intervention through PPP

The entire project from distribution to metering of water connections can be developed on Public Private Partnership mode

- Under the PPP model the developer would Invest SMC's financial contribution and would take care of any additional cost under the project
- Undertake implementation of capital works and O&M of system
- The entire project can be awarded for a period of 15 to 20 years
- Developers can bid on either tariff required to operate and maintain the project or annuity support from SMC

SMC need to set performance parameters for the private developer to be obliged during the contract period. The annuity payment should be a factor of performance parameters achieved by the developer

- The performance parameters would in the area of SMC
- Maintaining daily hours of supply
- Maintaining supply levels as stipulated by SMC
- Maintaining quality of water as per CPHEEO norms
- Improvement in coverage of water supply connections
- Reduction in non-revenue water
- Improvement in collection efficiency
- Frequency of billing of water bills
- No. of complaints received

The above model is indicative. SMC would require to appoint a transaction advisor to undertake detailed feasibility and preparation of bid documents (request for qualification – RFQ, request for proposal – RFP) and bid process management leading to award of contract to private developer

- Examples in PPP in water sector are
- Latur water supply – O&M contract
- Chandrapur – BOT
- Bhiwandi - BOT
- Mysore - BOT
- Salt lake Calcutta – BOT
- Khandwa – BOT



### 16.2.3 Phasing of Investment

**Table 77: Investment Phasing: Water Supply**

Sector/ Component		Investment (Rs. Lakh)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Water Supply</b>		<b>236,893</b>	-	22,166	56,579	58,102	56,305	43,740	-
1	Source Development (Daily Supply)	60,634	-	6,063	18,190	18,190	18,190	-	-
2	Distribution Network (% Roads Covered)	28,636	-	1,432	8,591	10,022	8,591	-	-
3	Elevated Storage capacity (% of Water Supply)	1,823	-	91	638	729	365	-	-
4	Refurbishment of old Pipelines	25,800	-	2,580	5,160	5,160	5,160	7,740	-
5	Express Gravity Canal from Ujjani Dam to Hipparga Lake (Ekrukha Lake)	120,000	-	12,000	24,000	24,000	24,000	36,000	-

### 16.3 Sewerage and Sanitation Sector Plan

As discussed in the sewerage sector assessment, the key challenges are lack of underground drainage system and sewerage treatment facility. However, there is no underground drainage system in the newly merged areas. The city lacks sanitation facilities and public toilets. In order to address the issues in the sewerage sector, the gap analysis has been carried out to estimate the demand for the design period. The demand estimation has been carried out on the basis of estimated sewerage generation in the city.

**Table 78: Sector Plan: Sewerage**

Sector Goals	
Sector Goals	<ul style="list-style-type: none"> <li>▪ Develop decentralised sewerage system and sewerage treatment plants across the city</li> <li>▪ Ensure 100% treatment of sewage generated and safe disposal</li> <li>▪ Explore the reuse and recycled of wastewater to be supplied to the industries</li> <li>▪ Maximize the cost recovery and collection efficiency</li> </ul>
Design parameters	
Design parameters	<ul style="list-style-type: none"> <li>▪ Base year as 2014 and design year as 2041</li> <li>▪ Sewage generation – 80% of water supplied</li> </ul>

	<ul style="list-style-type: none"> <li>■ Treatment capacity – 100% of sewage generation</li> <li>■ Sewerage pumping systems – as per the system design and topography of the city</li> <li>■ Coverage of Sewer network - 75% of road network in the city</li> <li>■ Household level coverage – Sewerage connections as percentage of water supply connections (80-90%)</li> <li>■ Public toilets as per the requirement in the slums and central business districts</li> </ul>						
Demand Gap Assessment							
Demand Gap Assessment	Component	Existing Levels	Gap (2014)	2021 (Short Term)		2041 (Long Term)	
				Demand	Gap	Demand	Gap
	UGD network (km)	474	1429	2392.48	1918.48	2419.55	1945.55
Sewerage Treatment Plant (MLD)	-	-*	157.10	54.60	261.35	158.85	
Desired Outcomes							
Desired Outcomes	Component	2017	2019	2021			
	Households covered with UGD	60%	80%	100%			
	Treatment capacity	100%	100%	100%			
	Reuse and recycling of wastewater	10%	20%	20%			
	Cost recovery on sewerage services	60%	80%	100%			
	Sewerage user charges - collection efficiency	60%	70%	80%			
	Dependent slum population per toilet seat in slums	45	30	10			
Action Plans							
Improvement Area	Actions by SMC						
Service levels and Information Management	<ul style="list-style-type: none"> <li>■ Asses the actual service levels provided by the SMC for Sewerage sector vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>■ Prepare an information management system to assess the performance of the Sewerage system vis-à-vis the benchmarks on real time basis.</li> <li>■ Prepare information system improvement plan (ISIP) for Sewerage sector.</li> </ul>						

Comprehensive sewerage plan	<ul style="list-style-type: none"> <li>■ Complete construction of three decentralised STPs on priority</li> <li>■ Achieve 100% coverage of sewerage network within SMC</li> <li>■ Replace the existing dilapidated sewerage network in core city area</li> <li>■ Explore treatment technologies to initiate recycling of waste water and reuse for non-potable uses (Public parks and gardens)</li> </ul>
Institutional strengthening and capacity building	<ul style="list-style-type: none"> <li>■ To develop sludge management in initial phase and phase out onsite sewage disposal mechanisms.</li> <li>■ Assess the cost recovery through user charges introduced in 2010-11</li> <li>■ Increase the sewerage user charges to meet the O&amp;M expenses for new infrastructure to be developed</li> </ul>
Operation and maintenance plan	<ul style="list-style-type: none"> <li>■ Undertake an asset inventory and prepare an asset management plan for the SMC.</li> <li>■ Prepare operation and maintenance manual for all assets of water supply department along monitoring mechanism.</li> <li>■ Training calendar to be prepared and trainings to be imparted to all the staff members throughout the year on O&amp;M of assets</li> <li>■ Conduct workshops on water supply and other services to educate the citizens about water conservation techniques, minimizing wastage of water.</li> <li>■ Trainings for expenditure control, energy saving measures, and reduction of O&amp;M cost on key services.</li> </ul>

### 16.3.1 Capital Investment Plan: Sewerage Sector

**Table 79: Capital Investment Plan: Sewerage Sector**

Project	Sub project	Estimated cost in Rs. Crores
<b>Underground Drainage network</b>	<ul style="list-style-type: none"> <li>■ Providing and laying of sewerage network in uncovered areas of the SMC of 1945 km length in the city extension areas including construction of required pumping facilities.</li> </ul>	272.38
Sewage treatment facility	<ul style="list-style-type: none"> <li>■ Construction of sewage treatment plant for the city requirement for 2021 (54.60 MLD) and 2041 (158.85MLD).</li> </ul>	397.12
Providing House Connections	<ul style="list-style-type: none"> <li>■ Providing additional 1.04 lakh house connections in the city by 2041</li> </ul>	260.04
Public Sanitation	<ul style="list-style-type: none"> <li>■ Repair and Refurbishment of existing toilets in the city</li> <li>■ Construction of additional public toilets at 150 locations in the city ( each having capacity of at least 10 toilet seats)</li> </ul>	49.14
<b>Total investment envisaged (2041)</b>		<b>978.68</b>
<b>Total investment envisaged for 2021</b>		<b>439.04</b>

### 16.3.2 Possible intervention through PPP

The environment for implementing the PPP projects in the state is improving and there are various projects in the urban infrastructure including the basic services water supply and sewerage collection, being implemented under this mode. However appropriate pre-feasibility for implementing such projects needs to be undertaken. In SMC following measures may be considered for improving the sewerage services.

- Construction, O&M of STPs can be provided by SMC on Public Private Partnership (PPP) mode. Under the PPP model the developer would
  - ◆ invest SMC's financial contribution and would take care of any additional cost under the project
  - ◆ undertake implementation of capital works and O&M of system
  - ◆ the project can be awarded for a period of 10 years
  - ◆ SMC can ask private developer to consider selling of treated water as part of contract
  - ◆ developers can bid on annuity support from SMC
  - ◆ SMC need to set performance parameters for the private developer to be obliged during the contract period. The annuity payment should be a factor of performance parameters achieved by the developer
  - ◆ The performance parameters would in the area of
    - Quality of treated water
    - Number of closure days of STP

The above model is indicative. SMC would require appointing a transaction advisor to undertake detailed feasibility and preparation of bid documents (request for qualification – RFQ, request for proposal – RFP) and bid process management leading to award of contract to private developer

- Examples of PPP in sewerage – Kolhapur STP project – Construction and O&M of STP on BOT basis. Presently at bid process stage

### 16.3.3 Phasing of Investment

**Table 80: Phasing of Investment: Sewerage**

Sector	Investment (Rs. Lakh)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Sewerage</b>	<b>39,665</b>	-	<b>3,347</b>	<b>14,633</b>	<b>14,504</b>	<b>6,562</b>	<b>619</b>	-
UGD Network/ Road Length Covered	13,619	-	1,362	4,086	4,086	4,086	-	-
Sewerage Treatment (water supply)	19,856	-	1,986	9,928	7,942	-	-	-
Provision of Sewer connections to all HHs in the city	6,191	-	-	619	2,476	2,476	619	-

## 16.4 Solid Waste Management Sector Plan

As discussed in the solid waste management sector assessment section above, the key challenges are segregation of waste at the source, treatment of solid management, SWM recovery mechanisms, and lack of a scientific landfill site in the city. The efficiency of recovery mechanism is linked to the segregation at the source. In order to address the issues in the SWM sector, the gap analysis has been carried out to estimate the demand for the design period. The demand estimation has been carried out on the basis of SWM generated, collected, and transported in the city. The key design parameters have been presented below;

**Table 81: Sector Plan: Solid Waste Management**

Sector Goals							
Sector Goals	<ul style="list-style-type: none"> <li>■ 100% door-to-door collection and segregation of waste at source</li> <li>■ Maximize recycling and reuse capacity and minimize disposal at landfill</li> <li>■ Disposal mechanism should be followed as per the CPHEEO norms</li> </ul>						
Design parameters							
Design parameters	<ul style="list-style-type: none"> <li>■ All the households should be covered with the door-to-door waste collection system.</li> <li>■ Waste to be collected on daily basis from all sources</li> <li>■ Segregation of waste at source – (ensure 70 % of waste would be segregated at the source)</li> <li>■ Optimum fleet utilization (No. of trips/ vehicle/ day - average minimum of 2)</li> <li>■ Desired capacity of processing facility – 100% of generated waste</li> <li>■ Desired landfill site– not more than 20% of the waste generated</li> </ul>						
Demand Gap Assessment							
Demand Gap Assessment	Component	Existing	Gap	2021 (Short Term)		2041 (Long Term)	
				Demand	Gap	Demand	Gap
	Vehicles for transportation of waste (capacity in MT)	326	88	503	153	985	635
	Waste Treatment (Tonnes)	250	100*	608	283	1312	986
	Landfill (Acre)	-	1.26	14	14	74	74
	Processing Facility (TPD)	300	6	480	180	730	430
	New Dustbins	1033	2733	4667	3634	4739	3706

Desired Outcomes				
Desired Outcomes	Parameter	2017	2019	2021
		Door-to-door waste collection	100%	100%

	Segregation at source	30%	50%	60%
	Mechanized waste handling	60%	80%	100%
	Waste treatment capacity	100%	100%	100%
	Scientific waste disposal	100%	100%	100%
	Cost recovery of O&M	80%	100%	100%
<b>Action Plan for Implementation</b>				
Improvement Area	Actions by SMC			
Service levels and Information Management	<ul style="list-style-type: none"> <li>■ Asses the actual service levels provided by the SMC for SWM sector vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>■ Prepare an information management system to assess the performance of the SWM system vis-à-vis the benchmarks on real time basis.</li> </ul>			
Door-to-door waste collection	<ul style="list-style-type: none"> <li>■ Door-to-door waste collection should be implemented across SMC</li> <li>■ Mapping of secondary collection points and provision of appropriate bins at the secondary collation points. .</li> </ul>			
Source segregation and collection of commercial waste	<ul style="list-style-type: none"> <li>■ The segregation of biodegradable and non-biodegradable wastes should initiate at pilot level and an action plan should be prepared for segregation of waste at source.</li> <li>■ This segregation of waste would improve the recovery from waste collected since the calorific value of the dry waste is not affected.</li> </ul>			
Composting of organic waste	<ul style="list-style-type: none"> <li>■ About 50% of the waste generated in the city is organic in nature.</li> <li>■ Hence, the technology and treatment plant should be in line with the waste generated in the city.</li> </ul>			
Service levels and Information Management	<ul style="list-style-type: none"> <li>■ Asses the actual service levels provided by the SMC for Sewerage sector vis-à-vis the benchmarks prescribed by the MoUD.</li> <li>■ Prepare an information management system to assess the performance of the Sewerage system vis-à-vis the benchmarks on real time basis.</li> <li>■ Prepare information system improvement plan (ISIP) for Sewerage sector.</li> </ul>			
Scientific landfill	<ul style="list-style-type: none"> <li>■ A feasibility study for development of scientific landfill facility shall be undertaken and development of a scientific landfill facility should be on immediate basis.</li> <li>■ A scientific landfill facility shall be developed in phases and first phase being for next 7 years.</li> </ul>			
Information Education and Communication (IEC)	<ul style="list-style-type: none"> <li>■ A specially designed IEC campaign shall be initiated for pilot source segregation project.</li> <li>■ For effective solid waste management in the city, regular awareness campaigns have to be conducted in the city on 4R strategy (reduces, reuse, recycle, and recover).</li> </ul>			

## 16.4.1 Capital Investment Plan

**Table 82: Capital Investment Plan: Solid Waste Management**

Project	Sub project	Estimated cost in Rs. Crores
<b>Vehicles for Transportation of Waste</b>	<ul style="list-style-type: none"> <li>Procurement of primary and secondary collection transportation vehicles for collection of municipal solid waste on daily basis. (511 tons by 2021 and 1216 by 2041)</li> </ul>	238.88
<b>Landfill facility</b>	<ul style="list-style-type: none"> <li>Construction of the scientific landfill facility near Tujlapur processing facility (14 Acres by 2021 and 74 Acre by 2041) for landfilling of the inert / waste.</li> </ul>	188.00
<b>Processing Facility</b>	<ul style="list-style-type: none"> <li>Upgrading the processing facility from existing 300 tpd to 730 tpd by 2041.</li> </ul>	57.28
<b>Primary and Secondary collection infra</b>	<ul style="list-style-type: none"> <li>Providing additional primary and secondary collection infrastructure (3706 bins) in the city.</li> </ul>	5.56
<b>Total investment envisaged (2041)</b>		<b>489.72</b>
<b>Total investment envisaged for 2021</b>		<b>103.92</b>

## 16.4.2 Possible intervention through PPP

The environment for implementing the PPP projects in the state is improving and there are various projects in the urban infrastructure including the basic services water supply and sewerage collection, being implemented under this mode. Substantial investment through private sector is also happening in managing the municipal waste in the city. However appropriate pre-feasibility for implementing such projects needs to be undertaken. In SMC following measures may be considered for improving the sewerage services.

- PPPs in SWM is in accordance to nature of work viz.,
- Collection and transportation of waste
- Processing of waste only
- Integrated including end to end scope in compliance with the MSW Rules

SMC has adopted PPP in collection and transportation of waste under which the private developer is deployed to undertake door to door collection of waste from all residential and commercial premises

- Such contracts can be awarded for 1 or 2 years and can be renewed based on performance
- SMC need to set performance parameters for the private developer to be obliged during the contract period. The tipping fee should be a factor of performance parameters achieved by the developer. The performance parameters would in the area of
  - ◆ Coverage of door to door collection of waste
  - ◆ Amount of waste collected
  - ◆ Complaints received

Processing Facility – SMC, through a PPP project has constructed a waste to energy facility which is processing 100 MT of waste on daily basis. Once the plant is fully operational it will process 100% of the waste generated in the city along with power and manure to be sold as an organic fertilizer.

### 16.4.3 Phasing of Investment

**Table 83: Phasing of investment - Solid Waste Management**

Sector	Investment (Rs. Lakh)	2014 -15	2015 -16	2016 -17	2017 -18	2018 -19	2019 -20	2020 -21
<b>Solid Waste Management</b>	10,392	-	3,074	5,493	1,783	42	-	-
Vehicle Capacity Required (Vehicle Carrying Capacity)	6,253	-	2,501	3,752	-	-	-	-
Development of Disposal and Landfill site (2031)	3,498	-	350	1,399	1,749	-	-	-
Waste processing facility	85	-	-	8	34	42	-	-
Other equipment - New dust bins	556	-	222	334	-	-	-	-

## 16.5 Traffic, transportation and street lighting Sector Plan

At present only 40% city roads are surfaced. Pedestrian safety and increasing accident rate are the other major concerns. Lack of foot over bridges and zebra crossing on major congested roads is an issue in the city. The city's public transport service is running into losses and the appropriate infrastructure for public transportation system is lacking. All the major roads in the city are facing issue of on-street parking, which reduces the effective right of way available for traffic movement. In order to address the issues in the sector, the gap analysis has been carried out to estimate the demand for the design period.

**Table 84: Sector Plan: \Traffic, transportation and street lighting**

Sector Goals	
Sector Goals	<ul style="list-style-type: none"> <li>■ Increase the share of public transport and minimize traffic congestion</li> <li>■ Minimize road accidents and improve the pedestrian related infrastructure</li> <li>■ Provide parking facilities across the city</li> <li>■ 100% coverage of roads through public street lighting.</li> </ul>
Design parameters	
Design parameters	<ul style="list-style-type: none"> <li>■ At least 60% of the roads must have footpaths (i.e., roads of 20 feet and above).</li> <li>■ As per development plan, 12% of land to be under roads.</li> <li>■ All roads have to be surfaced with about 15% being concrete roads.</li> <li>■ All major roads should have utility ducts for laying utility line in future (such as telecom, gas, and electrical infrastructure).</li> <li>■ Streetlight spacing – should not be more than 30 m between each street light poles</li> </ul>
Demand Gap Assessment	



	Component	Existing Levels	Gap (2014)	2021 (Short Term)		2041 (Long Term)	
				Demand	Gap	Demand	Gap
Demand Gap Assessment	Extension/Up-gradation of road network (km)	1902.86	1036.57	2369	467	2369	467
	Public Transport system - Purchase of buses	275	-	191	-	289	14
	Junction improvements			As per the detailed studies		As per the detailed studies	
	Dedicated parking facility – MLCPs	0	5	-	-	-	-
<b>Desired Outcomes</b>							
Desired Outcomes	<b>Component</b>	<b>2017</b>	<b>2019</b>	<b>2021</b>			
	% of surfaced roads	100%	100%	100%			
	Reduction in travel time	80%	100%	100%			
	Transport safety	60%	80%	100%			
	% of surfaced roads	100%	100%	100%			
	Reduction in travel time	80%	100%	100%			
<b>Action Plans</b>							
Improvement Area	Actions by SMC						
Comprehensive mobility plan	<ul style="list-style-type: none"> <li>▪ Comprehensive mobility plan (CMP) to be prepared in consultation with various stakeholders of the cities.</li> <li>▪ The inputs/suggestion to be incorporated in the report and finalize the report.</li> <li>▪ The dedicated cell/department for effective implementation of CMP in consultations with various departments concerned in the city</li> </ul>						

	<ul style="list-style-type: none"> <li>Need to create a dedicated urban transport fund in SMC and ensure regular allocation of the funds for urban transport system.</li> </ul>
Transit oriented development	<ul style="list-style-type: none"> <li>Enable the mixed use development near the transport corridors and ring roads if require amend the building bye laws</li> </ul>
Missing Links	<ul style="list-style-type: none"> <li>The city lacks the missing links in terms of ring roads for the city traffic. While the CMP for the city is being prepared, the SMC should finalize the alignment of the primary and secondary ring roads for the city to be developed as missing links.</li> </ul>

### 16.5.1 Capital Investment Plan

**Table 85: Capital Investment Plan: Traffic, transportation and street lighting**

Project	Sub project	Estimated cost in Rs. Crores
<b>Up-gradation of Existing roads</b>	<ul style="list-style-type: none"> <li>Up-gradation of existing black topped roads to Cement Concrete Roads (234 km)</li> </ul>	853.04
	<ul style="list-style-type: none"> <li>Up-gradation of existing WBM roads to black topped roads (381 km)</li> </ul>	608.91
	<ul style="list-style-type: none"> <li>Up-gradation of existing earthen roads to black topped roads (1908 km)</li> </ul>	3053.26
<b>New roads</b>	<ul style="list-style-type: none"> <li>Construction of new 1421 km roads in the city along with the storm water drains and utility channels on both the sides of the road.</li> </ul>	5117.22
	<ul style="list-style-type: none"> <li>Construction of primary ring road / by pass road of 15 km length from Pune naka to market yard chowk</li> </ul>	152.60
	<ul style="list-style-type: none"> <li>Construction of secondary ring road / by pass road of 25 km length</li> </ul>	350.00
<b>Flyovers / Under pass</b>	<ul style="list-style-type: none"> <li>Construction of flyovers at following locations in the SMC area <ul style="list-style-type: none"> <li>◆ Shivaji Chowk,</li> <li>◆ Saat Rasta,</li> <li>◆ Morarka Bunglow,</li> <li>◆ Mahavir Chowk,</li> <li>◆ Old Boramani Naka Chowk,</li> <li>◆ ROB widening at Bhaiya Chowk, and</li> <li>◆ Ashara Chowk</li> </ul> </li> </ul>	700.00
<b>Multilevel Parking facility</b>	<ul style="list-style-type: none"> <li>Construction of multilevel parking facility at four locations in the SMC area <ul style="list-style-type: none"> <li>◆ Railway station,</li> <li>◆ Navi peth,</li> <li>◆ Mangalwar Peth, and</li> <li>◆ Central Bus stand</li> </ul> </li> </ul>	100.00
<b>Traffic Signals</b>	<ul style="list-style-type: none"> <li>SITC of new traffic junctions in Solapur (20 locations by 2021 and 40 by 2041)</li> </ul>	4.40

Project	Sub project	Estimated cost in Rs. Crores
<b>Buses for SMT</b>	<ul style="list-style-type: none"> <li>▪ Purchase of additional 106 new buses for public transportation in the city – Long term investment</li> </ul>	42.40
<b>Storm Water Drains</b>	<ul style="list-style-type: none"> <li>▪ Provision of 2500 km of pucca closed drains by the year 2041</li> </ul>	260.65
<b>Street Lighting</b>	<ul style="list-style-type: none"> <li>▪ SITC of the existing 29758 streetlights on light emitting diode (LED) based lighting</li> <li>▪ SITC of new streetlights to the uncovered road lengths in the SMC area (49389 by 2021 and 50585 by 2041).</li> </ul>	261.86
<b>Total investment envisaged (2041)</b>		<b>11,504.34</b>
<b>Total investment envisaged for 2021</b>		<b>2500.27</b>

*\*Note: The short term investment is higher than the long term investment as in the short term it is considered that all the areas which are not covered under street lighting should be covered by 2021.*

*Note: The location of the above mentioned proposals is presented in ANNEXURE-13 – Spatial distribution of CIP-Proposals*

## 16.5.2 Possible intervention through PPP

Following are the measures of improvement which may be taken up for implementation through PPP route in SMC.

### Parking complex on PPP basis –

- Generally only parking towers are commercially not feasible; the feasibility can be improved by introducing a mixed commercial land use – shops and offices
- Land to be provided on lease basis either for 25 – 30 years or for 70 years
- Role of private developer – construct, lease commercial space, collecting parking revenue, operate & maintain the complex
- Bidding parameter – highest upfront premium to SMC (premium can be distributed over a period of two years)
- Qualification criteria – experience in construction of commercial complex

### Public Transport –

- Option 1 – Open to only existing transport operators
  - ◆ SMC to issue license for operating public transport vehicles in the city
  - ◆ SMC to specify the type of vehicles to be operated
  - ◆ SMC can act as a guarantor to the existing operators. SMC to seize the vehicles from operators if fails to repay bank
  - ◆ Tariff to be determined by SMC
- Option 2 – Open to only existing transport operators
  - ◆ SMC to purchase vehicles under grant funding
  - ◆ SMC providing the vehicles to existing operators and fixed fee basis on an annual basis
  - ◆ Security deposit from operators for vehicles
  - ◆ O&M responsibility – operator

- ◆ Tariff determination – market driven
- Option 3 – Open to all
  - ◆ SMC to auction licenses to operate public transport system
  - ◆ SMC to specify the type of vehicles to be operated
  - ◆ Tariff to be determined by SMC

#### Street- Lighting –

- Role of private operator – install and maintain street-lighting
- Revenue to private operator – from advertising
- Incentive to private operator dependent on –
  - ◆ Savings in energy bills
  - ◆ No. of hours of operation of streetlights to be specified by SMC
  - ◆ No. of complaints received

The above models are indicative. SMC would require appointing a transaction advisor to undertake detailed feasibility and preparation of bid documents (request for qualification – RFQ, request for proposal – RFP) and bid process management leading to award of contract to private developer.

### 16.5.3 Phasing of Investment

**Table 86: Traffic, transportation and street lighting**

Sector	Investment (Rs. Lakhs)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Urban Roads, Traffic &amp; Transport</b>	<b>220,926</b>	-	<b>9,828</b>	<b>28,645</b>	<b>66,278</b>	<b>59,726</b>	<b>56,450</b>	-
Upgrade BT to CC	8,530	-	-	853	2,559	2,559	2,559	-
Upgrade WBM to BT	12,178	-	-	1,218	3,653	3,653	3,653	-
Upgrade Earthen to BT	61,065	-	-	6,107	18,320	18,320	18,320	-
New CC Roads with Storm water drains	-	-	-	-	-	-	-	-
New Black Top Roads with Storm water drains	51,172	-	-	5,117	15,352	15,352	15,352	-
New WBM Roads with Storm water drains	-	-	-	-	-	-	-	-
Rotary, Junction Improvements Signals	55,220	-	-	5,522	16,566	16,566	16,566	-

Sector	Investment (Rs. Lakhs)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Flyovers etc.								
Procurement of City Buses / Others	-	-	-	-	-	-	-	-
Ring Road - Primary (10.9 km)	15,260	-	4,578	4,578	4,578	1,526	-	-
Ring Road - Secondary (25 km)	17,500	-	5,250	5,250	5,250	1,750	-	-
<b>Street Lighting</b>								
	<b>26,186</b>	-	<b>7,856</b>	<b>7,856</b>	<b>7,856</b>	<b>2,619</b>	-	-
Existing st.lt to LED Based lights	5,952	-	1,785	1,785	1,785	595	-	-
Installation of New LED based Street Lights	20,234	-	6,070	6,070	6,070	2,023	-	-

## 16.6 Urban Poor Sector Plan

With respect to housing and basic services for the urban poor, the key challenges are dilapidated housing and lack of service coverage in terms of individual toilets and social infrastructure facilities.

Sector Goals							
Sector Goals	<ul style="list-style-type: none"> <li>Improve the access to physical and social infrastructure to slum dwellers</li> <li>Develop housing for 100% slum population in the city</li> <li>Develop livelihood strategies to improve the work force participation</li> </ul>						
Design parameters							
Design parameters	<ul style="list-style-type: none"> <li>New houses to households living in kutcha houses and dilapidated structures in extension areas</li> <li>Water Supply – Individual house service connections to all the slum households or group connections</li> <li>Sewerage - Individual house service connections</li> <li>Sanitation – Community toilets</li> <li>Solid Waste Management - Coverage of all slum households under door-to-door collection and awareness campaigns on source segregation</li> </ul>						
Demand Gap Assessment							
Demand Gap Assessment	Component	Existing Levels	Gap (2014)	2021 (Short Term)		2041 (Long Term)	
	Housing for			Demand	Gap	Demand	Gap
		2671	-		65128		65128

	Urban Poor HH residing in Kutcha houses						
<p><i>*Note: This figure is cumulative</i></p> <p><i>Of the total houses 65128, required for the HH residing in the kutcha houses, 19538 (30% of the total requirement) should be provided by 2021.</i></p>							
Desired Outcomes							
Desired Outcomes	Component	2017	2019	2021			
	Housing for the urban poor	60%	100%	100%			
	Adequate access to water supply	80%	100%	100%			
	Access to open drains	80%	100%	100%			
	Access to sanitation	80%	100%	100%			
	% of CC roads	90%	100%	100%			
	Access to UGD	40%	80%	100%			
	Access to health and education facilities	80%	100%	100%			
Action Plans							
Improvement Area	Actions by SMC						
Categorization of slums	<ul style="list-style-type: none"> <li>The slums in extension areas are to be surveyed to understand the status of infrastructure</li> </ul>						
Integrated development of slums	<ul style="list-style-type: none"> <li>Slum networking strategies to be adopted to improve the services in the slums.</li> <li>This would help in building the low cost service in the slums (especially in water supply, sewerage, and SWM sector).</li> </ul>						
Rehabilitation of slums	<ul style="list-style-type: none"> <li>Pucca housing in the feasible location</li> </ul>						
Construction of housing	<ul style="list-style-type: none"> <li>The slums in low lying areas and along the natural drains could be proposed for relocation.</li> <li>A suitable financing strategy could be developed to minimize the burden on the beneficiaries.</li> <li>The beneficiaries could be provided access to banks for availing the long-term housing loans.</li> </ul>						
Access to health and education	<ul style="list-style-type: none"> <li>The health action plan should control the prevalent diseases and reduce the infant mortality rate.</li> <li>Access to emergency medical services should be provided to the BPL population.</li> <li>The education action plan should involve renovation of existing municipal schools and regular awareness campaigns to limit the dropout rates.</li> </ul>						
Livelihood restoration	<ul style="list-style-type: none"> <li>Activity centres to be established for skill development programmes</li> </ul>						

## 16.6.1 Capital Investment Plan

**Table 87: Capital Investment - Urban Poor**

Project	Sub project	Estimated cost in Rs. Crores
Housing for Urban Poor	<ul style="list-style-type: none"> <li>Construction of housing facility (19538 by 2021 and 65128 by 2041) for the urban poor in the city including all basic amenities.</li> </ul>	5210.24
<b>Total investment envisaged (2041)</b>		<b>5210.24</b>
<b>Total investment envisaged for 2021</b>		<b>1563.07</b>

## 16.6.2 Phasing of Investment

**Table 88: Phasing of Investment - Urban Poor**

Sector	Investment (Rs. Lakh)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Housing for Urban Poor</b>	<b>156,307.20</b>							
Housing for Urban Poor		-	31,261	46,892	46,892	31,261	-	-

## 16.7 Urban Environment Sector Plan

Under the eco budget, SMC has already initiated the energy conservation, development of water bodies, and plantation activity in the city. There are three major lakes within SMC limits. Under the national lake conservation program, all three water bodies are being proposed to be preserved with an aim to improve the environment and reduce the pollution in the lakes.

**Table 89: Sector Plan: Urban Environment**

Sector Goals				
Sector Goals	<ul style="list-style-type: none"> <li>Lakes in the city should be developed as a major recreation places in lines of Kankaria Lake in Ahmedabad.</li> <li>Increase the green cover of the city</li> <li>The RSPM levels should be below the prescribed standards at any given point of time.</li> </ul>			
Desired Outcomes				
Desired Outcomes	Component	2017	2019	2021
	Preservation of water bodies	40%	60%	80%
	Ground water recharge	Nil	60%	80%
	Beautification at the water	Nil	60%	80%

	bodies		
Action Plans			
Improvement Area	Actions by SMC		
Mapping of water bodies	<ul style="list-style-type: none"> <li>Mapping of water bodies to be carried out to assess the physical extent, cultural, natural and social values</li> </ul>		
Eviction of encroachments	<ul style="list-style-type: none"> <li>Participatory approach for resettlement of encroachments around the water bodies</li> </ul>		
Construction of rainwater harvesting pits	<ul style="list-style-type: none"> <li>Development of rain water harvesting pits in schools, urban health centres, SMC main and zone offices, parks, reservoirs, stadiums, etc.</li> <li>Making rain water harvesting compulsory in large establishments such as shopping complexes, cinema halls, and function halls</li> <li>Identifying apartments and shopping complexes without percolation pits</li> <li>Motivating apartment owners to install percolation pits</li> </ul>		
Pollution mitigation strategies	<ul style="list-style-type: none"> <li>Increasing the green cover and buffer zones in the city to mitigate air pollution in the city</li> </ul>		
Energy conservation	<ul style="list-style-type: none"> <li>SMC in collaboration with Maharashtra energy development agency (MEDA) may take up energy conservation measures such as solar signalling and street lighting system</li> </ul>		
Impact assessment and monitoring	<ul style="list-style-type: none"> <li>Regular monitoring of air quality, water quality (surface and ground), and noise pollution</li> <li>Carrying out environmental impact assessment prior to implementation of infrastructure projects</li> </ul>		

### 16.7.1 Capital Investment Plan

**Table 90: Capital Investment Plan – Urban Environment**

Project	Sub project	Estimated cost in Rs. Crores
Common Effluent treatment plant (CETP)	<ul style="list-style-type: none"> <li>Construction of three common effluent treatment plants of five MLD capacity each in the industrial estates in the city.</li> </ul>	30.00
Lake Development	<ul style="list-style-type: none"> <li>Re-development of Lakes in the Solapur city (names of the lake)</li> </ul>	21.00
Landscaping of Municipal Gardens	<ul style="list-style-type: none"> <li>Redevelopment and landscaping of 28 Municipal Gardens in the Solapur</li> </ul>	56.00
<b>Total investment envisaged (2041)</b>		<b>107.00</b>
<b>Total investment envisaged for 2021</b>		<b>107.00</b>



## 16.7.2 Phasing of Investment

**Table 91: Phasing of Investment - Urban Environment**

Sector	Investment (Rs. Lakh)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Urban Environment</b>	<b>10,700</b>	-	-	<b>1,070</b>	<b>3,210</b>	<b>3,210</b>	<b>3,210</b>	-
Common Effluent treatment plant (CETP)	3,000	-	-	300	900	900	900	-
Lake Development	2,100	-	-	210	630	630	630	-
Landscaping of Municipal Gardens	5,600	-	-	560	1,680	1,680	1,680	-

## 16.8 Social Infrastructure, Governance, Heritage Sector Plan

As discussed in the assessment chapter, the key challenges are lack of adequate education infrastructure for pre-primary, primary, and higher secondary education. There is a need for health care infrastructure at both neighborhood and city level. Socio-cultural infrastructure like community centers are to be developed in identified wards. Further, as discussed in the cultural resources section, integrated heritage linked city development strategies are also proposed to preserve and reuse the identified heritage structures in the city.

**Table 92: Sector Plan: Social Infrastructure**

Sector Goals	
Sector Goals	<ul style="list-style-type: none"> <li>■ Provide adequate social and cultural amenities for the citizen of the city</li> <li>■ Conservation of tangible and in-tangible heritage of the city</li> </ul>
Demand Gap Assessment	
In order to estimate the demand and gap analysis in the social and cultural infrastructure, the forecast has been carried out as per the URDPFI guidelines. The parameters and demand-gap analysis for social and cultural infrastructure have been presented in section 6 of this report. .	
Action Plans	
Improvement Area	Actions by SMC
Augmentation of education infrastructure	<ul style="list-style-type: none"> <li>■ Development of new schools and renovation of old school buildings</li> <li>■ Identification of land for development of schools in the fringe areas and extension areas</li> </ul>
Augmentation of healthcare infrastructure	<ul style="list-style-type: none"> <li>■ Mapping of the existing health care facility and development of infrastructure on hierarchical basis</li> </ul>
Integrated heritage development and	<ul style="list-style-type: none"> <li>■ Setting up of heritage conservation committee</li> <li>■ Finalize listing of heritage structures in Solapur and identification of</li> </ul>

urban renewal	<p>priority projects for conservation</p> <ul style="list-style-type: none"> <li>▪ Preparation of project reports and obtaining funding approval from the appropriate state and national level agencies.</li> <li>▪ Preparation of book on tangible and intangible heritage of Solapur.</li> </ul>
Redevelopment of old market areas	<ul style="list-style-type: none"> <li>▪ Redevelopment of Laxmi market to improve the existing vending activity</li> </ul>
Development of Social Infrastructure	<ul style="list-style-type: none"> <li>▪ It is proposed to develop the reservation plots under the SMC development plan.</li> </ul>
Improvement of Fire services	<ul style="list-style-type: none"> <li>▪ Preparation of the city level disaster management plan for the city and preparing the ward level heat map depicting the disaster vulnerability of the wards.</li> </ul>
Stray Animals	<ul style="list-style-type: none"> <li>▪ The city administration should set up a city stray animal cell through the support from the city level animal welfare organizations working in the city.</li> </ul>

### 16.8.1 Capital Investment Plan

**Table 93: Capital Investment Plan – Social Infrastructure**

Project	Sub project	Estimated cost in Rs. Crores
Education	<ul style="list-style-type: none"> <li>▪ Development of education infrastructure (pre-primary, primary, secondary and integrated schools) to cater to the poor population of the city.</li> </ul>	777.40
Health	<ul style="list-style-type: none"> <li>▪ Implementation of investment identified for NUHM</li> <li>▪ Development of 500 bedded multi-speciality hospital in Jule Solapur</li> <li>▪ up gradation of urban public health centers in SMC area (15)</li> <li>▪ Development of a low cost medial hostels in Solapur at two locations (200 rooms each)</li> </ul>	319.24
Fire Services	<ul style="list-style-type: none"> <li>▪ Improving the fire services in the city <ul style="list-style-type: none"> <li>◆ Fire Fighter Vehicles</li> <li>◆ Advanced Emergency Rescue Tender</li> <li>◆ Water Browser of 12000 liter capacity</li> <li>◆ Fire Jeeps</li> <li>◆ Turn Table Ladder</li> <li>◆ New Fire Stations</li> </ul> </li> </ul>	54.48
Additional Social Infra as suggested by the stakeholders	<ul style="list-style-type: none"> <li>▪ Providing additional Social Infrastructure in the city. <ul style="list-style-type: none"> <li>◆ Development of Social Infrastructure Plots reserved under Development Plan</li> </ul> </li> </ul>	1766.30

Project	Sub project	Estimated cost in Rs. Crores
	<ul style="list-style-type: none"> <li>reservations</li> <li>◆ Development of Theme park in Solapur</li> <li>◆</li> <li>◆ Development of new vegetable market in the city</li> <li>◆ Development of new crematorium and redevelopment of old one in the city</li> <li>◆ Development of Night Shelters in each of the administrative zone the city</li> <li>◆ Redevelopment of old public Zoo in the city</li> <li>◆ Consultancy services for preparation of street vendor policy for Solapur</li> <li>◆ Construction of New office building in all the zone offices of the Corporation</li> </ul>	
Governance system	<ul style="list-style-type: none"> <li>■ Improvement of city governance systems               <ul style="list-style-type: none"> <li>◆ Implementation of GIS based property tax administration in Solapur Municipal Corporation</li> <li>◆ Survey and assessment of the service level benchmarks in the Solapur Municipal Corporation as prescribed by the MoUD</li> <li>◆ Undertaking the business process re-engineering and preparing a detailed project report for e-governance implementation in Solapur</li> <li>◆ Development of training and capacity building center for Solapur Municipal Corporation</li> <li>◆ Implementation of E-governance modules for the Solapur Municipal Corporation</li> </ul> </li> </ul>	35.65
Integrated Heritage Management in the city	<ul style="list-style-type: none"> <li>■ Rehabilitation and conservation of following Heritage Structures in the city               <ul style="list-style-type: none"> <li>◆ Indira Bhuvan</li> <li>◆ Old Municipal Corporation Building</li> <li>◆ Rippon Hall</li> <li>◆ Laxmi Market</li> <li>◆ Solapur Fort</li> <li>◆ Ganapati Ghat</li> <li>◆ Narsing Girji Mills</li> <li>◆ Hom Maidan</li> </ul> </li> </ul>	37.02
<b>Total investment envisaged (2041)</b>		<b>2990.09</b>
<b>Total investment envisaged for 2021</b>		<b>1061.18</b>

Note: Spatial distribution of these projects is presented in Annexure – 13 Spatial Distribution of CIP Proposals

## 16.8.2 Phasing of Investment

**Table 94: 18.8.2 Phasing of Investment – Social Infrastructure**

Sector	Investment (Rs. Lakh)	2014- 15	2015- 16	2016- 17	2017- 18	2018- 19	2019- 20	2020- 21
<b>Social Infrastructure</b>	<b>106,118</b>	-	<b>19,210</b>	<b>42,288</b>	<b>51,251</b>	<b>46,612</b>	<b>35,660</b>	<b>17,221</b>
Social Infrastructure	44,098	-	8,820	8,820	8,820	8,820	8,820	-
Rehabilitation of Heritage Structures	900	-	90	270	270	270	-	-
Urban Governance/System Modernization	3,565	-	713	1,070	1,070	713	-	-
Health Infrastructure	30,824	-	9,587	9,697	9,445	1,165	930	-
Fire Services	1,828	-	-	731	1,097	-	-	-
Education	24,903	-	-	2,490	7,471	7,471	7,471	-

## 16.9 Strategies for Economic Up gradation of the City

Once a thriving textile town now has major industries closing down and moving away from the Solapur city. The infrastructure development plans presented in the above sections, will indirectly provide a push for the growth of the industries in the city. However, dedicated efforts towards catalyzing the industrial growth are essential for achieving the vision casted for the Solapur - *To develop Solapur in to a Responsive Regional Economic Center*. Section 4 of this report presents the issues faced by the present industrial estate in the city. Following measures suggested, if implemented after thorough deliberations at the local and state level, may contribute to revive the industrial growth in the city.

- Undertake the detailed infrastructure assessment in these industrial estates in the city and prepare a five plan for infrastructure provision to the estates with possible financial support from the state as well as central government. The assessment should also cover what are the issues faced by the industries currently, what are the remedial measures to overcome the issues and action plan for infrastructure provision and implementation of the action plan.
- A city level industrial development committee should be constituted comprising of the officers from the municipal administration, representatives from the industrial associations and district level administration. Such committee will conduct a meeting every quarter and will discuss the process of the action plan implementation and work on the solutions for the hindrances in implementation of the action plan.
- The SMC has recently received a sanction for purchase of 200 buses under the ongoing scheme of Jawaharlal Nehru National Urban Renewal Mission (JNNURM). Of these buses, at least 5-10% of the buses should be dedicated for the transportation of the industrial labors within the city i.e. to and fro from their residencies to their work place.
- Identify the requirement of the water in these industrial estates and if the industries do not require potable water for the industrial use, the SMC should implement the recycling plant for

the collected sewage from the city and the recycled water should be provided / sold to the industrial units.

- Other basic services such as, collection of waste, provision of street lighting should be extended to the industrial estates in the city. Also the SMC should contribute towards construction of the common effluent treatment plants in the industrial estates.
- Presence of the industry in the city is vital for growth of the city, a separate budget provision for infrastructure provision in the industrial areas in the city should be provided each year.
- To create enabling environment for setting up industry in the city, the local as well as state level taxes i.e. property tax, sales tax / service tax may be lowered for new upcoming industries in the city.

## 16.10 Summary of Capital Investments

The total estimated capital investment required for providing efficient services to the present population and future population of the SMC by the year 2041 is Rs. 23,720 Crores. A total of Rs. 8143 Crores is proposed for investment by 2020-21 to cater to infrastructure requirement. The table below presents the summary of sector-wise total investment need and investments.

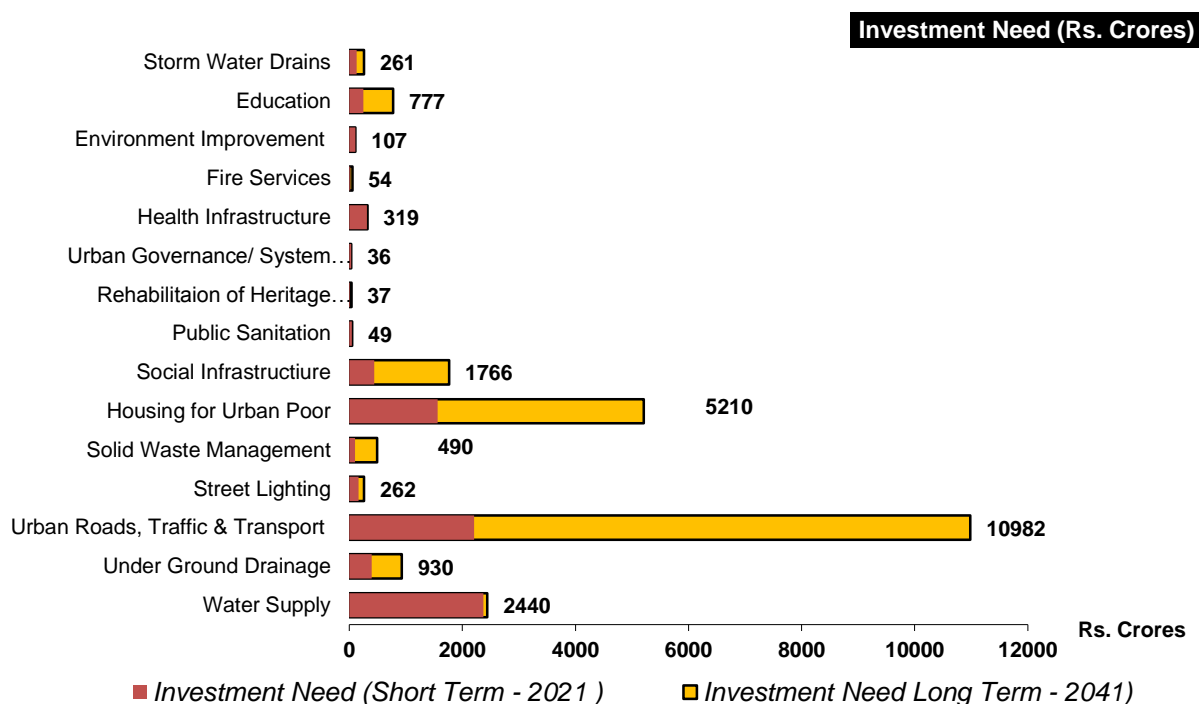
**Table 95: Summary of capital investment (Rs. Lakh)**

Sr N	Sector	Short Term Investment (Rs. Crores)	Long Term Investment (Rs. Crores)	Total Investment (Rs. Crores)
1	Water Supply	2,368.93	71.12	2,440.05
2	Under Ground Drainage	396.65	532.89	929.54
3	Urban Roads, Traffic & Transport	2,209.26	8,772.57	10,981.83
4	Street Lighting	160.69	101.17	261.86
5	Solid Waste Management	103.92	385.80	489.72
6	Housing for Urban Poor	1,563.07	3,647.17	5,210.24
7	Social Infrastructure	440.98	1,325.32	1,766.30
8	Public Sanitation	42.39	6.75	49.14
9	Rehabilitation of Heritage Structures	9.00	28.02	37.02
10	Urban Governance/ System Modernization	35.65	-	35.65
11	Health Infrastructure	308.24	11.00	319.24
12	Fire Services	18.28	36.20	54.48

Sr N	Sector	Short Term Investment (Rs. Crores)	Long Term Investment (Rs. Crores)	Total Investment (Rs. Crores)
13	Environment Improvement	107.00	-	107.00
14	Education	249.03	528.37	777.40
15	Storm Water Drains	130.33	130.33	260.65
	<b>Total</b>	<b>8,143</b>	<b>15,577</b>	<b>23,720</b>

Availability of water has been the top most priority in Solapur. Currently the city administration is providing water only once in two days. Difficulties in providing to all in the city have been a key challenge for the SMC. Considering these factors, in the current city development plan, water supply has been provided with highest priority. Urban Roads, Traffic and Transport and Street Lights have been given the second highest priority and 25% of the total investment has been earmarked towards improving the traffic and transportation scenario in the city. The sector-wise breakup of investment identified for 2021 is presented in the graph below.

**Figure 61: Capital investment for 2021 (Rs. Crores)**



### 16.10.1 Phasing of Investments

The table below presents the phasing of the investment plan and investment components based on priority level and on implementation basis. While doing the phasing, the timeline for preparation of

detailed project reports for the projects where the DPRs are not prepared and necessary approvals has been considered. The detailed project phasing has been discussed in the table below.

**Table 96: Phasing of investment (Rs. Crore)**

Sector	Investment by SMC (Rs. Cr)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Water Supply	2,368.93	-	221.66	565.79	581.02	563.05	437.40	-
Under Ground Drainage	396.65	-	33.47	146.33	145.04	65.62	6.19	-
Urban Roads, Traffic & Transport	2,209.26	-	98.28	286.45	662.78	597.26	564.50	-
Street Lighting	160.69	-	48.21	48.21	48.21	16.07	-	-
Solid Waste Management	103.92	-	30.74	54.93	17.83	0.42	-	-
Housing for Urban Poor	1,563.07	-	312.61	468.92	468.92	312.61	-	-
Social Infrastructure	440.98	-	88.20	88.20	88.20	88.20	88.20	-
Public Sanitation	42.39	-	4.24	12.72	12.72	12.72	-	-
Rehabilitation of Heritage Structures	9.00	-	0.90	2.70	2.70	2.70	-	-
Urban Governance/System Modernization	35.65	-	7.13	10.70	10.70	7.13	-	-
Health Infrastructure	308.24	-	95.87	96.97	94.45	11.65	9.30	-
Fire Services	18.28	-	-	7.31	10.97	-	-	-
Environment Improvement	107.00	-	-	10.70	32.10	32.10	32.10	-
Education	249.03	-	-	24.90	74.71	74.71	74.71	-
Storm Water Drains	130.33	-	-	13.03	39.10	39.10	39.10	-
<b>Total</b>	<b>8,143.41</b>	<b>-</b>	<b>941.31</b>	<b>1,837.85</b>	<b>2,289.42</b>	<b>1,823.33</b>	<b>1,251.49</b>	<b>-</b>

### 16.10.2 Priority Projects

**Table 97: Priority projects for SMC**

Sector	Projects
Water Supply	<ul style="list-style-type: none"> <li>Water supply system components in the extension areas</li> </ul>
Sewerage	<ul style="list-style-type: none"> <li>Treatment capacity for the city for the next 30 years</li> </ul>

Sector	Projects
Solid management waste	<ul style="list-style-type: none"> <li>▪ Development of landfill site with scientific closure mechanism</li> <li>▪ Implementation of door-to-door collection system and segregation of waste</li> <li>▪ Augmentation of fleet and compaction capacity.</li> <li>▪ Development of transfer stations with recycling facility</li> </ul>
Traffic Transportation and	<ul style="list-style-type: none"> <li>▪ Preparation of comprehensive mobility plan</li> <li>▪ Development of the Primary Ring road</li> <li>▪ Flyovers and traffic signalization</li> </ul>
Slum development	<ul style="list-style-type: none"> <li>▪ New housing development for untenable slums and in situ development of projects identified under RAY</li> </ul>
Parking	<ul style="list-style-type: none"> <li>▪ Multi-level parking complex on PPP basis</li> </ul>



## 17. Financial operating plan

The investment capacity of SMC is assessed through a Financial Operating Plan (FOP), which gives a multi-year forecast of finances for a medium term. In line with the phasing of identified investment the FOP has been generated for the same period for SMC. A salient feature of the FOP is that all outstanding dues, including debt and non-debt liabilities if any, are taken into account.

### 17.1 Financial Plan for the city

SMC is the sole responsible for provision of basic services such as water supply, sewerage, solid waste management, storm water drainage, roads and basic services for urban poor within its jurisdictions. Therefore, SMC accounts have been reviewed and further the accounts have been forecasted to prepare the financial plan for the city.

The accounts data of SMC between the years 2008-09 and 2012-13 are used as the basis for determining past trends in revenue and expenditure and arriving at appropriate growth assumptions for each of the income and expense items. After forecasting the revenue account, the capital investments proposed under the CIP are added to the forecast. The FOP is generated to assess the investment-sustaining capacity of SMC.

### 17.2 Methodology

For the preparation of FOP for SMC, we have adopted the following methodology as provided in the revised CDP toolkit (April 2013). The stage wise methodology and the key references has been presented in the below table.

**Table 98: Methodology for City Financial Plan**

Task	Step	Key Stages	Description	Remarks
<b>Task1</b>	<b>Step 1</b>	Defining Objectives	<p>The key objectives have been defined for following key areas.</p> <ul style="list-style-type: none"> <li>◆ Revenue enhancement initiatives</li> <li>◆ Expenditure management initiatives</li> <li>◆ Asset management initiatives</li> <li>◆ Financial Management initiatives</li> </ul> <p>Further, it has been discussed in detailed in the subsequent sections.</p>	The sub sections 17.9 to 17.12 has provided the details
<b>Task</b>	<b>Step 2</b>	Data Collection	<ul style="list-style-type: none"> <li>■ The annual accounts, balance sheets, debt schedules, DCB statements for water and sewerage have been collected from SMC for the past five years.</li> <li>■ The recasting and trend analysis has been carried and the findings have been presented in the financial assessment chapter above.</li> </ul>	Chapter 14 has detailed out the recasting and trend analysis.

Task	Step	Key Stages	Description	Remarks
	<b>Step3</b>	Business-As-Usual scenario --- CFP Version I	<ul style="list-style-type: none"> <li>As a first step in preparation of FoP for the city, we have prepared the Business-As-Usual scenario and provided the overall capacity of SMC to take-up the infrastructure projects.</li> <li>The scenario has been discussed in the section FOP scenario considered</li> </ul>	The sub section 17.6 has provided the details.
	<b>Step 4</b>	Analysis / Interpretation of the results	<ul style="list-style-type: none"> <li>Post finalization of Business-As-Usual scenario, we have carried out the analysis on the revenue and expenditure to check the performance of key items. The same has been presented in the annexure.</li> </ul>	
<b>Task3</b>	<b>Task5</b>	Identification of areas of improvement / reforms	<ul style="list-style-type: none"> <li>We have identified the property tax and water charges are the key revenue source where the reforms can be explored to improve the coverage and collection efficiency and the same has been detailed out in the Revenue enhancement initiatives</li> </ul>	The sub sections 17.7 and 17.9 have provided the details.
	<b>Step6</b>	Select / priorities areas of improvement / reforms	<ul style="list-style-type: none"> <li>Under the revenue enhancement initiatives, we have identified the key reforms to be implemented in the property tax and user charges.</li> </ul>	The sub section 17.9 has provided the details.
<b>Task4</b>	<b>Step7</b>	Finalizing basic assumptions for resource mobilization forecast	<ul style="list-style-type: none"> <li>Key assumptions for the income and expenditure side have been presented in the key assumptions section.</li> </ul>	The sub section 17.4 has provided the details.
	<b>Step8</b>	Ascertain investible surplus for ULB / Parastatals / Development authority	<ul style="list-style-type: none"> <li>Ascertain investible surplus for SMC has been discussed in the investible surplus section.</li> </ul>	The sub section 17.5 has provided the details.
<b>Task5</b>	<b>Step9</b>	Ascertain combined investible surplus CFP Version II	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>	Not Applicable
	<b>Step10</b>	Component-wise allocation of combined investible surplus	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>	Not Applicable
<b>Task6</b>	<b>Step11</b>	Listing of Project Proposals – linkage to CDP	<ul style="list-style-type: none"> <li>The priority project as identified in the CIP section has been linked with the FOP. Further, SMC investment capacity has been tested on various</li> </ul>	Chapter 16 has detailed out the

Task	Step	Key Stages	Description	Remarks
			scenarios.	CIP for SMC.
	<b>Step12</b>	Priorities Project Investments	<ul style="list-style-type: none"> <li>The priority project investment has been finalized in the CIP section further it has been linked with the financial model for the city.</li> </ul>	
<b>Task7</b>	<b>Step13</b>	Preparation of draft CFP --- CFP Version III & Financial Plan report (prioritized project investment loaded on combined investible surplus)	<ul style="list-style-type: none"> <li>The current chapter has detailed out the overall financial plan for the city under various scenarios.</li> </ul>	Chapter 17 has detailed out the CIP for SMC.
<b>Task8</b>	<b>Step14</b>	Ascertain source and amount of funding, external borrowing, debt servicing mechanism, etc.	<ul style="list-style-type: none"> <li>Under the Improved investment capacity with grant plus debt support, we have tested the capacity of SMC to go for debt and external borrowing.</li> </ul>	The sub section 17.8.2 has provided the details.
<b>Task9</b>	<b>Step15</b>	CFP Appraisal and Public Verification	<ul style="list-style-type: none"> <li>We shall present the findings to the stakeholder during the final city level workshop and accordingly we shall take the suggestions on the overall financial plan for the city.</li> </ul>	This section would be presented in the final CDP.
<b>Task10</b>	<b>Step16</b>	Finalization of CFP report	<ul style="list-style-type: none"> <li>Post completion of final city level workshop, we shall discuss with SMC officials and finalize the financial plan for the city</li> </ul>	
<b>Task10</b>	<b>Step17</b>	Annual revision of CFP (linkage to annual capital investment and improvements achieved)	<ul style="list-style-type: none"> <li>We will suggest this step in the way forward section in the final CDP.</li> </ul>	

### 17.3 Financing Strategies for CIP

The project funding structure comprises grants under the UIDSSMT framework (accounting for 90 per cent of the funding); internal resources and loans accounting for the rest. The level of investment that SMC can sustain is determined by studying the overall surpluses/ year-to-year opening balance and debt service coverage ratio. If the debt service coverage ratio - DSCR (amount of surplus available to pay interest and to repay principal that is due) falls below 1.25 (i.e. less than 25 percent cushion), then the investments are reduced gradually till the DSCR exceeds 1.25 in all the years in the forecast period. The main items of income and expenditure, classified into the revenue account and the capital account, are projected in the FOP under the following categories.

#### Categories of FOP Projections

- Revenue Account Receipts:

- ◆ Taxes, Non-Tax Sources, and
- ◆ Grants, Contribution and Subsidies
- Revenue Account Expenditure:
  - ◆ Establishment
  - ◆ Operation and Maintenance
  - ◆ Debt Servicing- Existing and New Loans
  - ◆ Phasing of non-debt liabilities, and
  - ◆ Additional O&M
- Capital Income
  - ◆ JNNURM Capital Grants
  - ◆ Regular State or Central Grants
  - ◆ Debt
- Capital Expenditure

In determining a long-term financial strategy, SMC plans to raise resources and fund the CIP through:

- Grants available under the UIDSSMT Framework (as per cent of investment proposed for funding by 2013-14 in Urban governance and infrastructure sectors - 80 per cent Central Govt. Grants and 10 per cent State Govt. Grants)
- Available internal resources and improving upon the same through
  - ◆ Revision of the Area based Property taxation at certain levels by SMC
  - ◆ Revision of water and sewerage charges at specific intervals
  - ◆ Maintenance of the collection performance of taxes and charges at certain minimum levels for current and for arrears

### 17.3.1 Financial Projections

Current revenue sources are projected under built-in growth assumptions for income and expenditure items, to assess the impact of each such revenue enhancement measure being suggested. The projections also aim at estimating the surplus that will be available for servicing new debt. Part of the surplus, after meeting the additional O&M expenses on newly created assets and infrastructure, is translated into debt size and project size (grant component plus debt component) based on certain assumptions regarding interest rate, repayment method and loan-grant mix.

A spreadsheet FOP model has been customized to depict the financial position of SMC. The investment sustaining capacity of SMC is assessed based on the FOP assumptions. The model was used to calculate future surpluses under various scenarios involving combinations of internal revenue improvement, state support, financing terms, etc.

The standard assumptions under which the projections are carried out and certain expenditure control and revenue augmentation measures proposed in line with the mandatory and optional reforms under the UIDSSMT framework are presented in section 17.4 below.

## 17.4 Investment Sustenance Capacity

Given the existing financial position of SMC, the revenue and capital accounts of SMC are projected against the growth scenario. The FOP is generated from the sustainable investment point of view in line with the current growth trends against the identified investment. It has been estimated that SMC

would require about Rs. 2862.78 Crores to improve the infrastructure for meeting the current gap and medium-term requirement. In order to check the financial capacity of SMC, following assumptions have been considered.

**Table 99: Guiding Factor for Assessing the Sustaining Investment Capacity**

Head	Assumptions	
Surplus (revenue account)	Positive surplus - year on year basis	
DSCR	Greater than 1.25	
<b>Project Financing – for admissible components under New Urban Development Mission</b>		
Project Costing	Unit Cost, with 2% <sup>14</sup> price contingency and 8% Physical contingency	
New/Additional O&M	Water supply	3% of Capital cost
	Sewerage	3% of Capital cost
	Roads	2% of Capital cost
	Storm Drains	1% of Capital cost
	Street lighting	3% of Capital cost
	Urban poor/ Slums	0% of Capital cost
	Solid waste management	5% of Capital cost
	Others	1% of Capital cost
<b>For projects approved under JnNURM (Solapur being a city with population below 10 Lakhs as per Census 2011, it is considered as a UIDSSMT town and is eligible for 90% of grant support from the state as well as central government)</b>		
Grant from Gol	80% of Sanctioned cost	
Grant from GoM	10% of Sanctioned cost	
<b>If Loan for Balance funding</b>	Repayment in 15 years @ 11 % interest rate	
Regular Capital Expenditure	Rs 30-40 Crores per annum (based on average of past years)	
Old Outstanding loans if any	As per existing terms and conditions	
<b>Revenue Expenditure</b>		
Growth in expenditure	Actual average growth with a minimum 8% and maximum of 10% (based on last five years trend)	
Pay Commission Revision	7 <sup>th</sup> Pay commission effective from 2016 and 2022	
<b>Assumption for assessment of SMC's sustainability</b>		
Income Items		
Growth in revenue income	Actual average growth with a minimum 8% and maximum of 10% (based on last five years trend)	
	Minimum of 15% with reform – improved scenario	

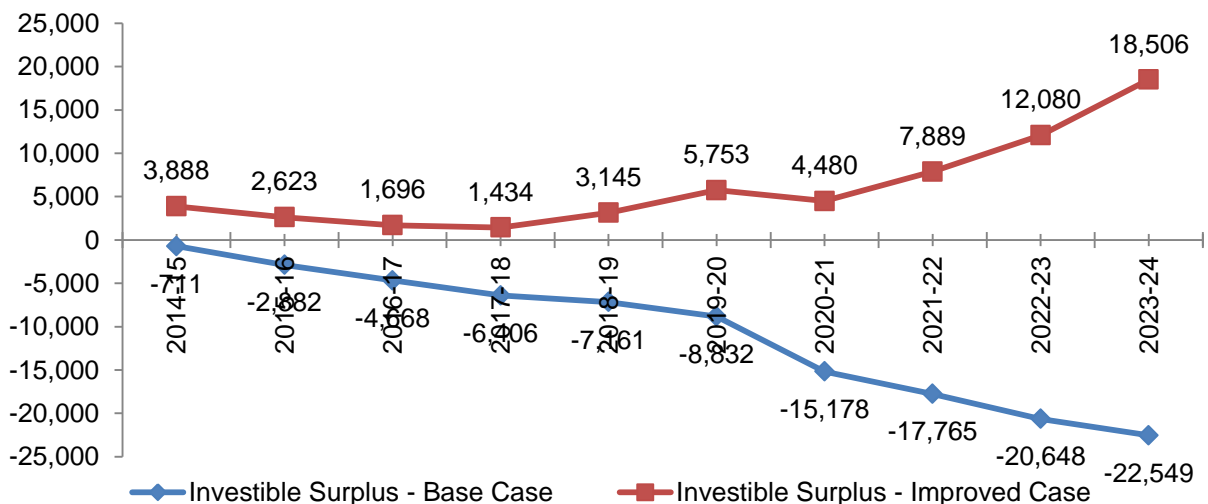
<sup>14</sup> Since in the major investment sectors, the project costs are taken from the detailed project reports already prepared by the corporation, the contingency amount has considered as only 2% considering the cost mentioned in the DPRs are inclusive of contingencies.

Head	Assumptions
<b>Property Tax</b>	
Annual growth in Assessment	1.50 % per annum
Revision of Tax	15% every 4 years
Collection Performance	85% or current average whichever is higher by 2020-21
<b>Income Items- Water Supply</b>	
Individual Water Connections	1.25% per annum
Water Tariff revision	Rs 112 per month to Rs 283 per month per connection
Next Revisions	By 10% every five years
Collection Performance	68% by 2020-21 in business as usual scenario. 90% by 2020-21 as reform
Regularization of Unaccounted for Connections	Inclusion over a 3 year period starting 2014-15
Installation of water meter	Installation fees for water meter Rs. 4000/-
<b>Income Items- Sewerage</b>	
Sewerage connections	80% of PT assessments to start with thereafter 15% new connections per year to achieve full coverage
Next revisions	By 10% every three years
Collection Performance	85% by 2020-21

## 17.5 Investible Surplus

Based on the various assumptions, the investible surplus has been estimated for the city in base and improved case scenarios. As per the base case scenario, on an average, SMC will have negative investible surplus over the next 10 years. At the same time, in the improved case scenario, on an average, SMC will have average investible surplus of Rs. 40.18 Crores. Following figure presents the investible surplus in base and improved case scenarios.

**Figure 62: Investible surplus – Base and improved case**



## 17.6 Business as Usual Scenario

**Business as usual scenario:** In this scenario, it is assumed that SMC should do business as usual and endeavor to implement the capital projects without any suggested reforms in the CDP. This scenario will indicate the overall capacity of SMC to take up projects on business as usual basis.

### Investment capacity: Nil

The key considerations in this scenario are as follows:

- SMC will not take up any reform measures to improve the revenues.
- The income and expenditure growth would follow the past trends.
- The regular capital expenditure would grow at 10% on year-on-year basis.
- SMC should maintain the minimum closing balance of Rs 10 Crores on year on year basis

**Figure 63: FOP - Business as usual scenario**

Financial Year ----->	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
	<i>Figures in Rs. Lakhs</i>					<i>Projection</i>						
<b>Summary</b>												
Opening Balance	3533.06	2182.48	6237.82	8294.19	8735.77	7862.73	6297.82	5969.09	7723.51	7625.52	10298.74	16459.31
1 Revenue Income	28111.68	32259.77	35727.89	38586.82	42536.90	47342.94	54053.84	60901.09	68709.36	77661.24	87931.78	101028.39
2 Revenue Expenditure	24412.50	26687.71	31839.96	35964.01	40840.90	45909.31	50908.97	55148.24	64229.76	69771.99	75852.03	82522.30
a Surplus/Deficit- Revenue Account	3699.18	5572.06	3887.93	2622.80	1696.00	1433.63	3144.87	5752.85	4479.60	7889.26	12079.75	18506.10
b Operating Ratio	0.87	0.83	0.89	0.93	0.96	0.97	0.94	0.91	0.93	0.90	0.86	0.82
c Debt Servicing Ratio	0.02	0.02	0.04	0.06	0.10	0.12	0.13	0.11	0.10	0.09	0.08	0.07
3 Capital Income	6142.27	33114.26	61957.05	79979.86	68982.41	36953.40	8231.23	8642.79	9074.93	9528.68	10005.11	10505.37
4 Capital Expenditure	11192.03	34630.99	63788.60	82161.08	71551.45	39951.94	11704.83	12641.22	13652.52	14744.72	15924.29	17198.24
d Surplus/Deficit- Capital Account	5049.76	1516.73	1831.55	2181.23	2569.04	2998.54	3473.60	3998.43	4577.58	5216.04	5919.18	6692.87
e Overall Surplus/Deficit- Municipal Account	1350.58	4055.34	2056.38	441.58	873.04	1564.91	328.73	1754.42	97.99	2673.22	6160.57	11813.23
f Closing Balance	2182.48	6237.82	8294.19	8735.77	7862.73	6297.82	5969.09	7723.51	7625.52	10298.74	16459.31	28272.53

*Note: Please refer Annexure for detailed FOP sheet*

## 17.7 Improved Case Scenario – Reforms Implementation

In this scenario, it is assumed that SMC shall take up revenue improvement measures such as property tax and water charge coverage and collection efficiency improvement as more particular elaborated in section 17.9 of this report. Further, it is assumed that SMC shall receive capital grants from the state and central governments (from New Urban Development Mission). SMC shall endeavor to implement the capital projects. This scenario will indicate the overall capacity of SMC to take up projects on improved case scenario with grant support.

### Investment Capacity: Rs. 159 crores

The key considerations in this scenario are as follows:

- SMC is going to undertake reforms leading to improved financial sustenance capacity.
- The reforms are especially in the areas of property tax and water charges.
- SMC shall receive grant from the state and central governments for the approved projects (New Urban Renewal Mission).
- The regular capital expenditure would grow at 3% on year-on-year basis.
- SMC should maintain the minimum closing balance of Rs 10 Crores on regular basis.

### Property Tax

- On immediate basis, reforms are to be implemented in property tax to improve the coverage and collection efficiency
- State government should revise the property tax rate
- the property tax rate should be increased about 15% every three years
- Identified the poor performing zone in term of recovery of arrears
- Restructure the property tax department

Figure 64: Improved Case after Reforms

Financial Year ----->	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	
	<i>Figures in Rs. Lakhs</i>					<i>Projection</i>							
<b>Summary</b>													
1	Opening Balance	3533.06	2182.48	4361.86	3828.86	1584.02	13.33	417.59	6304.58	14274.71	20392.44	29281.38	41657.66
1	Revenue Income	28111.68	32259.77	35727.89	38586.82	42536.90	47342.94	54053.84	60901.09	68709.36	77661.24	87931.78	101028.39
2	Revenue Expenditure	24412.50	26687.71	31156.46	34088.03	37302.60	40827.63	44693.25	48932.53	58014.05	63556.27	69636.31	76306.58
a	Surplus/Deficit- Revenue Account	3699.18	5572.06	4571.43	4498.79	5234.30	6515.30	9360.59	11968.56	10695.31	14104.97	18295.47	24721.81
b	Operating Ratio	0.87	0.83	0.87	0.88	0.88	0.86	0.83	0.80	0.84	0.82	0.79	0.76
c	Debt Servicing Ratio	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3	Capital Income	6142.27	14750.86	24562.02	30360.80	26709.58	15839.03	8231.23	8642.79	9074.93	9528.68	10005.11	10505.37
4	Capital Expenditure	11192.03	18143.54	29666.45	37104.43	33514.56	21950.07	11704.83	12641.22	13652.52	14744.72	15924.29	17198.24
d	Surplus/Deficit- Capital Account	5049.76	3392.69	5104.43	6743.63	6804.99	6111.04	3473.60	3998.43	4577.58	5216.04	5919.18	6692.87
e	Overall Surplus/Deficit- Municipal Account	1350.58	2179.38	533.00	2244.84	1570.69	404.26	5886.98	7970.14	6117.73	8888.93	12376.28	18028.94
f	Closing Balance	2182.48	4361.86	3828.86	1584.02	13.33	417.59	6304.58	14274.71	20392.44	29281.38	41657.66	59686.60



## 17.8 Improved Case Scenario – Reforms and Debt

### 17.8.1 Reforms

In this scenario, it is assumed that SMC shall take up revenue improvement measures such as property tax and water charge coverage and collection efficiency improvement. Further, it is assumed that SMC shall receive capital grants from the state and Government of India under the new Urban Development Mission. SMC should endeavor to implement the capital projects. This scenario will indicate the overall capacity of SMC to take up projects on improved case scenario with grant support.

The key considerations in this scenario are as follows:

- SMC is going to undertake reforms leading to improved financial sustenance capacity.
- The reforms are especially in the areas of property tax and water charges.
- SMC shall receive grant from the state and central governments for the approved projects new Urban Development Mission.
- The regular capital expenditure would grow at 10% on year-on-year basis.

### 17.8.2 Debt

In this scenario, it is assumed that SMC shall take up revenue improvement measures such as property tax and water charge coverage and collection efficiency improvement. Further, it is assumed that SMC shall receive capital grants from the state and central government (new Urban Development Mission). Further, SMC shall opt for loan to take up the capital works. This scenario will indicate the overall capacity of SMC to take up projects on improved case scenario with grant and debt support.

#### Investment Capacity: Rs. 443 Crore

- SMC is going to undertake reforms leading to improved financial sustenance capacity.
- The reforms are especially in the areas of property tax and water charges.
- SMC shall receive grant from the state and central governments for the approved projects (JNNURM- II).
- SMC shall take loan from external sources to implement the investment plan.
- SMC may take Rs. 92 Crores as loan from external borrowings.
- SMC should maintain the minimum closing balance of Rs 10 Crores on year on year basis.

#### Property Tax

- On immediate basis, reforms are to be implemented in property tax to improve the coverage and collection efficiency
- State government should revise the property tax rate
- the property tax rate should be increased by 15% every three years
- Identified the poor performing zone in term of recovery of arrears
- Restructure the property tax department

#### Water Charges

- Increase the base tariff in every three years, at 15%.
- Assess the different user groups' ability to pay for different services through occasional surveys and establish affordability levels, especially among low-income groups.
- Increase coverage (base) of users
- Reduce losses (commercial and technical losses)
- Improve the method of measurement of service

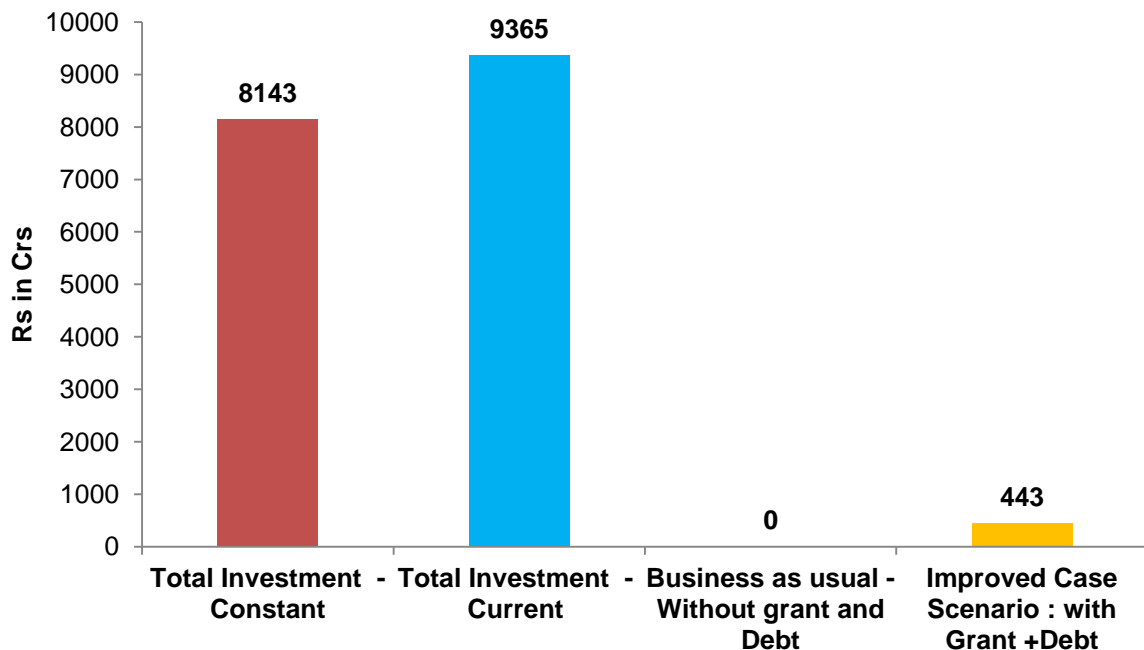
**Figure 65: Improved Case after Reforms and Debt**

Financial Year ----->	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
	<i>Figures in Rs. Lakhs</i>					<i>Projection</i>						
<b>Summary</b>												
Opening Balance	3533.06	2182.48	6237.82	8299.41	8755.31	7909.28	6383.16	6101.88	7903.75	7853.21	10573.87	16781.89
1 Revenue Income	28111.68	32259.77	35727.89	38586.82	42536.90	47342.94	54053.84	60901.09	68709.36	77661.24	87931.78	101028.39
2 Revenue Expenditure	24412.50	26687.71	31834.75	35949.69	40813.89	45870.52	50861.52	55100.79	64182.32	69724.54	75804.58	82474.85
a Surplus/Deficit- Revenue Account	3699.18	5572.06	3893.14	2637.12	1723.01	1472.42	3192.32	5800.30	4527.04	7936.70	12127.20	18553.55
b Operating Ratio	0.87	0.83	0.89	0.93	0.96	0.97	0.94	0.90	0.93	0.90	0.86	0.82
c Debt Servicing Ratio	0.02	0.02	0.04	0.06	0.10	0.12	0.13	0.11	0.10	0.09	0.08	0.07
3 Capital Income	6142.27	32910.71	61535.79	79423.60	68512.82	36731.15	8231.23	8642.79	9074.93	9528.68	10005.11	10505.37
4 Capital Expenditure	11192.03	34427.44	63367.33	81604.83	71081.86	39729.69	11704.83	12641.22	13652.52	14744.72	15924.29	17198.24
d Surplus/Deficit- Capital Account	5049.76	1516.73	1831.55	2181.23	2569.04	2998.54	3473.60	3998.43	4577.58	5216.04	5919.18	6692.87
e Overall Surplus/Deficit- Municipal Account	1350.58	4055.34	2061.60	455.90	846.03	1526.12	281.28	1801.87	50.54	2720.66	6208.02	11860.68
f Closing Balance	2182.48	6237.82	8299.41	8755.31	7909.28	6383.16	6101.88	7903.75	7853.21	10573.87	16781.89	28642.56

### 17.8.3 Summary

Further, the results of the above scenarios have been presented in the figure below. The overall short term investment estimated is Rs. 8143.41 Crores (on constant prices). However, as per the current prices, the estimated investment would be Rs. 9364.51 Crores (which includes the cost escalation and physical contingencies). It is observed that SMC may be in a position to undertake projects of Rs. 443<sup>15</sup> Crores post implementation of financial improvement reforms and raising debt to fund its own share.

- Business as usual scenario: Nil
- Improved investment capacity with grant plus Debt support: Rs 443 Crores

**Table 100: Financial capacity – Scenarios**


<sup>15</sup> As per the assessment of the financial position and suggested revenue improvements in SMC, the Corporation can take up the additional investment in addition to their regular capital investment. Thus, the aggregate capital investment in the SMC is higher than suggested here.

## 17.9 Revenue Enhancement Initiatives

Local body tax, property tax, water charges, sewerage charges, and development charges are the key own sources of revenues of SMC. These revenues are performing within the range and account for 60% of the total revenue income. However, there is scope for further improvement of these revenues in order to enhance the overall financial sustainability of SMC. Following sections describe the revenue enhancement measures for key revenue sources such as property tax and water charges.

**1. Property tax:** The revenue enhancement measures for property tax are categorised into the following four categories:

**a) Policy-level interventions:**

- ◆ The property tax rate is revised by the state government every five years. Hence, it is suggested to change the rate in every three years. Also, the system should be developed in such a way that the changes should be reflected in the demand bills without any human intervention.
- ◆ It is also suggested that the property tax rate should be increased about 15-25% every three years.
- ◆ In addition to the property rate, as part of the property tax, SMC collects water tax, drainage tax, and sanitation cess. Hence, it is suggested that the state government should amend the municipal laws if required to enhance the percentage of water and other tax rates. For instance, as per the existing municipal laws, SMC can only levy 5% as water charges. However, this can be enhanced to 10% by considering the huge capital works to be taken up by SMC in near future.
- ◆ The state government should take appropriate steps for the revision and accordingly implement the same to enhance the revenues.

**b) Recovery of arrears**

- ◆ Identified the poor performing zone in term of recovery of arrears
- ◆ Prepared the list of defaulters with outstanding arrears <=Rs 10,000
- ◆ Prepared the action plan to issue of warrant notices
- ◆ Carried out daily the monitoring of each tasks
- ◆ The recovery staff provide the sample warrant notices to defaulters

**c) Revision of tax calendar**

- ◆ Preparation of tax demand bills latest by 30th April of the respective year
- ◆ Distribution of property tax demand bills should happen during 1<sup>st</sup> to 31<sup>st</sup> May of the respective year. Registration of email addresses for receipt of bills through emails should be explored by giving a rebate of a fixed amount to those who are willing receiving and pay bills through emails and online payment system.
- ◆ 30 days grace period should be given for demand bills served from 1<sup>st</sup> to 30<sup>th</sup> June of the respective year.
- ◆ Necessary changes should be made in tax software and pre-printed stationery to show the per day penal interest as per the Maharashtra Municipal Corporations Act 2012.
- ◆ The tax collection counters should be opened at each and every zone office.
- ◆ As soon as grace period ends, the ward-wise list of tax defaulter along with the demand notice should be made available.
- ◆ With rationalization of the tax calendar, various tax processes and reduction in the work load of tax personnel; it will be possible to do work division of personnel.

- ◆ In the light of above, daily targets should be provided to each team working in the tax administration.
- ◆ Monitoring of the targets vs. actual should be carried out.

#### d) Restructuring of Property Tax Department

- ◆ Current structures bifurcates the property tax department in to three distinct divisions, core city area, extension area and slums area. This administration pattern should be abolished immediately and property tax zones should be created considering the density of properties.
- ◆ The function of the department should be bifurcated in following main categories; assessment, billing and collection, appellate, and vigilance.
- ◆ The proposed structure is based on a functional-cum-geographical approach.
- ◆ The four functions are to be managed independently by different senior officers.

#### 2. Water charges: The revenue enhancement measures for water charges are broadly categorised into the following four categories:

- ◆ Increase coverage (base) of users
- ◆ Reduce losses (commercial and technical losses)
- ◆ Improve the method of measurement of service
- ◆ Improve billing and collection efficiency

#### Water tariff

- ◆ Increase the base tariff in every three years, at 15%.
- ◆ Assess the different user groups' ability to pay for different services through occasional surveys and establish affordability levels, especially among low-income groups.
- ◆ It is always recommended to ensure volumetric billing wherein the user is charged based on consumption. However, in the absence of measurement systems, a simple telescopic flat tariff system can be followed until the measurement systems are in place. In the case of services like waste management, the user charges are flat tariffs only.
- ◆ On determining the tariff structure, including cross subsidies and inflationary trends, SMC should prepare a progressive tariff rationalization plan.
- ◆ While preparing the tariff rationalization plan, care should be taken to commit to progressively improving efficiencies by reducing losses and improving customer services, which can significantly reduce the tariff impact on the users. Reducing commercial losses primarily by improving management efficiency by way of improving billing and collection systems would require minimal time and capital investment. However, reducing physical losses would require some investments, which need to be planned and budgeted for.
- ◆ Tariff increases due to natural inflation shall preferably be automatic and should be implemented at least annually through automatic annual indexation. Any increase beyond normal inflation should be planned, and agreed among the SMC and with citizen groups.
- ◆ If the cost of collecting a charge, say every month, exceeds the amount collected, an alternative charging mechanism should be determined either by integrating with an annual tax or by other means.

#### O&M recovery

The first step in implementing user charge reform is to understand the real costs of operation and maintenance for each service. SMC should ring-fence all the related costs pertaining to a specific service with clear demarcation in capital and revenue accounts. This permits the identification of the

real costs for O&M so that the unit costs, which need to be recovered from the users, can be assessed for the respective service.

### 3. Non-Tax Revenue

Of the total revenue income, the non-tax revenue contributes only 10-15% over the assessment period. The corporation may focus towards enhancing the revenue from non-tax items as presented below;

- Designation certain areas as paid parking areas and changing per hour parking fees to the users.
- Development of parking complexes along with commercial development on PPP basis and the revenue from the user charges can be retained by the corporation.
- Revenue from the incorporation of user charges for solid waste management may be considered by the SMC.
- SMC may consider developing street hawkers policy for the city and designate specific hawking zones. The hawking licenses may be renewed once a year by the SMC to generate additional revenue for the SMC.
- SMC may also consider preparing an advertisement policy in the city and sell the space for advertisement to generate revenue for the corporation.

## 17.10 Expenditure Management Initiatives

Over the review period, the revenue and capital expenditure of SMC has increased. In order to reduce the revenue and capital expenditure at SMC, following key initiatives are to be taken up.

### Reduction in establishment and O&M expenditure

- Outsourcing of certain functions: SMC should explore outsourcing of some functions in order to reduce the establishment expenditure.
- For instance, SMC can outsource the maintenance of public toilets, parks, and other play grounds.
- Moreover, SMC can outsource the clerical posts such as data entry operator and clerks to reduce the establishment cost.
- SMC may consider providing operation and maintenance contracts to the private players to bring in system efficiency and reduce the O&M expenditure. The O&M contracts should cover the performance standards for the assets being contracted out for O&M.

## 17.11 Asset Management Initiatives

The establishment of linkage between the asset creation and asset management should be through a series of reforms for project sustainability. SMC should ensure adequate funds to meet the deficiencies in urban infrastructural services.

In order to maintain the assets over the project cycle, SMC should allocate 5-10% of funds for operation and maintenance of the project components. For water supply projects, the O&M cost would be 3% of the project cost, and this would be on a recurring basis.

### Depreciation account/fund

SMC should initiate the practice to maintain the depreciation account in order to replace the existing asset with a new asset post its life cycle.

### Key steps to be taken by SMC for better management of assets

- SMC should focus on department wise budget and O&M cost for newly created assets,
- Explore the best practice to reduce the O&M cost on sewerage and solid waste management
- Carry out water and energy audit to reduce the O&M cost and water leak detection
- Study the existing status of the assets of key sectors, prepare a tangible action plan for the maintenance of assets, provide the replacement list for the assets
- Conduct workshops/trainings for the staff on management of O&M, best practices across the states
- Organize study tours for the staff and elected representatives for effective implementation of reforms for full O&M recovery
- Latest techniques and technology for management (inventory, maintenance cycle, replacement time, etc.) of municipal assets.
- Conduct trainings in the area of sewerage, asset management, new techniques in operation and maintenance of STPs, and maintaining the power factors during the peak time

## 17.12 Financial Management Initiatives

In order to implement the identified projects over the project cycle, SMC has to take-up the financial management initiatives for sustainable implementation of the projects. The key initiatives are as follows.

- First and foremost, the accounts department of SMC should maintain the separate account for the project. The financial transactions such as deposit the grants and release the payments should be carried out thorough the project account.
- SMC may consider releasing quarterly expenditure amounts in to the project based on the expenditure planned by the respective department implementing the project.
- Cost audit of the projects being implemented by the department should be undertaken to curtail the inflated project costs if any.
- Transfer the part of the revenue surplus (own source of revenues) to the project account to implement the project
- Internal audit of the project accounts has to be carried out on quarterly basis
- External audit may be carried on annual basis or at the end of the project implementation.

## 17.13 Land Resource Leveraging

SMC may focus on preparing the inventory of available land in the city in order to explore the land based financing offers to implement the infrastructure projects. Following steps are to be taken up SMC.

- SMC should initiate the inventory of the land parcels available in the city. Further, SMC should create the database of the same.
- SMC should identify the land parcels to be withheld by the SMC for the commercial purpose in future i.e. land parcels along the main roads, transport corridors etc.
- SMC should crosscheck the proposed land use as per the zonal development plan. If required, SMC needs to initiate for the land use conversation.
- May explore these land parcels for development affordable housing projects, parking projects, real estate projects and convention centers on PPP basis

## 17.14 Key Conclusion

Overall, on short-term basis, SMC requires around Rs. 1749 Crores to improve the municipal services in the city. However, as per the business as usual scenario, SMC has the financial capacity about Rs. 157 Crores to take up the infrastructure projects.

Given the importance of Solapur in the region, it is very important to improve the basic infrastructure facilities to attract the investment and industries in the city and further to boost the economic development in the region.

Following key steps to be taken by SMC to achieve the improved case scenario investment:

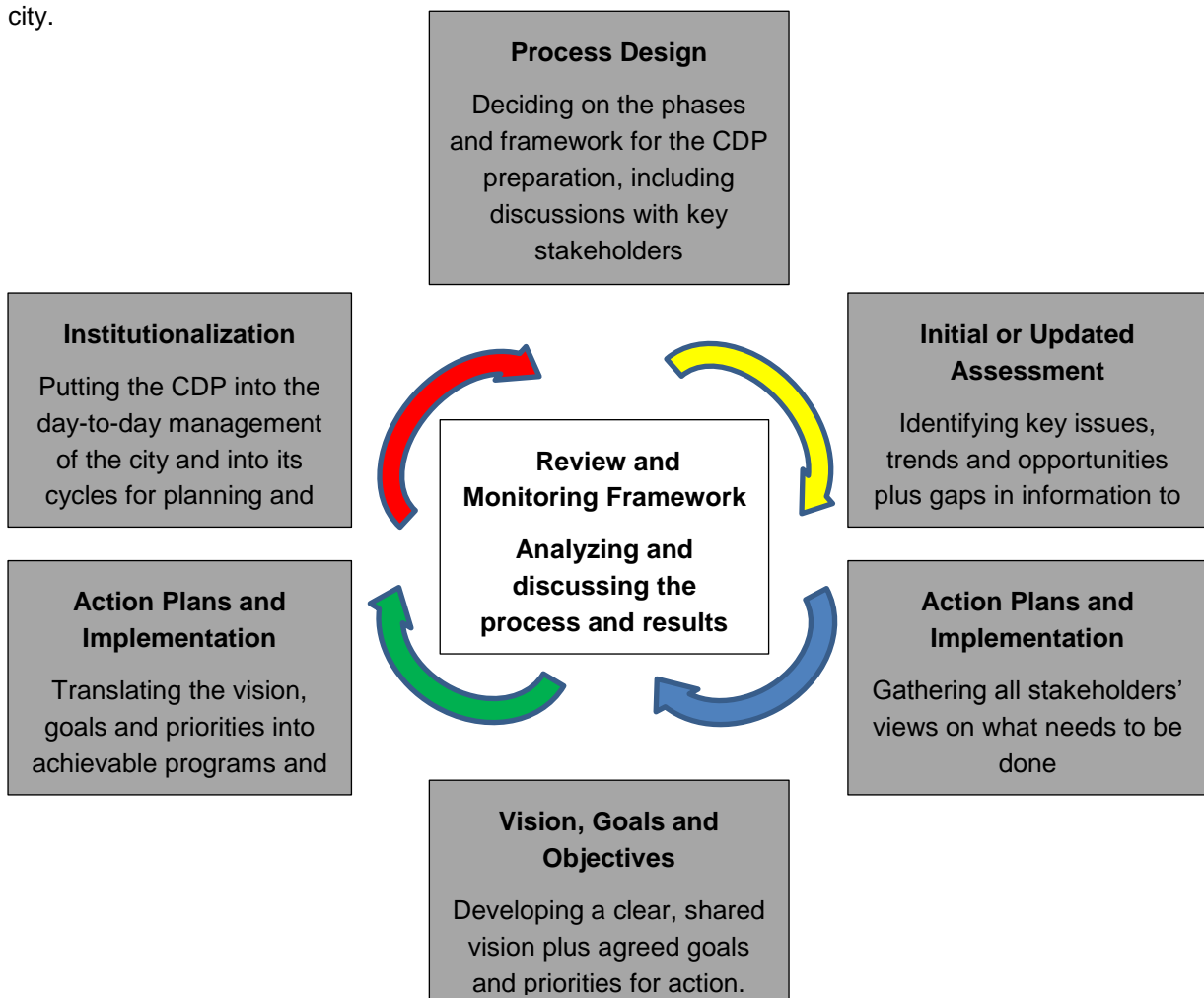
- **Property Tax:** On immediate basis, general assessment of the properties to be conducted by the department to identify the actual number of properties in the city. Post the general assessment, the reforms are to be implemented in property tax to improve the coverage and collection efficiency; the reforms could be policy levels change to streamline the department.
- **Water and Sewerage:** Water and sewerage tariff structure is to be revised immediately. SMC should explore the volumetric tariff structure for the metered water connections.
- **SWM Charges:** SMC should levy the user charges on SWM services – SMC may explore collecting the user charge as a part of property tax.
- **Establishment Expenditure:** SMC should explore the outsourcing of certain functions to reduce establishment expenditure.
- **O&M new assets:** SMC should ensure that the construction contracts of the large scale projects (WTP, STP, and SWM plant) covers a provision of operation and maintenance of the project assets by the contractor for a period of 5-8 years after the test run.
- **Regular Capital works:** SMC should curtail the regular capital expenditure over the next 5-10 years. SMC should take up only priority works in wards.
- **PPP route:** SMC should explore the PPP route to implement either the projects or project components.
- **Capacity Building:** As mentioned in the note in section 17.8.3 it is very important that SMC, to implement the projects envisaged under the current CDP need substantial external support. However, building internal capacity for project implementation is also necessary. SMC should keep on imparting training to the staff on various aspects starting from technical to managerial skills.
- **Study Tours / Exposure visits:** SMC should organize study tours to know the best practices in the sectors and also to understand the challenges faced by others cities in the implementation of projects and reforms and how to mitigate them.

## 18. Review and Monitoring Framework for CDPs

The review and monitoring and framework has been designed to help cities integrate Monitoring mechanisms into their city development plan (CDP) from the initial phases. Monitoring & Review is an important tool to enable cities to determine whether their CDP is achieving its vision and goals and realizing its intended outcomes or not. It is a tool that shall enable cities to monitor the progress on the plan at regular intervals.

The information generated by Monitoring can be used to provide information and support for the implementation of CDP. It shall help in strengthening the downstream project implementation, undertaking programme and investment activities, and devising strategies for future planning initiatives. A basic principle of the CDP approach is that the way in which the CDP is developed and the development issues that it addresses are determined by each city and community to meet their own needs. There is no 'one size fits all' approach to designing and implementation of CDP.

The framework mentioned below clearly lays down the broad principles that need to be fine-tuned based on the city specific needs and inputs from various officials at the city level to develop for each city.





## 18.1 Framework for Evaluation

In the context of the ever changing landscape of the developments in the city, the impacts on the growth of the city will have wide ramifications if it is not factored into the City Development Planning process in a dynamic manner. The CDP should have a fixed time frame for its implementation, and shall be followed by a review to study and analyze the impact of the implementation of the plan, in order to make mid-term course corrections, wherever necessary. A monitoring mechanism should also be established for measuring the identifiable indicators provided in the CDP for each sector and there after implementation of CDP can be measured.

The table below gives a framework for updating and reviewing CDPs; this needs to be followed as per the revised tool kit.

**Table 101: Framework for Monitoring of various components in the CDP**

Sr. No.	Framework for Updating and Reviewing City Development Plan (CDP) to make it a living document							
	Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1	Reviewing CDP Document	√					√	
2	Community and Stakeholder Consultation	√		√		√		√
3	Data Update and Mapping the City	√						
4	Capacity Building	√	√	√	√	√		
5	Planning Building Regulations Reforms	√						
6	Property Tax Reforms	√						
7	Institutional Reforms	√	√	√	√	√		
8	Financial Reforms	√	√	√	√	√		
9	Sectoral/Ward Development Plans	√						
10	Review of Project Priorities	√		√		√		
11	Financial Operating Plan	√	√	√	√	√		
12	Capital Investment Plan	√	√	√	√	√		

Source: Revised City Development Plan

## 18.2 Timeline and Periodicity of Evaluation

To make CDP as a living document, it is essential to understand that the city landscape, growth source as well as direction keep changing with time. Hence, the CDP should have a fixed time frame for its implementation, and shall be followed by a review to study and analyze the impacts of the implementation in order to make mid-course corrections, wherever necessary. The monitoring

mechanism should be on the activities based on the identified indicators in each sectors in the CDP. Some of the identified activities that could be monitored are given below.

### **18.3 Reviewing of the CDP Document**

The foremost thing that comes up is the reviewing of the CDP document. As the city's conditions may change after few years, the CDP needs to be reviewed and evaluated after a particular time before a new development plan is proposed. It is necessary to identify the sectors that are growing and sectors that are lagging, to achieve the vision framed for the city. The CDP is prepared for a long term vision for 30 years and the investment plan is prepared for a time frame for 7 years. Thus it mandatory that review of the City Development Plan is taken up after every five years.

#### **18.3.1 Engaging with Community and Stakeholders' Consultation**

CDP focuses on the holistic development and betterment of the city as looked upon by various communities and stakeholders. Therefore, it is very important to keep consulting with them about the process of the work to be undertaken to achieve the framed vision for the city. This could be done by conducting a meeting every alternate year, i.e., once in every two years. The feedback should be incorporated and the shared with citizens through a common platform like website etc.

#### **18.3.2 Data Update and Mapping of the City**

In case of any major changes in the city limits/boundaries, a complete data updation exercise should be carried out for effective implementation. Therefore, data updates and mapping of the city become very essential. This should always be done before the preparation of the CDP.

#### **18.3.3 Capacity Building**

Capacity building initiatives should focus on understanding the areas where in capacity needs to be built in terms of project implementation, reform implementation etc. The regular assessment of the needs can ensure better capacity building measures to be adopted by city.

### **18.4 Assessment of Reforms and Project Implementation**

The CDP Technical and Policy Committee should be involved in the monitoring and evaluation of the CDP across various components.

#### **18.4.1 Assessment of Reforms and Project Implementation**

- Regular assessment of reform and project implementation is necessary for the city to achieve its vision.
- Reforms should be framed for all the institution responsible for the development process of any city. These reforms are very important for all the institution to work in a synchronized manner for the development of the city. Hence, they must be monitored every year.

### 18.4.2 Financial Reforms

- Finance being a most important part for any ULB of the city. The funds are to be utilized according to the kind of development approach adopted to achieve the city vision. Therefore, financial reforms must be monitored and evaluated on yearly basis.

### 18.4.3 Property Tax Reforms

- All the properties abiding under the ULB should be carefully mapped and marked, as it is an important source of revenue for a city. Hence it should be prepared before the implementation of the CDP and monitored at frequent intervals.

### 18.4.4 Sector /Ward Development Plans

Vision of the city could only be implemented at a macro level only if there is prominent change at the micro level like at the ward level or the sectoral block level planning. To make a CDP document comprehensive in approach, the M&E of these micro level plans should be evaluated at the very beginning and impact should be reviewed in the very first year.

### 18.4.5 Review of the Project Priorities

The project prioritized in the CDP to achieve the vision may have to undergo changes in their priority order once the implementation of the CDP starts. The reason may be due to any practical issues that arise during project implementation or any other complication. Hence, it is very important to monitor and evaluate the projects that are underway and projects that need to be taken up for the development of the city. The updating process should be regular, but M&E should be done every alternate year.

## 18.5 Financial Operating Plan and Capital Investment Plan

A capital investment plan (CIP) provides a detailed understanding of anticipated investments into tangible capital assets. The assets include basic facilities, services, and installations needed for the functioning of the community, such as bridges, roads, water, and wastewater systems. This helps the ULBs to formalize their priority setting and decision making process. Therefore, the M&E of CIP should be done on regular basis every year.

A financial operating plan (FOP) outlines the revenues and expenses over a period of time. An FOP uses past performances, incomes, and expenses to forecast what to expect in the following years. It then incorporates the past and recent trends into the planning so as to most accurately forecast what is to come. Therefore, for city development plan in a proper way, it is necessary to monitor and evaluate the FOP regularly every year.

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## ANNEXURE-1 – Detailed FOP Scenarios (refer section 18.6 to 18.8)

### Annexure 1: Detailed FOP- Base Case

#### 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Esti mat e	Projection											
<b>Summary</b>																			
	<b>Opening Balance</b>		2,134	(2,001)	1,647	7,585	2,569	(929)	(1,301)	(5,228)	(11,426)	(19,875)	(30,542)	(43,504)	(58,920)	(81,344)	(107,062)	(136,433)	
1	Revenue Income		20,038	15,740	21,872	23,901	25,965	27,832	29,061	30,072	31,422	33,160	35,205	37,515	40,167	43,055	46,184	49,583	
2	Revenue Expenditure		19,955	15,669	21,800	21,718	24,412	26,688	31,156	34,088	37,303	40,828	44,693	48,933	58,014	63,556	69,636	76,307	
	a Surplus/Deficit- Revenue Account		83	70	73	2,184	1,552	1,144	(2,095)	(4,016)	(5,880)	(7,668)	(9,489)	(11,418)	(17,847)	(20,501)	(23,452)	(26,723)	
	b Operating Ratio		1.00	1.00	1.00	0.91	0.94	0.96	1.07	1.13	1.19	1.23	1.27	1.30	1.44	1.48	1.51	1.54	
	c Debt Servicing Ratio		0.00	0.00	0.00	-	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	
3	Capital Income		2,396	8,737	17,035	5,850	6,142	6,449	6,772	7,110	7,466	7,839	8,231	8,643	9,075	9,529	10,005	10,505	
4	Capital Expenditure		6,615	5,159	11,170	13,050	11,192	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198	
	d Surplus/Def																		

## 16-Financial Projections

Financial Year ----->		201 0-11	201 1-12	201 2-13	201 3-14	1	2	3	4	5	6	7	8	9	10	11	12	
						201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
	Figures in Rs. Lakhs	Actuals			Estimate	Projection												
	icit- Capital Account	(4,218)	3,578	5,865	(7,200)	(5,050)	(1,517)	(1,832)	(2,181)	(2,569)	(2,999)	(3,474)	(3,998)	(4,578)	(5,216)	(5,919)	(6,693)	
e	Overall Surplus/Deficit- Municipal Account	(4,135)	3,648	5,938	(5,016)	(3,498)	(373)	(3,927)	(6,198)	(8,450)	(10,666)	(12,962)	(15,416)	(22,424)	(25,717)	(29,371)	(33,416)	
f	Closing Balance	(2,001)	1,647	7,585	2,569	(929)	(1,301)	(5,228)	(11,426)	(19,875)	(30,542)	(43,504)	(58,920)	(81,344)	(107,062)	(136,433)	(169,849)	
	<b>Part I - Revenue Account</b>																	
	<b>I</b>																	
	<b>Revenue Income</b>																	
	<b>A</b>	<b>Own Sources</b>																
	<b>Tax Revenue</b>	-																
	1	Property Tax	1,944	2,049	2,287	2,861	3,119	3,150	3,008	2,806	2,641	2,553	2,509	2,494	2,526	2,563	2,602	2,641
	2	Water Tax	2,068	2,193	2,797	3,499	3,814	3,851	3,679	3,431	3,229	3,122	3,068	3,050	3,089	3,135	3,182	3,229
	3	Sewerage/Sanitation Tax	699	682	1,467	1,836	2,001	2,020	1,930	1,800	1,694	1,638	1,610	1,600	1,620	1,644	1,669	1,694
	4	Consolidated Tax (LBT)	11,742	6,053	10,277	10,106	10,914	11,787	12,730	13,749	14,848	16,036	17,319	18,705	20,201	21,817	23,563	25,448
	5	Advertisement Tax	24	22	12	21	23	25	28	31	34	37	41	45	50	55	60	66

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Esti mat e	Projection											
	6	Other Taxes	1,115	887	958	1,065	1,151	1,243	1,342	1,450	1,565	1,691	1,826	1,972	2,130	2,300	2,484	2,683	
	7	New Conservancy Cess						315	301	281	264	255	251	249	253	256	260	264	
		<b>Sub-Total (Tax Revenue)</b>	<b>17,591</b>	<b>11,885</b>	<b>17,797</b>	<b>19,388</b>	<b>21,021</b>	<b>22,392</b>	<b>23,018</b>	<b>23,547</b>	<b>24,276</b>	<b>25,332</b>	<b>26,624</b>	<b>28,115</b>	<b>29,869</b>	<b>31,771</b>	<b>33,819</b>	<b>36,025</b>	
		<b>Non Tax Revenue- Others</b>																	
	1	Water Charges	375	287	439	475	512	553	598	646	697	753	813	878	949	1,024	1,106	1,195	
	2	Other income (Surcharge, New Connection Fee etc)	124	113	116	127	137	148	160	173	187	202	218	235	254	274	296	320	
	3	New Water Connection Fee				3	3	4	4	4	4	4	4	4	4	4	4	4	
	4	New Sewer Connection Fee				25	25	51	138	54	55	56	62	63	64	65	66	75	
	5	Rent from municipal properties	236	241	294	318	344	372	403	436	472	511	553	598	647	701	758	821	
	6	Building permit fees	717	847	1,684	1,853	2,038	2,242	2,466	2,712	2,983	3,282	3,610	3,971	4,368	4,805	5,285	5,814	
	7	Fees from licenses	12	9	11	12	13	14	16	17	18	20	21	23	25	27	29	31	
	8	Road cutting fees	109	64	61	65	71	76	82	89	96	104	112	121	131	141	152	165	

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Esti mat e	Projection											
	9	Others	573	634	513	564	621	683	751	826	909	1,000	1,100	1,210	1,331	1,464	1,610	1,771	
		<b>Sub-Total (Non Tax Revenue)</b>	<b>2,146</b>	<b>2,194</b>	<b>3,118</b>	<b>3,442</b>	<b>3,765</b>	<b>4,144</b>	<b>4,617</b>	<b>4,956</b>	<b>5,421</b>	<b>5,930</b>	<b>6,493</b>	<b>7,104</b>	<b>7,772</b>	<b>8,505</b>	<b>9,308</b>	<b>10,196</b>	
	-	<b>Tax + Non-Tax Revenue</b>	<b>19,736</b>	<b>14,079</b>	<b>20,915</b>	<b>22,830</b>	<b>24,786</b>	<b>26,536</b>	<b>27,635</b>	<b>28,503</b>	<b>29,697</b>	<b>31,262</b>	<b>33,117</b>	<b>35,218</b>	<b>37,641</b>	<b>40,276</b>	<b>43,128</b>	<b>46,221</b>	
	<b>B</b>	<b><u>Assigned Rev. Grants &amp; Contributions</u></b>																	
	1	Primary Eudcation grant	295	156	226	249	274	301	332	365	401	441	485	534	587	646	711	782	
	2	Other state governmetn grants	7	1,505	731	822	904	995	1,094	1,204	1,324	1,457	1,602	1,763	1,939	2,133	2,346	2,581	
		<b>Total Grants &amp; Contributions</b>	<b>302</b>	<b>1,661</b>	<b>957</b>	<b>1,071</b>	<b>1,178</b>	<b>1,296</b>	<b>1,426</b>	<b>1,569</b>	<b>1,725</b>	<b>1,898</b>	<b>2,088</b>	<b>2,297</b>	<b>2,526</b>	<b>2,779</b>	<b>3,057</b>	<b>3,362</b>	
		<b>Total Revenue Income</b>	<b>20,038</b>	<b>15,740</b>	<b>21,872</b>	<b>23,901</b>	<b>25,965</b>	<b>27,832</b>	<b>29,061</b>	<b>30,072</b>	<b>31,422</b>	<b>33,160</b>	<b>35,205</b>	<b>37,515</b>	<b>40,167</b>	<b>43,055</b>	<b>46,184</b>	<b>49,583</b>	
	<b>II</b>	<b>Revenue Expenditure</b>																	
	<b>A</b>	<b><u>Salaries/ Wages</u></b>																	



## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
	1	General Administration	765	829	990	947	1,042	1,146	1,490	1,639	1,803	1,983	2,182	2,400	3,168	3,485	3,833	4,217	
	2	Fire, Electricity	228	290	312	343	377	415	539	593	652	718	789	868	1,146	1,261	1,387	1,525	
	3	Education, Sports and Youth Welfare	664	602	621	683	751	827	1,075	1,182	1,300	1,430	1,573	1,731	2,285	2,513	2,764	3,041	
	4	Public Health Department	627	782	742	816	898	988	1,284	1,413	1,554	1,709	1,880	2,068	2,730	3,003	3,303	3,633	
	5	Solid Waste Mgmt (Contract employees)	2,314	2,696	2,893	3,183	3,501	3,851	5,007	5,507	6,058	6,664	7,330	8,063	10,643	11,708	12,878	14,166	
	6	Estate and Land Acquisition	507	647	590	650	714	786	1,022	1,124	1,236	1,360	1,496	1,645	2,172	2,389	2,628	2,891	
	7	Public Spaces	347	393	426	468	515	567	737	810	892	981	1,079	1,187	1,566	1,723	1,895	2,085	
	8	Water Works	850	685	784	862	949	1,043	1,357	1,492	1,641	1,806	1,986	2,185	2,884	3,172	3,489	3,838	
	9	Sewerage/Sanitation	182	204	188	207	228	251	326	358	394	434	477	525	577	635	698	768	
		<b>Total Salary Expenses</b>	<b>6,485</b>	<b>7,128</b>	<b>7,547</b>	<b>8,160</b>	<b>8,976</b>	<b>9,873</b>	<b>12,835</b>	<b>14,119</b>	<b>15,531</b>	<b>17,084</b>	<b>18,792</b>	<b>20,672</b>	<b>27,171</b>	<b>29,888</b>	<b>32,877</b>	<b>36,165</b>	
	<b>B</b>	<b>Operation &amp; Maintenance</b>																	
	1	Estate and Land																	

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	201	201	201	201	1	2	3	4	5	6	7	8	9	10	11	12	
			0-11	1-12	2-13	3-14	201	201	201	201	201	201	201	201	202	202	202	202	202
			Actuals				Esti mat e	Projection											
		Acquisition	723	137	1,171	1,289	1,417	1,559	1,715	1,887	2,075	2,283	2,511	2,762	3,038	3,342	3,677	4,044	
	2	General Administration	1,550	1,666	1,661	1,825	2,006	2,204	2,422	2,661	2,924	3,212	3,530	3,878	4,261	4,682	5,145	5,653	
	3	Public Works	5,042	747	4,383	4,748	5,143	5,571	6,035	6,537	7,082	7,671	8,309	9,001	9,750	10,562	11,441	12,393	
	4	Fire, Electricity	515	575	745	819	901	992	1,091	1,200	1,320	1,452	1,597	1,757	1,932	2,126	2,338	2,572	
	5	Education, Sports and Youth Welfare	742	672	661	713	770	832	899	971	1,048	1,132	1,223	1,320	1,426	1,540	1,663	1,796	
	6	Public Health Department	287	228	297	327	360	396	435	479	526	579	637	701	771	848	933	1,026	
	7	Solid Waste Mgmt	70	178	310	341	376	413	454	500	550	605	665	732	805	886	974	1,072	
	8	Roads, Flyovers and Drainage	92	60	116	128	140	155	170	187	206	226	249	274	301	331	364	401	
	9	Water Works	1,962	2,227	2,933	3,226	3,549	3,903	4,294	4,723	5,195	5,715	6,286	6,915	7,607	8,367	9,204	10,124	
	10	Sewerage and Drainage	20	12	49	54	60	66	72	80	87	96	106	116	128	141	155	171	
	11	Public Spaces	43	50	79	86	95	105	115	127	139	153	169	185	204	224	247	271	
	12	Misellaneous	2,356	1,984	1,838	1,985	2,144	2,315	2,501	2,701	2,917	3,150	3,402	3,674	3,968	4,285	4,628	4,999	
	13	O&M expenses on					-	-	-	-	-	-	-	-					

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
Figures in Rs. Lakhs			Actuals				Estimate	Projection											
		new projects																	
	<b>Total O&amp;M Expenses</b>		13,400	8,537	14,244	13,558	14,818	16,195	17,702	19,350	21,153	23,125	25,282	27,642	30,224	33,049	36,140	39,523	
	<b>C</b>	<b>Debt Servicing</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	Principal & Interest - Existing Loans	-	-	-	-	619	619	619	619	619	619	619	619	619	619	619	619	
	2	Principal & Interest - New Loans	69	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Total Debt Servicing</b>		69	5	8	-	619	619	619	619	619	619	619	619	619	619	619	619	
	<b>Total Revenue Expenditure</b>		19,955	15,669	21,800	21,718	24,412	26,688	31,156	34,088	37,303	40,828	44,693	48,933	58,014	63,556	69,636	76,307	
	<b>Surplus /Deficit</b>		83	70	73	2,184	1,552	1,144	(2,095)	(4,016)	(5,880)	(7,668)	(9,489)	(11,418)	(17,847)	(20,501)	(23,452)	(26,723)	
	<b>Part II - Capital Account</b>																		
	/	<b>Capital Income</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	<b>B</b>	<b>Loans</b>	39	-	128	-	-	-	-	-	-	-	-	-	-	-	-	-	
	<b>C</b>	<b>Grants &amp; Contributions</b>																	

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	201	201	201	201	1	2	3	4	5	6	7	8	9	10	11	12
			0-11	1-12	2-13	3-14	201	201	201	201	201	201	201	202	202	202	202	202
			Actuals			Estimate	Projection											
	1	UIDSSMT grants	359	-	3,239		-	-	-	-	-	-	-					
	2	Finance Commission grants	672	3,125	980	1,672	1,756	1,844	1,936	2,033	2,134	2,241	2,353	2,471	2,594	2,724	2,860	3,003
	3	State government Grants - MSJNMA	-	2,327	5,363													
	4	Other Grants	1,326	3,284	7,326	4,178	4,386	4,606	4,836	5,078	5,332	5,598	5,878	6,172	6,481	6,805	7,145	7,502
		<b>Total Capital Income</b>	<b>2,396</b>	<b>8,737</b>	<b>17,035</b>	<b>5,850</b>	<b>6,142</b>	<b>6,449</b>	<b>6,772</b>	<b>7,110</b>	<b>7,466</b>	<b>7,839</b>	<b>8,231</b>	<b>8,643</b>	<b>9,075</b>	<b>9,529</b>	<b>10,005</b>	<b>10,505</b>
II	<b>Capital Expenditure</b>	-																
	1	CIP as per Revised CDP					-	-	-	-	-	-	-					
	2	UIDSSMT Projects	1,221	710	1,984	2,404												
	3	MSJNMA	-	-	58	3,816	3,816											
	4	Regular Capital Works	5,394	4,449	9,128	6,830	7,376	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198
		<b>Total Capital Expenditure</b>	<b>6,615</b>	<b>5,159</b>	<b>11,170</b>	<b>13,050</b>	<b>11,192</b>	<b>7,966</b>	<b>8,603</b>	<b>9,292</b>	<b>10,035</b>	<b>10,838</b>	<b>11,705</b>	<b>12,641</b>	<b>13,653</b>	<b>14,745</b>	<b>15,924</b>	<b>17,198</b>

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		<i>Figures in Rs. Lakhs</i>	<i>Actuals</i>				<i>Estimate</i>	<i>Projection</i>											
<b>e</b>																			
<b>Surplus /Deficit</b>			(4,28)	3,578	5,865	(7,200)	(5,050)	(1,517)	(1,832)	(2,181)	(2,569)	(2,999)	(3,474)	(3,998)	(4,578)	(5,216)	(5,919)	(6,693)	

### Annexure 2: Detailed FOP - Base Case with Grant

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		<i>Figures in Rs. Lakhs</i>	<i>Actuals</i>				<i>Estimate</i>	<i>Projection</i>											
<b>Summary</b>																			
	<b>Opening Balance</b>		2,134	(2,001)	1,647	7,585	2,569	(929)	(1,301)	(5,228)	(11,426)	(19,875)	(30,542)	(43,504)	(58,920)	(81,344)	(107,062)	(136,433)	
1	Revenue Income		20,038	15,740	21,872	23,901	25,965	27,832	29,061	30,072	31,422	33,160	35,205	37,515	40,167	43,055	46,184	49,583	
2	Revenue Expenditure		19,955	15,669	21,800	21,718	24,412	26,688	31,156	34,088	37,303	40,828	44,693	48,933	58,014	63,556	69,636	76,307	
	a	Surplus/Deficit- Revenue Account	83	70	73	2,184	1,552	1,144	(2,095)	(4,016)	(5,880)	(7,668)	(9,489)	(11,418)	(17,847)	(20,501)	(23,452)	(26,723)	
	b	Operating Ratio	1.00	1.00	1.00	0.91	0.94	0.96	1.07	1.13	1.19	1.23	1.27	1.30	1.44	1.48	1.51	1.54	
	c	Debt Servicing Ratio	0.00	0.00	0.00	-	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
3	Capital Income		2,396	8,737	17,035	5,850	6,142	6,449	6,772	7,110	7,466	7,839	8,231	8,643	9,075	9,529	10,005	10,505	
4	Capital Expenditure		6,615	5,159	11,170	13,050	11,192	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198	
d	Surplus/Deficit- Capital Account		(4,218)	3,578	5,865	(7,200)	(5,050)	(1,517)	(1,832)	(2,181)	(2,569)	(2,999)	(3,474)	(3,998)	(4,578)	(5,216)	(5,919)	(6,693)	
e	Overall Surplus/Deficit- Municipal Account		(4,135)	3,648	5,938	(5,016)	(3,498)	(373)	(3,927)	(6,198)	(8,450)	(10,666)	(12,962)	(15,416)	(22,424)	(25,717)	(29,371)	(33,416)	
f	Closing Balance		(2,001)	1,647	7,585	2,569	(929)	(1,301)	(5,228)	(11,426)	(19,875)	(30,542)	(43,504)	(58,920)	(81,344)	(107,062)	(136,433)	(169,849)	
	<b>Part I - Revenue Account</b>																		
	<b>I</b>	<b>Revenue Income</b>																	
		<b><u>A</u></b>	<b><u>Own Sources</u></b>																
		<b><u>Tax Revenue</u></b>	-																
		1	Property Tax	1,944	2,049	2,287	2,861	3,119	3,150	3,008	2,806	2,641	2,553	2,509	2,494	2,526	2,563	2,602	2,641
		2	Water Tax	2,06	2,19	2,79	3,49	3,81	3,85	3,67	3,43	3,22	3,12	3,06	3,05	3,08	3,13	3,18	3,22

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	201	201	201	201	1	2	3	4	5	6	7	8	9	10	11	12	
			0-11	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	0-21	1-22	2-23	3-24	4-25	5-26	
			<b>Actuals</b>				<b>Estimate</b>	<b>Projection</b>											
			8	3	7	9	4	1	9	1	9	2	8	0	9	5	2	9	
	3	Sewerage/Sanitation Tax	699	682	1,467	1,836	2,001	2,020	1,930	1,800	1,694	1,638	1,610	1,600	1,620	1,644	1,669	1,694	
	4	Consolidated Tax (LBT)	11,742	6,053	10,277	10,106	10,914	11,787	12,730	13,749	14,848	16,036	17,319	18,705	20,201	21,817	23,563	25,448	
	5	Advertisement Tax	24	22	12	21	23	25	28	31	34	37	41	45	50	55	60	66	
	6	Other Taxes	1,115	887	958	1,065	1,151	1,243	1,342	1,450	1,565	1,691	1,826	1,972	2,130	2,300	2,484	2,683	
	7	New Conservancy Cess						315	301	281	264	255	251	249	253	256	260	264	
		<b>Sub-Total (Tax Revenue)</b>	<b>17,591</b>	<b>11,885</b>	<b>17,797</b>	<b>19,388</b>	<b>21,021</b>	<b>22,392</b>	<b>23,018</b>	<b>23,547</b>	<b>24,276</b>	<b>25,332</b>	<b>26,624</b>	<b>28,115</b>	<b>29,869</b>	<b>31,771</b>	<b>33,819</b>	<b>36,025</b>	
		<b>Non Tax Revenue- Others</b>																	
	1	Water Charges	375	287	439	475	512	553	598	646	697	753	813	878	949	1,024	1,106	1,195	
	2	Other income (Surcharge, New Connection Fee etc)	124	113	116	127	137	148	160	173	187	202	218	235	254	274	296	320	
	3	New Water Connection Fee				3	3	4	4	4	4	4	4	4	4	4	4	4	
	4	New Sewer Connection Fee				25	25	51	138	54	55	56	62	63	64	65	66	75	

## 16-Financial Projections

		1    2    3    4    5    6    7    8    9    10    11    12																	
Financial Year ----->			2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	
		<i>Figures in Rs. Lakhs</i>	<i>Actuals</i>				<i>Estimate</i>	<i>Projection</i>											
	5	Rent from municipal properties	236	241	294	318	344	372	403	436	472	511	553	598	647	701	758	821	
	6	Building permit fees	717	847	1,684	1,853	2,038	2,242	2,466	2,712	2,983	3,282	3,610	3,971	4,368	4,805	5,285	5,814	
	7	Fees from licenses	12	9	11	12	13	14	16	17	18	20	21	23	25	27	29	31	
	8	Road cutting fees	109	64	61	65	71	76	82	89	96	104	112	121	131	141	152	165	
	9	Others	573	634	513	564	621	683	751	826	909	1,000	1,100	1,210	1,331	1,464	1,610	1,771	
		<b>Sub-Total (Non Tax Revenue)</b>	<b>2,146</b>	<b>2,194</b>	<b>3,118</b>	<b>3,442</b>	<b>3,765</b>	<b>4,144</b>	<b>4,617</b>	<b>4,956</b>	<b>5,421</b>	<b>5,930</b>	<b>6,493</b>	<b>7,104</b>	<b>7,772</b>	<b>8,505</b>	<b>9,308</b>	<b>10,196</b>	
	-	<b>Tax + Non-Tax Revenue</b>	<b>19,736</b>	<b>14,079</b>	<b>20,915</b>	<b>22,830</b>	<b>24,786</b>	<b>26,536</b>	<b>27,635</b>	<b>28,503</b>	<b>29,697</b>	<b>31,262</b>	<b>33,117</b>	<b>35,218</b>	<b>37,641</b>	<b>40,276</b>	<b>43,128</b>	<b>46,221</b>	
	<b>B</b>	<b><u>Assigned Rev., Grants &amp; Contributions</u></b>																	
	1	Primary Education grant	295	156	226	249	274	301	332	365	401	441	485	534	587	646	711	782	
	2	Other state government grants	7	1,505	731	822	904	995	1,094	1,204	1,324	1,457	1,602	1,763	1,939	2,133	2,346	2,581	
		<b>Total Grants &amp; Contributions</b>	<b>302</b>	<b>1,661</b>	<b>957</b>	<b>1,071</b>	<b>1,178</b>	<b>1,296</b>	<b>1,426</b>	<b>1,569</b>	<b>1,725</b>	<b>1,898</b>	<b>2,088</b>	<b>2,297</b>	<b>2,526</b>	<b>2,779</b>	<b>3,057</b>	<b>3,362</b>	



## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
<b>Total Revenue Income</b>			20,038	15,740	21,872	23,901	25,965	27,832	29,061	30,072	31,422	33,160	35,205	37,515	40,167	43,055	46,184	49,583	
<b>II</b>	<b>Revenue Expenditure</b>																		
	<b>A</b>	<b>Salaries/ Wages</b>																	
	1	General Administration	765	829	990	947	1,042	1,146	1,490	1,639	1,803	1,983	2,182	2,400	3,168	3,485	3,833	4,217	
	2	Fire, Electricity	228	290	312	343	377	415	539	593	652	718	789	868	1,146	1,261	1,387	1,525	
	3	Education, Sports and Youth Welfare	664	602	621	683	751	827	1,075	1,182	1,300	1,430	1,573	1,731	2,285	2,513	2,764	3,041	
	4	Public Health Department	627	782	742	816	898	988	1,284	1,413	1,554	1,709	1,880	2,068	2,730	3,003	3,303	3,633	
	5	Solid Waste Mgmt (Contract employees)	2,314	2,696	2,893	3,183	3,501	3,851	5,007	5,507	6,058	6,664	7,330	8,063	10,643	11,708	12,878	14,166	
	6	Estate and Land Acquisition	507	647	590	650	714	786	1,022	1,124	1,236	1,360	1,496	1,645	2,172	2,389	2,628	2,891	
	7	Public Spaces	347	393	426	468	515	567	737	810	892	981	1,079	1,187	1,566	1,723	1,895	2,085	
	8	Water Works	850	685	784	862	949	1,043	1,357	1,492	1,641	1,806	1,986	2,185	2,884	3,172	3,489	3,838	

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	1 2 3 4 5 6 7 8 9 10 11 12																	
			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26		
			Actuals				Estimate	Projection												
	9	Sewerage/Sanitation	182	204	188	207	228	251	326	358	394	434	477	525	577	635	698	768		
	<b>Total Salary Expenses</b>		<b>6,485</b>	<b>7,128</b>	<b>7,547</b>	<b>8,160</b>	<b>8,976</b>	<b>9,873</b>	<b>12,835</b>	<b>14,119</b>	<b>15,531</b>	<b>17,084</b>	<b>18,792</b>	<b>20,672</b>	<b>27,171</b>	<b>29,888</b>	<b>32,877</b>	<b>36,165</b>		
	<b>B</b>	<b>Operation &amp; Maintenance</b>																		
	1	Estate and Land Acquisition	723	137	1,171	1,289	1,417	1,559	1,715	1,887	2,075	2,283	2,511	2,762	3,038	3,342	3,677	4,044		
	2	General Administration	1,550	1,666	1,661	1,825	2,006	2,204	2,422	2,661	2,924	3,212	3,530	3,878	4,261	4,682	5,145	5,653		
	3	Public Works	5,042	747	4,383	4,748	5,143	5,571	6,035	6,537	7,082	7,671	8,309	9,001	9,750	10,562	11,441	12,393		
	4	Fire, Electricity	515	575	745	819	901	992	1,091	1,200	1,320	1,452	1,597	1,757	1,932	2,126	2,338	2,572		
	5	Education, Sports and Youth Welfare	742	672	661	713	770	832	899	971	1,048	1,132	1,223	1,320	1,426	1,540	1,663	1,796		
	6	Public Health Department	287	228	297	327	360	396	435	479	526	579	637	701	771	848	933	1,026		
	7	Solid Waste Mgmt	70	178	310	341	376	413	454	500	550	605	665	732	805	886	974	1,072		
	8	Roads, Flyovers and Drainage	92	60	116	128	140	155	170	187	206	226	249	274	301	331	364	401		
	9	Water Works	1,962	2,227	2,933	3,226	3,549	3,903	4,294	4,723	5,195	5,715	6,286	6,915	7,607	8,367	9,204	10,124		

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
	10	Sewerage and Drainage	20	12	49	54	60	66	72	80	87	96	106	116	128	141	155	171	
	11	Public Spaces	43	50	79	86	95	105	115	127	139	153	169	185	204	224	247	271	
	12	Misellaneous	2,356	1,984	1,838	1,985	2,144	2,315	2,501	2,701	2,917	3,150	3,402	3,674	3,968	4,285	4,628	4,999	
	13	O&M expenses on new projects					-	-	-	-	-	-	-	-					
		<b>Total O&amp;M Expenses</b>	<b>13,400</b>	<b>8,537</b>	<b>14,244</b>	<b>13,558</b>	<b>14,818</b>	<b>16,195</b>	<b>17,702</b>	<b>19,350</b>	<b>21,153</b>	<b>23,125</b>	<b>25,282</b>	<b>27,642</b>	<b>30,224</b>	<b>33,049</b>	<b>36,140</b>	<b>39,523</b>	
	<b>C</b>	<b>Debt Servicing</b>	-	-	-														
	1	Principal & Interest - Existing Loans	-	-	-		619	619	619	619	619	619	619	619	619	619	619	619	
	2	Principal & Interest - New Loans	69	5	8		-	-	-	-	-	-	-	-	-	-	-	-	
		<b>Total Debt Servicing</b>	<b>69</b>	<b>5</b>	<b>8</b>	<b>-</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	
		<b>Total Revenue Expenditure</b>	<b>19,955</b>	<b>15,669</b>	<b>21,800</b>	<b>21,718</b>	<b>24,412</b>	<b>26,688</b>	<b>31,156</b>	<b>34,088</b>	<b>37,303</b>	<b>40,828</b>	<b>44,693</b>	<b>48,933</b>	<b>58,014</b>	<b>63,556</b>	<b>69,636</b>	<b>76,307</b>	
		<b>Surplus /Deficit</b>	<b>83</b>	<b>70</b>	<b>73</b>	<b>2,184</b>	<b>1,552</b>	<b>1,144</b>	<b>(2,095)</b>	<b>(4,016)</b>	<b>(5,880)</b>	<b>(7,668)</b>	<b>(9,489)</b>	<b>(11,418)</b>	<b>(17,847)</b>	<b>(20,501)</b>	<b>(23,452)</b>	<b>(26,723)</b>	
		<b>Part II - Capital</b>																	

## 16-Financial Projections

Financial Year ----->		201 0-11	201 1-12	201 2-13	201 3-14	1	2	3	4	5	6	7	8	9	10	11	12	
						201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		<i>Figures in Rs. Lakhs</i>			<i>Actuals</i>	<i>Estimate</i>	<i>Projection</i>											
<b>Account</b>																		
I	<b>Capital Income</b>	-																
	<b>B Loans</b>	39	-	128		-	-	-	-	-	-	-						
	<b>C Grants &amp; Contributions</b>																	
	1 UIDSSMT grants	359	-	3,239		-	-	-	-	-	-	-						
	2 Finance Commission grants	672	3,125	980	1,672	1,756	1,844	1,936	2,033	2,134	2,241	2,353	2,471	2,594	2,724	2,860	3,003	
	3 State government Grants - MSJNMA	-	2,327	5,363														
	4 Other Grants	1,326	3,284	7,326	4,178	4,386	4,606	4,836	5,078	5,332	5,598	5,878	6,172	6,481	6,805	7,145	7,502	
	<b>Total Capital Income</b>	<b>2,396</b>	<b>8,737</b>	<b>17,035</b>	<b>5,850</b>	<b>6,142</b>	<b>6,449</b>	<b>6,772</b>	<b>7,110</b>	<b>7,466</b>	<b>7,839</b>	<b>8,231</b>	<b>8,643</b>	<b>9,075</b>	<b>9,529</b>	<b>10,005</b>	<b>10,505</b>	
II	<b>Capital Expenditure</b>	-																
	1 CIP as per Revised CDP					-	-	-	-	-	-	-						
	2 UIDSSMT Projects	1,221	710	1,984	2,404													
	3 MSJNMA	-	-	58	3,81	3,81												

## 16-Financial Projections

				1	2	3	4	5	6	7	8	9	10	11	12				
Financial Year ----->			2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	
		<i>Figures in Rs. Lakhs</i>	<i>Actuals</i>				<i>Estimate</i>	<i>Projection</i>											
						6	6												
	4	Regular Capital Works	5,394	4,449	9,128	6,830	7,376	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198	
		<b>Total Capital Expenditure</b>	<b>6,615</b>	<b>5,159</b>	<b>11,170</b>	<b>13,050</b>	<b>11,192</b>	<b>7,966</b>	<b>8,603</b>	<b>9,292</b>	<b>10,035</b>	<b>10,838</b>	<b>11,705</b>	<b>12,641</b>	<b>13,653</b>	<b>14,745</b>	<b>15,924</b>	<b>17,198</b>	
		<b>Surplus /Deficit</b>	<b>(4,218)</b>	<b>3,578</b>	<b>5,865</b>	<b>(7,200)</b>	<b>(5,050)</b>	<b>(1,517)</b>	<b>(1,832)</b>	<b>(2,181)</b>	<b>(2,569)</b>	<b>(2,999)</b>	<b>(3,474)</b>	<b>(3,998)</b>	<b>(4,578)</b>	<b>(5,216)</b>	<b>(5,919)</b>	<b>(6,693)</b>	

## Annexure 3: Detailed FOP - Improved Case with Grants

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
<b>Summary</b>																			
	<b>Opening Balance</b>		2,134	(2,001)	1,647	7,585	3,533	2,182	4,638	3,716	1,508	40	2,046	7,933	15,903	22,021	30,910	43,286	
1	Revenue Income		20,038	15,740	21,872	24,866	28,112	32,260	35,728	38,587	42,537	47,343	54,054	60,901	68,709	77,661	87,932	101,028	
2	Revenue Expenditure		19,955	15,669	21,800	21,718	24,412	26,688	31,156	34,088	37,303	40,828	44,693	48,933	58,014	63,556	69,636	76,307	
	a Surplus/Deficit- Revenue Account		83	70	73	3,148	3,699	5,572	4,571	4,499	5,234	6,515	9,361	11,969	10,695	14,105	18,295	24,722	
	b Operating Ratio		1.00	1.00	1.00	0.87	0.87	0.83	0.87	0.88	0.88	0.86	0.83	0.80	0.84	0.82	0.79	0.76	
	c Debt Servicing Ratio		0.00	0.00	0.00	-	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
3	Capital Income		2,396	8,737	17,035	5,850	6,142	9,281	14,178	16,073	15,416	9,571	8,231	8,643	9,075	9,529	10,005	10,505	
4	Capital Expenditure		6,615	5,159	11,170	13,050	11,192	12,398	19,672	22,780	22,117	14,080	11,705	12,641	13,653	14,745	15,924	17,198	
	d Surplus/Deficit- Capital Account		(4,218)	3,578	5,865	(7,200)	(5,050)	(3,117)	(5,494)	(6,707)	(6,702)	(4,509)	(3,474)	(3,998)	(4,578)	(5,216)	(5,919)	(6,693)	
	e Overall Surplus/Deficit- Municipal Account		(4,135)	3,648	5,938	(4,052)	(1,351)	2,455	(922)	(2,208)	(1,467)	2,006	5,887	7,970	6,118	8,889	12,376	18,029	
	<b>Closing Balance</b>		<b>(2,001)</b>	<b>1,647</b>	<b>7,585</b>	<b>3,533</b>	<b>2,182</b>	<b>4,638</b>	<b>3,716</b>	<b>1,508</b>	<b>40</b>	<b>2,046</b>	<b>7,933</b>	<b>15,903</b>	<b>22,021</b>	<b>30,910</b>	<b>43,286</b>		

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		<i>Figures in Rs. Lakhs</i>	<i>Actuals</i>				<i>Estimate</i>	<i>Projection</i>											
			01)	7	5	3	2	8	6	8			6	3	03	21	10	86	15
	<b>Part I - Revenue Account</b>																		
	<b>I</b>	<b>Revenue Income</b>																	
	<b>A</b>	<b>Own Sources</b>																	
		<b>Tax Revenue</b>	-																
	1	Property Tax	1,944	2,049	2,287	2,866	3,128	3,444	3,349	3,185	3,046	2,975	3,290	3,362	3,422	3,482	3,543	4,044	
	2	Water Tax	2,068	2,193	2,797	3,504	3,825	4,212	4,096	3,895	3,725	3,638	4,023	4,111	4,185	4,258	4,333	4,945	
	3	Sewerage/Sanitation Tax	699	682	1,467	1,838	2,007	2,209	2,149	2,043	1,954	1,909	2,111	2,157	2,195	2,234	2,273	2,594	
	4	Consolidated Tax (LBT)	11,742	6,053	10,277	10,761	12,375	14,231	16,365	18,820	21,643	24,890	28,623	32,917	37,854	43,533	50,062	57,572	
	5	Advertisement Tax	24	22	12	22	25	29	33	38	44	51	59	67	77	89	102	118	
	6	Other Taxes	1,115	887	958	1,135	1,305	1,500	1,725	1,984	2,282	2,624	3,018	3,470	3,991	4,590	5,278	6,070	
	7	New Conservancy Cess						344	335	319	305	298	329	336	342	348	354	404	

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	1 2 3 4 5 6 7 8 9 10 11 12																
			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
			Actuals				Esti mat e	Projection											
		<b>Sub-Total (Tax Revenue)</b>	17,5 91	11,8 85	17,7 97	20,1 26	22,6 65	25,9 70	28,0 53	30,2 86	32,9 99	36,3 84	41,4 53	46,4 21	52,0 68	58,5 34	65,9 47	75,7 47	
		<b>Non Tax Revenue- Others</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	Water Charges	375	287	439	505	581	668	768	884	1,01 6	1,16 9	1,34 4	1,54 6	1,77 7	2,04 4	2,35 1	2,70 3	
	2	Other income (Surcharge, New Connection Fee etc)	124	113	116	135	156	179	206	237	272	313	360	414	476	547	629	724	
	3	New Water Connection Fee				3	3	4	4	4	4	4	4	4	4	4	4	4	
	4	New Sewer Connection Fee				29	30	60	512	64	65	66	74	75	77	78	79	90	
	5	Rent from municipal properties	236	241	294	338	388	446	513	590	679	781	898	1,03 3	1,18 7	1,36 6	1,57 0	1,80 6	
	6	Building permit fees	717	847	1,68 4	1,93 7	2,22 7	2,56 1	2,94 6	3,38 7	3,89 5	4,48 0	5,15 2	5,92 4	6,81 3	7,83 5	9,01 0	10,3 62	
	7	Fees from licenses	12	9	11	13	15	17	20	23	26	30	35	40	46	53	61	70	
	8	Road cutting fees	109	64	61	70	80	92	106	122	140	161	185	213	245	282	324	373	
	9	Others	573	634	513	590	679	780	897	1,03 2	1,18 7	1,36 5	1,57 0	1,80 5	2,07 6	2,38 7	2,74 5	3,15 7	
		<b>Sub-Total (Non Tax Revenue)</b>	<b>2,14</b>	<b>2,19</b>	<b>3,11</b>	<b>3,62</b>	<b>4,15</b>	<b>4,80</b>	<b>5,97</b>	<b>6,34</b>	<b>7,28</b>	<b>8,36</b>	<b>9,62</b>	<b>11,0</b>	<b>12,7</b>	<b>14,5</b>	<b>16,7</b>	<b>19,2</b>	



## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Esti mat e	Projection											
			6	4	8	0	9	8	1	2	5	8	1	54	01	96	74	89	
	-	<b>Tax + Non-Tax Revenue</b>	19,736	14,079	20,915	23,746	26,824	30,778	34,024	36,628	40,284	44,752	51,074	57,475	64,769	73,130	82,721	95,036	
	<b>B</b>	<b>Assigned Rev., Grants &amp; Contributions</b>																	
	1	Primary Eudcation grant	295	156	226	260	299	344	396	455	524	602	693	797	916	1,054	1,212	1,393	
	2	Other state governmetn grants	7	1,505	731	860	989	1,137	1,307	1,504	1,729	1,988	2,287	2,630	3,024	3,478	3,999	4,599	
		<b>Total Grants &amp; Contributions</b>	<b>302</b>	<b>1,661</b>	<b>957</b>	<b>1,120</b>	<b>1,288</b>	<b>1,481</b>	<b>1,703</b>	<b>1,959</b>	<b>2,253</b>	<b>2,591</b>	<b>2,979</b>	<b>3,426</b>	<b>3,940</b>	<b>4,531</b>	<b>5,211</b>	<b>5,993</b>	
		<b>Total Revenue Income</b>	<b>20,038</b>	<b>15,740</b>	<b>21,872</b>	<b>24,866</b>	<b>28,112</b>	<b>32,260</b>	<b>35,728</b>	<b>38,587</b>	<b>42,537</b>	<b>47,343</b>	<b>54,054</b>	<b>60,901</b>	<b>68,709</b>	<b>77,661</b>	<b>87,932</b>	<b>101,028</b>	
	<b>II</b>	<b>Revenue Expenditure</b>																	
	<b>A</b>	<b>Salaries/ Wages</b>																	
	1	General Administration	765	829	990	947	1,042	1,146	1,490	1,639	1,803	1,983	2,182	2,400	3,168	3,485	3,833	4,217	
	2	Fire, Electricity																	

## 16-Financial Projections

		<div style="display: flex; justify-content: space-between; font-weight: normal; font-size: small;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span><span>6</span><span>7</span><span>8</span><span>9</span><span>10</span><span>11</span><span>12</span> </div>																
Financial Year ----->		201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
	Figures in Rs. Lakhs	Actuals				Estimate	Projection											
		228	290	312	343	377	415	539	593	652	718	789	868	1,146	1,261	1,387	1,525	
	3	Education, Sports and Youth Welfare	664	602	621	683	751	827	1,075	1,182	1,300	1,430	1,573	1,731	2,285	2,513	2,764	3,041
	4	Public Health Department	627	782	742	816	898	988	1,284	1,413	1,554	1,709	1,880	2,068	2,730	3,003	3,303	3,633
	5	Solid Waste Mgmt (Contract employees)	2,314	2,696	2,893	3,183	3,501	3,851	5,007	5,507	6,058	6,664	7,330	8,063	10,643	11,708	12,878	14,166
	6	Estate and Land Acqusition	507	647	590	650	714	786	1,022	1,124	1,236	1,360	1,496	1,645	2,172	2,389	2,628	2,891
	7	Public Spaces	347	393	426	468	515	567	737	810	892	981	1,079	1,187	1,566	1,723	1,895	2,085
	8	Water Works	850	685	784	862	949	1,043	1,357	1,492	1,641	1,806	1,986	2,185	2,884	3,172	3,489	3,838
	9	Sewerage/Sanitation	182	204	188	207	228	251	326	358	394	434	477	525	577	635	698	768
		<b>Total Salary Expenses</b>	<b>6,485</b>	<b>7,128</b>	<b>7,547</b>	<b>8,160</b>	<b>8,976</b>	<b>9,873</b>	<b>12,835</b>	<b>14,119</b>	<b>15,531</b>	<b>17,084</b>	<b>18,792</b>	<b>20,672</b>	<b>27,171</b>	<b>29,888</b>	<b>32,877</b>	<b>36,165</b>
	<b>B</b>	<b>Operation &amp; Maintenance</b>																
	1	Estate and Land Acqusition	723	137	1,171	1,289	1,417	1,559	1,715	1,887	2,075	2,283	2,511	2,762	3,038	3,342	3,677	4,044
	2	General Administration	1,550	1,666	1,661	1,825	2,006	2,204	2,422	2,661	2,924	3,212	3,530	3,878	4,261	4,682	5,145	5,653

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Esti mat e	Projection											
	3	Public Works	5,04 2	747	4,38 3	4,74 8	5,14 3	5,57 1	6,03 5	6,53 7	7,08 2	7,67 1	8,30 9	9,00 1	9,75 0	10,5 62	11,4 41	12,3 93	
	4	Fire, Electricity	515	575	745	819	901	992	1,09 1	1,20 0	1,32 0	1,45 2	1,59 7	1,75 7	1,93 2	2,12 6	2,33 8	2,57 2	
	5	Education, Sports amd Youth Welfare	742	672	661	713	770	832	899	971	1,04 8	1,13 2	1,22 3	1,32 0	1,42 6	1,54 0	1,66 3	1,79 6	
	6	Public Health Department	287	228	297	327	360	396	435	479	526	579	637	701	771	848	933	1,02 6	
	7	Solid Waste Mgmt	70	178	310	341	376	413	454	500	550	605	665	732	805	886	974	1,07 2	
	8	Roads, Flyovers and Drainage	92	60	116	128	140	155	170	187	206	226	249	274	301	331	364	401	
	9	Water Works	1,96 2	2,22 7	2,93 3	3,22 6	3,54 9	3,90 3	4,29 4	4,72 3	5,19 5	5,71 5	6,28 6	6,91 5	7,60 7	8,36 7	9,20 4	10,1 24	
	10	Sewerage and Drainage	20	12	49	54	60	66	72	80	87	96	106	116	128	141	155	171	
	11	Public Spaces	43	50	79	86	95	105	115	127	139	153	169	185	204	224	247	271	
	12	Misellaneous	2,35 6	1,98 4	1,83 8	1,98 5	2,14 4	2,31 5	2,50 1	2,70 1	2,91 7	3,15 0	3,40 2	3,67 4	3,96 8	4,28 5	4,62 8	4,99 9	
	13	O&M expenses on new projects					-	-	111	290	337	303	55	-					
		<b>Total O&amp;M Expenses</b>	<b>13,4 00</b>	<b>8,53 7</b>	<b>14,2 44</b>	<b>13,5 58</b>	<b>14,8 18</b>	<b>16,1 95</b>	<b>17,7 02</b>	<b>19,3 50</b>	<b>21,1 53</b>	<b>23,1 25</b>	<b>25,2 82</b>	<b>27,6 42</b>	<b>30,2 24</b>	<b>33,0 49</b>	<b>36,1 40</b>	<b>39,5 23</b>	

## 16-Financial Projections

Financial Year ----->		201 0-11	201 1-12	201 2-13	201 3-14	1	2	3	4	5	6	7	8	9	10	11	12		
						201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26		
		<i>Figures in Rs. Lakhs</i>		<b>Actuals</b>			<b>Esti mat e</b>	<b>Projection</b>											
	<b>C</b>	<b>Debt Servicing</b>		-	-	-													
	1	Principal & Interest - Existing Loans		-	-	-		619	619	619	619	619	619	619	619	619	619	619	
	2	Principal & Interest - New Loans		69	5	8		-	-	-	-	-	-	-	-	-	-	-	
		<b>Total Debt Servicing</b>		<b>69</b>	<b>5</b>	<b>8</b>	<b>-</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	<b>619</b>	
		<b>Total Revenue Expenditur e</b>		<b>19,9 55</b>	<b>15,6 69</b>	<b>21,8 00</b>	<b>21,7 18</b>	<b>24,4 12</b>	<b>26,6 88</b>	<b>31,1 56</b>	<b>34,0 88</b>	<b>37,3 03</b>	<b>40,8 28</b>	<b>44,6 93</b>	<b>48,9 33</b>	<b>58,0 14</b>	<b>63,5 56</b>	<b>69,6 36</b>	<b>76,3 07</b>
		<b>Surplus /Deficit</b>		<b>83</b>	<b>70</b>	<b>73</b>	<b>3,14 8</b>	<b>3,69 9</b>	<b>5,57 2</b>	<b>4,57 1</b>	<b>4,49 9</b>	<b>5,23 4</b>	<b>6,51 5</b>	<b>9,36 1</b>	<b>11,9 69</b>	<b>10,6 95</b>	<b>14,1 05</b>	<b>18,2 95</b>	<b>24,7 22</b>
		<b>Part II - Capital Account</b>																	
	/	<b>Capital Income</b>		-															
	<b>B</b>	<b>Loans</b>		39	-	128		-	-	-	-	-	-	-	-	-	-	-	
	<b>C</b>	<b>Grants &amp; Contributions</b>																	
	1	UIDSSMT grants		359	-	3,23 9		-	2,83 2	7,40 6	8,96 3	7,95 0	1,73 1	-					
	2	Finance Commission grants		672	3,12	980	1,67	1,75	1,84	1,93	2,03	2,13	2,24	2,35	2,47	2,59	2,72	2,86	3,00

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12				
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26
		Figures in Rs. Lakhs	Actuals			Estimate	Projection											
				5		2	6	4	6	3	4	1	3	1	4	4	0	3
	3	State government Grants - MSJNMA	-	2,327	5,363													
	4	Other Grants	1,326	3,284	7,326	4,178	4,386	4,606	4,836	5,078	5,332	5,598	5,878	6,172	6,481	6,805	7,145	7,502
<b>Total Capital Income</b>			<b>2,396</b>	<b>8,737</b>	<b>17,035</b>	<b>5,850</b>	<b>6,142</b>	<b>9,281</b>	<b>14,178</b>	<b>16,073</b>	<b>15,416</b>	<b>9,571</b>	<b>8,231</b>	<b>8,643</b>	<b>9,075</b>	<b>9,529</b>	<b>10,005</b>	<b>10,505</b>
<b>II</b>	<b>Capital Expenditure</b>	-																
	1	CIP as per Revised CDP					-	4,432	11,068	13,489	12,082	3,242	-					
	2	UIDSSMT Projects	1,221	710	1,984	2,404												
	3	MSJNMA	-	-	58	3,816	3,816											
	4	Regular Capital Works	5,394	4,449	9,128	6,830	7,376	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198
<b>Total Capital Expenditure</b>			<b>6,615</b>	<b>5,159</b>	<b>11,170</b>	<b>13,050</b>	<b>11,192</b>	<b>12,398</b>	<b>19,672</b>	<b>22,780</b>	<b>22,117</b>	<b>14,080</b>	<b>11,705</b>	<b>12,641</b>	<b>13,653</b>	<b>14,745</b>	<b>15,924</b>	<b>17,198</b>
<b>Surplus /Deficit</b>			<b>(4,218)</b>	<b>3,578</b>	<b>5,865</b>	<b>(7,200)</b>	<b>(5,050)</b>	<b>(3,117)</b>	<b>(5,494)</b>	<b>(6,707)</b>	<b>(6,702)</b>	<b>(4,509)</b>	<b>(3,474)</b>	<b>(3,998)</b>	<b>(4,578)</b>	<b>(5,216)</b>	<b>(5,919)</b>	<b>(6,693)</b>

## Annexure 4: Detailed FOP - Improved Case with Grants and Debt

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	201	201	201	201	201	201	201	201	201	201	201	202	202	202	202	202	202
			0-11	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	0-21	1-22	2-23	3-24	4-25	5-26	
			<i>Actuals</i>			<i>Estimate</i>	<i>Projection</i>												
<b>Summary</b>																			
	<b>Opening Balance</b>		2,134	(2,001)	1,647	7,585	3,533	2,182	6,238	8,399	8,814	7,941	6,424	6,732	9,122	9,661	12,970	19,767	
1	Revenue Income		20,038	15,740	21,872	24,866	28,112	32,260	35,728	38,587	42,537	47,343	54,054	60,901	68,709	77,661	87,932	101,028	
2	Revenue Expenditure		19,955	15,669	21,800	21,718	24,412	26,688	31,735	35,991	40,842	45,861	50,273	54,512	63,593	69,136	75,216	81,886	
a	Surplus/Deficit- Revenue Account		83	70	73	3,148	3,699	5,572	3,993	2,596	1,695	1,482	3,781	6,389	5,116	8,526	12,716	19,142	
b	Operating Ratio		1.00	1.00	1.00	0.87	0.87	0.83	0.89	0.93	0.96	0.97	0.93	0.90	0.93	0.89	0.86	0.81	
c	Debt Servicing Ratio		0.00	0.00	0.00	-	0.02	0.02	0.03	0.07	0.10	0.12	0.11	0.10	0.09	0.08	0.07	0.06	
3	Capital Income		2,396	8,737	17,035	5,850	6,142	17,972	35,550	42,181	38,880	16,269	8,231	8,643	9,075	9,529	10,005	10,505	
4	Capital Expenditure		6,615	5,159	11,170	13,050	11,192	19,489	37,381	44,362	41,449	19,268	11,705	12,641	13,653	14,745	15,924	17,198	
d	Surplus/Deficit- Capital Account		(4,218)	3,578	5,865	(7,200)	(5,050)	(1,517)	(1,832)	(2,181)	(2,569)	(2,999)	(3,474)	(3,998)	(4,578)	(5,216)	(5,919)	(6,693)	
e	Overall Surplus/Deficit- Municipal Account		(4,135)	3,648	5,938	(4,052)	(1,351)	4,055	2,161	415	(874)	(1,516)	308	2,391	538	3,309	6,797	12,450	
F	<b>Closing Balance</b>		(2,001)	1,647	7,585	3,533	2,182	6,238	8,399	8,814	7,941	6,424	6,732	9,122	9,661	12,970	19,767	32,217	

## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
<b>Part I - Revenue Account</b>																			
<b>I</b>	<b>Revenue Income</b>																		
	<b>A</b>	<b>Own Sources</b>																	
	<b>Tax Revenue</b>	-																	
	1	Property Tax	1,944	2,049	2,287	2,866	3,128	3,444	3,349	3,185	3,046	2,975	3,290	3,362	3,422	3,482	3,543	4,044	
	2	Water Tax	2,068	2,193	2,797	3,504	3,825	4,212	4,096	3,895	3,725	3,638	4,023	4,111	4,185	4,258	4,333	4,945	
	3	Sewerage/Sanitation Tax	699	682	1,467	1,838	2,007	2,209	2,149	2,043	1,954	1,909	2,111	2,157	2,195	2,234	2,273	2,594	
	4	Consolidated Tax (LBT)	11,742	6,053	10,277	10,761	12,375	14,231	16,365	18,820	21,643	24,890	28,623	32,917	37,854	43,533	50,062	57,572	
	5	Advertisement Tax	24	22	12	22	25	29	33	38	44	51	59	67	77	89	102	118	
	6	Other Taxes	1,115	887	958	1,135	1,305	1,500	1,725	1,984	2,282	2,624	3,018	3,470	3,991	4,590	5,278	6,070	
	7	New Conservancy Cess						344	335	319	305	298	329	336	342	348	354	404	
		<b>Sub-Total (Tax</b>	<b>17,5</b>	<b>11,8</b>	<b>17,7</b>	<b>20,1</b>	<b>22,6</b>	<b>25,9</b>	<b>28,0</b>	<b>30,2</b>	<b>32,9</b>	<b>36,3</b>	<b>41,4</b>	<b>46,4</b>	<b>52,0</b>	<b>58,5</b>	<b>65,9</b>	<b>75,7</b>	

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->		Figures in Rs. Lakhs	201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
			Actuals				Estimate	Projection											
		<b>Revenue)</b>	91	85	97	26	65	70	53	86	99	84	53	21	68	34	47	47	
		<b>Non Tax Revenue- Others</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	Water Charges	375	287	439	505	581	668	768	884	1,016	1,169	1,344	1,546	1,777	2,044	2,351	2,703	
	2	Other income (Surcharge, New Connection Fee etc)	124	113	116	135	156	179	206	237	272	313	360	414	476	547	629	724	
	3	New Water Connection Fee				3	3	4	4	4	4	4	4	4	4	4	4	4	
	4	New Sewer Connection Fee				29	30	60	512	64	65	66	74	75	77	78	79	90	
	5	Rent from municipal properties	236	241	294	338	388	446	513	590	679	781	898	1,033	1,187	1,366	1,570	1,806	
	6	Building permit fees	717	847	1,684	1,937	2,227	2,561	2,946	3,387	3,895	4,480	5,152	5,924	6,813	7,835	9,010	10,362	
	7	Fees from licenses	12	9	11	13	15	17	20	23	26	30	35	40	46	53	61	70	
	8	Road cutting fees	109	64	61	70	80	92	106	122	140	161	185	213	245	282	324	373	
	9	Others	573	634	513	590	679	780	897	1,032	1,187	1,365	1,570	1,805	2,076	2,387	2,745	3,157	
		<b>Sub-Total (Non Tax Revenue)</b>	<b>2,146</b>	<b>2,194</b>	<b>3,118</b>	<b>3,620</b>	<b>4,159</b>	<b>4,808</b>	<b>5,971</b>	<b>6,342</b>	<b>7,285</b>	<b>8,368</b>	<b>9,621</b>	<b>11,054</b>	<b>12,701</b>	<b>14,596</b>	<b>16,774</b>	<b>19,289</b>	
		<b>Tax + Non-Tax</b>																	



## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12					
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
		<b>Revenue</b>	19,736	14,079	20,915	23,746	26,824	30,778	34,024	36,628	40,284	44,752	51,074	57,475	64,769	73,130	82,721	95,036	
	<b>B</b>	<b>Assigned Rev, Grants &amp; Contributions</b>																	
	1	Primary Eudcation grant	295	156	226	260	299	344	396	455	524	602	693	797	916	1,054	1,212	1,393	
	2	Other state governmetn grants	7	1,505	731	860	989	1,137	1,307	1,504	1,729	1,988	2,287	2,630	3,024	3,478	3,999	4,599	
		<b>Total Grants &amp; Contributions</b>	302	1,661	957	1,120	1,288	1,481	1,703	1,959	2,253	2,591	2,979	3,426	3,940	4,531	5,211	5,993	
		<b>Total Revenue Income</b>	20,038	15,740	21,872	24,866	28,112	32,260	35,728	38,587	42,537	47,343	54,054	60,901	68,709	77,661	87,932	101,028	
	<b>II</b>	<b>Revenue Expenditure</b>																	
	<b>A</b>	<b>Salaries/ Wages</b>																	
	1	General Administration	765	829	990	947	1,042	1,146	1,490	1,639	1,803	1,983	2,182	2,400	3,168	3,485	3,833	4,217	
	2	Fire, Electricity	228	290	312	343	377	415	539	593	652	718	789	868	1,146	1,261	1,387	1,525	

## 16-Financial Projections

Financial Year ----->		Figures in Rs. Lakhs	1 2 3 4 5 6 7 8 9 10 11 12																	
			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26		
			Actuals				Estimate	Projection												
	3	Education, Sports and Youth Welfare	664	602	621	683	751	827	1,075	1,182	1,300	1,430	1,573	1,731	2,285	2,513	2,764	3,041		
	4	Public Health Department	627	782	742	816	898	988	1,284	1,413	1,554	1,709	1,880	2,068	2,730	3,003	3,303	3,633		
	5	Solid Waste Mgmt (Contract employees)	2,314	2,696	2,893	3,183	3,501	3,851	5,007	5,507	6,058	6,664	7,330	8,063	10,643	11,708	12,878	14,166		
	6	Estate and Land Acqusion	507	647	590	650	714	786	1,022	1,124	1,236	1,360	1,496	1,645	2,172	2,389	2,628	2,891		
	7	Public Spaces	347	393	426	468	515	567	737	810	892	981	1,079	1,187	1,566	1,723	1,895	2,085		
	8	Water Works	850	685	784	862	949	1,043	1,357	1,492	1,641	1,806	1,986	2,185	2,884	3,172	3,489	3,838		
	9	Sewerage/Sanitation	182	204	188	207	228	251	326	358	394	434	477	525	577	635	698	768		
		<b>Total Salary Expenses</b>	<b>6,485</b>	<b>7,128</b>	<b>7,547</b>	<b>8,160</b>	<b>8,976</b>	<b>9,873</b>	<b>12,835</b>	<b>14,119</b>	<b>15,531</b>	<b>17,084</b>	<b>18,792</b>	<b>20,672</b>	<b>27,171</b>	<b>29,888</b>	<b>32,877</b>	<b>36,165</b>		
	<b>B</b>	<b>Operation &amp; Maintenance</b>																		
	1	Estate and Land Acqusion	723	137	1,171	1,289	1,417	1,559	1,715	1,887	2,075	2,283	2,511	2,762	3,038	3,342	3,677	4,044		
	2	General Administration	1,550	1,666	1,661	1,825	2,006	2,204	2,422	2,661	2,924	3,212	3,530	3,878	4,261	4,682	5,145	5,653		
	3	Public Works	5,04	747	4,38	4,74	5,14	5,57	6,03	6,53	7,08	7,67	8,30	9,00	9,75	10,5	11,4	12,3		

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
			2		3	8	3	1	5	7	2	1	9	1	0	62	41	93	
	4	Fire, Electricity	515	575	745	819	901	992	1,091	1,200	1,320	1,452	1,597	1,757	1,932	2,126	2,338	2,572	
	5	Education, Sports and Youth Welfare	742	672	661	713	770	832	899	971	1,048	1,132	1,223	1,320	1,426	1,540	1,663	1,796	
	6	Public Health Department	287	228	297	327	360	396	435	479	526	579	637	701	771	848	933	1,026	
	7	Solid Waste Mgmt	70	178	310	341	376	413	454	500	550	605	665	732	805	886	974	1,072	
	8	Roads, Flyovers and Drainage	92	60	116	128	140	155	170	187	206	226	249	274	301	331	364	401	
	9	Water Works	1,962	2,227	2,933	3,226	3,549	3,903	4,294	4,723	5,195	5,715	6,286	6,915	7,607	8,367	9,204	10,124	
	10	Sewerage and Drainage	20	12	49	54	60	66	72	80	87	96	106	116	128	141	155	171	
	11	Public Spaces	43	50	79	86	95	105	115	127	139	153	169	185	204	224	247	271	
	12	Misellaneous	2,356	1,984	1,838	1,985	2,144	2,315	2,501	2,701	2,917	3,150	3,402	3,674	3,968	4,285	4,628	4,999	
	13	O&M expenses on new projects					-	-	289	753	875	788	144	-					
		<b>Total O&amp;M Expenses</b>	<b>13,400</b>	<b>8,537</b>	<b>14,244</b>	<b>13,558</b>	<b>14,818</b>	<b>16,195</b>	<b>17,702</b>	<b>19,350</b>	<b>21,153</b>	<b>23,125</b>	<b>25,282</b>	<b>27,642</b>	<b>30,224</b>	<b>33,049</b>	<b>36,140</b>	<b>39,523</b>	
	<b>C</b>	<b>Debt Servicing</b>	-	-	-														

## 16-Financial Projections

			1 2 3 4 5 6 7 8 9 10 11 12																
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26	
		Figures in Rs. Lakhs	Actuals				Estimate	Projection											
	1	Principal & Interest - Existing Loans	-	-	-		619	619	619	619	619	619	619	619	619	619	619	619	
	2	Principal & Interest - New Loans	69	5	8		-	-	578	1,903	3,539	5,033	5,579	5,579	5,579	5,579	5,579	5,579	
		<b>Total Debt Servicing</b>	<b>69</b>	<b>5</b>	<b>8</b>	<b>-</b>	<b>619</b>	<b>619</b>	<b>1,198</b>	<b>2,522</b>	<b>4,158</b>	<b>5,652</b>	<b>6,199</b>	<b>6,199</b>	<b>6,199</b>	<b>6,199</b>	<b>6,199</b>	<b>6,199</b>	
		<b>Total Revenue Expenditure</b>	<b>19,955</b>	<b>15,669</b>	<b>21,800</b>	<b>21,718</b>	<b>24,412</b>	<b>26,688</b>	<b>31,735</b>	<b>35,991</b>	<b>40,842</b>	<b>45,861</b>	<b>50,273</b>	<b>54,512</b>	<b>63,593</b>	<b>69,136</b>	<b>75,216</b>	<b>81,886</b>	
		<b>Surplus /Deficit</b>	<b>83</b>	<b>70</b>	<b>73</b>	<b>3,148</b>	<b>3,699</b>	<b>5,572</b>	<b>3,993</b>	<b>2,596</b>	<b>1,695</b>	<b>1,482</b>	<b>3,781</b>	<b>6,389</b>	<b>5,116</b>	<b>8,526</b>	<b>12,716</b>	<b>19,142</b>	
		<b>Part II - Capital Account</b>																	
	/	<b>Capital Income</b>																	
	B	<b>Loans</b>	39	-	128		-	4,160	9,522	11,767	10,744	3,928	-						
	C	<b>Grants &amp; Contributions</b>																	
	1	UIDSSMT grants	359	-	3,239		-	7,363	19,256	23,304	20,669	4,501	-						
	2	Finance Commission grants	672	3,12	980	1,67	1,75	1,84	1,93	2,03	2,13	2,24	2,35	2,47	2,59	2,72	2,86	3,00	

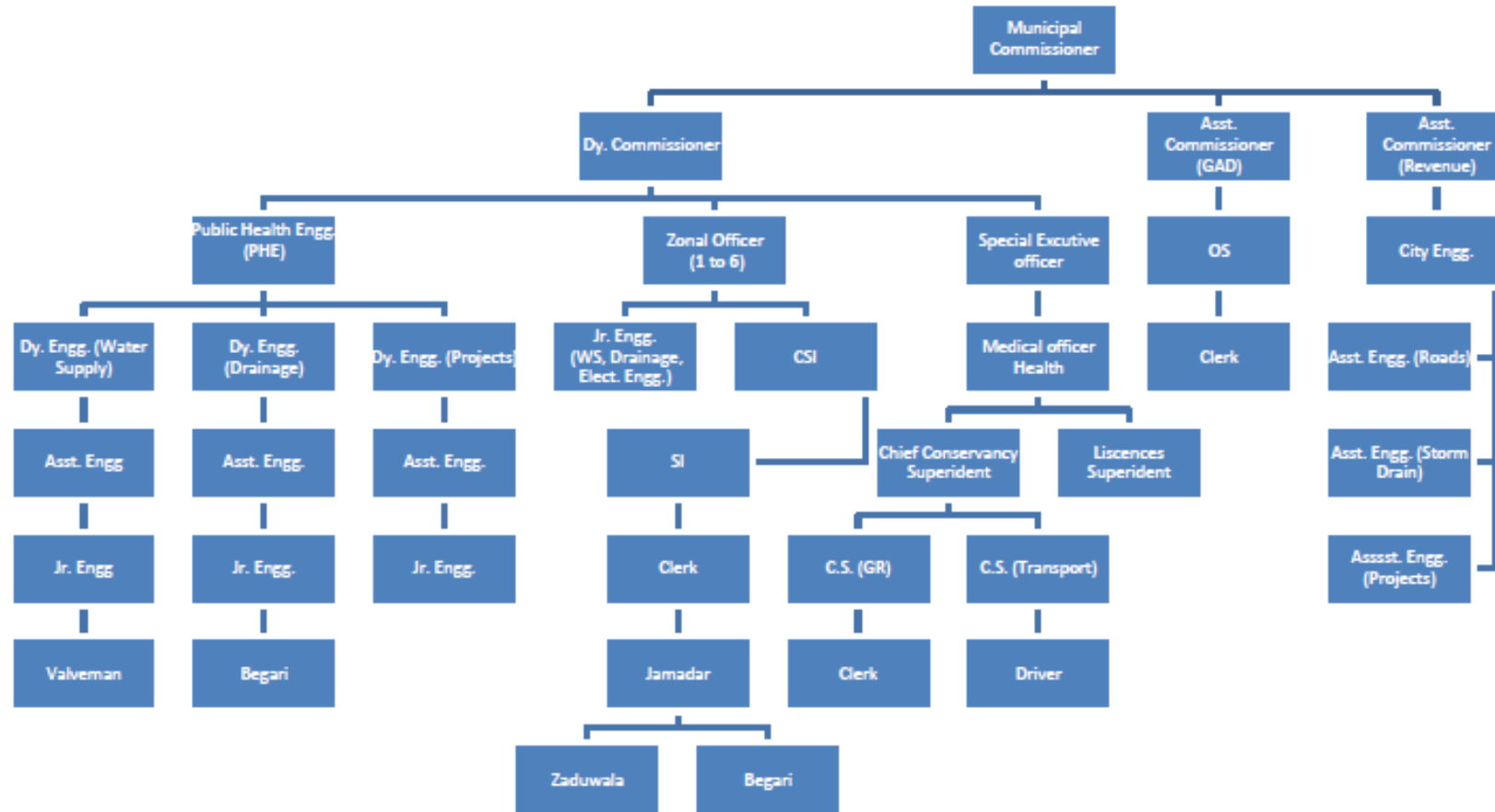
## 16-Financial Projections

			1	2	3	4	5	6	7	8	9	10	11	12				
Financial Year ----->			201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	201 7-18	201 8-19	201 9-20	202 0-21	202 1-22	202 2-23	202 3-24	202 4-25	202 5-26
		Figures in Rs. Lakhs	Actuals			Estimate	Projection											
				5		2	6	4	6	3	4	1	3	1	4	4	0	3
	3	State government Grants - MSJNMA	-	2,327	5,363													
	4	Other Grants	1,326	3,284	7,326	4,178	4,386	4,606	4,836	5,078	5,332	5,598	5,878	6,172	6,481	6,805	7,145	7,502
		<b>Total Capital Income</b>	<b>2,396</b>	<b>8,737</b>	<b>17,035</b>	<b>5,850</b>	<b>6,142</b>	<b>17,972</b>	<b>35,550</b>	<b>42,181</b>	<b>38,880</b>	<b>16,269</b>	<b>8,231</b>	<b>8,643</b>	<b>9,075</b>	<b>9,529</b>	<b>10,005</b>	<b>10,505</b>
II		<b>Capital Expenditure</b>																
	1	CIP as per Revised CDP					-	11,523	28,778	35,071	31,414	8,430	-					
	2	UIDSSMT Projects	1,221	710	1,984	2,404												
	3	MSJNMA	-	-	58	3,816	3,816											
	4	Regular Capital Works	5,394	4,449	9,128	6,830	7,376	7,966	8,603	9,292	10,035	10,838	11,705	12,641	13,653	14,745	15,924	17,198
		<b>Total Capital Expenditure</b>	<b>6,615</b>	<b>5,159</b>	<b>11,170</b>	<b>13,050</b>	<b>11,192</b>	<b>19,489</b>	<b>37,381</b>	<b>44,362</b>	<b>41,449</b>	<b>19,268</b>	<b>11,705</b>	<b>12,641</b>	<b>13,653</b>	<b>14,745</b>	<b>15,924</b>	<b>17,198</b>
		<b>Surplus /Deficit</b>	<b>(4,218)</b>	<b>3,578</b>	<b>5,865</b>	<b>(7,200)</b>	<b>(5,050)</b>	<b>(1,517)</b>	<b>(1,832)</b>	<b>(2,181)</b>	<b>(2,569)</b>	<b>(2,999)</b>	<b>(3,474)</b>	<b>(3,998)</b>	<b>(4,578)</b>	<b>(5,216)</b>	<b>(5,919)</b>	<b>(6,693)</b>



## ANNEXURE-2 – Organogram of SMC

### Annexure 5: Organogram of SMC



## ANNEXURE-3 – Kick Off Meeting with MoUD

### Annexure 6: Kick Off Meeting with MoUD

<b>Meeting Agenda</b>	Kick Off Meeting
<b>Assignment Title</b>	Preparation and Revision of City Development Plans for 13 Selected Cities Package 1 (13 cities) Preparation and Revision of City Development Plans for 17 Selected Cities Package 2 (17 cities)
<b>Name of Client</b>	Ministry of Urban Development
<b>Date of meeting</b>	8 <sup>th</sup> August 2013, 4 p.m
<b>Place/Location</b>	Ministry of Urban Development, New Delhi
<b>Participants</b>	<p><b>Ministry of Urban Development</b> Ms. Nisha Singh, IAS, Joint Secretary and Mission Director Mr. Prem Narayan, Director (JnNURM) Mr. Sanjay Kumar, Under Secretary (JnNURM) Officials from TCPO, CPWD, CPHEEO</p> <p><b>CBUD PMU Team</b></p> <p><b>CRISIL Risk and Infrastructure Solutions Limited (CRIS)</b> Mr. Ravi Poddar, Director, Urban Practice Mr. Brijgopal Ladda, Urban Planning Expert Mr. Abhay Kantak, Municipal Finance Expert Mr. K.K Shrivastava, Municipal Engineering Expert Mr. Tapas Ghatak, GIS Expert Mr. Appeeji Parasher, Associate Director Ms. Monika Bahl, Manager</p>
<p>CRISIL Risk &amp; Infrastructure Solutions Limited (CRIS) has been appointed by Ministry of Urban Development (MoUD) for the Preparation and Revision of City Development Plans for 13 Selected Cities under Package 1 and 17 selected cities under Package 2. A kick-off meeting was organized by MoUD to review the work plan and approach for the assignment. The meeting was chaired by Ms. Nisha Singh IAS, Joint Secretary and Project Director and was attended by senior officials from MoUD, PMU from CBUD and officials from TCPO, CPWD.</p> <p>CRIS Team made a presentation on the following aspects</p> <ul style="list-style-type: none"> <li>• Our Experience in Preparation of CDPs</li> <li>• Details of Assignment Coverage</li> <li>• Our Approach - Revised CDP toolkit</li> <li>• Proposed Teaming</li> <li>• Work Plan</li> </ul>	



- Support from MoUD

Following were the key points suggested by MoUD /CBUD PMU team and other key officials present during the meeting

1. Various recommendations were made by the participants for preparation of CDP. The Mission Director however suggested that the CDPs shall be prepared in line with the revised tool kit issued by MoUD and also mentioned that MoUD has prepared a comparison of variance between the first generation and 2<sup>nd</sup> generation CDPs and it shall provide a copy of the same.
2. It was also mentioned that an inclusive approach should be adopted as specified in the tool kit and sufficient emphasis should be made on strategies addressing urban poverty issues.
3. It was also suggested that cities have prepared other plans like CSP, CMP, disaster management etc. The interventions, projects, costing etc. suggested in this studies should be incorporated in the CDP. MoUD also suggested for sharing information from ISNA study to consultant for CDP such to synchronize the two reports.
4. The Mission Director also stressed on to focus on efficiency improvement related aspects while identifying projects in cities.
5. It was discussed that the population projection in all the CDPs shall be for a period of 30 years i.e. 2041 whereas the FOPs can be made for a period of 20 years to be realistic. All CDPs should have same time line for projections and should be based on Census 2011.
6. Some other aspects discussed were as follows
  - 24x7 Water Supply and implementation of SCADA and other new system to bring in efficiency, 100% metering etc.
  - Linkages with existing Development Plan or Master Plan
  - CDP should also endeavor to mention of suitable technologies based on the geographical condition of the cities.
  - Local Economic Development – Enlist the key thrust areas of economic development and broad level strategies
  - Map preparation
  - Smart cities concepts should be explored
7. It was suggested that CDPs should be made through rigorous stakeholder consultations and the ownership should be ensured at the city level.
8. It was suggested to have the executive summary to the Final CDP in vernacular language.
9. The timelines proposed for the assignment were found to be in line with that mentioned in the RFP.

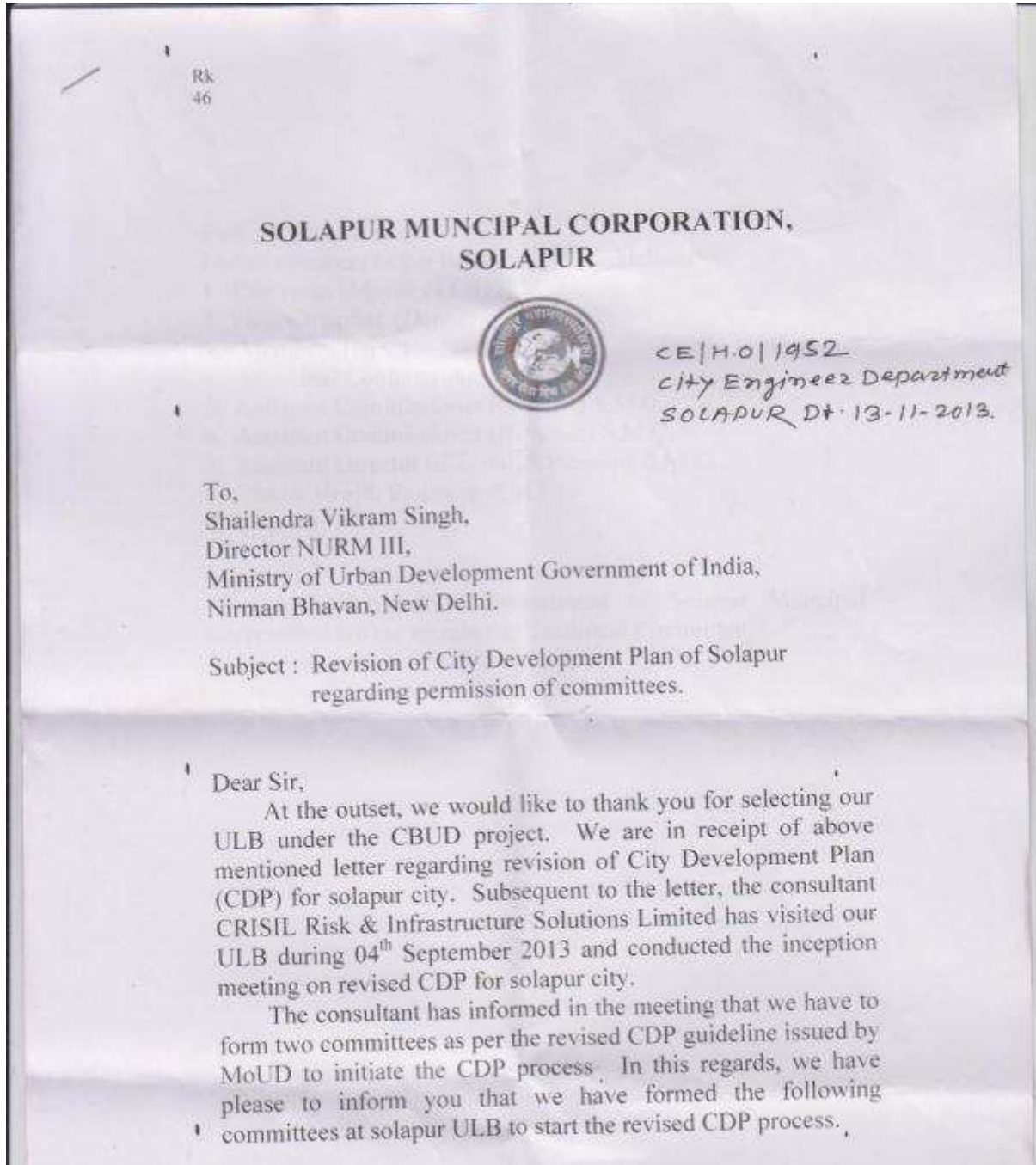
During the presentation CRIS suggested the following points for support from MoUD

1. The team would require a letter of Introduction from MoUD to ensure that all the ULBs can assist the team in the following
  - Designate an “Officer-In charge” responsible for management and coordination of consultants
  - Constitute multi-stakeholder City Level Steering Committee and working groups.
  - Nominate officers from relevant sections of ULB to participate in the process of stakeholder consultation and CDP preparation.
  - Provide the consultant with information, maps and relevant data and documents on ULB.
  - Provide the consultant with necessary authorization to procure information from the line departments
2. Introducing the consultants to the Urban Local Bodies
3. Facilitate and expedite approvals from ULB.

The meeting ended with a vote of thanks to all participants.

## ANNEXURE-4 – Details of Committees

### Annexure 7: Details of Committees



Rk  
47

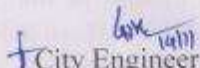
Policy Committee:

List of members as per Revised CDP Guidelines

1. Chairman (Mayor of City)
2. Vice. Chairman (Deputy meyor)
3. Members (DPC)
4. Muncipal Commissioner
5. Assistant Commissioner (General) S.M.C.
6. Assistant Commissioner (Revenue) S.M.C.
7. Assistant Director of Town Planning S.M.C.
8. Public Health Engineer S.M.C.
9. City Engineer S.M.C.

All Head of Department of Solapur Muncipal Corporation are the member of Technical Committee.

Yours Faithfully,

  
+ City Engineer  
Solapur Muncipal Corporation

## ANNEXURE-5 – Attendance List of Stakeholders

### Annexure 8: Attendance Sheet for Interim Level Consultation dated December 10th 2013.



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
24.	A.V. Antuliker	J.E.	Zone no-5	9891682946	<i>[Signature]</i>
25.	R.M. Patil	D.O.S Transport	Transport	9422653889	<i>[Signature]</i>
26.	Harish Budele	D.C.E.	ENC.	8295302812	<i>[Signature]</i>
27.	S.C. Jawalkar	DCE	PWD	9603564993	<i>[Signature]</i>
28.	M.S. Mathur	Z.O.S	ZON	9422451931	<i>[Signature]</i>
29.	S.M. Amangaj	Corporator	SMC	9422065868	<i>[Signature]</i>
30.	S.S. Deshmukh	J.E	MIDC	2651120	<i>[Signature]</i>
31.	Dr. Prasad.M. Kumar	MOH	SMC	9822329908	<i>[Signature]</i>
32.	Pujari. D.S.	Cons Super.	SME	9422697159	<i>[Signature]</i>
33.	Er. S.M. Naikwadi	Engineer	consulting	9822668998	<i>[Signature]</i>
34.	Er. Javed M. Hamdar	Engineer	consulting	9970607890	<i>[Signature]</i>
35.	Er. I.S. Alure	Engineer	consulting	9422653347	<i>[Signature]</i>



Name of the ULB: Solapur Municipal Corporation

Date: 10<sup>th</sup> December 2013

Venue: Municipal Council Hall, Solapur Municipal Corporation Building

1<sup>st</sup> Stakeholder Consultation

S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
1.	Prasanna S. Patil	Asstn. Commr.	City	9822088735	Prasanna S. Patil
2.	Prasanna S. Patil				
3.	Dr. S. S. Patil	Solapur manufacturer Assn. President.		9922220800	Dr. S. S. Patil
4.	S. S. Patil	CMIS Engg.		9422601738	S. S. Patil
5.	Rajgopal Zanwar	Joint Sec. Chamber of Cen.		9422460374	Rajgopal Zanwar
6.	P. I. Gadhani (Chairman)	Solapur Zilla Yashwantrao Chavan chairperson		9420492382	P. I. Gadhani
7.					
8.	Raju B. Rathi	Solapur Zilla Yashwantrao Chavan (TEXTILE) Export Chamber of Commerce PDEXCL Director		982394578	Rathu B.
9.	Prabhakar Vanlund	Director Solapur Industries		9970043672	P.C. Vanlund
10.	Makrand N. Gavali	Chairman Solapur Export Ind Estate		9423550671	Makrand N. Gavali



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
11.	Balaram S. Chavan	Director	Solapur Edu. Corporation	9422069370	Balaram S. Chavan
12.	Shinde D. B.	J.E.	Zone No. 5	9404901000	Shinde D. B.
13.	Pradip S. Patil	Asst. Commr.	City	9822088735	Pradip S. Patil
14.	Abhashkant Udale	Deputy Engg.	M.S.R.T.C.	9623894645	Abhashkant Udale
15.	Ar. Chaphalkar	Chairman IIA		0217-6065092	Ar. Chaphalkar
16.	Dongare H.G.	J.E.	ZONE No. 5	9422645800	Dongare H.G.
17.	Chapalgarwar S.F.	Programmer	Computer	2735285	Chapalgarwar S.F.
18.	Satish S. Patil	Post. Teacher	Solapur Env.	9422501866 9403247335	Satish S. Patil
19.	Sunil S. Patil	Corporator	Corporation	9401223065	Sunil S. Patil
20.	Amol Patil			966504182	Amol Patil
21.	Sanjay S.S.	Asst. Commr.	N.H.C.	9209992473	Sanjay S.S.
22.	Santosh Suresh	President	Central Union	9822794363	Santosh Suresh
23.	Pradip S. Patil	Asst. Commr.	City	9822088735	Pradip S. Patil

Annexure 9: Attendance Sheet Draft CDP Consultation dated December 20<sup>th</sup> and 21<sup>st</sup> 2014.



Name of the ULB: Solapur Municipal Corporation  
 Date: 21<sup>st</sup> December 2014  
 Venue: Council Hall, SMC

Stakeholder Consultation – Draft CDP

S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
1.	Chandrabini Jadhav	Executive Officer	M.A.	9830029600	[Signature]
2.	DR. RAYATE	Retd - Prof	Health	9881124986	[Signature]
3.	Umbraykar R.G.	-	-	8600767717	[Signature]
4.	Harish Chavan	विशेष अधिकारी	विशेष	9326801826	[Signature]
5.	Nishant Hegde	Press	Daily Apte Mahanagar	755837259	[Signature]
6.	Dr. S. B. Patil	अध्यक्ष (सिटी) अध्यक्ष (सिटी)	अध्यक्ष (सिटी)	9422009453 9870066670	[Signature]
7.	Dr. S. B. Patil	अध्यक्ष (सिटी) अध्यक्ष (सिटी)	अध्यक्ष (सिटी)	9850978201	[Signature]
8.	Prof. G. K. Deshmukh	अध्यक्ष (सिटी) V.V.P. Inshahdar	Environment Committee	9850177155	[Signature]
9.	Prof. S. M. Shaukh	Principals VVP Polychar	Civil	9822008060	[Signature]
10.	H. S. Bure	Environment		9823112177	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
11.	Sunil Furdole	President/Conds	Builder	9822035148	[Signature]
12.	Rajendra Waf.	Asst.	Market	7588005553	[Signature]
13.	Ketan M. Shuk		NGO	09320420033	[Signature]
14.	Udaygaur S.P.	अध्यक्ष		9037423836	[Signature]
15.	Shashikant Jadhav	Trainers Coordinator	Builder	9225904222	[Signature]
16.	Suresh Pawar	CROPAL MEMBER	Builder	9823113147	[Signature]
17.	Prakash S. Torani	ACCE/Princ	Consulting Engg.	9822047013	[Signature]
18.	Kiran Kadam	ACCE	Consulting Engg.	7738362744	[Signature]
19.	Gay Kore Siddharam	ACCE	Consulting Engineer	985028452	[Signature]
20.	Puranchand P. Rajal	ex Mayor		9330421191	[Signature]
21.	Venugopal Ghat	Reporter		9822300584	[Signature]
22.	Prakash Joshi	Reporter		9637825327	[Signature]
23.	M. K. Shukla	Reporter		9803231545	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
24.	D.N.M. Deshpande	Asso. prof.	Dep. of PWS Dr. V.M.G.M.C.	9421448576	[Signature]
25.	S.P. Hirsawath	Asst. Secy.	M.P.T. Ward	9923413414	[Signature]
26.	D.R. Shub	Secy. (Asst.)	Chamber of Comm.	989162929	[Signature]
27.	Vik. Dhanraj	Asst. E.E. (Asst.)	Tang. Dept.	9403645389	[Signature]
28.					
29.					
30.					
31.					
32.					
33.					
34.					
35.					
36.					



Name of the ULB: Solapur Municipal Corporation  
 Date: 21<sup>st</sup> December 2014  
 Venue: Council Hall, SMC

Stakeholder Consultation – Draft CDP

S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
1.	Arun Waykar	PI Traffic	Police	9923498587	[Signature]
2.	V.D. Shinde	Asst. Secy.	Police	9823112151	[Signature]
3.	R.N. Chitani	EnviroSAFE Consultant		9823112151	[Signature]
4.	Dr. V.K. Patil	NK-CER	Civil Engrg	955217934	[Signature]
5.	Prof. A.D. Joshi	education	education	8275302920	[Signature]
6.	Shankar Shinde	Revenue Engrg	M.S.R.E.C	9625894445	[Signature]
7.	Prof. S.B. Ganes	Lecturer	Civil Engrg	9822102069	[Signature]
8.	NR Pathak	chamber of commerce	-	98500-89319	[Signature]
9.	Jaswantrao As.	management	-	932872400	[Signature]
10.	N.R. Mahajan	Consulting Civil Engineer		09623337154	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
11.	Jadhav C.D.	Asst Engr	PHE	9423099865	[Signature]
12.	Gajale. N.M.	Asst. Engr.	MSE DCL	9875769387	[Signature]
13.	Shrikant R Doshbank	Freelance Academics		9422066719	[Signature]
14.	S. C. Regal	Z.O.	Z.O.S	9403688414	[Signature]
15.	Er. Vinayak M. Joshi	ACCE, Solapur		9422045681	[Signature]
16.	Satpute K.G	Z.O.	Z.O.G	9422457930	[Signature]
17.	Mothapati N.S.	Z.O.	Z.O.S	9422457931	[Signature]
18.	H.E. Godbole	SOMAS		9922220800	[Signature]
19.	Ashwini Sanap	DOP HQ/Traffic	CP off	9823416051	[Signature]
20.	Yatny Shah	CMD/precision	precision	9823040401	[Signature]
21.	Ms. Basawant Kote	Asst. Engr		9723705000	[Signature]
22.	Pratik K. Ghosh	Asst. Engr		22047053	[Signature]
23.	Er. Yashwantrao Ramkrishna	ACCE, Solapur		9922011226	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
24.	Dr. Vijay Shripure	consultant	Asst. Engr	9422007501	[Signature]
25.	V.K. Doshi	Asst. Engr		9422502492	[Signature]
26.	Er. Ganesh Anand	Consulting Eng	Private	9390426654	[Signature]
27.	G.J. Kulkarni	Asst. Professor	Civil Dept. MRCET	8880048431	[Signature]
28.	V.R. Hedgire	Consulting Eng.	Civil	9422644259	[Signature]
29.	S.A. Goudhari	M.D.	Kirloskar (Pvt) Ltd.	9850574100	[Signature]
30.	P.N. Pimparkar	Credit Advisor		9823112326	[Signature]
31.	Chavardi L.H.	Dy. Engr.	PHE/WS	9423069896	[Signature]
32.	Rajurathi	3rd. Secy. / Director	Asst. Engr / Chamber of	9823094578	[Signature]
33.	Rajwan M.K.	AMS. Maini	MARKET	7588008553	[Signature]
34.	Raikarad. M.B	ZFH-02	(C.E.)	9423970190	[Signature]
35.	Dhanraj G.M.	Ex City Engineer	S.M.C.	940457975	[Signature]
36.	Kamble V.G.	D.M.S.	S.M.C.	9175402779	[Signature]





S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
37.	Mr. Rode A.	P.H.E	P.H.E		
38.	Rajesh Ganali	Sec. Crude Slop		9922065657	
39.	Vijay Rattod	By Supp	PHE	96422457931	
40.	Er. A.M. Mehta	C.E. Sec	ACC E	98221536242	
41.	Dr. S.A. Kulkarni	Principal	W.T.T. Slop		
42.	Dr. S.S. Patil	H.O.D. civil	W.T.T. Slop	9922165735	
43.	Engr. H.P. Sec. A.V.	CONSULTING ENGR.	-	9402459246	
44.	Dr. G.A. Pandit	Dr. Dean	Dr. VM GMC Slop		
45.	Er. Shashikanth & Nishikant	Engineer	PCLB	9830460298	
46.	Er. Rohan R. Doshi	Engineer		9890023773	
47.	Mr. C. F. H. E	Principal	W.T.T. Slop	9881456727	
48.	Bagwan/Lampubh	Sub. Sec.	TUX	9637093843	
49.	Sirkazi R.M.	R.O. 2	Zone No-2	9922457928	



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
50.	R.R. Soni	Contractor		9823832039	
51.	S. J. Jadhav	By. Engr. Slop	P.M.O. Slop	9850525000	
52.					
53.					
54.					
55.					



Name of the ULB: Solapur Municipal Corporation

Date: 20<sup>th</sup> December 2014

Venue: Council Hall, SMC

Stakeholder Consultation – Draft CDP

S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
1.	श्री. सादुरंती सिद्धार्थ देवडी	Inspector			[Signature]
2.	श्री. शहादती अहमद तुस्का	---			[Signature]
3.	श्री. आशिषाबा नमसा बलुल	---			[Signature]
4.	श्री. अंजलि अश्वनाथ पातळे	---			[Signature]
5.	श्री. अश्वती तुमनार अश्वती	---			[Signature]
6.	श्री. अश्वती अश्वती अश्वती	---			[Signature]
7.	श्री. कुमल देविना अश्वती	---			[Signature]
8.	श्री. मोहिनी विजय पातळे	---			[Signature]
9.	श्री. शिवाजीकर वाणवे	---			[Signature]
10.	श्री. अश्वती अश्वती	Inspector		9422065868	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
11.	श्री. हादुरे अश्वती कवठिया	नगरसेवक			[Signature]
12.	श्री. अश्वती अश्वती	नगरसेवक			[Signature]
13.	श्री. अश्वती अश्वती	नगरसेवक			[Signature]
14.	श्री. अश्वती अश्वती	नगरसेवक			[Signature]
15.	श्री. अश्वती अश्वती	नगरसेवक		982250228	[Signature]
16.	श्री. अश्वती अश्वती	नगरसेवक			[Signature]
17.	श्री. अश्वती अश्वती	---		9423588585	[Signature]
18.	श्री. अश्वती अश्वती	नगरसेवक		9765645622	[Signature]
19.	श्री. अश्वती अश्वती	नगरसेवक		9226196033	[Signature]
20.	Baloo S. Parkwar	Bahujan samaj Party		9858792115	[Signature]
21.	श्री. अश्वती अश्वती	नगरसेवक		9960954471	[Signature]
22.	श्री. अश्वती अश्वती	नगरसेवक		9923493499	[Signature]
23.	Adm Sanjiv Solapur	नगरसेवक		9422450170	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
24.	C J Gudewar	Commissioner	-	9404831650	[Signature]
25.	Deepak J. Rajgare	-	-	9923003767	[Signature]
26.	Bismilla A. Shimalgar	Sadastha	-	9222010104	[Signature]
27.	A.R. Wani	-	-	9322309240	[Signature]
28.	Kantkale P.P.	Lawyer	S.M.D.	9403701100	[Signature]
29.	Duboye G.M.	2nd Deputy Commr	S.M.D.	9222517805	[Signature]
30.	Jeehin A. Konde	Asst. Specialist	Asst. Commr	8146923439	[Signature]
31.	Ambudhi Nikh. Rode	P.H.E.	P.H.E.	9850068045	[Signature]
32.	Mashale V. J.	Dy. Engr.	P.H.E.	7589243163	[Signature]
33.	Chaturvedi L.H.	Dy. Engr.	P.H.E. (W/S)	9423069896	[Signature]
34.	Bhale L.S.	Project Dir.	UCD	9423069891	[Signature]
35.	SHADHA S.B.	-	-	98230616789	[Signature]
36.	M.B. Shetye	Member	-	9804393690	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
37.	Manohar R. Sapate	Commissioner	Sanitary Sewer	9822119731	[Signature]
38.	विठ्ठल शि. मोह	नगरसेवक	-	9860670701	[Signature]
39.	शिवराम शि. शिंदे	corporator	-	9822119731	[Signature]
40.	सुवर्णा शिंदे	corporator	-	9822857077	[Signature]
41.	श. शि. शि. शिंदे	corporator	-	9822119731	[Signature]
42.	श. शि. शि. शिंदे	"	-	9890237880	[Signature]
43.	श. शि. शि. शिंदे	corporator	-	9822857077	[Signature]
44.	श. शि. शि. शिंदे	-	-	9822097247	[Signature]
45.	S.K. Bhat	-	-	9822624153	[Signature]
46.	अनिता वरुण शिंदे	(नगरसेवक)	-	9730303035	[Signature]
47.	Abhishek Jadhav	corporator	-	9308922621	[Signature]
48.	Indras Patel	corporator	S.M.C.	9822270222	[Signature]
49.	Meghanath Tembe	corporator	S.M.C.	9822301001	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
50.	SHAIKH ARIF	MEMBER	S.M.C	9422457862	[Signature]

51	श्री. अशोक विठ्ठल मिश्रा	सदस्य	S.M.C.	9422065595	[Signature]
52	Bugade Sanjay R	D.Engg	S.M.C	9562593781	[Signature]
53	श्री. अशोक मिश्रा	सदस्य	S.M.C	9822544140	[Signature]
54	श्री. अशोक मिश्रा	सदस्य	S.M.C	9096900009	[Signature]
				880550121	[Signature]



Name of the ULB: Solapur Municipal Corporation

Date: 20<sup>th</sup> December 2014

Venue: Council Hall, SMC

Stakeholder Consultation – Draft CDP

S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
1.	Mandakini Todkari	corporator		9096347799	[Signature]
2.	Sonita D. Karande	--- -- --		7875256079	[Signature]
3.	श्री. सुभाष अर्जुन	--- -- --		9976012240	[Signature]
4.	श्री. अशोक अशोक अशोक	--- -- --		9545550007	[Signature]
5.	श्री. कृष्ण भिमराव अकाश	--- -- --		9822099866	[Signature]
6.	श्री. शशांक सुधा	--- -- --		9372623717	[Signature]
7.	Harendra G. Kale	--- -- --		9923452445	[Signature]
8.	श्री. अशोक अशोक सुधा	--- -- --		9422067261	[Signature]
9.	Pravin Kumar Singh	--- -- --		9923708181	[Signature]
10.	श्री. अशोक अशोक सुधा	--- -- --		9370433740	[Signature]



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
11.	Uday Chakote	cooperator		8805826868	
12.	Paigamer Emen Shale	---		9881365085	
13.	महेश ठोरे	---		9822411181	
14.	पंडित अशोक भागुडे	Mayor		9422457940	
15.	ठाकुर मिरजे काशिक	Chairman S&T committee		9890374242	
16.	शशिंद्र कुतोर	Chairman transformation		9370429570	
17.	मै. विमल काशिक मोर	cooperator		8223043104	
18.	मोमनाई महाडिकार	---		9822445529	
19.	विश्व कानकायुता	---		900020449	
20.	यशोधर काठे	विधानसभे युवा		922096033	
21.	Baloo S. Gaikwad	B.S.P.		9850799115	
22.	Upgupta B. Chaudhan	B.S.P.		9023331284	
23.	अजय नामदेव मोर	B.S.P.		8882888368	

Capacity Building for Urban Development



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
24.	Rajkumar Surole	sub. editor	Lohamad	9850504280	
25.	मनोराम मिरापुर	Reporter	विश्व मारुती	9765562859	
26.	Sham Bhoadatt	Press photographer	S.M.C	9370426267	
27.	Vishant Hogue	Press Reporter	Apte Mahanga	7588337259	
28.	विश्व मारुती 4	editor	विश्व मारुती	8888810086	
29.	विश्व मारुती	editor	विश्व मारुती	9011466100	
30.	विश्व मारुती	editor	विश्व मारुती	8888444570	
31.	विश्व मारुती	editor	विश्व मारुती	98906116450	
32.	अजय नामदेव मोर	सदस्य	S.M.C	9822803800	
33.	अजय नामदेव मोर	सदस्य	S.M.C	9890325952	
34.	A.A Pathan	Principal Secretary	S.M.C	9000559933	
35.	Rajesh A. Kamkar	"	"	9823376177	
36.	CHUMBALKAR. Y.S.	PRECIDENT M.N.S.	M.N.S.	8605222444	

Capacity Building for Urban Development



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
37.	इन्फ्रास्ट्रक्चर डी.पी.ओ.	मिनिस्टर		8621786103	डि.आर. न.देव
38.	संयोजक डी.पी.ओ.	हैडक्वार्टर	S.M.C.	9923235009	कै.वै.कुमारी
39.	सो.जी.ए.ओ. डी.पी.ओ.	हैडक्वार्टर	S.M.C.	9503171747	सो.जी.ए.ओ. डी.पी.ओ.
40.	सो.जी.ए.ओ. डी.पी.ओ.	असिस्टेंट	S.M.C.	8605691209	असिस्टेंट
41.	विनयक डी.पी.ओ.	पब्लिक	Sakal	981183101	विनयक
42.	डि.जी.ए.ओ. डी.पी.ओ.	पब्लिक	गवर्नर	9822300584	डि.जी.ए.ओ. डी.पी.ओ.
43.	Samadhan Dayanand	Representative	In Council	9881515106	Samadhan Dayanand
44.	सो.जी.ए.ओ. डी.पी.ओ.	सिटी इंजीनियर	सो.जी.ए.ओ. डी.पी.ओ.	956111110	सो.जी.ए.ओ. डी.पी.ओ.
45.	डी.पी.ओ. डी.पी.ओ.	डि.पी.ओ.		9011223065	डि.पी.ओ.
46.	डी.पी.ओ. डी.पी.ओ.	डि.पी.ओ.		9881451144	डि.पी.ओ.
47.	डी.पी.ओ. डी.पी.ओ.	सिटी इंजीनियर	S.M.C.	9639825927	डी.पी.ओ.
48.	डी.पी.ओ. डी.पी.ओ.	सिटी इंजीनियर	S.M.C.	842118625	डी.पी.ओ.
49.	डी.पी.ओ. डी.पी.ओ.	सिटी इंजीनियर	S.M.C.	9822209214	डी.पी.ओ.



S.No	Name of the officials / Attendant	Designation	Department	Contact number	Signature
50.	डी.पी.ओ. डी.पी.ओ.	सिटी इंजीनियर	सिटी इंजीनियर	9423493950	डी.पी.ओ.

## ANNEXURE-6 – Recast of Municipal Accounts

### Annexure 10: Recast of Municipal Accounts

Account Head		2008-09	2009-10	2010-11	2011-12	2012-13
		<i>Rupees Lakh</i>				
<b>Summary - Municipal Account</b>						
	<b>Opening Balance</b>	<b>3,317.1</b>	<b>4,671.6</b>	<b>10,106.4</b>	<b>12,077.2</b>	<b>17,291.2</b>
	<b>Revenue Income</b>					
	General Account	14,298.0	16,324.9	21,106.0	12,651.8	20,569.9
	Water Account	2,239.5	2,349.7	2,566.4	2,592.5	3,351.8
	Sewerage Account	418.3	484.8	699.1	681.9	1,467.1
	<b>Revenue Expenditure</b>					
	General Account	11,575.3	13,421.9	16,954.6	12,621.5	17,908.4
	Water Account	2,451.9	2,576.7	2,812.3	2,911.9	3,716.7
	Sewerage Account	163.1	159.3	202.0	216.0	237.7
	Debt Servicing	175.2	95.2	69.3	4.8	8.5
	<b>Capital Account</b>					
	Capital Income	1,246.0	5,920.2	3,032.2	9,474.7	15,082.0
	Capital Expenditure	2,425.1	3,544.1	5,394.3	4,449.1	9,127.8
<b>Key Indicators</b>						
	<b>Opening Balance</b>	<b>3,317.1</b>	<b>4,671.6</b>	<b>10,106.4</b>	<b>12,077.2</b>	<b>17,291.2</b>
	Operating Ratio	0.85	0.85	0.82	0.99	0.86
	Share of Salaries' Expenditure to Rev.Income-%	28.1	27.6	26.6	44.8	29.7
	Share of Salaries' Expend. to Rev.Expenditure-%	33.2	32.5	32.4	45.2	34.5
	Capital Utilization Ratio	1.95	0.60	1.78	0.47	0.61
	Cost Recovery on Water Supply - %	91.3	91.2	91.3	89.0	90.2
	Cost Recovery on Sewerage -%	2.6	3.0	3.5	3.2	6.2
	Revenue Account Surplus	2,590.2	2,906.3	4,333.3	172.1	3,517.6
	Capital Account Surplus	-1,179.1	2,376.1	-2,362.2	5,025.6	5,954.1

Account Head		2008-09	2009-10	2010-11	2011-12	2012-13
		Rupees Lakh				
<b>Summary - Municipal Account</b>						
	<b>Overall Surplus</b>	<b>1,411.0</b>	<b>5,282.4</b>	<b>1,971.2</b>	<b>5,197.6</b>	<b>9,471.8</b>
	Closing Balance	<b>4,728.1</b>	<b>9,954.0</b>	<b>12,077.6</b>	<b>17,274.8</b>	<b>26,763.0</b>
<b>Detailed - Municipal Account</b>						
	<b>Opening Balance</b>	<b>3,317.1</b>	<b>4,671.6</b>	<b>10,106.4</b>	<b>12,077.2</b>	<b>17,291.2</b>
<b>Part I - Revenue Account</b>						
<b>I</b>	<b>Revenue Income</b>					
	<b>A Own Sources</b>					
	<b><u>Tax Revenue (%)</u></b>					
	1 Property Tax	1,485.1	1,759.4	1,943.6	2,048.7	2,287.1
	2 Consolidated Tax (Octroi/LBT)	8,274.5	9,360.8	11,741.6	6,052.9	10,276.6
	3 Advertisement Tax	0.2	9.2	23.6	21.7	12.1
	4 Other Taxes	756.5	921.1	1,115.0	887.0	957.6
	<b>Sub-Total (Tax Revenue)</b>	<b>10,516.4</b>	<b>12,050.5</b>	<b>14,823.7</b>	<b>9,010.3</b>	<b>13,533.4</b>
	<b><u>Water Account</u></b>					
	1 Water Charges	434.7	353.2	374.8	286.8	439.4
	2 Water Tax	1,700.6	1,934.9	2,068.0	2,192.5	2,796.7
	3 Other income (Surcharge, New Connection Fee etc.)	104.2	61.6	123.7	113.3	115.8
	<b>Sub-Total (Water Account)</b>	<b>2,239.5</b>	<b>2,349.7</b>	<b>2,566.4</b>	<b>2,592.5</b>	<b>3,351.8</b>
	<b><u>Sewerage Account</u></b>					
	1 Sewerage Charges	0.0	0.0	0.0	0.0	0.0
	2 Sewerage/Conservancy Tax	418.3	484.8	699.1	681.9	1,467.1
	3 Other income (Surcharge etc.)					
	<b>Sub-Total (Sewerage Account)</b>	<b>418.3</b>	<b>484.8</b>	<b>699.1</b>	<b>681.9</b>	<b>1,467.1</b>
	<b><u>Non Tax Revenue- Others</u></b>					
	1 Rent from municipal properties	213.9	166.4	235.7	240.6	293.5
	2 Building permit fees	417.9	708.1	716.8	846.9	1,684.1
	3 Fees from licenses	10.4	13.3	12.1	8.6	11.4
	4 Health, Education and	143.3	55.4	109.2	63.6	60.5



Account Head			2008-09	2009-10	2010-11	2011-12	2012-13
			Rupees Lakh				
<b>Summary - Municipal Account</b>							
		Public Safety Fees					
	5	Others	331.7	320.1	573.3	634.3	513.1
		<b>Sub-Total (Non Tax Revenue)</b>	<b>1,117.2</b>	<b>1,263.2</b>	<b>1,647.1</b>	<b>1,794.1</b>	<b>2,562.7</b>
	-	<b>Tax + Non-Tax Revenue</b>	<b>14,291.3</b>	<b>16,148.2</b>	<b>19,736.3</b>	<b>14,078.8</b>	<b>20,915.1</b>
	<b>B</b>	<b>Assigned Rev, Grants &amp; Contributions</b>					
	1	Octroi Compensation	0.0	0.0	0.0	0.0	0.0
	2	Additional Stamp Duty from Govt.					
	3	Primary Education grant	120.1	86.0	295.1	155.9	226.4
	4	Other state government grants	33.2	18.3	6.7	1,505.1	730.7
	5	State government Pension grants					
	6	Water Supply Grants					
	7	Sewerage Grants					
	8	Revenue surplus Available to be transferred to Capital Account	2,511.2	2,906.9	4,333.4	186.4	3,516.7
		<b>Total Grants &amp; Contributions</b>	<b>2,664.4</b>	<b>3,011.2</b>	<b>4,635.2</b>	<b>1,847.5</b>	<b>4,473.8</b>
		<b>Total Revenue Income</b>	<b>16,955.7</b>	<b>19,159.4</b>	<b>24,371.5</b>	<b>15,926.3</b>	<b>25,388.9</b>
	<b>I</b>	<b>Revenue Expenditure</b>					
	<b>A</b>	<b>Salaries/ Wages</b>					
	1	Finance and Revenue Department					
	2	General Administration	524.0	646.4	764.8	828.5	990.3
	3	Public Works	61.6	0.0	0.0	0.0	0.0
	4	Fire, Electricity	177.3	188.8	227.9	289.7	311.6
	5	Education, Sports and Youth Welfare	348.3	499.4	663.9	601.9	621.1
	6	Public Health Department	507.5	538.7	627.1	782.1	742.1
	7	Solid Waste Mgmt. (Contract employees)	1,780.1	1,980.6	2,314.2	2,696.5	2,893.4
	8	Others Departments					
	9	Estate and Land Acquisition	404.7	442.9	507.3	647.1	590.5

Account Head			2008-09	2009-10	2010-11	2011-12	2012-13
			Rupees Lakh				
<b>Summary - Municipal Account</b>							
	10	Public Spaces	291.4	296.0	347.5	393.0	425.8
	11	Water Works	518.8	546.3	850.3	685.0	784.0
	12	Sewerage/Sanitation	150.7	146.3	182.1	203.8	188.3
	<b>Total Salary Expenses</b>		<b>4,764.4</b>	<b>5,285.4</b>	<b>6,485.1</b>	<b>7,127.6</b>	<b>7,547.1</b>
	<b>B</b>	<b>Operation &amp; Maintenance</b>	<b>0.00</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
	1	Estate and Land Acquisition	374.7	668.3	723.1	137.4	1,171.4
	2	General Administration	1,139.8	1,312.5	1,550.0	1,666.2	1,661.4
	3	Public Works	3,183.7	3,483.8	5,041.7	747.1	4,383.4
	4	Fire, Electricity	328.8	406.9	514.8	575.2	745.0
	5	Education, Sports and Youth Welfare	550.9	608.3	742.1	672.4	660.5
	6	Public Health Department	182.7	238.6	287.2	227.6	297.2
	7	Solid Waste Mgmt.	36.5	132.3	69.8	177.8	310.4
	8	Roads, Flyovers and Drainage	41.5	60.7	91.6	59.8	116.1
	9	Water Works	1,933.1	2,030.4	1,962.0	2,226.9	2,932.7
	10	Sewerage and Drainage	12.4	13.0	20.0	12.2	49.4
	11	Public Spaces	27.9	26.6	42.6	50.5	78.6
	12	Miscellaneous	1,550.7	1,841.3	2,355.6	1,984.0	1,838.0
	<b>Total O&amp;M Expenses</b>		<b>9,362.6</b>	<b>10,822.6</b>	<b>13,400.4</b>	<b>8,537.1</b>	<b>14,244.0</b>
	<b>C</b>	<i>Others</i>	63.2	49.9	83.4	84.7	71.6
	<b>D</b>	<b>Debt Servicing</b>					
	1	Principal Repayment	22.2	0.0	0.0	0.0	0.0
	2	Interest	153.0	95.2	69.3	4.8	8.5
	<b>Total Debt Servicing</b>		<b>175.2</b>	<b>95.2</b>	<b>69.3</b>	<b>4.8</b>	<b>8.5</b>
<b>Total Revenue Expenditure</b>			<b>14,365.5</b>	<b>16,253.1</b>	<b>20,038.2</b>	<b>15,754.2</b>	<b>21,871.2</b>
<b>Part II - Capital Account</b>							
	<b>I</b>	<b>Capital Income</b>					
	<b>A</b>	<b>Loans</b>	<b>65.4</b>	<b>28.2</b>	<b>39.2</b>	<b>0.0</b>	<b>127.7</b>
	<b>B</b>	<b>Grants &amp; Contributions</b>					
	1	Grants for Projects					
	2	Finance Commission grants	401.7	811.8	672.4	3,125.2	2,395.4

Account Head			2008-09	2009-10	2010-11	2011-12	2012-13
			Rupees Lakh				
<b>Summary - Municipal Account</b>							
	3	UIDSSMT	0.0	2,879.6	359.0	0.0	0.0
	4	Road development grants	430.3	1,323.6	700.4	747.9	1,283.6
	5	Maharashtra Suvarna Jayanti	0.0	0.0	0.0	2,327.2	0.0
	6	Beneficiary Contribution	48%	16%	39%	50%	65%
	7	Water grant					
	8	Other Grants	348.0	876.8	1,260.8	3,273.9	11,274.6
<b>Total Capital Income</b>			<b>1,246.0</b>	<b>5,920.2</b>	<b>3,032.2</b>	<b>9,474.7</b>	<b>15,082.0</b>
	-						
		<b>Capital Expenditure</b>					
	1	JNNURM (UIDSSMT)	0.0	468.9	0.0	0.0	0.0
	2	Finance Commission grants					
	3	State Development Projects					
	4	Housing/Urban Poor					
	5	Gardens	271.2	528.8	462.4	421.7	575.7
	6	Fire and Electricity	154.2	127.1	471.1	119.6	349.3
	7	Public Health and Sanitation	0.9	0.7	50.5	33.1	2.0
	8	Roads	498.6	586.8	1,704.1	1,121.8	1,541.4
	9	Others	611.8	732.9	780.2	1,270.6	6,100.2
	10	Water Supply	581.0	782.3	1,439.9	870.0	273.9
	11	Development of Drainage	307.4	316.5	486.1	612.4	285.3
<b>Total Capital Expenditure</b>			<b>2,425.1</b>	<b>3,544.1</b>	<b>5,394.3</b>	<b>4,449.1</b>	<b>9,127.8</b>
<b>Part III: Suspense Account/Extra Ordinary Income and Expenditure</b>							
<b>A</b>	1	Suspense Account - Income	17.6	19.0	5.8	12.6	0.0
	2	Suspense Account - Expenditure	0.0	0.0	0.0	0.0	0.0
<b>Surplus/Deficit</b>			<b>17.6</b>	<b>19.0</b>	<b>5.8</b>	<b>12.6</b>	<b>0.0</b>

## ANNEXURE-7 – Ward Wise Population – SMC

### Annexure 11: Ward Wise Population – SMC

Name	Households	Population	Males	Females
Solapur (M Corp.)	188503	951558	481064	470494
Solapur (M Corp.) WARD NO.-0001	1733	9135	5062	4073
Solapur (M Corp.) WARD NO.-0002	3590	18094	9228	8866
Solapur (M Corp.) WARD NO.-0003	1445	7006	3588	3418
Solapur (M Corp.) WARD NO.-0004	2265	11127	5590	5537
Solapur (M Corp.) WARD NO.-0005	2939	14677	7582	7095
Solapur (M Corp.) WARD NO.-0006	2175	11021	5640	5381
Solapur (M Corp.) WARD NO.-0007	1463	8111	4164	3947
Solapur (M Corp.) WARD NO.-0008	1881	9621	4922	4699
Solapur (M Corp.) WARD NO.-0009	2025	9731	4982	4749
Solapur (M Corp.) WARD NO.-0010	1687	8607	4249	4358
Solapur (M Corp.) WARD NO.-0011	1814	9218	4601	4617
Solapur (M Corp.) WARD NO.-0012	1474	7646	3796	3850
Solapur (M Corp.) WARD NO.-0013	2391	11030	5572	5458
Solapur (M Corp.) WARD NO.-0014	2358	10951	5601	5350
Solapur (M Corp.) WARD NO.-0015	2280	11290	5810	5480
Solapur (M Corp.) WARD NO.-0016	1677	8968	4615	4353
Solapur (M Corp.) WARD NO.-0017	1818	8565	4363	4202
Solapur (M Corp.) WARD NO.-0018	1684	8661	4272	4389
Solapur (M Corp.) WARD NO.-0019	1410	6767	3354	3413
Solapur (M Corp.) WARD NO.-0020	1517	7740	3855	3885
Solapur (M Corp.) WARD NO.-0021	1415	7487	3758	3729
Solapur (M Corp.) WARD NO.-0022	1578	8295	4162	4133
Solapur (M Corp.) WARD NO.-0023	1519	7903	3943	3960
Solapur (M Corp.) WARD NO.-0024	1373	7115	3557	3558
Solapur (M Corp.) WARD NO.-0025	1641	8285	4214	4071
Solapur (M Corp.) WARD NO.-0026	1465	8310	4133	4177
Solapur (M Corp.) WARD NO.-0027	1556	7859	3922	3937
Solapur (M Corp.) WARD NO.-0028	1551	8108	4030	4078
Solapur (M Corp.) WARD NO.-0029	2173	11269	5591	5678
Solapur (M Corp.) WARD NO.-0030	2017	10228	5116	5112

Name	Households	Population	Males	Females
Solapur (M Corp.) WARD NO.-0031	2112	10292	5088	5204
Solapur (M Corp.) WARD NO.-0032	3233	16167	8130	8037
Solapur (M Corp.) WARD NO.-0033	3226	15522	7752	7770
Solapur (M Corp.) WARD NO.-0034	2597	12751	6429	6322
Solapur (M Corp.) WARD NO.-0035	3024	14062	7184	6878
Solapur (M Corp.) WARD NO.-0036	1849	9619	4905	4714
Solapur (M Corp.) WARD NO.-0037	1936	9344	4635	4709
Solapur (M Corp.) WARD NO.-0038	1478	7869	3909	3960
Solapur (M Corp.) WARD NO.-0039	1508	8709	4379	4330
Solapur (M Corp.) WARD NO.-0040	1599	9078	4558	4520
Solapur (M Corp.) WARD NO.-0041	1252	7041	3546	3495
Solapur (M Corp.) WARD NO.-0042	1131	7326	3815	3511
Solapur (M Corp.) WARD NO.-0043	1490	7473	3738	3735
Solapur (M Corp.) WARD NO.-0044	1659	8102	4033	4069
Solapur (M Corp.) WARD NO.-0045	1496	7947	3971	3976
Solapur (M Corp.) WARD NO.-0046	1543	7395	4019	3376
Solapur (M Corp.) WARD NO.-0047	1618	8242	4191	4051
Solapur (M Corp.) WARD NO.-0048	1590	8643	4505	4138
Solapur (M Corp.) WARD NO.-0049	1819	9406	4712	4694
Solapur (M Corp.) WARD NO.-0050	1483	7506	3706	3800
Solapur (M Corp.) WARD NO.-0051	1643	8111	3996	4115
Solapur (M Corp.) WARD NO.-0052	1374	8676	4349	4327
Solapur (M Corp.) WARD NO.-0053	1410	8246	4321	3925
Solapur (M Corp.) WARD NO.-0054	1372	7461	3716	3745
Solapur (M Corp.) WARD NO.-0055	1572	8022	4098	3924
Solapur (M Corp.) WARD NO.-0056	1841	9443	4795	4648
Solapur (M Corp.) WARD NO.-0057	1586	7558	3790	3768
Solapur (M Corp.) WARD NO.-0058	1419	7067	3532	3535
Solapur (M Corp.) WARD NO.-0059	1658	9169	4592	4577
Solapur (M Corp.) WARD NO.-0060	1701	8874	4385	4489
Solapur (M Corp.) WARD NO.-0061	1561	8364	4110	4254
Solapur (M Corp.) WARD NO.-0062	1644	7692	3724	3968
Solapur (M Corp.) WARD NO.-0063	1796	9187	4640	4547
Solapur (M Corp.) WARD NO.-0064	2118	10503	5252	5251
Solapur (M Corp.) WARD NO.-0065	1684	8112	4075	4037
Solapur (M Corp.) WARD NO.-0066	1762	8876	4460	4416

Name	Households	Population	Males	Females
Solapur (M Corp.) WARD NO.-0067	1765	8588	4269	4319
Solapur (M Corp.) WARD NO.-0068	1540	9615	4873	4742
Solapur (M Corp.) WARD NO.-0069	1608	8770	4339	4431
Solapur (M Corp.) WARD NO.-0070	1544	8551	4252	4299
Solapur (M Corp.) WARD NO.-0071	1711	8618	4296	4322
Solapur (M Corp.) WARD NO.-0072	1902	9363	4710	4653
Solapur (M Corp.) WARD NO.-0073	1819	8915	4448	4467
Solapur (M Corp.) WARD NO.-0074	1571	7762	3874	3888
Solapur (M Corp.) WARD NO.-0075	2180	11147	5605	5542
Solapur (M Corp.) WARD NO.-0076	2426	11665	5925	5740
Solapur (M Corp.) WARD NO.-0077	1697	8636	4264	4372
Solapur (M Corp.) WARD NO.-0078	2389	11335	5699	5636
Solapur (M Corp.) WARD NO.-0079	2651	13303	6716	6587
Solapur (M Corp.) WARD NO.-0080	2307	11874	5990	5884
Solapur (M Corp.) WARD NO.-0081	2130	10225	5126	5099
Solapur (M Corp.) WARD NO.-0082	1497	7516	3737	3779
Solapur (M Corp.) WARD NO.-0083	1801	8202	4185	4017
Solapur (M Corp.) WARD NO.-0084	2831	12677	6361	6316
Solapur (M Corp.) WARD NO.-0085	1830	9001	4589	4412
Solapur (M Corp.) WARD NO.-0086	1504	7136	3655	3481
Solapur (M Corp.) WARD NO.-0087	3733	17114	8782	8332
Solapur (M Corp.) WARD NO.-0088	1992	9567	4964	4603
Solapur (M Corp.) WARD NO.-0089	3273	14824	7595	7229
Solapur (M Corp.) WARD NO.-0090	4048	18677	9611	9066
Solapur (M Corp.) WARD NO.-0091	2346	12658	6375	6283
Solapur (M Corp.) WARD NO.-0092	1724	9677	4828	4849
Solapur (M Corp.) WARD NO.-0093	2076	11319	5695	5624
Solapur (M Corp.) WARD NO.-0094	2466	12278	6315	5963
Solapur (M Corp.) WARD NO.-0095	2306	11084	5702	5382
Solapur (M Corp.) WARD NO.-0096	1787	8859	4583	4276
Solapur (M Corp.) WARD NO.-0097	2443	11899	6039	5860
Solapur (M Corp.) WARD NO.-0098	1908	10023	5350	4673

## ANNEXURE-8 – Compliance Report – Comments from TCPO

### Annexure 12: Compliance Report – Comments from TCPO

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
1	<b>1 Project Background</b>	The Chapter gives the project background in terms of context, revision of CDP under CBUD Project, objectives, approach and methodology, processes undertaken for CDP preparation including constitution of committees and stakeholder consultations.	The Chapter has stated that the 1 <sup>st</sup> generation CDP was prepared, however, in the absence of the delegation of duties, the projects identified in the CDP were not prepared and further process of conceptualization and implementation was not taken up. This has to be corroborated from the Municipal corporation	It has been stated that SMC organized stakeholder consultation on 10.12.2013 to discuss the status and performance of service delivery mechanism and framing the vision for the city. The record of discussions needs to be included in the report.	The discussions held on the day of consultation as well as subsequent suggestions as submitted by the citizen of the city are summarized and presented in section 15.3 of the existing report.	Addressed
2	<b>2. Introduction to the city</b>	The Chapter has discussed about regional setting, jurisdiction of SMC, physical setting, topography and geology, climatic parameters, economic	It would be desirable to elaborate how the city has grown in the past highlighting the constraints and limitations along with potential for future growth. The Chapter may include description on wind direction and relative humidity.		The growth trajectory of the city has been explained in the 5 (Physical Planning and Growth of the city) Sections added providing details of relative humidity and wind directions. Please see section no 2.5.3.3 and 2.5.3.4 of the Final	Addressed

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
		activities and major resources availability.			Report.	
3	<b>3. Demographic Profile</b>	The Chapter has mentioned about population and urbanization in the state, growth trends of city, density, average household size literacy, ratio, SC/ST population by and language, and population rate, sex population, religion migration projections.	The Chapter is well written, describing all the demographic indicators. However, in Section 3.10.1, it has been stated that population growth of the city was provided in the Development Plan prepared in 1997 and it is observed that there is a substantial gap in the current vis-a-vis envisaged population for 2011. This has to be substantiated by quoting the population projection of Development Plan. (1997-2017).		The population projection as per the development plan is presented in section no 5.4.1.	Addressed
4	<b>4. Economic profile</b>	The Chapter has discussed State's economic profile, industrial scenario, street vending, occupational structure and work force participation	There is a detailed description on industrial activities in the city; however, 85.74% of the total working population is engaged in tertiary activities. Hence, besides mentioning street vending in SMC area, what other tertiary activities are contributing to city's economy need to be highlighted. Whether retail or wholesale trade activities are important economic activities also need to be highlighted. Land use has been discussed in Chapter 5, however, as per CDP Toolkit, a section on Land as the most		The subsection of the table is enhanced presenting the major activities which leads to increase in population working in the tertiary sector.  It is requested to provide exact section of the toolkit which is been referred to while mentioning the requirement of a section on land as a crucial input for housing and urban development in the city.	



SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
			crucial input for housing and urban development programmes may be included especially taking into account future urbanizable area as per the Development Plan 1997-2017.			
5	<b>5. Physical Planning and Growth Management</b>	The Chapter highlights constituents of planning area, urban planning, spatial growth trends, landuse analysis, urban planning functions and reforms	The Chapter has appropriately described the spatial growth trends. It is stated that developed area is only 20% of the total area. Further, there was increase in the area of Municipal corporation by subsuming the surrounding villages. Large scale developments due to various reasons cannot take place in the city. However, it would be desirable that the Chapter may highlight the development of various activities on developable land and how the problems could be overcome by way of enhancing SMC resources.	Maps in colour are included.	The chapter 17 (Financial Operating Plan) covers the probable revenue enhancement measures that can be undertaken by the SMC to overcome various faced by the SMC In undertaking the development activities in the city.	
6	<b>6. Social and Cultural Environment</b>	The Chapter discusses existing scenario in health, education and recreation facilities.	Comparison with URDPFI Guidelines, 2014 norms for the facilities has been done which highlights gap in the availability in terms of population coverage. Besides highlighting the availability of facilities, as	Map showing the location of facilities has been included.	The same has been already covered in Section 12 of the report.	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
			<p>per Toolkit, it will be desirable to make assessment of social environment in the city, in terms of social inclusion, gender sensitivity, human rights. Assessment of traditional communities living in specific areas, and their history traditional crafts villages and areas that are part of the city and, cultural heritage aspects like festivals, performing arts, cultural practices, religious practices, rites and rituals, the use of public spaces during festivals are required to be included.</p>			
7	<b>7. Infrastructure and Services</b>	<p>The Chapter discusses about the availability of water supply, sewerage and sanitation and solid waste management</p>	<p>The chapter is well written and analyses the existing scenario in terms of availability of services and future requirement. Map-2 shows the 8 water supply zones, however intra-city disparities have not been highlighted. It has been stated that city area (extension) is not covered by the piped water supply and perhaps depend on ground water supply which has not been mentioned. Similarly, coverage of sewerage is restricted to city core areas and only 30% of houses are connected with</p>	<p>While identifying key issues against each service, it would also be desirable to advocate the concept of decentralised waste water treatment and solid waste management with emphasis on recycling and reuse of both waste</p>	<p>During the discussions with the city officials. It was understood that the zone wise information on service levels difficult to gather and thus zone wise assessment of water supply as well as sewerage is not provided in the report. However, understanding the importance, during the subsequent visits the consultant would raise the issue and will emphasize on assessing the zone wise gaps for water and sewerage services.</p>	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
			sewerage network. It would be desirable that zone wise information on requirement of augmentation of both water supply and sewerage needs to be given to clearly highlight which areas require urgent attention. The service level for solid waste management is also way below the benchmark.	water and solid waste.  A section on storm water drainage also needs to be included.		
8	<b>8. Traffic and Transportation System.</b>	CDP has broadly discussed about existing road infrastructure, existing traffic and transportation system review of institutional system, transit oriented development and street lighting.	The chapter has touched upon most of the aspects pertaining to traffic and transportation, however, due to data constraints, information has not been provided as per typical road hierarchy and trip distance. It would be desirable to include a section on need of facilities like Bus Terminal, Truck Terminal, and Integrated Freight Complex especially in terms of size, space usage and different type of facilities within the premises. Possibilities of BRTS may be discussed along with role of NMT para transit.		Since the CDP being a strategy document, raising any specific requirement in the traffic and transportation requirement in the city was not desired. However, we assess that to suggest the facilities such as bus terminal, truck terminal, integrated freight complex, cannot be suggested in absence of the detailed technical and financial feasibility. Also it should be noted that this was also not raised by any of the stakeholder of the city during the stakeholder consultation.	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
9	<b>9. Housing and Urban poverty</b>	The Chapter has discussed overall housing scenario, urban poverty and slums, housing sector under 1 <sup>st</sup> generation CDP and key issues.	The Chapter is well written, however, access to basic facilities like water supply and solid waste disposal in the slums also needs to be discussed. If possible percentage of people living below poverty line may also be indicated. It is stated that 2.83 lakh houses will be required to overcome the gap. The additional housing to be provided by re-densification and construction of new housing in the form of group housing /plotted development may also be discussed keeping in view the latest policy initiative of Government to provide housing for all by 2022.	Map showing the location of slums has been included.	Discussion on plotted development will be incorporated post comments on the same from the city officials.	
10	<b>10. Urban Environment and Disaster management</b>	The Chapter deals with pollution level, ambient air quality, water quality, noise levels, water bodies, environmentally sensitive areas, disaster mitigation measures	Chapter has covered most of the aspects pertaining to urban environment and disaster management. It would be desirable that a section on provision of structural safety of buildings in the building regulations and its adherence may be incorporated.		Provision of a section on structural safety for building is a highly technical subject. Also, the toolkit for the CDP does not assess the need for such a section on structural safety of the building as CDP being a strategy document. However, the same will be discussed with the officials of the city.	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
11	<b>11. Climate Change and Sustainable Development</b>	The Chapter deals with climate change and urban cities, carbon footprint and heat island mapping, impact and imperatives, carbon reduction strategy and recommended adaptation strategies,	Chapter is a welcome addition. For Figure 44 and 45 sources to be acknowledged and it is not clear whether Figure 46 is based on some analysis of average mean temperature of the city. Section 11.4.2 and 11.5 may be correlated with report on National Mission for Sustainable Habitat Mission. (NMSH)		Sources for figure 44 and figure 45 are acknowledged in the report. Figure 46 is indicative based on the concept presented in Figure-44 of the report.	
12	<b>12. Cultural Resources, Heritage and tourism</b>	The chapter discusses historical importance, existing framework for heritage and initiatives for heritage conservation, tourism scenario, fairs and festivals and key concern for tourism development	Section 12.2 may elaborate whether heritage regulations as per the Building bye laws for non protected heritage structure are applicable to the city (if State has notified heritage regulation and adopted by the city)	Map on heritage places has been included, however it may also show the presence of ASI protected monuments along with non - ASI protected structures.	This government of Maharashtra has passed a notification for formation of the heritage committees in the city for protection and preservation of the heritage structures in the city. However, it should be noted there that such committee is yet to be formed in the city.	
13	<b>13. Institutional Structure</b>	The Chapter broadly covers institutional framework, municipal corporation, Institutional structure, status 74 <sup>th</sup> CM and governance reforms.	The Chapter is well compiled and has given the compliance to 74 <sup>th</sup> CAA and urban governance reforms. A section on Inter Institutional linkages and coordination may be included.	Organizational may be organogram framework shown in	The concern on inter-institutional linkages and coordination is not clear. Organogram of the SMC is provided in the annexure of the report.	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
14	<b>14. Financial Assessment</b>	The Chapter mentions about Municipal Accounting System, key features and assessment of municipal finances, revenue and capital account	The Chapter has done detailed analysis of the financial position of the municipal corporation. A section may be added to strengthen the non tax revenues of the Municipal Corporation along with recommending migration to modern accrual based double entry system of accounting modern accrual-based double entry system of accounting		Section 17.9 in the report has been enhanced incorporating the suggestive measures to strengthen the non-tax revenue.	
15	<b>15. City Vision, Development Goals and Strategies</b>	The Chapter includes stakeholder consultations, organization of workshops, suggestions of stakeholders, SWOT analysis, vision statement, milestones and development goals.	The chapter is well compiled except the mentioning of social infrastructure which is also an important component of overall city development goals.		The suggestion is very well taken. However, since social infrastructure goals can be highly subjective in nature, it is very difficult to provide subjective goals for this sector. However it is requested to refer the capital investment plan wherein projects for provision of social infrastructure are incorporated.	
16	<b>16. Sector Plan, Strategies and Investment Plan</b>	The Chapter has discussed institutionalising Capital Investment Plan by including Sector Plans - water supply, sewerage, solid waste management, traffic and transportation,	The Chapter is quite comprehensive covering both physical and social infrastructure with a total investment estimates of Rs. 3098.75 crore.		No response to the comment raised is essential.	

SI No	Chapters/Contents	CDP Analysis	Appraisal Comments	Remarks	Response / Action Taken	Response
		urban poor, urban environment and social infrastructure and strategies for economic up-liftment of the city.				
17	<b>17. Financial Plan Operating</b>	The Chapter covers financial plan, methodology, financial strategies, investment sustenance capacity, investible surplus ,reforms implementation, financial and assets management initiatives	The Chapter is well written and has focussed on revenue enhancement initiatives which are crucial for any urban local body. It would be desirable that a section on capacity building (although it is mentioned in Section-17.14 and 18.3.3 in Chapter 18) may also be included especially to sensitize the officials to in terms of revenue enhancement measures with setting out targets to achieve the revenue generation.		It may please be noted here that, under the kind guidance of the Ministry and Capacity Building for Urban Development (CBUD) Project, detailed measures w.r.t the capacity building are assessed. The RBA report covers sector wise capacity building measures to be undertaken by the SMC in the area of municipal financial management where in revenue enhancement is also a component. To avoid the repetition of the exercise for the same urban local body, the capacity building section is not incorporated in the CDP.	
18	<b>18. Review and Monitoring Framework of CDP</b>	The Chapter covers framework for evaluation along with assessment of reforms.	Unlike statutory Master Plan, the CDP has to be action oriented with clear cut timelines for implementing the projects. This has to be emphasised .However, it may also be thought off whether CDP proposals can be subsumed in Master Plan.	Themes for capacity may be identified and included in Chapter -17	SMC is the authority for implementation of the master plan of the city. SMC may consider subsuming the proposals of the CDP in the master plan after due coordination with the state government.	

## ANNEXURE-9 – Compliance Report – Comments from CBUD

### Annexure 13: Compliance Report – Comments from CBUD

Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
1.	1	1.9.1 (Committee Formation)	Add the details of the committee in Annexure	The letter of the SMC presenting the details of the committees formed is annexed in the report.	Comment Addressed
2.	2	2.2 (Administrative Boundary)	Add details of ward and zones in the city	The paragraph providing the details of the administrative boundaries of SMC is now revised and it now provides the details of the zones and wards in the city.	Comment Addressed
3.	2	Figure -4 (administrative boundry)	Provide a full page map / landscape / A3 map	The page-setup for the current page is revised to an A3 page with the size of map increased.	Comment Addressed
4.	2	2.4 (defining the study area)	Mention study area in terms of the city area then number of zones and then number of wards in each zone.	An additional table describing the zones and corresponding wards has been included in the report.	Please refer to section 2.2 of the report.
5.	2	2.5.1 (Historical and regional importance)	Concise the para	The para is now concise and a map positioning Solapur in the region has been prepared and included in the report.	Comment Addressed
6.	3	3.8.1 (Religion wise population)	Re-phrase the paragraph	The para has been re-phrased now.	Comment Addressed
7.	Gen		In some reports it is observed that the font size are the same for H1-H2/H3... the headings should be	This is a general comment and not for this report in particular. This any action as a change is not essential in	Not specific to Solapur.



Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
			distinct from each other.	the report.	
8.	City Base Map		The main road lines should go out of the municipal boundary and touch map boundary.		Update map shall be provided along with the next deliverable.
9.	3	3.1.1 (urbanization in state)	<ul style="list-style-type: none"> <li>■ Use word “population” instead of Souls</li> <li>■ Add % urban population</li> </ul>	The paragraph presents the % wise population.	Comment Addressed
10.	Gen	Regional Proposals	Include regional proposals should find a place in the CDP	Please note that as of now the regional proposals are not available with the consultant to be included in the report. However, the same will be identified at the time of the stakeholder consultation of the draft CDP.	All such regional proposals as identified in the final stakeholder consultation will be incorporated in the next deliverable.
11.	Gen		Add aspects w.r.t developing the economy of the city and region	It is requested to refer to the section 16.9 of the report. However, it is understood based on consultations with various industrial associations that, lack of appropriate basic infrastructure in the city is the reason which is hampering the industrial development in the city. Once the adequate infrastructure support is available, the industrial growth will follow.	Comment Addressed
12.	3	Table 8 (Pop proj <sup>n</sup> methods)	Add base year (2011) population in the table Add base year growth in the table (2001-11)	The table has been revised accordingly.	Comment Addressed
13.	4	4.1.2 (State	Use absolute figures instead of using	The para has been revised accordingly and the space below has	Comment Addressed

Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
		income)	word "Thousand". Remove the space below the para	now been removed.	
14.	4	Fig-18 (location of industries)	Use base map instead of google earth	Location of the industries shall be marked in the city base map provided earlier and the same shall be provided along with the hard copy submission of the final report.	Comment Addressed
15.	4	4.3	Add a summary of the industries before 4.3.1 and then discuss 4.3.1 and 4.3.2	A summary has been added in the beginning of the section.	Comment Addressed
16.	4	4.4 (street vending)	Mention the areas in SMC where street vending is undertaken	It is difficult to include the name of all the areas in SMC having presence of the street vending activity. However the areas having prominent street vending activity present in the city are mentioned in the paragraph.	Comment Addressed
17.	4	4.4.2 (Specific Norms for ULBs)	Which norms by whom ?	The norms are as per the national street vending policy.	Comment Addressed
18.	4	4.5 (Occupational Structure)	What is the total number of workers in Table-11	The table has been revised and actual number of workers is included in the table.	Comment Addressed
19.	4	4.7	Add specific key issues	Specific issues are added to the identified issues.	Comment Addressed
20.	5	Fig-19	Present both images in two separate pages (enlarged)	Changes made in the formatting of the report. At the time of hard copy submission of the report, both the lansuse images shall be provided in A3 sized paper.	Comment Addressed
21.	5	Fig-21	Use city base map instead of Google	The same shall be provided along	Comment will be addressed in the

Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
			map	with the hard copy submission of the final report.	next deliverable
22.	5	5.3.2 (Comparison with URDPFI)	Make headings 5.3.3, 5.3.4, 5.3.5 as a,b,c,d	The headings in the corresponding sections have been changed now.	Comment Addressed
23.	5	5.3.2 (Comparison with URDPFI)	Comparison for Transportation land use to be provided	Comparison for the land use under the transportation section has been provided.	Comment Addressed
24.	5	5.5.1	Check the last line – take it to next page	The formatting has been updated to accommodate the remark.	Comment Addressed
25.	5	5.4 (Appraisal of the Development Plan)	Mention highlight in bullets in the same para	The highlights of the appraisal of the development plan have been provided in the bullet points.	Comment Addressed
26.	6	All tables of URDPFI Comparison	Add the demand supply gap instead of just saying meeting the requirement or not.	The supply if the social infrastructure from the private sector side is not available as of now. However, the demand supply gap based on the available information shall be added.	Comment will be addressed in the next deliverable.
27.	8	Fig-29	Following are the suggestions / additions <ul style="list-style-type: none"> <li>■ Remove the gap below the charts</li> <li>■ Discuss the roads as per the RoW</li> <li>■ Mention stretches with congestion</li> <li>■ On street parking</li> <li>■ Congested areas</li> <li>■ Missing links</li> <li>■ By pass roads</li> </ul>	It should be noted that to cover the specific assessment of the traffic and transportation sector for a city in absence of any on-ground study of the transportation sector is difficult. The current section of the report provides the details of the traffic related sections on basis of the discussions with the department officials and visual observations to the extent. To carve out specific proposals related to on street parking,	The Consultants will visit the city in the coming month and discuss the suggested proposals with the city officials and will incorporate the same in the next deliverable.

Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
			<ul style="list-style-type: none"> <li>■ Regional transportation corridor</li> </ul> <b>Proposals</b> <ul style="list-style-type: none"> <li>■ Parking</li> <li>■ Green belt</li> <li>■ Additional bus depot</li> </ul>	missing links, by pass roads, additional bus depot and regional transportation corridor the base surveys for the original and destination studies based on the trip generation data is essential. However in the case of Solapur any such study w.r.t traffic and transportation sector is yet to be undertaken. Proposals w.r.t multilevel parking has already been included in the report.	
28.	9	Housing and UP	Add 2011 data wherever the data is provided for 2001.	The information from the Census 2011 is now available and the same has been provided in the section wherever 2001 data was used.	Comment addressed
29.	9	Table-41	Add base year data Rename the terminology in the table for better understanding	This is the table stating the requirement for the future housing in the city. The table is now been updated based on the discussion with the officials of the CBUD team and base year information has been provided in the table.	Comment addressed
30.	9	Table-42	Change the terminology as "notified"/"Non-Notified" instead of Authorized / un-authorized	The terminology w.r.t slums in the section have been now revised to Notified and Non-Notified instead of Authorized and un-Authorized.	Comment addressed
31.	9	Map – Slums	Use distinctive color scheme for slums	The map will be accordingly revised and the same shall be provided along with the final report submission.	Comment will be addressed in the next deliverable.
32.	12	Heritage and tourism	<ul style="list-style-type: none"> <li>■ Include the list of structures as per ASI in the annexure (within as well as outside the SMC limits)</li> </ul>	<ul style="list-style-type: none"> <li>■ The list has been provided.</li> <li>■ Map has been provided</li> <li>■ Please refer the section 12.4.1 of</li> </ul>	<ul style="list-style-type: none"> <li>■ Comment Addressed</li> </ul>

Sr No	Chapter	Section No	Comment	Response / Action Taken	Remarks
			<ul style="list-style-type: none"> <li>▪ Provide more details for the bustard sanctuary</li> <li>▪ Tourism circuit – Show it on the state level map</li> <li>▪ Mention the destination of the tourists visiting the district. If available also mention the breakup of tourist visiting each destination.</li> <li>▪ Elaborate tourism and related infrastructure requirement for the SMC.</li> </ul>	the report which presents the destination of tourists visiting the district	
33.	14	Municipal Finance	Add the summary of the investment capacity of the SMC in the summary of the chapter.	A summary of the investment capacity would be added to the end section of the Municipal finance in the report.	Comment will be addressed in the next deliverable
34.	15	Vision	<ul style="list-style-type: none"> <li>▪ Refer the vision of Guntur and Yamunanagar</li> <li>▪ Mention the process of arrival of the vision</li> </ul>	<ul style="list-style-type: none"> <li>▪ Referred and the chapter will be revised accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Comment Addressed.</li> </ul>

## ANNEXURE-10 – Industrial Units in Hotgi Road Industrial Estate

### Annexure 14: Industrial Units in Hotgi Road Industrial Estate

Sr. No	Type of products	Number of Units
1	Cotton West	1
2	Printing Press	5
3	Aluminum Pots	5
4	Papad, Pickles and masalas	2
5	Ice Factory	1
6	Engineering	24
7	C I Foundry	2
8	Power looms	9
9	Plastic Grens	2
10	Fabrication	14
11	Mosaic Tiles	2
12	Marble Cutting Polishing	2
13	Fettling	4
14	Beedi Industry	1
15	Polythene Pipes	5
16	Cotton Fabrics	1
17	Phenyl	1
18	Chemicals	6
19	Rava industry	2
20	Filters Sheet metal	1
21	Aluminum Rolling	3
22	Sizing	1
23	Electricals	4
24	Pulses	1
25	Polythene Bags	1
26	Gejjes production	1

Sr. No	Type of products	Number of Units
27	sweet snacks	2
28	mineral water	1
29	Aluminum Chips	1
30	Tire Remolding	1
31	washing clothes	1
32	auto ancillary	1
33	Plastic sheets	1
34	Cardboard Paper	4
35	Air Condition servicing	1
36	Ayurvedic medicine	1
37	Mono block pumps	1
38	Packaging	1
39	Furniture	4
40	plastic products	2
41	auto servicing	8
42	powder coating	1
43	saw mill	1
44	electroplating	1
45	electric pumps	1
46	rubble industries	3
47	business farms	1
48	pharmaceuticals	1
49	food manufacturing	1
	<b>Total</b>	<b>141</b>

## ANNEXURE-11 – List of Heritage Structures within SMC as per INTACH

### Annexure 15: List of Heritage Structures within SMC as per INTACH

Type of Building	Name of Building / Structure / Site	
	Grade-I	Grade-II
Government Buildings	<ol style="list-style-type: none"> <li>1. Land fort of Solapur</li> <li>2. Old SMC building</li> <li>3. SMC - indrabhuvan</li> </ol>	<ol style="list-style-type: none"> <li>1. North Cote high school</li> <li>2. Govt. polytechnic</li> <li>3. General post office</li> <li>4. Rippon hall</li> <li>5. Ladies iti (northcot hostel)</li> <li>6. B block (civil hospital)</li> <li>7. Mangalvar peth police chowki</li> <li>8. Collector bungalow</li> <li>9. Police commissioner bungalow</li> <li>10. Pani ves</li> </ol>
semi government and public buildings	<ol style="list-style-type: none"> <li>1. DR KOTNIS HOUSE (Now restored to National Memorial)</li> </ol>	<ol style="list-style-type: none"> <li>1. Laxmi market</li> <li>2. Masonic hall</li> <li>3. District court building</li> <li>4. Pach kandil in 5 chouk               <ol style="list-style-type: none"> <li>a. Modi,</li> <li>b. Siddheshvar peth,</li> <li>c. hotel pratham,</li> <li>d. painter chouk</li> <li>e. kumbhar ves</li> </ol> </li> <li>5. Macaunicky chowk memorial</li> <li>6. Sangameshvar college</li> <li>7. Dav college</li> <li>8. Kamgar kalyan kendr(near kuchan high school)</li> </ol>
Trust owned Buildings	<ol style="list-style-type: none"> <li>1. SIDDHESHVAR LAKE AND TEMPLE</li> <li>2. MALLIKARJUN TEMPLE, BALIVES</li> </ol>	<ol style="list-style-type: none"> <li>1. HAJIBHAI DARGA</li> <li>2. JAVEDBABA DARGA (Samachar Chouk)</li> <li>3. AYURVED HOSPITAL</li> <li>4. H D Highschool(</li> <li>5. VORONOKO SCHOOL</li> <li>6. KHAN DOBA TEMPLE,BALE</li> <li>7. OLD VITTHAL MANDIR</li> <li>8. NAGARESHVAR MANDIR</li> <li>9. BUBANE JAIN MANDIR</li> <li>10. DIGAMBAR JAIN MANDIR</li> <li>11. SHVETAMBAR JAIN MANDIR</li> <li>12. MARKANDEY MANDIR</li> <li>13. DATTA MANDIR</li> <li>14. GANAPATI GHAT</li> <li>15. RAM MANDIR(NAVI PETH)</li> <li>16. SARASVATI MANDIR</li> <li>17. UMEDPUR CHURCH</li> <li>18. DATTA CHOUK CHURCH</li> <li>19. LAXMI AND VISHNU MILL</li> </ol>



Type of Building	Name of Building / Structure / Site	
	Grade-I	Grade-II
		CHIMNEY 20. N G MILL BULDINGS AND PRECINCT 21. DHANRAJ (MULE) HOSPITAL 22. REVAN SIDDHESHAR TEMPLE 23. SONNALAGI SIDDHESHWAR MANDIR 24. 68 LINGAS & 8 GANAPATHI TEMPLES 25. WELLS 26. RUPABHAVANI MANDIR PRECCINCT 27. HINGULAMBIKA MANDIR
Privately Owned Buildings		1. BHAGVAT CHITRA NAGAR(COMPLEX) 2. CHOUDESHVARI MANDIR (East Mangalvar Peth) 3. KADADI HOSTEL 4. KADADI BUILDING (EastMangalvarPeth) 5. LIC OFFICE ( besides Aishvarya Hotel) 6. DHANRAJ MAHAL 7. DESHMUKH VADA 8. JEEVAN MAHAL 9. SHANTI SADAN( Ranjit Gandhi House) 10. CHANDAK HOUSE( TILAK CHOUK) 11. CHANDAK BUNGALOW( MODI) 12. KIRLOSKAR BUNGALOW 13. SOLAPUR SUT GIRANI HOUSING 14. SOLAPUR SUT GIRANI HALL
Natural Features	1. NANNAJ BIRD SACTUARY 2. HIPPARAGA LAKE 3. SIDDHESHVAR LAKE 4. HOTAGI LAKE 5. KAMBAR TALAV 6. SMRUTI VAN 7. SIDDHESHVAR VAN VIHAR 8. HERITAGE TREES IN CITY	

## ANNEXURE-12 - Water Supply Distribution zones

### Annexure 16: Water Supply Distribution zones and areas covered

Sr No	Tank Name	Areas Covered
1	Kasturba Budhwar Peth	Budhwar Peth, Balives Chowk , Budhle lane, Samrat Chowk, Bhavani Peth, Maratha Vasti, Tuljapur Ves, Kashi Kapde lane, Sarada Plot, Hanuman Nagar, Namdev Nagar, Homkar Nagar, Mantri Chandak Nagar, Sahir Vasti, Mukund Nagar, Ravji Sakharam Prashala.
2	Percival Area Near Zilla Parishad	South Kasba, North Kasba, Murarji Peth, Navi Peth, Datt Chowk, Mullababa Tekdi, Ramlal Chowk, Juni Mill Chawl, Zunje Lane, Tole Lane, Gavandi Area, Bakshi Lane, Mahalaxmi Milk Dairy, Panjrapol Chowk.
3	Siddheshwar Zilla Parishad Compound Area	Vijapur Ves, Foujdar Chawdi, Old Vitthal Mandir Area, Patva lane, Tilak Chowk Area, Mallikarjun Temple Area.
4	High level Civil hospital	Shanivar Peth, Telangi Pacha Peth, Rahul Gandhi Slum area, Jamkhandi Bridge, Rajendra Chowk, Jodbasavanna Chowk, Kanna Chowk, Sakhar Peth, Ganesh Peth, Budhwar Market, Vijapur Ves till Kontam chowk till Kumbhar Ves, Manik Chowk, Madhla Maruti Area, Shukurwar Peth, Jodbhavi Peth Area, Tilak Chowk Area, Guruwar Peth Area.
5	D.S.P Raised Area	Gandhinagar Area, Saat rasta Solapur Society, Gurunanak Nagar Chowk Area, Moulali Chowk, Qureshi lane, Darasha Hospital, Chuna Bhatti Area till Huma Hotel, Kumtha Naka Area, Milk Dairy.
6	D.S.P Lowered Area	Modi, Shoba Nagar, Saat Rasta Area, Soni nagar, Revan Siddheshwar Nagar, Morya Society, Yetiraj Hotel till Modi police Station, Chintalwar Vasti, Pankha Vihir, Municipal Colony, Akanksha Society, Uplap Vasti, Shindhi Khana.
7	Jule Solapur Raised Area	Jule Solapur Area, Mhada Colony, Dhonde Nagar, Dnyaneshwar Nagar, Waman Nagar, Kalyan Nagar, Kinara Hotel, ESI Hospital, Antrolkar Nagar.
8	Avanti Nagar Water Tank	Avanti Nagar, Abhimanshri, Hande Plot, Mote Vasti, Jai Malhar Chowk, Prabhakar Maharaj Road, Sathe Chawl, Mahesh Society, Bhagwati Society, S.T.Stand Area, Satyam Shivam Society.
9	Ujani Main Line Mariaai Chowk	Mariaai Chowk, Damani Nagar, Thobde Vasti, Gavali Vasti, Bhaiyya Chowk, Degaon Deshmukh Patil Vasti, Amrai Shete Vasti, Pratiksha Colony, Habbu Vasti, Mithila Nagar, Ashirwad Nagar, Lakshmi Vishnu Chawl, Dongaon Road Area.
10	Indira Nagar Statue	Indira Nagar, Garibi Hatao Slums, Koli Samaj Society, Iranna Vasti, Utkarsh Nagar, Bhushan Nagar and other areas.
11	Bale Village Ujani Crossroad	Bale, Kegaon, Ambika Nagar, Barshi Road Area.

Sr No	Tank Name	Areas Covered
12	D.S.P Raised Area	Area behind Taluka police Station, Ambedkar nagar, Shikshak Society, Bharat Society, Gurunanak Nagar, Shandar Chowk, Shastri Nagar Slum Area, Keshav Nagar, Vikas Nagar, Pandurang Vasti, Panchasheel Takshasheel Nagar.
13	Nehru Nagar Water Tank	Sundaram Nagar, Anand Nagar, Nirapam Society, Ashok Nagar, Nehru Nagar, S.T.Colony, Bennur Nagar, Mahalaxmi Nagar, Chatrapati Society, 22 Society Vijapur Road Area.
14	High Level	Railway line, Duffrin chowk, Employment Chowk Area, Railway Station Area.
15	High Level Round Tank	Bedarpool, Patrakar Nagar, Lodhi Lane Area.
16	Aditya Nagar	Sonamata Nagar, Mashal Vasti, Dwarka Nagar, Sushil Nagar, Kamala Nagar, Brhamachaitanya Nagar, Aditya Nagar, Nirmiti Vihar, Jai-Jui Nagar, Siddheshwar Nagar, Indira Nagar Area
17	Settlement Salgar Vasti Water Tank	Railway line, Duffrin chowk, Employment Chowk Area, Railway Station Area.
18	Dayanand Water Tank	Bhavani peth, Ghongde Vasti, Indira Resident, Satpute Vasti, Jodbhavi peth, Netaji Nagar, Maddi Vasti.
19	Mehtab Nagar Tank	Shelgi Village, Ramdev Nagar, Amarnath Nagar and Area, Vidi Gharkul Area.
20	Jule Solapur	Lokmanya Nagar, Mantri Chandak Nagar, Industrial Estate, Nai Zindagi Area.
21	Mitragotri Gentyal Tank	M.I.D.C Area, Neelam Nagar, Akashwani Area, Vinayak Nagar, Sunil Nagar, Asha Nagar.
22	Percival Area Near Parishad	Vidi Gharkul A.B.C group, Sagar Chowk, Rangraj Nagar, Rajeshwar Nagar, Sangameshwar Nagar.
23	Mitragotri Tank	Satyasai Nagar, Ashok Chowk, Sant Tukaram Chowk, Pacha Peth, Bapuji Nagar, Jawahar Nagar, Area Near Pathrut Chowk, Madhav Nagar, Kumtha Naka, Hudko.
24	Sadhu Waswani 175 H.P	Karnik Nagar, Ekta Nagar, Padma Nagar, Saibaba Chowk, Satter Foot Road Area, Kamtam Nagar, Paccha Peth, 33- 786 Flour Mill.
25	Sadhu Waswani 75 H.P Pump	Extended Area Near Kumtha Naka, Huccheshwar Math Area, Swagat Nagar, 1,2 Krushna Society, Balaji society, Hanuman Nagar, Tai Chowk.
26	Bhadravati Tank	Bhadravati Peth, Datta Nagar, Ravivar Peth, Jodbhavi Peth, Jodbassavanna Chowk, Daji Peth, Joshi Area, Kavita nagar, Gawai Peth, Market Yard 256 Area, Shanti Nagar.
27	High Level 150 H.P. Pump	Gandhinagar 1 to 6 , Vidi Gharkul, Rangrj Nagar, Mahesh Nagar, A.B. Group, Venkatesh Nagar, Vajreshwar Nagar, Shewta Nagar, Kalpana Nagar, Konda Nagar, Yatiraj Nagar.
28	Jule Solapur	Hotgi Road, Hatture Area, Majrewadi Area.
29	Low Level Round Tank	Lodhi Lane Area, Amarnath Nagar and Nai Zindagi Area.

## ANNEXURE-13 – Spatial distribution of CIP-Proposals

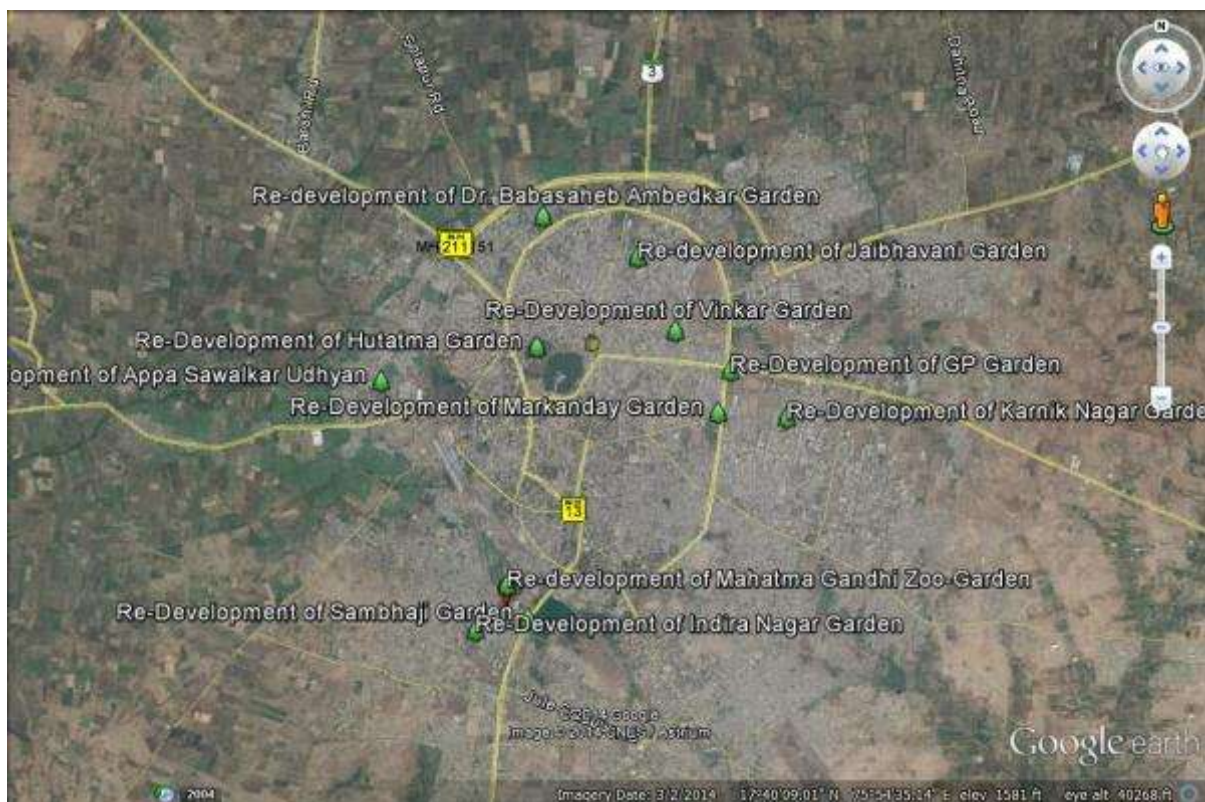
Annexure 17: Location of Proposed Flyovers in SMC



**Annexure 18: Location of proposed parking facilities in SMC**



**Annexure 19: Spatial Distribution of Social Infra Proposals**



**Annexure 20: Proposals - Redevelopment of Lakes in SMC area**



**Annexure 21: Proposals - Heritage Conservation**



**Annexure 22: Proposals - Missing links (Primary and Secondary Ring Road)**



## Annexure – 14 – Minutes of the Consultation – Draft Stage

### Annexure 23: Minutes of the Consultation Workshop – Draft Stage

<b>Meeting Agenda</b>	Draft CDP Consultation workshop at Solapur
<b>Assignment Title</b>	Preparation and Revision of City Development Plans for 13 Selected Cities Package 1 (13 cities) Preparation and Revision of City Development Plans for 17 Selected Cities Package 2 (17 cities)
<b>Name of Client</b>	Ministry of Urban Development
<b>Date of meeting</b>	20 <sup>th</sup> and 21 <sup>st</sup> December 2014
<b>Place/Location</b>	Council Hall, Solapur Municipal Corporation
<b>Participants</b>	<p><b>Solapur Municipal Corporation</b> Elected Representatives – 100 SMC officers – 15 Media Personals – 20</p> <p><b>CRISIL Risk and Infrastructure Solutions Limited (CRIS)</b> Dr. Ravikant Joshi Mr. Parthiv Soni</p>
<p>CRIS team made the presentation to the gathering presentation the key issues in various sector assessed under the CDP and proposed strategies and identified investment. The presentation was well received by the gathering however the elected representatives gave valuable comments and suggestion following the presentation. The comments and suggestions are inscribed below;</p> <p><b>Day – 1 Of Consultation (Political Representatives)</b></p> <ul style="list-style-type: none"> <li>■ The SMC has initiated multiple studies at the same time and when a comprehensive development plan strategy is being worked out, integration of all the studies such as water supply master plan, sewerage master plan etc. shall be integrated with the City development Plan (CDP).</li> <li>■ The CDP is being prepared in a comprehensive manner however, the strategy for de-congestion of the old city should be thought off. Moreover in particular, shifting the age old prison outside the city may open up huge land for the corporation in the core city area.</li> <li>■ In long term needs for the city, to sustain the growth of the city and have adequate support infrastructure, it is suggested to increase the investment in the social infrastructure sector.</li> <li>■ Solapur being a hub for the religions tourism for the pilgrimage enters around it, the city has a huge potential to be developed as a tourism spot. Proposals shall be included in the CDP. The CRIS team suggested that, the proposal for development of a theme park has been included in the CDP.</li> <li>■ The city is observing lot of traffic of the large sized vehicles which are only a through traffic. To avoid congestion of the road in the city, development of a ring road for the city shall be considered in the CDP.</li> </ul>	



- It should be taken into consideration that the water and sewage lines are not constructed in the center of the road.

#### **Day – 2 Of Consultation (Representatives from various class the City)**

- One of the participants in the consultation, suggested that the new dam close to the city should be considered as an another water source for the city. However the MC\_SMC suggested that it was considered but there was no certainty that they will provide the water on constant basis. This will lead to dispute in future and thus it is not considered as a source for city.
- During the consultation it was also suggested that instead of using the potable water for gardening and other non potable uses, the sewage generated in the city should be treated to such a level where the sewage water will be recycled and used for gardening purpose.
- The participants suggested to share the best practices in each sector to the corporation for implementation.
- For promotion of the tourism in the city, following can be implemented;
  - ◆ Light and sound show at the Solapur fort
  - ◆ Development of Siddeshwar lake
  - ◆ Strengthening regional transportation.
- Rain water harvesting is made mandatory for all new governmental buildings, however the implementation and monitoring of the same is not being undertaken by the SMC.
- The Home maidan in front of the Siddeshwar is the place of major fairs and festivals in the city. Since the surface of the ground is not paved, it creates lots of dust. Surfacing of this maidan should be considered.
- A ring road from hotgi road to Pune Naka should be developed.
- Electric crematorium should be developed in the city.
- Public toilets should be considered on the edge of the Shelgi nalla which running across the city and most of the open defecation spots are on the banks of this nalla.
- One of the participants suggested by providing public toilets, maintenance of the same becomes and issue. Instead a concept of a group toilet should be provided wherein the maintenance of the toilet should be vested on the group users.
- Doctors were present in the Consultation workshop, one of the doctor suggested that the Solapur city is a major hub for obtaining medical facilities, the relatives of the patients becomes issue for the hospital authority. A facility of medical hostels with concessional rates would help resolve this issue.
- A strategy of prevention of slums should be included in the CDP.

Apart from the verbal comments and suggestions, the CRIS team suggested to provide their comments and suggestions through email or in writing to the SMC. Those suggestions would be considered for finalization of the CDP. The consultation ended with vote of thanks from Municipal Commissioner as well as from the team of CRIS.

## **Annexure – 15 – My Dream City Solapur**

**Annexure 24: Entries received for the Essay Writing Competition “My Dream City Solapur”**

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***Entry No -1***

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