

Final Report





Introduction

A city development plan is spelled as a perspective and a vision for the future development of a city/town and sets down a set of objectives and goals which a town aims to achieve. It identifies thrust areas in various sectors which need to be addressed on a priority basis in order to achieve the objectives and the vision and thus provides the overall framework within which projects will be identified and put forward in form of an investment plan.

Lucknow City

Lucknow is the capital of the state of Uttar Pradesh. It is the largest and most developed city in North India after Delhi. It is the administrative headquarters of Lucknow District and Lucknow Division. Lucknow has always been known as a multicultural city and flourished as a cultural and artistic capital of North India. Lucknow city contributes 6.33% of urban population in total of state's urban population. The city is famous for its heritage character and popularly known as seat of Nawabs. The city is now among the fastest growing cities of India and as rapidly emerging as commercial and retailing hub. Being the capital city it is a seat of government and also the trading hub for nearby towns, Lucknow is also referred as **“Golden City of the East”**.

Demography

As per Census 2011, total population of Lucknow is 28.17 lakh with total area of 350 sq. km and density of 8049 persons/sq. km. Lucknow city is divided into six zones and further sub divide into 110 administrative wards. The projected population for the year 2021, 2031 and 2041 is 36, 36,066; 45, 89,826 and 57, 65,983 respectively for Lucknow.

Urban growth and Land Use

Till the year 1884, Lucknow was known as Municipal Committee however in the same year it was given the name of Municipal Board and continued working till 1959. Lucknow Nagar Mahapalika was constituted in the year 1959 under Uttar Pradesh Nagar Mahapalika Act 1959. At the time of constitution, total area under its jurisdiction was 48 sq. km which was expanded four times to 101 sq. km, 107 sq. km, 118 sq. km and 350 sq. km till the year 1987. Under 74th constitution amendment act Lucknow Nagar Mahapalika was again reconstituted on 31.05.94 and given the status of Municipal Corporation.

As per Master Plan 2021, the developed municipal area in the year 1987 was 9,170 ha which was increased to 16,270 ha in the year 2005. The Lucknow Master Plan was prepared in 2004-05 for the year 2021 covering the total area of 413 sq. km. Trends in land uses have been interesting, especially the fact that residential use has grown dramatically in comparison to all other uses, although there has also been notable growth in commercial, industrial and public service land use.

Master Plan 2021 area has been extended by Town and Country Planning Department, Uttar Pradesh by adding 197 villages in master plan boundary with total area of 530.41 sq. km excluding the forest area through an act 6, notification number 174 dated 27th January 2009. 37 villages out of total 197 villages fall under Lucknow Industrial Development Authority (LIDA) with total area of 141.26 sq. km. After incorporation of additional area, total developed and developable area in Lucknow comes to approximately 980 sq. km.

Water Supply

Jal Nigam and Jal Kal - LMC (earlier known as Jal Sansthan) are responsible bodies for water supply in Lucknow. Jal Nigam is the responsible body for all the implementation and execution works related to water



works in city area. After the execution of the water related works, Jal Nigam handover the works to Jal Kal (LMC) for distribution, operation and maintenance purposes.

Ground water and surface water are sources of water for Lucknow. 475 MLD of surface water is supplied through Gomti River and Sharda Sahayak feeder Canal, whereas, 400 MLD water is supplied through 610 tube wells located throughout the city area. Lucknow is divided into five water supply districts. District A, C and E are served with ground water; whereas, District B and D are served with surface water source. There are three treatment plants located at Aish Bagh, Balaganj and Gomti Nagar with capacity of 265, 200 and 80 MLD. At present average per capita water supply in Lucknow city is 150 lpcd however, it ranges between 100 and 200 lpcd in 110 wards. Some of the wards are getting water supply of 200 lpcd whereas some of the wards are getting only 100 lpcd. Average frequency of water supply is 2 hours a day however it also varies from ward to ward between 1 and 3 hours. In the existing situation, there is no gap for water production.

Total number of water connections in city are 3, 15,473. Out of which 3, 05,309 are HH connections, almost 62% of the total HHs in the city. Water charges are calculated based on value of the property at the rate of 12.5%. The charges vary as per the building type and size of the plot.

Demand gap assessment for the next 25 years has been done based on the various standards and manuals available for water supply infrastructure in urban areas. Total water demand for the phases 2020, 2030 and 2040 is 746 MLD, 855 MLD and 1281 MLD respectively.

The assessment of water supply scenario at Lucknow has highlighted that there is an urgent need to improve the water supply situation in order to adequately meet the existing and future demand. The current level of per capita water supply is at 150 lpcd however actual supply to consumer end is far below the actual production due to faulty transmission and distribution system. Vision for the Revised CDP water supply sector is “**Shifting from ground water to surface water and equitable distribution of quality water to all the HHs with minimisation of T&D losses**”. For achieving the vision various goals have been set such as shifting from ground water supply to surface water supply, improvement in potable water quality, 24X7 water supply assurance, 100% treatment for surface water supply, 100% cost recovery of water charges, refurbishment of old water supply infrastructure and mapping for the entire water supply infrastructure.

Sector Goals	Action Plan/Strategies
<ul style="list-style-type: none"> a) Shifting from ground water supply to surface water supply. b) Improvement in potable water quality. c) 24X7 water supply assurance. d) 100% treatment for surface water supply. e) 100% cost recovery of water charges. f) Refurbishment of old water supply infrastructure. g) Mapping for the entire water supply infrastructure. 	<ul style="list-style-type: none"> • Water supply source requires to be increased to meet both the current and future demand for water supply till the year 2040. • The water storage capacity would also have to be increased keeping in perspective the long-term planning requirements. • Refurbishment of the old dilapidated distribution network has to be planned to reduce the loss in transmission. • To improve the revenue from water charges, complete metering has to be executed. • Regular ground water quality check-ups at the interval of 3 months.

The Integrated Water Supply Scheme which would be commissioned would have to make provisions for the following sub components:

Source Augmentation: Total water required till the year 2020 would be 745 MLD and till the year 2040, 1281 MLD of water is required.



Water Treatment Facility: For additional 579 MLD of water, water treatment plants would be required till the year 2040 in a phase wise manner. Proposed WTP will be located in Ghailla, Alambagh and Indira Nagar. Treatment capacity of existing WTP at Gomti Nagar will be increased to another 80 MLD in the coming years.

Internal Distribution Network: As per the desired standards which need to be increased to 4,791 km by 2040. There is need to construct about 270 km of distribution network till 2020 for short term requirement. Approx. 1,099 km of water pipelines need to be replaced in the first phase.

Elevated Storage Capacity and Clear Water Reservoir: For 178 ML of water OHT and CWR are required. Apart OHTs more than 50 years old need to be renovated in the first phase.

Installation of water meters: Till the year 2020 there is requirement of approximately 6 lakh meters and by 2040 total 11 lakh meters.

Sewerage and Sanitation

Jal Nigam and Jal Kal – LMC (earlier known as Jal Sansthan) are responsible bodies for management of sewerage system in Lucknow, whereas, sanitation part is looked after by LMC. The overall sewerage system consists of 4 separate Sewerage Districts further divided into zones with its own pumping station or trunk sewer. Zones are further divided into several sewer sub-catchment areas. Whole of the city is divided into four sewerage districts I, II, III Part 1, III Part 2 and IV. District I and III have 100% coverage of sewer lines whereas in district IV the sewerage system has become defunct due to decade old system and absence of maintenance. District II lacks in sewerage system.

Total sewerage generation in Lucknow is 490 MLD which is being treated at Daulatganj STP (56 MLD) and Bharwara STP (345 MLD). There is a gap in treatment of 89 MLD of waste water. There are three levels of sewerage pumping stations in Lucknow. First there are zonal pumping stations where sewage from branch lines is discharged and first level of screening is done. There are 14 zonal pumping stations located at different zones of the city operated by Jal Kal department. From ZPSs sewage is discharged into major drains flowing through the various parts of the city. Sewage pumping stations are located on these drains to do second level of screening of solid waste and silt. There are 26 major drains in Lucknow; sewage from four drains is directly sent to Daulatganj STP and from rest of the 22 drains is tapped at various SPS and sent to Main Pumping Station (MPS) located at Gawari. From MPS sewage is diverted to Bharwara STP. All the SPS and MPS are maintained by Jal Nigam.

As per the City Sanitation Plan of Lucknow city, 90% of the pukka households and 80% of the slum households have access to individual toilets. It includes septic tanks, pits or temporary disposal arrangement or directly discharge into roadside drains. Public toilets are operated and maintained by Sulabh International, Non-Conventional Energy Development Agency (NEDA), DUDA and LMC. The city has approximately 207 toilets with 2,656 seats located across the city. 72% of the toilets are under Sulabh International. Though the public toilets are spread across the city, they are not evenly distributed across the zones. About 7% to 10% of the population resorts to open defecation in Lucknow city.

Demand gap assessment for sewerage infrastructure has been done till the year 2040 in three phases. As per the estimation, sewage generation in Lucknow for the phases 2020, 2030 and 2040 will be 596, 684 and 1025 MLD respectively. Vision for the Revised CDP sewerage and sanitation sector is "To provide affordable facilities covering access sanitation to 100% of the population and ensure ecologically sound management of waste water generated in the city". For achieving the vision various goals have been set such as 100% efficiency in waste



water collection, 100% efficiency in waste water treatment, 100% cost recovery for user charges, 0% open defecation, affordable sanitation facilities for all, waste water recycling and its reuse etc.

Sector Goals	Action Plan
<ul style="list-style-type: none"> a) 100% efficiency in waste water collection. b) 100% efficiency in waste water treatment. c) 100% cost recovery for user charges. d) 0% open defecation. e) Affordable sanitation facilities for all. f) Waste water recycling and its reuse. g) Synchronisation with water supply capacity, ability to meet service level targets and disposal norms. 	<ul style="list-style-type: none"> • To connect all the households to sewerage system • Provision of city wide sewerage network system • Improvement of conveyance system to increase the adequacy • Increase the treatment capacity of existing treatment plants to achieve the adequacy in treatment • Introduction of decentralised treatment system. • Encourage pay and use category of public convenience with community involvement in the maintenance of the same.

Details of Sub Projects to be undertaken

Laying of underground sewerage network: The length of the network has been estimated at 5072 km. till the year 2040. Refurbishment of old sewer lines in old Lucknow area is required with approx. length of 235 km.

Sewerage Treatment Plant: Additional sewerage treatment plants for 624 MLD of waste water need to be constructed in various parts of the city for the safe disposal of wastewater. Proposed STPs would be located at **Bijnaur and Mastemau.**

Decentralized waste water treatment system (DEWATS): Considering the facts that 26% of the Lucknow population live in slums, DEWAT system is being proposed for slum areas.

Public Convenience Systems: Public toilets would be required in market places, public places, courts, bus stands, railway stations, and fairs. There is requirement of 1696 additional public convenience seats in Lucknow till the year 2040.

Sludge Collection vehicles: Total of 172 sludge collection vehicles are required for Lucknow city till the year 2040.

Waste Water Recycling: For tertiary treatment LMC can opt for a technology from a range of technologies such as Moving Bed Bioreactor Technology (MBBR), Activated carbon, and Sequential Batch Reactor (SBR), suiting LMC's requirement. Total waste water generated in the city is 490 MLD which can be reused after tertiary treatment.

Drainage System

Lucknow Municipal Corporation is responsible body for construction and maintenance of drainage system in Lucknow. Primary drainage system of Lucknow comprises of River Gomti, GH Canal and Kukrail River. After the major flood of 1960 in Lucknow, bunds have been constructed on both the banks of the river. During the rise in the water level of the river sewage as well as storm water is pumped into the river through 42 flood pumping stations located at various parts of the city. There are 26 major drains in Lucknow flowing through various parts of the city. These drains carry storm water and sewage together. These drains have been tapped by Jal Nigam and water from these drains is diverted to Daulatganj and Bharwara STP. Based on the city topography, major roads, existing natural drains and river crossing Lucknow city has been divided into six drainage basins. At



present total drainage length in Lucknow city is 2,701 km which 80% of the road network. The drainage system is the mix of open and closed drains.

As per the data received from LMC, 80% of the road length is covered with drains against the standard of 130%. In Lucknow around 50% of the area faces the problem of water logging in rainy season. Total of 234 incidents of water loggings were recorded in Lucknow city. Currently total tertiary storm drain length in Lucknow is 2,701 km which need to be increased by 4,615 by 2020, 5,831 km by 2030 and 7,327 km by 2040.

The sector vision statement for CDP is “To develop and maintain comprehensive Storm water infrastructure system to protect health and safety and minimise the water logging incidents in the city”. For achieving the vision goals are 100% coverage of city with drain network, conservation of natural water channel and Make the city water logging free.

Sector Goals	Action Plan
<ul style="list-style-type: none"> 100% coverage of city with drain network. Conservation of natural water channel Make the city water logging free. 	<ul style="list-style-type: none"> a) Provide drainage lines to all the HHs. b) Desilting of major drains. c) Implementation of Root Zone Treatment System for major drains.

Construction of storm water drains: LMC needs to undertake lying of 1941 km of drains by 2020 and 7327 km of drain by the year 2040.

Desilting of 26 Major Drains: There are 26 major drains in Lucknow city carrying not only storm water but also waste water generated at HH level. To make the drain cleaning sustainable a system need to install which can keep the drain water clean and prevent River Gomti water getting polluted. Root Zone Treatment System (Constructed Wetlands) has been proposed for all the drains by constructing the root zone chambers on drains.

Municipal Solid Waste Management

Lucknow Municipal Corporation is the responsible body for collection, scientific segregation, transportation, processing and disposal of waste generated within its jurisdiction. Total waste generation on Lucknow is 1365 TPD as per current population. The per capita waste generation in Lucknow city is 280 gram however it varies between various income classes. The waste collection efficiency is 100%; which is collected from door to door for 52% of households and rest of the waste is collected from the community bins and containers.

Before the year 2010, waste management services in Lucknow were managed by LMC. In the same year, implementation of the PPP model in MSW was introduced in Lucknow. Currently a private firm MS/ Jyoti Enviro has been given the contract for collection and transportation of MSW for 30 years (Till 2040). In the first phase 57 wards out of 110 have been taken up and the garbage collected at the primary source is sent to the dhalao ghars of the city. In the remaining 53 wards old collection system is being practiced. Waste transportation from dhalao ghars to dumping site is done by LMC workers. Currently no waste segregation at source is happening in Lucknow city.

At present three dumping sites are available in Lucknow located at Dubagga, Kursi Road and Ramdashked; being use to dump the un-segregated municipal waste. The dump sites are traditional dump site without any lining at the bottom hence they are causing pollution at the site and in surrounding areas. Landfill site and processing plant is under construction located in outer skirts of the city area.

RR Department under LMC and Health Department is responsible for street sweeping activities in Lucknow city. Street sweeping is done mechanically and manually both. Mechanical sweeping has started recently in Lucknow on some of the major roads such as Kanpur Road, Faizabad Road, Gomti Nagar, Parivartan Chauk and Hazrat



Ganj. Manual sweeping is done once in a day in the morning time whereas mechanical sweeping is done in once in a day in night time. Waste is collected in rickshaw trolleys and dumped into the dhalaos which is finally taken to the open dump site. Street sweeping starts at 7:30 AM and continues up to 2:00 PM.

The demand-gap assessment indicates generation of 2686 TPD of waste in the town by the year 2040 against the current generation of 1365 TPD. In the existing situation the private operator is responsible for provision of end to end waste management within municipal boundary. However, as per the growing population and demand of land the municipal limits would expand in near future. With the expansion of city limit there would be need to develop more infrastructure for proper management of SWM.

Sector vision for SWM is “To make the city open dumping free and 100% access to door to door collection services with efficient solid waste processing facility.” To achieve the vision identified goals are 100% coverage for door to door collection; open dumping free city, segregation of waste at source, recycle and reuse of waste, formalisation of rag pickers in Lucknow etc.

Sector Goals	Action Plan
<ul style="list-style-type: none"> 100% coverage for door to door collection Open dumping free city Segregation of waste at source Recycle and reuse of waste Formalisation of rag pickers in Lucknow Spread awareness among the citizens regarding the health impacts of mismanaging waste 	<ul style="list-style-type: none"> a) Increase the number of vehicles and man power for door to door waste collection b) Waste collection in segregated bins c) Involvement of rag pickers in door to door collection d) Increase the numbers of road side bins e) Involve NGOs in educating the people f) Decentralised processing facilities for waste disposal like composting, recycling units etc. g) Minimisation of waste h) 100% processing of waste to achieve the status of zero land fill

Details of Sub Projects to be under taken

Dhalao: After the expansion of municipal area there would be requirement of Dhalao in newly developed areas. Approximately one dhalao would be required for one sq. km of area. Till the year 2040 if the municipal area expands to 900 sq. km for which 500 more dhalao need to be constructed.

Transfer Stations: After the expansion of municipal area four new transfer station need to be set up in expanded area of the city.

Road Side Bins: Community bins are not sufficient in numbers as per the current city demand. Demand gap analysis suggests placement of 1000 new bins by the year 2040 by LMC.

Traffic and Transportation

Multiple organisations are involved in the management of traffic and transportation services in Lucknow. NHAI is responsible for maintenance of national highways, for city roads PWD and LMC is responsible. As per the information available from Lucknow Municipal Corporation, total road length in Lucknow city is 3387 km, which includes 73 km of NH, 12.5 km of SH and rest are arterial and sub arterial roads. Other organisations are Traffic Department, UP Bridge Corporation, LMRC, UPSRTC and LDA. Road density in urban UP is 7.2 whereas Lucknow has road density of 10.2 which is much higher than state. Hazratganj, the main CBD of Lucknow, parivartan chauraha and polytechnic chauraha are the main traffic concentration zones in Lucknow city.

In the last fifteen years, the total number of vehicles on Lucknow's roads have increased with almost 19% annual growth. The growth trend of registered vehicles in Lucknow city has shown an increase in personalised vehicles consisting of two wheelers and four wheelers over the last five years. Almost 82% of the share in total vehicles is



contributed by two wheelers followed by four wheelers with 14% of the share. Rest of the 4% share is contributed by public transport vehicles and goods vehicles.

The Uttar Pradesh State Road Transport Corporation (UPSRTC) is responsible for operation of bus transportation in the city. At present UPSRTC is running 260 buses on 20 routes. It has 4 bus depots in Gomtinagar, Charbagh Amausi and Dubagga. ITP is another predominant mode of transport in Lucknow city. ITP in Lucknow consist of auto rickshaw and 8 seater tempo.

In Lucknow city, there are issues related to roads and transportation which include inadequate capacity of roads, heterogeneous traffic and high growth rate of vehicular traffic volumes on roads, inadequacy of public transport leading to emergence of auto-rickshaws as a public transport mode, increase in personalized vehicles, haphazard vehicular movement due to poor sense of driving, insufficient parking facilities and inadequate enforcement compounded traffic problems, encroachment along the major roads due to concentration of informal activities and absence of a safe and comprehensive system of pathways.

Parking is a major problem in Lucknow, due to shortage of off-street parking facility parking generally takes place along the roads in front of the commercial establishments, public and semi-public establishments. Off-street parking spaces in Lucknow are maintained by LDA and LMC. There are eight numbers of designated major off-street underground and multilevel parking spaces in Lucknow. Apart from these designated parking areas, there are other on-street areas where private operators are maintaining parking spaces. LMC provide the contract to these contractors on yearly basis.

There are in total 1 lakh 53 thousand street lights in Lucknow city. LMC is responsible body to look after the implementation and O&M services for street lights. Although whole of the city is properly covered by street lights but the outer skirts of the city suffer from lack of street light points. As per the standards average distance between two street lights should be 30 meters. Average distance of street lights in Lucknow is 22 meters which is higher than the standards however it varies between the six zones.

Sector specific Vision Statement of Lucknow city has been adopted on the basis of CMP and national urban transport policy. Vision statement of Lucknow city is “To provide safe, efficient and cost effective multi modal transportation system accessible to all the citizens and compatible with future land use of Lucknow”. Sector goals to achieve the vision are development of easily available and affordable public transport, encourage non-motorised transport by developing the pedestrian friendly road infrastructure, development of traffic management and monitoring system, existing road improvement and construction of new roads to provide city wide linkages, development of terminals along the radial roads to decongest the inner city area and provision of elevated corridors to link up the missing roads and reduce the congestion.

Sector Goals	Action Plan
Development of easily available and affordable public transport.	Short term action plan aimed at road widening by removal of encroachment from the major roads.
Encourage non-motorised transport by developing the pedestrian friendly road infrastructure.	Medium term action plan aimed at development of transport infrastructure over a perspective plan period of 5-10 years to bring about coordinated development among different components. These measures typically will include various infrastructure projects, which will be directed at network improvements such as parallel roads, link roads, slip roads and underpass. The phase will also include the shifting of bus and truck terminals from the city centre.
Development of traffic management and monitoring system.	Long-term action plan aimed at development of structure plan for the urban area with transit as one of the lead components
Existing road improvement and construction of new roads to provide city wide linkages.	
Development of terminals along the radial roads to	



Sector Goals	Action Plan
decongest the inner city area. Provision of elevated corridors to link up the missing roads and reduce the congestion.	which will direct the urban growth so as to bring about a structural fit between transit infrastructure and urban growth. This will also examine a comprehensive multi-modal public transit system to bring about the most optimal mix of commuting within the urban area and thus providing a sustainable transit solution.

Details of Sub Projects to be undertaken

• ROAD NETWORK

- **Road widening:** Most of the roads in Lucknow are congested due to narrow width and encroachments. Widening and strengthening of roads need to be taken up in first phase.

Sl. No.	Identified roads	Length in km.
1.	Faizabad road (from Kukrail Barrage to Polytechnic)	2.8 km
2.	Vidhan Sabha Marg (from Hussainganj chauraha to Bapu Bhavan chauraha)	0.8 km
3.	Station Road (from Hussainganj chauraha to K.K College chauraha)	0.42 km
4.	Shahnajaf Road (from Hazratganj central market to Rana Pratap Marg)	0.45 km
5.	Alambagh crossing to Awadh Hospital crossing	1.9km
6.	B N Road (from Kaiserbagh Chauraha to Bapu Bhavan Chauraha)	1.6 km
7.	Cantt Road (from Kaiserbagh Central Business District to Berlington Crossing)	2.3 km
8.	Tulsidas Road (from Chowk chauraha to Gaziuddin Nehar)	2.2 km
9.	Kursi Road (from Raidas Temple to Aliganj Sector G Petrol Pump via Kapoorthala crossing and New Hanuman Temple)	1.8 km
10.	Nishantganj (from Nishantganj Chauraha to Gomti River Setu)	0.8 km
11.	Subhas Marg (from Medical College chauraha to Station Road via Naka crossing)	2.4 km
12.	Gautam Buddha Marg/Latouche Road (from Kaiserbagh crossing to Railway Station Road via Basmandi crossing)	2.15 km
13.	Shivaji Marg/Hewett Road (from Hussainganj chauraha to Gautam Buddha Marg)	0.76 km
14.	Guin Road (from Aminabad central commercial zone to Gulmarg Hotel chauraha)	0.28 km
15.	Golaganj Marg (from Golaganj chauraha to Kaiserbagh Bus Station)	0.34 km
16.	Ganga Prashad Marg (from Rakabganj chauraha to Aminabad central commercial zone)	1.1 km
17.	Nazirabad Marg (from Aminabad central commercial zone to Kaiserbagh chauraha)	0.4 km
18.	From Aminabad central commercial zone to R.K Tandon Marg)	0.3 km
19.	Jhao Lal Marg (from Gulmarg Hotel to Golaganj chauraha)	0.14 km
20.	Daliganj to IT chauraha	2.5

- **Completion of missing links:** To complete the inner and middle ring road pattern in the city it is necessary to complete the missing links in the initial phase i.e. 2015-20.

Missing links	Length in km.
Middle ring road	
Link between SH 40 and Kanpur road	Approx. 11 km
Link between Sitapur road and Faizabad road	
Inner ring road	
Samta mulak chauk to Faizabad road along Kukrail Nallah	Approx 1.6 km.
Kapoorthala Road to NH 24	Approx. 1.5 km.



- **Development of new city roads:** With growing population and expanding municipal area construction of new roads will be required to develop new patches in the outer skirts of the city area. Based on the demand projections till 2040 road length to be developed in three phases has been calculated by SENES. Phase wise road length required is 163 km by 2019-20, 936 km by 2029-30 and 1150 km by 2039-40.
- **Ring road system:**
 - **Inner ring road:** The inner ring road is proposed to start from NH 25 Ramprasadkhera and intersects MH 24 B, NH 28 and pass through Hussainganj and Talkatora to facilitate circular movement in the core city area. The inner ring road should have ROW of at least 30 metres.
 - **Middle ring road:** The middle ring road is proposed from NH 25 at Alambagh, connecting NH 24B on the southern side, NH 56 on the north eastside and NH 28 at Faizabad road on the eastern side. The road further meets MDR 77 C on the northern side and intersects SH 40 and SH25 on western side. The middle ring road should have minimum of 40m of ROW.
 - **Outer ring road:** A signal free outer ring road is required to provide through traffic movement in the in the outer part of the city. Total length of the road will be approximately 89 km with 100 m of ROW.
- **Development of new arterial roads along Haider canal and Kukrail Nallah:** The route connecting Kanpur road, Motilal Nehru Marg, Vidhan Sabha Marg, Ashok Mark and Faizabad Road forms one of the arterial of Lucknow city and considered as spine of the city. A route connecting Haider Canal – M G Road – Lohiya Path – Kukrail Nallah joining Faizabad Road becomes parallel and alternative to the mentioned arterial road. Total length of the road will be approximately 17 km.
- **Development of Bund and Road along Gomti River:** Development of bund is required along the Gomti River in upper steam and lower stream parts in the city area. Total length of the proposed road along both the banks of the river will be 61 kms.
- **Junction Improvement:** Total of 25 junctions have been identified with improvement such as junction geometry, pedestrian signals, road markings etc. Size of these roundabouts need to be reduced as per the norms, standards and turning radius requirement. The identified junctions are Parivartan Chauk, Tedipulia Crossing, Munshipulia Crossing and Polytechnic Crossing.

1. Allahabad Bank Chauraha ,	12. Engineering Chauraha
Hazratganj	13. Charbagh Tiraha
2. Novelty Cinema Chowk ,	14. Chowk Chauraha
Lalbagh	15. Kapoorthala Chauraha
3. Kaiserbagh Rotary	16. Mafaire Cinema Intersection
4. Nehru Crossing, Rakabganj	17. High Court Intersection
5. Alambagh Chauraha	18. Haathi Park Intersection
6. Naka Junction	19. Times of India Intersection
7. Aminabad Chowk	20. Dainik Jagran Intersection
8. GB Road/ Gautam Buddha	21. Mahanagar Intersection -1
Road Chauraha	22. Mahanagar Intersection -2
9. Medical College Chauraha	23. Teli bagh Intersection
10. Polytechnic Chauraha	24. IT Chauraha
11. Huseria Chauraha	25. Engineering Chauraha



• PUBLIC TRANSPORT SYSTEM

- **Metro Rail:** Lucknow Development Authority is the modal agency for proposed Metro Rail in Lucknow. There are two corridors of Lucknow Metro first north south corridor from Amousi airport to Munshipulia Crossing and East West Corridor from Vasantkunj to Charbagh Railway Station. Construction work of metro has started in September 2014.
- **Local Trains:** The existing rail network can be utilised for local train network to the nearby urban centres.
- **Rationalisation of ITP routes:** In order to minimise the overlapping of ITP routes with city bus service routes and to develop ITP to act as feeder service to city bus service, ITP service should be restricted within the old city area and the peripheral area of the city.
- **Development of BRTS System:** With rationalisation of ITP routes, frequency of bus service should be increased and high density bus service should be augmented along Kanpur Road, Faizabad Road, Sitapur Road and other radial roads.
- **Bus depots and terminals:** The Revised CDP of Lucknow proposes the improvement of existing intra city bus stands and shifting of intercity bus stands to outer part of the city to stop the bus movement in the city area. The four new bus terminals proposed in the CDP are located at Vijay Khand near Hainiman Chauraha, Dubagga Hardoi Road, Jankipuram Vistar Yojna and Vrindavan Yojna near Utrathiya Railway Station.

For intra city bus service there is need to set up basic infrastructure such as proper bus waiting areas, bus stands, bus stations at reasonable distances, parking space for buses etc..

- **Multi Modal Transit Hub:** As suggested by CMP of Lucknow, for multi modal integration a multi modal transit hub should be developed in Charbagh area. This hub will integrate the existing Charbagh Railway Station, Bes Terminal and proposed metro system.
- **Intelligent Transportation System for Public Transport:** ITS is the integrated application of advanced Technologies using electronics, computers, communications, and advanced sensors. GPS, data logger facility on public transport vehicles, electronic toll booths, CCTV camera on all the major roads and junctions, speed camera etc.

• GRADE SEPARATORS

- **Railway Over Bridge:** As per the discussion with various officials, total of 8 ROB's are proposed in Revised CDP of Lucknow at various locations.
- **River Bridge:** to connect the upper stream part of the city and to provide opportunity for development in the lower extreme areas total of 4 River Bridges are proposed in Revised CDP by SENES.
- **Flyovers:** Based on the discussion with various officials and survey results total of 10 numbers of flyovers are proposed at various location of Lucknow city.

Sl. No.	Flyover	Location	Approx. length in km
Within LMC Boundary			
1.	Flyover	At Tedi Pulia on Ring Road	0.60
2.	Flyover	At Khurram nagar Crossing on Ring Road	0.60
3.	Flyover	At Kursi Road from Neera Hospital to Old Hanuman Temple (Sector G Aliganj)	0.55



Sl. No.	Flyover	Location	Approx. length in km
Within LMC Boundary			
4.	Flyover	At Ashok Road before from Krishi Bhavan to Sankalp Vatika (before Gomti Bridge) ¹	0.70
5.	Flyover	At Berlington Crossing (subject to feasibility of the road)	0.65
6.	Flyover	From Daliganj bridge to IT chauraha	1.45
7.	Flyover	From polytechnic crossing to HAL on Faizabad Road	0.8
8.	Flyover	At Engineering College crossing on ring road	0.5
9.	River Bridge on Gomti	Near Daulatganj (on Jal Nigam Road)	0.75
10.	River Bridge on Gomti	Bridge between hanuman setu and nishat ganj bridge	0.75
Between LMC Boundary and Master Plan Boundary on Existing and Proposed Roads			
11.	Flyover	On Outer ring road at NH 28 (Lucknow Faizabad Road) crossing and Faizabad railway crossing along Indira Canal	4
12.	ROB/Flyover	On outer ring road at Sultanour railway crossing, NH56 and Indira Canal	0.90
13.	ROB	On Sultanpur railway crossing at NH 56B	1.25
14.	ROB	On Raibareli Railway Crossing at NH 56B	1.0
15.	Flyover	Outer ring road at NH 25 (Lucknow Kanpur Road) crossing	1.0
16.	ROB	On Outer ring road at Kanpur railway crossing	0.70
17.	ROB	Kanpur railway crossing at NH 25 A	0.60
18.	Flyover	Outer ring road at SH 40 crossing (Lucknow to Etawah)	1.0
19.	ROB	On Hardoi railway crossing at Lucknow – Hardoi SH 25	0.75
20.	ROB	On outer ring road at Hardoi railway crossing and SH 25	0.60
21.	ROB/Flyover	On outer ring road at Sitapur railway crossing and NH 25	1.0
22.	River Bridge on Gomti	At outer ring road (North western direction of Lucknow)	0.75
23.	River Bridge on Gomti	At outer ring road at Indira Canal and Gomti River Crossing	0.75

• DEVELOPMENT OF NMT

- **Footpaths:** Lucknow 280 km of footpath is required.
- **Bicycle Lane:** 250 km of cycle track need to be developed in Lucknow in phase wise manner.
- **Pedestrian Facility at Intersections:** Pedestrian safety is one of the key features need to be addressed in the transport planning section. As suggested by CMP Lucknow, 15 locations have been identified to install the pedestrian signals at various crossings namely:
 - Novelty Cinema Crossing
 - Kaiserbagh Rotary
 - Nehru Crossing
 - Ganga Prasad intersection, Aminabad
 - Nakas Chauk
 - Aminabad Chauk
 - Gautam Budha Road Chauraha
 - Medical Churaha
 - Daliganj Bridge
 - Husaria Crossing
 - Engineering Crossing
 - Parivartan Crossing

¹ To decongest the nearby roads there is need to construct a flyover or a metro link road on the Ashok Mark leading to Mahanagar.



- Chauk Crossing
- Kaporthala Crossing
- Mithaiwala Intersection
- **Cycle Rickshaw Management:** All the existing and proposed commercial areas and residential areas should have one rickshaw stand. This type of facility not only comforts the rickshaw pullers but also decongest the roads.
- **Development of NMT Corridors:** The old city areas such as Aminabad, Chauk, Hazrat Ganj, and Hussainabad are highly congested and encroached by street vendors, on street parking, rickshaw and three wheelers. Slow moving traffic should be promoted in these zones such as cycles, rickshaw, animal cart etc. These areas should be declared non-motorised zones.
- **Freight management**

Improvement of existing Transport Nagar will include segregation of loading unloading lanes, road improvement, provision of parking bays, weighing machines and public utilities in the first phase i.e. 2014-14 to 2019-20. In the second and third phases development of two new Truck Terminals at Deva Road and Kursi Road are proposed and a new Transport Nagar at Faizabad is proposed with all the basic amenities.
- **Development of parking spaces**

The Revised CDP for Lucknow proposes development of off-streets parking at various commercial locations of the city area based on the discussion with Traffic Department and Nagar Nigam. Areas require parking spaces are, Aminabad, Patrakarpuram, Indira Nagar, Nishatganj, Kaiserbagh, Medical College, Nakkas Chauk, Aishbagh, Naka Hindola, Kapoorthala, Rakkabganj and High Court.
- **Street Lights**

For the year 2020 there is demand of approx. 12,000 additional street lights in Lucknow and 22,000 more till the year 2040.

Urban Poor and Slums

As per Rajiv Avas Yojna (RAY) report, Lucknow city has total of 609 slums out of which 502 are notified and 107 are non-notified. The slums have been existed in city for more than 50 years. Total population in slum area is 7,72,807 which is about 26% of the total city population as per RAY report. 67% of the slums are located in the core city area whereas 33% of the slums are located in fringe area. Total city area coming under slums is 10.09 sq. km which is 3% of the total city area i.e. 350 sq. km. Average population density in slum areas is 76,559 people per sq. km which is almost ten times higher than city density.

Around 27% of the HHs have individual water connections whereas 73% of the HHs do not have direct access to drinking water and are dependent on public taps, tube wells, bore wells, river etc. it has been observed that one public tap is available for 10 number of HHs. Water supply duration in slums is once in a day or once in two days. As per the data available from RAY report, 28% of the slums are fully connected to city wide sewerage system while 17% is partially connected to the system. 55% of the slums need to be connected to the sewerage system. In similar pattern 20% of the slums are partially connected to drainage system, 17% are fully connected to system and rest 63% of the slums lack in any kind of drainage connectivity. More than 25% of the people staying in slums defecate in open areas like open ground, along river side, along canal etc. 54% of the HHs have own latrine facility whereas 19% of the HHs use public toilet or shared toilet. SWM in some of the slum areas are being taken care by private concessionaire (deployed by LMC), however, it has not been implemented in all the areas.



32% of the HHs disposes garbage on daily basis whereas in 38% of the HHs there is no garbage collection system. From rest of the 30% HHs disposes garbage on weekly or fortnightly basis.

State Urban Development Authority (SUDA), District Urban Development Authority (DUDA) and LMC are responsible bodies for implementation of schemes and programs for urban poor and slums in state and district level. Nehru Rojgar Yojna (NRY), Basic services for Urban Poor (BSUP), IHSDP, Rajiv Awas Yojna, Rajiv Rinn Yojna, Asra Yojna are some of the major programs and schemes implemented in Lucknow city. Apart from DUDA and SUDA, UPAVP also works in providing affordable housing for urban poor by earmarking certain percentage of housing stock for lower section of the society.

Sector specific vision statement of Lucknow city has been adopted on the basis of Rajiv Awas Yojna. Vision statement of Lucknow city is “Slum free city with inclusive and affordable housing for all”. As per the RAY objectives to make Lucknow a Slum free city, an imperative slum rehabilitation strategy would be necessary depending on the expected outcomes from the findings or analysis of existing slum situation of a city. The rehabilitation strategy comprises of several components like physical targets – relocation, in-situ and up gradation, law and legislation for slum dwellers, stakeholders/community participation, financial framework and institutional mechanism. Key projects to be implemented in slum areas are Housing for slum dwellers, physical and social infrastructure and roads.

Aspects	Strategies
Location of slums	<ul style="list-style-type: none"> There should be proper check and control by the government over vacant lands and at the same time, people squatting on such lands should be provided affordable housing options. Slums located in the most environmentally sensitive and disaster prone areas should be given priority in the provision of housing. Slums which will be resettled should be placed within a distance of 1.5km preferably; so that the slum dwellers do not lose their livelihood. Resettled slums should be connected to other areas of the city by public transport.
infrastructure / services in slums	<ul style="list-style-type: none"> New housing schemes for slum dwellers should have all the basic infrastructure and services. Community toilets for slums should be constructed as per the requirement. Schemes for slums should be prioritized, water and sanitation should be kept at priority while implementation.
Declaration of slums	<ul style="list-style-type: none"> All the slums should be officially declared as slums by the authorities so that the left over slums can also get the benefits of the schemes of the government. The slum boundaries should be updated timely so that there is no duplication of slums. Slums which have been upgraded or resettled or redeveloped should be deleted from the list of slums.
Community participation	<ul style="list-style-type: none"> On the basis of community/ people's preferences the schemes for up- gradation of slum like in-situ; resettlement etc. should be taken up. New settlements have to be designed based upon the needs of the communities only then they will be accepted by people any they will never squat again.
Implementation issues	<ul style="list-style-type: none"> Single window concept should be adopted for better management. Strengthen the public sector by allotting government lands so that they can have a land bank readily available for social housing. Upcoming Housing schemes should have mandatory provision for the housing of the low income groups which may be kept as public property and rented out to the population who does not have the purchasing power for housing. New schemes should be prepared considering the socio-economic profile of the slum dwellers. Gap between plan preparation and implementation should reduce for on time benefit of the.



Aspects	Strategies
	<ul style="list-style-type: none"> There should be strict monitoring on the houses provided to slum dwellers to stop them from selling of their house and again shift to slum areas. Land reclaimed after the relocation of slum should immediately be used for new project or beautification of the area.
Labour Adda	<ul style="list-style-type: none"> The existing labour addas need to be regularized. Near all the commercial area there should be provision of Labour Addas with basic facilities of drinking water, sitting arrangements, covered shelters etc. For maintenance purpose minimal amount can be charged from labours as user fee.
Shelter Homes	<ul style="list-style-type: none"> As per the Supreme Court norms there should be one shelter home for one lakh of population. There should be 8 more shelter homes in Lucknow city. Existing shelter homes should be monitored regularly by ULB staff. There should be proper check on the funds provided for shelter home maintenance. Separate shelter homes for women should be provided by LMC
Informal markets	<ul style="list-style-type: none"> In all the commercial area there should be proper provision for informal shops. Apart from commercial areas new developed colonies should have provision of space for informal shops. The shop owners can be charged with some fix amount on monthly basis for operation and maintenance of that area. The spaces available under the bridges and flyovers can be designated as space for informal shops and monthly charge can be taken from shop keepers.
Rented Houses	<ul style="list-style-type: none"> Concept of Rented houses can help not only the floating population but increase the ULB revenue. Each of the zones should have multi-storey rented houses. The rented houses can be developed either by ULB or on PPP mode.

Heritage and Conservation

Lucknow is a destination rich in tourism assets, site-based infrastructure, cultural and historical heritage living in monuments and traditions, including important historical events and possesses the added advantage of being the state capital. Lucknow's heritage structures can be categorised under various heads such as forts, kothis, monuments, open spaces, gardens etc. Most of the structures are located along the Gomti river in the core area of the city with heavy population density.

Lucknow is known for its rich history and culture – manifest not just in its many magnificent monuments but an intrinsic part of its lifestyle. While the city has archaeological remains dating back to 3000 BC. There are two authorities looking after the conservation of heritage sites in Lucknow namely Archaeological Survey of India and State Archaeological Department, Uttar Pradesh. There are in total 63 key monuments in Lucknow, out of which five monuments are protected by UP State Archaeological Department, 46 monuments under Archaeological Survey of India and rest are other monuments not protected by either of the authority. At regional scale there are various tourism place located around the city such as Kukrail, Nawabganj Bird Sanctuary, Dewa Sharief, Dudhwa National Park etc.

Area along both the side of Gomti River has been identified as Heritage Zone in Lucknow Master Plan 2021. The zone is divided into three parts namely Hussainabad Complex, Kaiserbagh Complex and Le Martinire Complex. Approximately fifteen key heritage structures of Lucknow are located in this identified zone. Apart from monuments, some of the major parks also come under these complexes i.e. Buddha Park, Hathi Park, Surajkund Park, Victoria Park etc.



For heritage and tourism sector, vision statement of Lucknow city is “Conservation of Lucknow’s heritage and culture with due attention towards local art and craft with support of tourism prospects”. Specific goals to target this vision are preserving and conserving the tangible and intangible heritage of Lucknow, enhance the role of ULB in heritage conservation and implementation and regular monitoring of policy guidelines and DCRs to preserve the local heritage. Key projects identified to this sector are restoration and renovation of various protected monument, preparation of local area plan, preparation of heritage conservation plan, development of heritage zones, preparation of architectural control precinct wise, development of heritage street etc.

Goals	Action Plans
<ul style="list-style-type: none"> a) Preserve and conserve the tangible and intangible heritage of Lucknow b) Enhance the role of ULB in heritage conservation. c) Development of Heritage Cell within LMC d) Implementation and regular monitoring of policy guidelines and DCRs to preserve the local heritage. 	<ul style="list-style-type: none"> • Conservation of core old areas of the city • All the heritage buildings and monuments fulfilling the criteria should be taken under protected monument list. • Core areas of the city should be make non-motorised zone. • Monitory fine on violation of development control norms in the surrounding area of heritage monuments. • Promotion of local art and craft in local and international fair. • Promotion of heritage walk via advertisement, news channels, hoardings etc. • Promote plantation near the heritage structures. • Enhancement of tourism infrastructure. • Parking should not be allowed in the surroundings of heritage structures. • <u>Formation of heritage cell within LMC including technical and administrative teams.</u> • Preparation of comprehensive plan for conservation of city and revitalisation of old areas. • Promotion of street plays, workshops and training for heritage conservation.

Urban Environment

Lucknow is situated on the banks of River Gomti in Ganga basin. The city is situated in alluvium plain and Gomti River the chief geographical feature divides it in to two parts. Gomti River is the major water body and water supply source in Lucknow with few major canals namely Hyder Canal, Kukrail Drain, Sharda Canal etc. Lucknow city is divide into 26 water shed basin and each of the basin comprise of natural drain which discharge the drain water into Gomti River. There are around seven ghats along Gomti River in Lucknow city namely Kudiya Ghat, Shani Mandir Area, Gau Ghat, Karounda Ghat, Brahma Rishi Deveraha Ghat, Baikunth Dham Ghat, hanuman Setu and Visarjan Ghat.

Around 85% of the land-area of Lucknow City is situated on the Central Ganga alluvial plain, and stretches across both banks of the Gomti River which is an entirely lowland river naturally dependent on groundwater discharge for its dry-weather flow. The trend of ground water exploitation in Lucknow shows continuous rise in resource withdrawals. Construction of drinking water tube wells to meet water demand of this growing urban agglomerate had started in early 70’s and in 1985 about 70 tube wells were operating. Now, this number of tube wells, under the control of Lucknow Jal Kal, has gone up as 600 or even more (almost 7 times increase). Although, there have been no systematic ground water studies, but as per preliminary estimates, the gross ground water withdrawal in the city (extending over an area of 350 sq. km.) from both the municipal & private drinking water systems as well as from other sectors is very high and at present, this withdrawal may be tentatively taken as 550 million litres per day (MLD).



Lucknow Municipal Corporation is the major authority for the construction and maintenance of parks and gardens in Lucknow. Apart, Lucknow Development Authority, Awas Vikas Parishad and Private Developers construct parks and gardens in the society and colonies developed by them which are later on transferred to LMC for maintenance purpose. Lucknow is rich city in terms of availability of green areas and open areas however due to shortage of maintaining staff, many of the green spaces have turned into barren land. There are 1684 parks and gardens under LMC jurisdiction with total area of 259 ha. Out of total, only 487 parks are in developed stage whereas, 825 parks are semi developed, 344 are not developed and rest 28 parks are open area.

Air Pollution: The transport, domestic and industrial sectors are the major contributors to the rise in ambient air pollution levels. The prime source of PM10 (particulate matter) is the increasing numbers of vehicles in the city. This is one of the major concerns for air pollution. All the values of PM10 in residential, commercial and industrial areas are above the prescribed National Ambient Air Quality Standard (NAAQS) of 100 µg/m³ for industrial, residential, rural and other areas. All the values of SO₂ and NO_x are below the prescribed NAAQS of 80 µg/m³ for all the locations.

Water Pollution: As discussed in the earlier chapter for drainage system in Lucknow, there are 26 major drains which carry storm water drain as well as sewage together and discharge the water into Gomti River. Before the discharge point these drains are tapped and diverted to Sewerage Treatment Plants for treating the waste water. BOD (Biological Oxygen Demand) levels at both the STPs are showing positive trend and are below 30 mg/lit of permissible limit. DO (Dissolved Oxygen) level at the both the STPs is higher than the permissible limit of 5 mg/lit.

Vision for Urban Environment sector is to “Make the city sustainable and liveable for present and future generations”. To preserve and conserve the Lucknow city environment various projects have been identified such as Gomti River Front Development, Eco conservation of ponds and lakes of Lucknow, Eco conservation of road, medians, walkways and roadsides, preparation of conservation and environment management plan etc.

Aspects	Strategies
Green Cover	<ul style="list-style-type: none"> • Demarcation and protection of existing forest & recreational areas • Urban forestry and plantation schemes for the city to increase green cover within the city • Plantation in dividers to curb dust, pollution and to restore aesthetic looks. • Development of urban green corridors to enhance the local climate • Develop and implement a Biodiversity Management Plan • Regular monitoring of compensatory tree plantation.
River and Other Water Bodies	<ul style="list-style-type: none"> • Developed Master plan for Rainwater Harvesting Plan • Potential for eco-tourism • Development of recreational activities to attract the local tourist Developing Green buffer/ corridor • Development of river front development to conserve the river banks • Relocation of slums locating along the river banks on priority basis.
Waste Management	<ul style="list-style-type: none"> • Promote the reduction, reuse and recycling of waste • Identify sites at neighbourhood level for preliminary sorting and aggregation of dry recyclables, neighbourhood composting • Identification of appropriate sites for construction and demolition waste • Restriction on open dumping
Mixing of Sewage and Drain Water	<ul style="list-style-type: none"> • Monitoring of water quality in the river • Sewerage coverage network along slums • Desilting of storm water drains on regular basis



Aspects	Strategies
Air and Noise Quality	<ul style="list-style-type: none"> • Regular vehicular checks to keep air pollution levels within prescribed levels • Increase the use of alternate fuels like CNG • Continuous monitoring at various locations within the city at regular intervals. • Planned plantation in the city areas, choice of air/ noise pollution resistant tree species in order to minimize ambient air/ noise pollution. • Road network must be improved for reducing vehicular emissions
Ground water exploitation	<ul style="list-style-type: none"> • A separate long term & effective Integrated Water Resources Management Plan should be prepared for implementation, envisaging interventions for a more harmonized conductive use of surface and groundwater. • Excessive withdrawals from top aquifers (<150mbgl) should be adequately reduced & regulated through a legislative provision. • Strict measures supported by public awareness campaigns are required to check undesirable wastage of drinking water especially in ground water based supply/ distribution systems under Jal Kal's water supply network.

Disaster Management

Lucknow is situated along the bank of River Gomti. According to the IS 1893 Part I, 2002, the Uttar Pradesh state has been sub-divided into three earthquake damage risk zones. Lucknow city falls under moderate damage risk zone. The areas along Gomti River are prone to water logging incidents. Local water logging does occur in some localities during rains but on the whole, the city is well drained. In some small stretches, the embankment is not yet complete and may be the cause for flooding in some localities in case of high floods in the river. Apart, number of road accidents in Lucknow is also increasing year on year.

The city's risk needs to be reduced by way of building up certain capacities and adopting certain measures. The preventive measures involve passive methods as well as active methods. The passive methods include the surveillance, warning, evacuation regimes while the active methods are like slope restoration, relocation of certain localities, security measures etc. In the mitigation framework, there are certain non-structural measures and some structural measures.

Sectors	Strategies
Flood	<ul style="list-style-type: none"> • Riverside to buffer of 100 meter of area free of any occupation by shops/ other activities and should be converted into municipal gardens. • Plinth level would be kept much above the highest flood level ever recorded in last 30 years • Embankments of the entire stretch of river would be suitably raised above the highest flood level, to prevent flooding
Fire	<ul style="list-style-type: none"> • Up gradation of Fire Service Infrastructure like equipment and vehicles • Human resource development • Public education and awareness • Training institute, fully equipped control room • GIS, GPS, Computerization etc.
Earthquake	<ul style="list-style-type: none"> • Earthquake resistant structural norms to be made mandatory as laid down by the Bureau of Indian Standards (BIS) as applicable to the soil and rock structure of the city • Survey through independent agencies to identify specific structures which requires any structural treatment, retrofitting or need to be demolished and re-built • Listing and demolish unauthorized structures • Conducting awareness programmes among the citizens regarding indications of an



	earthquake and actions to be taken in case of earthquake. <ul style="list-style-type: none"> • Overhead water storage tanks to be structurally design • Sirens and Hooters should be fixed at all the police stations, railway station and schools and colleges
Accidents	<ul style="list-style-type: none"> • Up gradation and improvement of Infrastructure services in the city

Governance

Lucknow Municipal Corporation was constituted in the year 1994 and currently has jurisdiction on the Lucknow Municipal Area. Till the year 1884 Lucknow was known as Municipal Committee however in the same year it was given the name of Municipal Board and continues working till 1995. Lucknow Nagar Mahapalika was constituted in the year 1959 under Uttar Pradesh Nagar Mahapalika Act 1959. Under 74th constitution amendment act Lucknow Nagar Mahapalika was again reconstituted on 31.05.94 and given the status of Municipal Corporation. Under 74th Constitutional Amendment Act, LMC is obliged to provide basic infrastructure including roads, drainage and sewerage, water supply, street lighting, poverty alleviation, slum improvement, urban forestry, environmental protection and conservation, primary health etc. Apart from the LMC, there are other administrative bodies and agencies that provide and govern various services in the city.

Lucknow Municipal Corporation is bifurcated into two wings namely elective wing and administrative wing. The administrative wing is headed by Municipal Commissioner which is responsible for mostly the infrastructural and developmental work in the city. Whereas the Elected wing is mostly responsible for the financial deliverance and the approvals for the various developmental works undertaken by the administrative wing of the LMC. Along with LMC, there are various agencies responsible for implementation and managing urban infrastructure and services in Lucknow. A brief profile of all the concerned agencies and their functions are provided further.

Sl. No.	Sector	Agencies / Authorities and their Functions		
		Planning and Design	Implementation	O&M
1.	Water Supply	UPJN, LDA, UPAVP, Private Developers	UPJN, LDA, UPAVP, Private Developers	Jal Kal (LMC), Lucknow
2.	Sewerage System	UPJN, LDA, UPAVP, Private Developers	UPJN, LDA, UPAVP, Private Developers	Jal Kal (LMC), Lucknow
3.	Sanitation System	LMC	LMC	LMC
4.	Drainage System	LMC, LDA, UPAVP, Private Developers	LMC, LDA, UPAVP, Private Developers	LMC
5.	Solid Waste Management	Private Concessionaire, RR Department	Private Concessionaire, RR Department	Private Concessionaire, RR Department
6.	Urban Roads	PWD, NHAI, LMC	PWD, NHAI, LMC	PWD, NHAI, LMC
7.	Flyovers / ROB/ RB/	Up Bridge Corporation, LDA	Up Bridge Corporation, PWD, LDA	LMC
8.	Street Lights	LMC	LMC	LMC
9.	Urban Environment	Regional Pollution Control Board, Directorate of Environment	Regional Pollution Control Board, Directorate of Environment	Regional Pollution Control Board, Directorate of Environment
10.	Housing and Land Development	LDA, UPAVP	LDA, UPAVP	LDA, UPAVP
11.	Slums and Urban Poor	DUDA, SUDA	DUDA, SUDA	DUDA, SUDA
12.	Heritage and Tourism	Archaeological Survey of India (ASI), State Archaeological Department	Archaeological Survey of India (ASI), State Archaeological Department	Archaeological Survey of India (ASI), State Archaeological Department



Lucknow city mandated to implement certain urban reforms to avail for the funds from central government. There are other optional reforms that may be implemented by the corporation. LMC has already implemented 90% of the mandatory and optional reforms.

Vision statement for Lucknow's governance system is "To promote a city managed by pro-active institutions and capable staff with increase accountability, overall efficiency and required transparency". Goals to achieve the vision are interdepartmental coordination and cooperation, strong community participation to governess, 100% performance oriented LMC Machinery and improved LMC delivery of basic services.

Goals	Action Plans
<ul style="list-style-type: none"> To achieve interdepartmental coordination and cooperation Strong community participation to governess To achieve 100% performance oriented LMC Machinery Improved LMC delivery of basic services. 	<ul style="list-style-type: none"> Formation of an regulatory department with in LMC to collect correlate and instruct / finalize the data, functions and time line of different departments of LMC. Interlinking and sharing of information among different zones and LMC head office Training and capacity building of LMC staff Regular monitoring and review of the level of services provided by LMC

Municipal Finance

Analysis of municipal finances and the past performance of Lucknow Municipal Corporation during the last five audited years provided an understanding of financial capacity and overview of pertinent financial issues. Financial analysis for LMC is done based on the Audited Results made available by the Accounts Department for past five years (2008-09 to 2012-13). Analysis of actual accounts from 2008-09 to 2012-13 while results for 2013-14 and 2014-15 are based on the estimated accounts.

The revenue account comprises of revenue income and revenue expenditure. The revenue income of LMC has decreased from Rs. 37153 lakhs in FY 2008-09 to Rs. 31,865 lakhs in FY 2012-13. CAGR of revenue income for the period of last five years has been -3.71%. While in terms of revenue expenditure the growth rate has been at 6.17% CAGR during the same period. Both capital income and expenditure has shown surplus in the period of last five years form 2008-09 to 2012-13. However there has been huge deficit in capital accounts consecutively in the last five years. The expenditure has increased at a much faster pace than income

The overall income and expenditure status of LMC financial performance reveals the slow and steady growth in expenditure whereas there has been very minimal growth of 0.2% in income part. Revenue income accounts for almost 50% of the total municipal income and rest of the share which is 50% is contributed by capital income. There also has been growth in revenue expenditure with 14% of CAGR whereas capital expenditure has experienced rather slow growth pattern with 7% of CAGR. Revenue expenditure accounts for 41% of total municipal expenditure and rest of the share 59% is from capital expenditure.

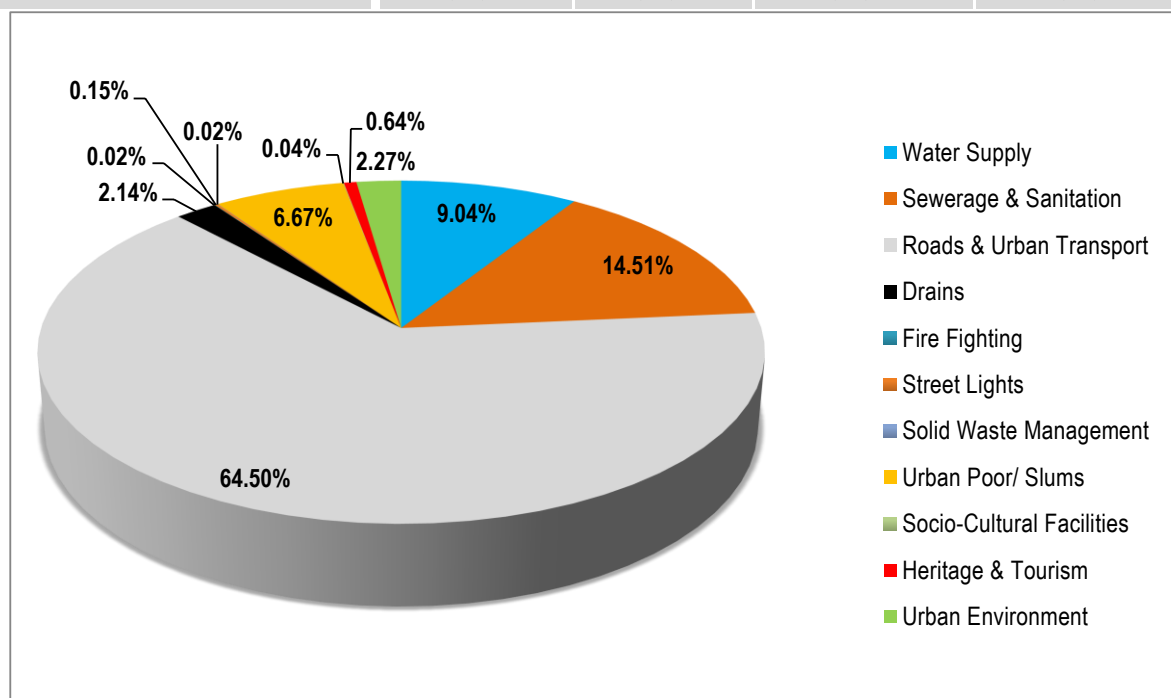
The operating ratio of LMC for 2008-09 to 2012-13 is 0.89 which is less than 1 indicating that Lucknow's revenue income levels are higher than the revenue expenditure. CUR: Average Capital Utilization Ratio of LMC for year 2008-09 to 2012-13 is 1.32 which is greater than 1 indicates that LMC's capital expenditure is more than capital income.



Capital Investment Plan

Under the revised CDP for Lucknow, the investment plans need to be prepared in line with the national, state and ULB level mission and vision. The investment estimation has been done in line with the strategies proposed for the town in short term, medium term and long term. The costs of the projects presented herewith are based on the unit cost and preliminary feasibility studies carried out in various sectors.

Sl. No.	Sectors	Investment by 2020	Investment by 2030	Investment by 2040	Total Investment Need
		Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs
1	Water Supply	1,00,664	1,00,793	2,03,388	4,04,845
2	Sewerage & Sanitation	2,24,350	2,41,055	1,84,130	6,49,535
3	Roads & Urban Transport	13,00,684	10,33,980	5,53,304	28,87,968
4	Drains	39,574	26,325	29,905	95,804
5	Fire Fighting	1,066			1,066
6	Street Lights	2,490	-	4,392	6,882
7	Solid Waste Management	120	30	830	980
8	Urban Poor/ Slums	2,56,832	21,232	20,612	2,98,676
9	Socio-Cultural Facilities	1,020	740	-	1,760
10	Heritage & Tourism	13,105	15,500	-	28,605
11	Urban Environment	94,525	7,000	-	1,01,525
Total		20,34,430	14,46,656	9,96,561	44,77,646



Above figure indicates that of the total investment proposed for the Lucknow apart from other investments which includes slums, fire fighting and community development, the maximum share is taken by the road sector at 65%



and sewerage sector at 14% followed by the water supply sector at 9%, urban poor with 6%. Storm water drains accounts for 2% and solid waste management accounts for 0.5% of the total investment.

The sustainable investment capacity of LMC is assessed through a Financial Operating Plan (FOP), which gives a yearly forecast of finances for the short term and long term. A salient feature of the FOP is that all outstanding dues, including debt and non-debt liabilities if any, have been taken into account. The main items of income and expenditure, classified into the revenue account and the capital account, are projected in the FOP. 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 are 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.