Chapter VII: Vision and Strategies

Vision, Key Priorities & Sectoral Strategy Framework

CITY VISION

Hyderabad's vision is to be an inclusive and futuristic city providing high quality services with universal access including the poor. It will be a slum free, citizen friendly, well-governed and environmental friendly city.

Key Priorities

The CDP process of Hyderbad has undergone extensive consultative process with its key stakeholders in prioritizing the key sectors for investments and reform initiatives. The priorities of the national and state governments including the international developmental trends and Millennium development goals (MDGs) have been considered in prioritizing these critical sectors, presented below.

- Water Supply
- Sewerage
- Solid Waste Management
- Traffic and Transportation
- Storm Water Drainage
- Urban Poverty

Sectoral Strategy Framework

The overall vision for the city and the prioritisation of the key sectors paved the way to formulate sector specific vision and strategies. This sector specific approach with year wise strategies and corresponding year wise investments will be instrumental in framing the action plan/ implementation plan. The sector specific reforms and investments are an integral part of the year wise strategies.

7.1 Water Supply

7.1.1 Key Challenges

Based on the review of the current water supply scenario, the following key challenges are identified. There is huge decline in water supply sources due to lack of effective catchments management. The city, especially the surrounding municipalities are in short of adequate water supply network and access to piped water supply. And moreover, the board do not have adequate finances to mobilize capital for augmentation of new water supply schemes. There is a huge demand supply gap, which is likely to widen drastically in future. Frequency of water supply ranges from 2 hrs to ½ hr every alternate day in MCH area and 1 hr every third day in surrounding municipalities. Lack of metering, exorbitant illegal connections and Public Stand Posts leading to high non-revenue water. No regulatory mechanism to oversee

the functioning of the sector and to fix service standards as well as tariff to meet capital and operating expenditure.

VISION

Our vision is to delight customer by providing pressurized continuous quality water in an equitable, efficient, sustainable manner and create Hyderabad a world-class city.

7.1.2 Goals and Service Outcomes

Considering the above challenges, the following goals for different horizon years have been identified *(table 7.1)*. The water supply coverage and access to piped water supply in MCH area and surrounding municipalities' needs to be enhanced to 100% by the year 2016. The per capita water supply should be maintained at 160 lpcd by increasing hours of supply to 4 hours a day by 2011, 8 hours a day by 2016 and subsequently achieve 24 hours water supply daily by 2021. There is an urgent need to lower the Non revenue to 30% by the year 2011, 20% by the year 2016 and 15% by the year 2021 and 100% O&M cost recovery is achieved by the year 2011.

Table 7.1: Goals & Service Outcomes for Different Horizon Years

S. No.	Component	Horizon Period		
		2011	2016	2021
1	Network coverage	95%	100%	100%
2	Access to piped water supply	90%	100%	100%
3	Per capita supply	160 lpcd	160 lpcd	160 lpcd
4	Hours of supply	4 hours / daily	8 hours / daily	24 hours / daily
5	24x7 water supply	Four zones	Eight zones	Entire city
6	Quality of water	Potable (as per WHO standards)	Potable (as per WHO standards)	Potable (as per WHO standards)
7	Non Revenue Water	30%	20%	15%
8	O&M Cost Recovery	100%	100%	100%

7.1.3 Strategies and Action Plan

Considering the current challenges and identified goals, a robust strategy for water supply is adopted to create Hyderabad a World class City. Detailed strategy is furnished below which covers policy level planning, reforms, institutional strengthening, source augmentation and service delivery aspects.

The following are brief outline of the projects taken up in the year one:

Comprehensive Water Sector Development Plan

To meet the future projected water demand for twin cities of Hyderabad and Secunderabad and surrounding municipalities including the proposed satellite towns, HMWSSB has proposed to carry out studies and prepare a comprehensive water sector development plan.

Lowering the connection costs and simplifying the procedure

The connection costs are acting as an entry barriers, especially for the poor to enter into the water supply system. In addition to that, tedious documentation process further deteriorates the situation. To enhance the access to piped water supply system, the water board proposed to reduce the connection costs and simplify the documentation procedures.

Unaccounted for water

The water supply pipelines have been laid in the city since the year 1891 within the old city area and the water supply system is extended to newer areas around when the city grew up. Though HMWSSB took up replacement of pipelines from time to time, due to financial crunch, it has not been possible to fully replace all the old pipelines. The board proposed to implement UFW reduction measures in all parts of the city as an immediate measure by conducting leak detection studies, rehabilitation of old pipe lines etc.

Removal of public taps and legitimizing illegal connections

By removing public stand posts and legitimizing illegal connections, water board can achieve a reduction in revenue loss to the extent of 5 – 10 percent in a short term. Taking this into consideration, water board made a proposal to remove public stand posts and legitimize illegal connections within a period of 2 – 5 years.

Energy Audit Studies

HMWSSB is operating high head pumping to provide water supply to the city leading to high power costs. The board proposed to carry out a detailed energy audit of all the water supply pumping and distribution system to address the problems associated with energy.

Water Quality Studies and Monitoring

The existing water analysis can be upgraded in phases. The board proposed to purchase latest equipments to upgrade the existing laboratories for analysis of chemicals and heavy metals. In further phase, water quality equipment may be installed online at storage reservoirs.

Design and Implementation of Communication Strategy

For successful implementation of any change management process, effective communication strategy among key stakeholders is proposed. The proposed strategy will draw upon a range of communication channels, from interpersonal and group communication to mass media and electronic forms.

Human Resources Development

Widespread investments in the water supply sector without sufficient attention to human resource development results in poor sustainability of system. Recognizing the urgent need for capacity building at different levels in water supply sector, water board proposed to develop human resources in their organization.

Establishment of Regulatory Authority

Currently the board is responsible for policy, service provision and regulation of water supply, and sewerage, which makes it difficult to regulate the quality of service provision. The board proposed to establish a regulatory authority to enable to facilitate, monitor and thus be able to deliver the benefits of universal household water service to the urban poor.

Modernizing Financial Management and MIS

The board proposed to modernize financial management by developing key performance indicators and identifying best practices to improve finances, organizations, and human capital practices. It is also proposed to take efforts on revising accounting, auditing, and internal control standards and computerizing customer databases.

Augmentation of Krishna/Godavari Drinking Water Supply Project

Based on the future water requirements, the board proposed to augment new source from River Krishna/Godavari for tapping 11 TMC of raw water 180 MGD.

In addition to the above projects, water board formulated strategies to improve bill collection efficiency and strengthen citizens' feedback and complaint redressal mechanisms in the year I.

7.2 Sewerage

7.2.1 Key Challenges

Analysis from the sewerage sector reveals that sewerage network coverage is very low predominantly in surrounding municipalities. Data on access to sewerage connections in MCH and Surrounding municipalities is not available. The poor and slum dwellers lack safe sanitation facilities and hence are prone to health related diseases. An enormous shortfall is noticed in the treatment of sewerage resulting in discharge of untreated sewage into water bodies thus polluting water bodies, classic case being River Musi. In addition to that, wastewater recycling and reuse is quite negligible.

7.2.2 Goals and Service Outcomes

Considering the above challenges, the following goals for different horizon years have been identified. The sewerage coverage and access in MCH area and surrounding municipalities needs to be enhanced to 80% by the year 2011, 90% by the year 2016 and 95% by the year 2021. By the year 2021, 95% of the wastewater should be treated and disposed and 50% of the wastewater should be recycled and reused. In addition to that, 100% O&M cost recovery is achieved by the year 2011.

VISION

Our vision is to create a vibrant community by providing high quality sewerage services based on the principles of quality, equity, value and responsiveness.

To enhance the coverage of safe sanitation facilities, following goals *(table 7.3)* have been identified for different horizon years.

Table 7.3: Goals, service outcomes for different horizon years

Sl. No.	Component	Horizon Period		
		2011	2016	2021
1	Network coverage (Access)	80%	90%	95%
2	Treatment & Disposal	80%	90%	95%
3	Recycle & Reuse	20%	30%	50%
4	O&M Cost Recovery	100%	100%	100%

7.2.3 Strategies and Action plan

Considering the current challenges and identified goals, a robust strategy for sewerage is adopted to achieve 100% sewerage system. Detailed strategy is enclosed in the Annexure, which covers design and implementation of communication strategy and service delivery aspects.

The following are brief outline of the projects taken up in the year I:

Comprehensive Sewerage Master Plan

To meet the current gap and future requirements for twin cities of Hyderabad and Secunderabad and surrounding municipalities including the proposed satellite towns, HMWSSB proposed to carry out studies and prepare a comprehensive Sewerage Master Plan.

Energy Audit Studies

The board proposed to carry out a detailed energy audit of all the sewerage system to address the problems associated with energy.

Sewerage Quality Studies and Monitoring

The existing sewerage quality analysis needs to be upgraded. The board proposed to purchase latest equipments to upgrade the existing laboratories for analysis of chemicals and heavy metals.

Design and Implementation of Communication strategy

For successful implementation of any change management process, effective communication strategy among key stakeholders is proposed. The proposed strategy will draw upon a range of communication channels, from interpersonal and group communication to mass media and electronic forms.

Human Resources Development

Widespread investments in the sewerage sector without sufficient attention to human resource development results in poor sustainability of system. Recognizing the urgent need for capacity building at different levels in sewerage sector, board proposed to develop human resources in their organization.

7.3. Integrated Solid Waste Management

The local governments should effectively involve the private sector in delivering the solid waste management service. The rationale for private sector participation includes attracting project funding, new technology, cost savings and service delivery improvements.

7.3.1 Integrated Solid Waste Management Plan

A Comprehensive Solid waste management Strategic Plan has been evolved which outlines the vision, goals and strategies to achieve the same. The vision of Hyderabad is to "Provide to its citizens an environmentally friendly and sustainable waste management system with complete safe disposal facilities by putting in place waste reduction and recovery mechanisms.

Table 7.4: goals, service outcomes for different horizon years

Goal	Time Frame			
	2005	2010	2015	2025
Door to Door Collection -%	20%	50%	100%	100%
Source Segregation -%	20%	50%	100%	100%
Collection- %	90%	100%	100%	100%
Treatment & Disposal -%	0%	100%	100%	100%
Cost Recovery of O & M-%	0%	30%	100%	100%
Private Sector Participation	Modest protocols in place	Complete in the Disposal	Complete in the Disposal	Complete in the Disposal

In order to achieve above outcomes, issues and deficiencies in each of the solid waste management component have been identified and the strategies for improvement both in physical and financial terms are elaborated in the following sections.

7.3.2 Storage of Waste at Source

Deficiencies

Storage of waste at source is one of the important recommendations of MoEF. It is however, observed that storage and segregation at source is generally absent in Hyderabad, and people in general are not aware of the benefits of developing such a practice. However, some households (say around 10 to 15%) store the un-segregated waste in open containers and dispose off the same at the community collection points. Waste generated from the major markets in the city lack adequate storage facilities.

Strategies for Improvement

Highest priority has to be accorded for Segregation & Storage at source irrespective of the area of generation so as to facilitate an organized and environmentally acceptable waste collection, processing and disposal. Source segregation of Recyclables and biodegradable (organic waste) will not only provide an efficient way for resource recovery, but will also substantially reduce the pressure and pollution in Landfill sites.

In order to achieve the above objective, 'Two Bin system of Solid Waste Storage' at source is being recommended. As per this system, each of the households would be directed to keep separate Bins/containers for Biodegradable and non-bio degradable waste generated within their premises.

7.3.3 Collection Deficiencies

Households generally deposit the waste at community facilities except in areas where community manages the primary collection of waste.

Strategies for Improvement

The following measures have been recommended for improving the primary collection practices of Hyderabad.

- Phased implementation of 'Door to Door collection System' through community organisations and MCH and surrounding ULBs by mobilising, facilitating, organising and supporting community activities with the help of local NGOs.
- Installation of 'Community Storage Bins' in areas where house-house collection cannot be implemented.
- Expanding the 'Voluntary Garbage Disposal Scheme' for more number of restaurants/hotels and commercial establishments and collecting user charges
- Placement of dumper containers sufficient in number at markets for ensuring that all the vendors place the waste in the containers.
- Persuading the hospitals to be part of the existing bio-medical waste management facility in the suburbs of the city.

It is recommended to collect Non-bio degradable waste separately from premises where door-to-door /kerb side collections are organised. Present system of primary collection should be phased out by introducing Multi-bin carts (Push carts / Tricycles), semi mechanized systems like refuse collectors. Separate collection vehicles should collect the non-biodegradable waste stored in separate bin. The details of proposed primary collection system are summarised in Table 7.3.3.2.

Requirements of the Proposed Primary Collection System

Presently the city has 3500 dustbins spaced at 444 m. Similarly, the city has over 1240 open dumping (serving as the secondary collection centres) places where the community / sanitary workers deposit the waste.

Table 7.5: Proposed Primary Collection System

Mode of collection	Area of collection	Primary Collection Vehicle	Secondary storage
Door to Door	1.Residential colonies of High & middle income group	Multi-bin cart/Tricycle-with 6 of 40 lit capacity bins-4 for Biodegradable waste, 2 for recyclables	1.Bio-degradable in Skips/wheel containers 2. Non-biodegradable-Sell or hand over to waste collector
	2.Hotels/restaurants	Closed vehicle to collect biodegradable	Direct transport to Disposal site
Combination of Kerb-side &bell system	Mixed Residential, Commercial Areas	Tri-cycle- with Six bins of 40 litre	Bins emptied to skips kept for the waste.
Large Community bin system	Fruit & Vegetable Market/ transfer stations	Carrying bins to transfer point	Skip / Dumper Placer
Small community bin system	Slums/urban poor colonies	Carrying bins to Transfer point	Transfer contents of biodegradable to community bins

7.3.4 Collection & Transportation

Deficiencies

Around 50% of the waste transportation system in Hyderabad is mechanised. With three transfer stations and around 100 collection vehicles and 60 dumper placers for collection and transportation.

Strategies for Improvement

Key information on vehicle movement and deployment is not clearly monitored by ULBs. In view of the criticality of this information in assessing the collection and disposal efficiency of the local body, it is recommended that a standard register at the disposal site and transfer station be maintained. The register should contain information on each of the vehicle trips at both the locations and the origin of waste collection. A summary of this information would be prepared at the end of the day, to be verified by the health officer.

In order to address the collection gap, it is recommend procuring new vehicles of 5.5 tons. In addition to the above sufficient Dual Loader Dumper Placers (DLDPs) are proposed.

7.3.5 Processing & Disposal

Deficiencies

The major issues of processing and disposal in Hyderabad are crude dumping of waste and its impacts on the neighbourhood.

Strategies for Improvement

The characteristics and quantity of solid waste generated in the city primarily influence the disposal options. A review of the available solid waste sample analysis results indicates that nearly 30% of the waste generated in Hyderabad is organic nature.

Considering these aspects, it is recommended to develop a landfill site for safe disposal of solid waste of Hyderabad. The disposal strategies for Hyderabad will be to:

- Compost the organic fraction of the waste
- Sanitary land filling of inorganic fraction of waste and the compost rejects
- Encouraging local level aerobic vermi composting and
- Educating the community on 4R strategy (Reduce, Reuse. Recycle and Recover)
- The capital investment for the proposed interventions is presented in the investment plan.

7.4 Traffic and Transportation

7.4.1 Vision and Strategies

Given the complexity of the problem, it is evident that isolated solutions directed at one or two facets such as building flyovers, road widening etc., will at best assuage the problem temporarily but will not be able tackle the problem comprehensively. Only a multifaceted approach duly integrating land use with transportation at the planning stage as a long term measure to structurally integrate this sector with the overall growth of the Urban Area will be able to give best benefits at least possible cost. It is felt that an overall vision and strategies for the sector formulated with concerted and sustained campaign duly addressing issues as under will be able to address transportation related problems comprehensively.

VISION

Safe, reliable, eco friendly and speedy transport system with improved share and accessibility to the cost effective public transport system.

7.4.2 Vision

The vision of the 'Traffic and Transportation' for Hyderabad city is to provide with the safe and reliable transport system that is sustainable, environmental friendly and to significantly improve the share and quality of public transport service that would improve the traffic management.

Table 7.6: Goals, Service Outcomes for Different Horizon Years

Vision Indicators	Time Frame			
	2005-06	2011	2015	2021
Road Network as % of Total Area	9%	12%	15%	15%
Share of Public Transport	42%	45%	55%	75%
Rail transport as share of total public transport	2%	10%	30%	40%
Average Speed -km/'h	12	20	30	35
Sidewalks length to Total road length	25%	Half of the requirement	75% of the requirement	95% of the requirement
Usage of alternative fuels	5%	40%	60%	60%
Road accidents	Not known	Reduced by 25%	Reduced by 50%	Reduced by 70%

7.4.3 Strategies

- Short term measures including immediate trouble shooting actions and TSM actions such as intersection improvement, signalisation etc., to be taken up regularly. These measures should be taken up on a continuous basis as the travel characteristics and loading of different links, intersections etc., and change very frequently owing to natural growth and changes in land use.
- 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 bridges. Flyovers, alternate transportation systems such as MRTS etc.,
- Long-term action plan aimed at development of structure plan for the Urban Area with Transit as one of the lead components, 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.

Strategies for Planning, Reforms and Institutional Strengthening

Constitution and Operationalisation of Hyderabad Metropolitan Transport Authority (HMTA)

Formation of a Unified/ Integrated Hyderabad Metropolitan Transport Authority (HMTA) for HMA is the most essential step in promoting integrated land-use, transport development and achieve a balanced urban structure. HMTA will act as a singular authority in decision making and allocation of budget regarding all aspects relating to traffic and transport, thus resulting in greater co-ordination between different departments, efficient use of resources and greater quality of transport system in the city. This authority should be armed with overriding powers on subjects relating to transportation and have budgetary control. This authority will be responsible for development of guidelines for sustained development of HMA.

Comprehensive Traffic and Transport Study for the entire Hyderabad Metropolitan Region (HMA)

This strategy is aimed to come out with sustained solutions for the entire HMA as a unit that has financial and environmental viability. This also includes the current institutional analysis, policy, financial and service delivery issues.

Ring fencing of RTA, APSRTC, and Railways

The agencies that maintain the database of the vehicular ownership/ population viz. RTA and that provide public transport for the region shall be ring fenced for effective financial and service delivery outcomes.

Traffic and Transportation Management using G.I.S. and GPS Technologies

Use of Global Positioning System (GPS), a satellite based positioning and navigation technology, will help track the position of the public transport vehicles from a central location. This data is very useful in assessing the performance of the services offered. The same data can be beamed back to the electronic information boards at bus stops that will display information on the location of the busses and the expected arrival time. Use of such service has additional benefits in tracking the traffic conditions on the roadways, delays at intersections, passenger demand, as well as immediate notification to the control centre in case of accidents, all without any involvement of the driver or conductor. This strategy will also improve the share of public transport.

Dis incentivising the private transport during peak hours

Dis incentivicing the use of private vehicles during peak hours and in the CBDs is one of the key strategies to address the problems of traffic congestions and delayed journeys and improve the public transport as well. Congestion pricing during peak hours, differential parking fee, pedestrianisation, and surcharge on vehicles belonging to other cities/ regions, etc. are some of the strategic disincentives.

Strategy for Finance

Urban Transportation Development Fund

Infrastructure development for efficient functioning of transport system is a capital-intensive process and a substantial financial burden would have to be shouldered by the government. The state government or the local bodies do not have the required resources for financing such developments, thus delaying the projects indefinitely. The Central Government in the National Urban Transport Policy (NUTP) has recommended levy of direct taxes that would be credited to the account of the 'Urban Transport Fund' and used exclusively to meet the urban transportation needs. NUTP has further specified that such direct taxes could be in the form of a supplement to the petrol and diesel taxes, betterment charges on landowners or even in the form of employment tax on employers. Such provisions will also result in making private vehicular transport more expensive and result in a shift towards use of public transport systems. A similar approach is recommended for implementation in HMA.

Improve the Share of Public Transport

Increasing the Fleet of Bus

As per the standards of GoI, a city should have at least 100 buses per lakh of population. It is also mentioned that by 2020, this should go up to 250 buses per lakh population. This is also supported by the prevailing over crowded buses specifically in peak hours. Hence a fleet of 500 buses per annum for the three consecutive years beginning from the year 2006 will be introduced.

Dedicated Bus corridors, Bus bays and Terminals:

Frequent weaving movements of buses in busy corridors have a significant effect on the speed of traffic. Further, stopping buses in the face of traffic at bus stops tends to block the traffic moving on the left lane. Since most of the roads in the city are four lanes with a un mountable central divider, the problem of traffic blockade becomes even more acute on such occasions. 360 bus bays have been identified for provision of convenient stoppages for buses without inconveniencing the traffic following them. Further, dedicated bus corridors and construction of bus terminals at major hubs will ease the traffic flow, significantly increase the share of public transport and will also improve the comfort of the passengers through the development of 'hub and spoke' system of transport.

Feeder BUS system for "MMTS"

In order to exploit the capability of the Hyderabad Area Rail Transit System, it is proposed to integrate road based public transportation system with MMTS through a powerful bus feeder network. This integration will not only act as a catalyst to the proposed system but also will work towards optimization of the inter modal split. Realizing this, it is proposed to develop feeder bus routes and services to improve access to the stations and thus encourage people to use the MMTS. The essential features of this approach are:

- Provision of proper and wide access roads
- Provision of convenient bus services to the rail nodes
- Provision of convenient bus bays and interchanges facilities at railway stations.
- Provision of ample parking areas near the stations to encourage park and ride concept for people with two wheelers to encourage on to the system.
- Provision of common ticketing system to avoid interchanges.

Better Transport Infrastructure

Junctions and Traffic Signal improvements

This is an area of immediate intervention that can be implemented with marginal investments and where improvement in the performance can be felt. Hyderabad has about 386 intersections, out of which 224 are manned and 162 unmanned that

While channelization of intersections reduces the conflict area, they function only when the flows are low in nature and allow sufficient gaps for crossing flows to accept them. These gaps decrease as the volume of flows increase thereby necessitating physical stoppage of one of the conflicting flows to facilitate movement of the other. There are number of such signalised intersections where in old technology controllers and signal aspects are found to be ineffective, hence they should be replaced with better LED controlled signal system.

Grade Separators

There are situations where even signalized intersections fail because of excessive queue lengths building up on all arms. In this situation choice of solution is limited to bypassing the traffic on one or more directions by grade separation. Typically this situation occurs when the total traffic volume of all the arms of the intersection is in excess of 10,000 vehicles per hour.

SCOOT area traffic control

There are more than 100 signalised intersections in the MCH area alone. Unless all these signals are linked with suitable area traffic management system, the overall delays may not come down. Optimisations of signals as an integrated network will be able to give better results pertain to the core area. Hence the SCOOT system with traffic detectors on the approaches, assisted by Video Cameras for incidence detection and management shall be installed.

Traffic Signs and Markings

The traffic in Hyderabad city being mixed in nature and carriage way being a non-standard format, the carriageway s need extensive traffic signs and road markings to provide guidance for disciplined and safe driving. It is observed that on many important corridors traffic guidance in the form traffic signs and lane markings are not up to the standards. It is necessary to standardize the lane markings, edge markings, median markings, pedestrian crossings, parking zones etc; and locations for installing traffic delineators, and traffic signs and implemented on all important travel corridors extending over a length of 200 km.

Parking management

Hyderabad, like other cities is confronted with a downtown-parking problem. This problem is aggravated by excessive population densities, large number of pavement hawkers, side walk encroachments and heterogeneous nature of traffic and commercial area development along all the major roads. On street parking surveys conducted during the year 1998-99 have indicated that in 500 m of kerbed space in Abids shopping area, about 2500 cars are parked during business hours. Average parking duration is between 100 to 120 minutes. As such it is

proposed to demarcate parking stalls and design the parking fee structure to improve parking turnover. A proper parking policy, which looks at users–pay principle, is imperative. Off street parking complexes for private vehicles at 22 important nodal points in the city are required to ease traffic congestion by releasing precious carriage way. Besides there is urgent need to stream line the para-transit vehicles at major trip attraction centres by provision of suitably designed para-transit hubs. As many as 23 locations have been identified to implement this scheme. Similarly there is a need for providing parking spaces for private bus operators. 10 such locations, on all major arterial roads are identified for this purpose.

Parallel roads

There are situations when alternative roads have to be developed to reduce the load on overburdened links. Finding space for such development is difficult in densely built up areas of the Urban Area. Only possible open areas for such purpose can be created from the vacant space along the river Musi and the Railway Track. Such a plan will have dual benefits of providing alternate routes and also help in non-encroachment of important lands.

Road widening

Given that the percentage area covered by roads in the city is a mere 10 % of the total area, road-widening programme improves channel capacity by adding more area to the circulation channels. Hyderabad is the only city, which has been able to implement road-widening programme with the participation of building owners, successfully. 145 congested links have been identified for widening with 85 of them being already implemented. One such credit worthy program has been Charminar pedestrianisation scheme, where in it is proposed to divert the heavy flows of traffic passing through historical monument of Charminar by upgrading parallel roads through road widening.

Link roads

Mere treatment of isolated intersections will not give the required relief beyond certain volumes of traffic. At this stage it becomes inevitable to look for critical links, which can form alternate paths and thus distribute the traffic. Nine such link roads have been identified for improvement.

Railway barrier and Musi River crossings

Important barriers for free flow of traffic in the urban area are the River Musi and the Railway lines. It is essential that these barriers be punctured at as many points as possible to improve connectivity on either side of the barrier. Such connections develop grid movements and reduce circuitry between the areas. For instance, a study of time lost due to railway gate closure at Jamai Osmania has shown that more than 5500 vehicles are delayed amounting to 5 hours of vehicle delay in just 12 hours of daytime resulting productivity loss to the commuters apart from increased consumption of fuel and increased levels of pollution. For this purpose ROB/RUBs are identified at 8 locations.

Historically Hyderabad city has grown along two National Highways, NH7 and NH 9. These highways intersect river Musi between Puranapool and Chaderghat. CBD core has developed in the vicinity of these intersections and on the other side of the river leading to heavy

commuter flows across the bridges over the river. To relieve this funnelling effect, and facilitate direct north - south flows several new bridges need to be planned.

Pedestrian crossings

Warrants for pedestrian crossings are as follows:

- Approach speeds are high (Say > 60 kmph)
- Waiting time for pedestrian or vehicles is too long
- Peak hour volume for pedestrian (P) and vehicles (V) are such that $PV^2 > 2 \times 10$ for divided carriageways.

Further, when mid block volumes are high across a high-speed corridor, a situation having potential to cause accidents to the pedestrians is created. As a significant proportion of the trips of up to 2 km in length are performed on foot and since pedestrians are more vulnerable for involvement in accidents, it is necessary to protect them through provision of Guard Rails, Zebra Crossings, and Pelican signals or through Grade separations.

7.5 Storm Water Drainage

7.5.1 Strategies

Primary Drain Rehabilitation and Improvement Program

The primary drains are inadequate to handle the flash floods as they are not systematically designed and are not fully constructed in some sections. A significant reduction in depth and width are noticed due to siltation and encroachment of drain bunds. To alleviate these, a rehabilitation and improvement program is recommended. The program would aim at the following:

- Improvement measures such as widening and deepening and construction of Sidewalls
- Construction of side walls to confirm to uniform cross-section in built up areas
- Diversion of drains at critical sections
- Construction of cross- drainage works

Drainage Rehabilitation Program

The flood prone areas identified are to be relieved of the problem in future by undertaking a drainage rehabilitation program. As a part of this program, the leading/connections between secondary and tertiary drains to primary drains have to be improved and strengthened. In addition, control of weed growth, limiting the dumping of solid and construction waste and controlling the growth of encroachments would be given top priority.

ULBs would desilt the primary drains and tertiary drains on a regular basis before the onset of the monsoon. The construction of new drains and connecting links would be taken up as a priority, along with strengthening of the existing drains with lining and sidewalls.

Improvement Works and Construction of Tertiary Drains

Construction of tertiary drains would be taken up on a priority basis as the city comprises of only 800 Km. of tertiary drains covering only 40% of the road length against a norm of 130%. It is proposed to construct tertiary drains to all the major arterials and important roads to increase the coverage and also to convert the kutcha drains to pucca drains to facilitate proper draining of storm water into natural drains.

Conservation of Water Bodies

As discussed, conservation of water bodies is an immediate priority for Hyderabad. Though initiatives are being undertaken, a large-scale program is pertinent to restore the water bodies to their original shape and conserve them as recharge structures.

Protection of Environmental Resources

The first and foremost intervention is the protection of environmental resources. Protection of water bodies, waterways and open spaces from further encroachments would be carried out in a co-ordinated way.

Green Hyderabad Environment Program

The Green Hyderabad Environment Program would be implemented in right earnest in co-ordination with other planning partners. Under this program about 30 lakes of the notified 169 in the metropolitan area have been taken up for protection. Other schemes of GoAP would be dovetailed into this initiative for an integrated and cohesive strategy for resource protection.

Rehabilitation of ecosystems

Efforts would be made to develop an integrated catchments management plan suitably connecting all the existing water bodies. Further, hydraulic capacity of the nallahs and water bodies would be improved through widening and deepening and construction of sidewalls thereby limiting the risk of floods. Desilting would be carried out to increase the water holding capacity and to remove the toxic and hazardous materials stored in the tank beds.

Monitoring and Quality Control

Monitoring of water quality parameters would be conducted on a regular basis. ULBs would take up the responsibility of monitoring the parameters in the water bodies within its jurisdiction and would take preventive measures, if the results were above the permissible limits. The horticulture and urban forestry division of ULBs would devise pro-active strategies to limit pollution to water bodies within its limits and would co-ordinate with other agencies for monitoring the parameters in the other water bodies.

Regulatory Framework

Efforts would be directed at enforcing appropriate water pollution- related laws, ordinances, regulations, and corresponding enforcement responsibilities and procedures at the local level. This would be in accordance with the framework laid down by the 74th CAA and The Hyderabad Municipal Corporation Act, 1955. In addition the conservation measures would include

- ?? Dredging and desilting
- ?? Widening & strengthening of lake bunds
- ?? Setting up sewage treatment plants
- ?? Bund formation
- ?? Regulation of inlet and outlet channels

7.6 Poverty Reduction Strategic Plan

With about one third of the population in MCH and surrounding municipalities living in slums, urban poverty is a major issue confronting the HUA area. "***The vision of Hyderabad is to become a city without slums by 2021"*.**

The goals formulated to achieve the vision are:

- ?? All poor will have access to qualitative and affordable basic services;
- ?? 100 % literacy;
- ?? Universal access to primary health care and no one should die of preventable

diseases;

- Livelihood to all urban poor.
- Tenurial security and Affordable Housing

The strategy formulated for reducing poverty in Hyderabad Urban Agglomeration area includes:

- Provision of land tenure security
- Community empowerment
- Linking livelihoods to city's economy
- Development of housing through partnerships - PPP
- Formulation of Notification and Denotification Policy
- Relocation of slums located in hazardous and vulnerable Areas
- Provision of basic infrastructure - both physical (water, roads, sanitation and sewerage) and social infrastructure (clinics, schools, training facilities, etc).

7.6.1 Housing & Infrastructure Action Plan

Provision of infrastructure in poor settlements is one of the key objectives of City Development Plan. Infrastructure improvement in poor settlements would continue to cover roads, drains, water supply, solid waste management and sanitation.

Poor settlements would be identified from the matrix prepared during the consultation with the inhabitants of the slums and action plan will be prepared for provision of basic infrastructure. The sub-project proposals would be carefully appraised to exclude non-poor areas within the notified poor settlements. Emphasis will also be laid for rehabilitation of infrastructure linked with poor settlements and integration with citywide infrastructure facilities.

Slum Networking

Under this initiative, slum networking would be taken up for an integrated up gradation of the slums. As there is a close correlation between the slum locations and the natural drainage paths of a city they would be tapped and improved upon with the infrastructure services. This approach would help in building low cost service trunks, particularly for gravity-based systems of sewerage and storm drainage, together with environmental improvements such as cleaning up of nallahs, development of green pedestrian spines and restoration of waterfront structures.

Social & Economic Development Action Plan

The city administration has identified that for overall development of the slum areas the development should concentrate on the social and economic issues and hence would focus on strengthening community based organizations, enhanced role of the self-help groups (SHGs), access to institutional finance to SHGs, etc. Accordingly the Social & Economic Development Action Plan would focus on the following areas:

- Education
- Health

- Livelihoods
- Strengthening SHGs

Considering the deficiencies in infrastructure - physical and social - the cost of estimated interventions is to the tune of Rs.4575 crores and is presented in Table 8.15.

7.6.2 Future Infrastructure Requirements

The MCH has been implementing a series of poverty reduction programmes over the last four decades as discussed earlier. But the need to prepare a comprehensive programme to address the problems of the urban poor of Hyderabad came out prominently during CDP consultations. This is being attempted through the Hyderabad Slum Up gradation Action Plan (HSUAP) that is under preparation.

At present, the MCH is contributing 40% of its property tax revenues for slum improvement facilities and aims to make basic services permanently available to all poor residents of the city, irrespective of their place of residence or tenure status. The future requirement of infrastructure and community facilities is presented in Table 7.7, 7.8 & 7.9 respectively.

Table 7.7: Basic Infrastructure requirement for Slums

Infrastructure		***MCH***	***Surrounding Municipalities***	***Total***
Roads (Mts)	BT	30659	12264	42923
	CC	557165	222866	780031
	SS	108502	43401	151903
Drains (Mts)	Sewers	371573	148629	520202
	SW Drains	247847	99139	346986
Toilets (Nos)		140	56	196
Street lights		5832	2333	8165

Table 7.8: Community facilities available in Slums

Infrastructure	***MCH***	***Surrounding ULBs***	***Total***
Schools (No.)	210	70	280
Common Halls (Nos)	171	80	251

Table 7.9: Solid Waste Infrastructure Required In HMA

	No. of slums	MSW Generation in MTPD	Tricycles required (no.)	Dumper bins required (no.)	Dumper placer trucks required (no.)
MCH	792	627	1681	792	102
Surrounding ULBs	300	237	636	237	37
Total	1092	864	2317	1029	139

In addition, the existing infrastructure in slums requires complete rehabilitation as a majority of the assets are in dilapidated condition.

7.6.3 Housing Requirements in HMA

The earlier Slum Improvement Projects had a limited focus on the housing for poor. Even the initiatives of Municipal Corporation and surrounding ULBs are to create infrastructure facilities in slums. The provision of housing for urban poor is the responsibility of Andhra Pradesh State Housing Corporation. A survey carried out by APSHCL, it is estimated that about 2.0 lakh families need housing as they fall under EWS category with a break up of 1.3 lakhs in MCH area and 0.7 lakh in the surrounding municipalities. It is proposed to construct group housing with G+3 structures with each house occupying an area of 286 sq.ft.

In addition, the infrastructure in existing housing colonies is very bad necessitating a complete rehabilitation. More than 150 colonies in the urban agglomeration area require rehabilitation of basic services. Accordingly, the requirements of housing and infrastructure facilities for Hyderabad Agglomeration Area are estimated and presented in Table 7.10.

Table 7.10: Housing & Infrastructure Requirements

Details	MCH	Surrounding ULBs	Cost
A. Housing for EWS –			
Number	178000	122000	
Cost (Rs In crores)	1780	1220	3000.00
Water Supply	97.90	67.10	165.00
Sewerage System	71.20	48.80	120.00
Roads	115.70	79.30	195.00
Street Lighting & Electrification	71.20	48.80	120.00
A. SUB Total			3600.00
B. Infrastructure in existing colonies @20,000	37.73	16.00	53.73
C. Other comm. facilities	-	-	300.00
Grand total (Rs. Crores)			3953.73

7.7 Urban Renewal

The metropolitan area of Hyderabad, being one of the oldest cities, comprises of areas such as old city, which require renewal. The vision of urban renewal program is to "decongest the core area to enhance the quality of life and economically attractive without disturbing the character"***.***

CITY VISION

To "decongest the core area to enhance the quality of life and economically attractive without disturbing the character".

7.7.1 Goals and Service Outcomes

The goals to achieve the above vision are enumerated below

Table 7.11: Goals and Service Outcomes

Goal	Time Frame			
	2005	2010	2016	2021
Decongest the core city	20% completed	80%	100%	100%
Pedestrianising the core	20% completed	80%	100%	100%
Conservation	30%	90%	100%	100%
Public Private Partnerships	Modest protocols in place	Total protocols to achieve mobilising 20% of the project cost		

The strategic action plan for urban renewal is enumerated below

The projects/ interventions proposed under urban renewal comprises of the following

- Widening of the narrow streets and links
- Relocation of markets and parking areas
- Rehabilitation of infrastructure such as storm water drainage, traffic infrastructure, etc.
- Pedestrianising the Charminar area
- Renewal of River Musi

The details of the projects proposed under the urban renewal program is presented below

7.7.2 Charminar Pedestrianisation Project

The historic city of Hyderabad, with Charminar at its centre, has been the witness to various phases of growth and change. It has become a traffic island, only visible from the thousand of vehicles plying around it; Adding to this clutter is the confusion of electrical lines, disarray of signs, and encroachment of virtually all kinds. To reinstate this historic core as a commercial hub and as a centre of activity, MCH is undertaking pedestrianisation of the immediate area around the Charminar in line with international best practices. The project involves restructuring the historic precincts with the provision of civic amenities, traffic infrastructure, storm water drainage, introduction of heritage walks, pedestrianisation & beautification of Laad Bazaar, widening of ring roads, restoration of Pathergatti facades and a comprehensive signage system for Charminar precincts and restoration of Char Kamans.

7.7.3 Musi Conservation Project

River Musi traverses through the city of Hyderabad and is totally polluted due to the absence of a total sewerage system. As a part of this initiative it is proposed to conserve the Musi River System through a series of measures. Some of the measures include construction of interceptor sewers, rehabilitation of river banks, restoration of environmentally degraded areas, construction of check dams to conserve water during flooding and landscaping etc.

Water Supply Sector - Strategy to achieve Vision and Goal (2005-2012)								
Component	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Planning, Reforms *and* Institutional Strengthening	Comprehensive Water Sector Development Master Plan	*v*	*v*	*v*				
	Lowering the connection costs	*v*	*v*					
	Lessening the documentation process	*v*	*v*					
	Leak Detection Studies	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Energy Audit Studies	*v*	*v*	*v*				
	Water Quality Studies and Monitoring	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Design and Implementation of Communication Strategy	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Baseline Survey		*v*					
	Human Resources Development	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Establishment of Regulatory Authority	*v*	*v*	*v*	*v*	*v*	*v*	
	GIS Mapping of Water and Sewerage Utility Mapping		*v*	*v*	*v*	*v*	*v*	
	Community Initiatives Support		*v*	*v*	*v*	*v*		
	Modernising Financial Management and MIS	*v*	*v*	*v*	*v*			
	E-Governance		*v*	*v*	*v*	*v*	*v*	*v*
	Introduction of civic representatives in the board		*v*	*v*				
	Private Sector Participation		*v*	*v*	*v*	*v*	*v*	*v*
	Ring fencing the accounts / finances				*v*	*v*		
	Tariff transition plan to recover the O&M costs		*v*	*v*	*v*	*v*	*v*	*v*
	Improved bill collection efficiency	*v*	*v*	*v*	*v*	*v*	*v*	*v*
Source Augmentation	i) Krishna Drinking Water Supply Project Ph-II	*v*	*v*	-	-	-	-	-
	ii) Godavari Phase-I / Krishna Drinking Water Supply P roject Ph-III	-	-	*v*	*v*	*v*	*v*	*v*
Service Delivery	Osmansagar and Himayathsagar Catchment Area Management		*v*	*v*	*v*			

Water Supply Sector - Strategy to achieve Vision and Goal (2005-2012)								
Component	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
	Urban Renewal of Old City Areas							
	i) Water Supply Refurbishments for Old City area with in MCH	-	v	v	v	v	v	-
	i) Water Supply Refurbishments for Old Town ships of surrounding Municipalities	-	v	v	v	v	v	-
	General Water Supply Improvements with in MCH i) Additional Storage with inlet & outlet mains	-	v	v	v	v	v	-
	ii) Laying of higher size trunk & distribution mains	-	v	v	v	v	v	-
	iii) Refurbishments	-	v	v	v	v	v	-
	General Water Supply Improvements in surrounding Municipalities							
	i) Additional Storage with inlet & outlet mains	-	v	v	v	v	v	-
	ii) Laying of higher size trunk & distribution mains	-	v	v	v	v	v	-
	iii) Refurbishments	-	v	v	v	v	v	-
	Energy Conservation Measures		v	v	v			
	Phasing out PSPs and legitimizing illegal connections	v	v	v	v			
	Metering		v	v	v	v	v	v
	Piloting 24x7 zone by zone		v	v	v	v	v	v
Citizens Relations Management	Citizen feedback mechanisms to be established	v	v	v	v			
	Complaint redressal made robust	v	v	v				

Sewerage Sector - Strategy to achieve Vision and Goal (2005-2012)								
Component	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Design & Implementation of Communication Strategy	Comprehensive Sewerage Master Plan	v	v	v				
	Energy Audit	v	v					
	Sewerage Quality Studies and Monitoring	v	v	v	v	v	v	v
	Design & Communication Strategy	v	v	v	v	v	v	v
	Human Resources Development	v	v	v	v	v	v	v
	Community Initiative Support	v	v	v	v	v	v	v
	Private Sector Participation		v	v	v	v	v	v
	Ring fencing the accounts / Finances				v	v		
	Tariff transition plan to recover the O&M costs		v	v	v	v	v	v
Service Delivery	Urban Renewal of Old City Areas							
	i) Sewerage Rehabilitation for Urban Renewal of Old City areas with in MCH	-	v	v	v	v	v	v
	ii) Sewerage Rehabilitation for Urban Renewal of Old Townships of Surrounding Municipalities	-	v	v	v	v	v	v
	General Sewerage Improvements with in MCH							
	i) Construction of STPs	-	v	v	v	v	v	v
	ii) Laying of conveying mains	-	v	v	v	v	v	v
	iii) Laying of laterals and branch sewers		v	v	v	v	v	v
	iii) Remodeling of sewers	-	v	v	v	v	v	v
	General Sewerage Improvements for surrounding ULBs							
	i) Construction of STPs	-	v	v	v	v	v	v
	ii) Laying of conveying mains	-	v	v	v	v	v	v
	iii) Laying of laterals and branch sewers	-	v	v	v	v	v	v
	iv) Remodeling of sewers	-	v	v	v	v	v	v
	Recycling Plant & Reuse	-	v	v	v	v	v	v
	Energy Conservation Measures	-	v	v	v	v	-	-

Solid Waste Management Sector - Strategy to achieve Vision and Goal (2005-2012)									
Component	**Activity**	**Institution**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**
Service Improvement	Comprehensive Solid Waste Management Plan	**ULB**	v	v					
	Training of functionaries		v	v	v	v	v	v	v
	Communication Strategy Development		v	v					
	Communication Campaigns			v	v	v	v	v	v
	Support for Community Initiatives		v	v	v	v	v	v	v
Primary Collection	Source Segregation		v	v	v	v	v	v	v
	Door to Door Collection		v	v	v	v	v	v	v
	Installation of Storage Bins		v	v	v	v	v	v	v
Secondary Collection & Transportation	Vehicle tracking system		v	v	v				
	Vehicle Fleet		v	v	v	v			
	Transfer Stations Modernisation		v	v	v				
Disposal & Treatment	Waste Minimisation, Recycling		v	v	v	v			
	Integrated Waste Treatment			v	v	v			
	Regional Sanitary Landfill Facility			v	v	v			
	Scientific Closure of the abandoned dump sites		v	v	v				
	Project Development Assistance (5% of the total)		v	v	v	v	v	v	v

Traffic and Transportation Sector - Strategic Action Plan (2005-2012)									
Component	**Institution**	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Planning, Reforms and Institutional Strengthening	***State Government***	Constitution and Operationalisation of Hyderabad Transport Management Authority (HMTA)	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	ULB	Comprehensive Traffic & Transportation Study for entire HMA*	*v*	*v*					
	State Government	***Ring fencing APSRTC, Railways for Hyderabad region***		*v*	*v*	*v*	*v*	*v*	*v*
	ULB	***Transport Assets and utilities mapping using G.I.S. Technology***		*v*	*v*	*v*	*v*	*v*	
	ULB, Police dept.	***Traffic and Transportation Management using G.I.S. and G.P.S. technology***						*v*	*v*
	ULB, Police dept.	***Design and Implementation of IEC campaign for improved traffic awareness***		*v*	*v*	*v*	*v*	*v*	*v*
	ULB	***Capacity building initiatives for better traffic management***		*v*	*v*	*v*	*v*	*v*	*v*
		Introduce congestion pricing for private sector during peak hours		*v*	*v*	*v*	*v*	*v*	*v*
		Differential parking fee		*v*	*v*	*v*	*v*	*v*	*v*
		Auto restricted zones/ pedestrianisation		*v*	*v*	*v*	*v*	*v*	*v*
		Surcharge for other state/ city vehicles imposed		*v*	*v*	*v*	*v*	*v*	*v*
	APSRTC	**Increasing the bus fleet**	**v**	**v**	**v**				

Traffic and Transportation Sector - Strategic Action Plan (2005-2012)									
Component	**Institution**	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
	APSRTC	**Increasing the bus fleet**	**v**	**v**	**v**				
Better Service Delivery through improved share of Public Transport (Bus, MMTS & MRTS)	***ULB, APSRTC***	***Survey, Land acquisition and provision of bus bays in remaining feasible locations (assuming 500 bus bays over 7 years)***	***v v***	***v v***	***v***	***v***	***v***	***v***	***v***
		Signage improvement at bus bays to streamline bus and passenger mobility	***25%***	***75%***	***90%***	***95%***	***95%***	***95%***	
		Development of bus terminals at CBDs and growth centres		***v***	***v***	***v***	***v***	***v***	***v***
		Dedicated line for bus carriage way (arterial and sub arterial roads)							
		Survey, Land acquisition and provision of bus bays in remaining feasible locations (assuming 500 bus bays over 7 years)		***v***	***v***				
		Development of required infrastructure (signage, signal system, separators, etc.) Formulation and Operationalisation of the dedicated lines (% completed of the total corridor planned)			***10 25%***	***10 50%***	***75%***	***100%***	
		Service Coverage of MMTS (in km)	***48***	***96***	***127***	***150***			
		Completion of MMTS II phase	***v***	***v***	***v***	***v***	***v***		
		Improved frequency of MMTS particularly during peak hours							

Traffic and Transportation Sector - Strategic Action Plan (2005-2012)									
Component	**Institution**	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
	Railways & APSRTC	*Common ticketing for MMTS and bus transport and improved feeder bus services*	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	ULB	*Provision of MRTS (length in km)*						*60*	
Improved Safety, Service delivery and Customer Satisfaction by providing better infrastructure	*HUDA & ULB*	*Strengthening existing roads by hot mix/ asphalt/ CC roads - 2600 km*		*v*	*v*	*v*	*v*	*v*	*v*
		Up gradation of important roads		*v*	*v*	*v*	*v*	*v*	*v*
		Junction Improvements - 142 locations	*v*	*v*	*v*				
		Signals - 71 locations	*v*	*v*	*v*				
		Flyovers - 39 nos.	*v*	*v*	*v*	*v*	*v*	*v*	*v*
		Signage and markings	*v*						
		Street Lighting - 4,60,200 no.s		*v*	*v*	*v*	*v*	*v*	*v*
		Parking Lots/ complexes - 20no.s	*v*	*v*	*v*				
		Radial Roads - 230 km		*v*	*v*	*v*	*v*	*v*	
		Upgradation of major link roads	*v*	*v*	*v*				
		Parallel Roads, slip roads, new links - 42km		*v*	*v*	*v*			
		Outer Ring Road-152 km	*v*	*v*	*v*	*v*			
		Truck, Private Bus, Para Transit, Parking Lots - 50n0s		*v*	*v*				
		Truck Terminals - 5 nos.		*v*	*v*	*v*	*v*		
		ROBs & RUBs -15 nos.		*v*	*v*	*v*			
	ULB	*Subways/ FoBs - 36 no.s*	*v*	*v*	*v*				

Traffic and Transportation Sector - Strategic Action Plan (2005-2012)									
Component	**Institution**	**Activity**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Improved Pedestrian Facilities, comfort and safety	*ULB*	*Subways/ FoBs - 36 no.s*	*v*	*v*	*v*				
Finance	*ULB, state government*	*Constitution of Urban Transport Development Fund*	*v*	*v* *v*	*v*				
		Loans/Bonds	*v*	*v*	*v*	*v*	*v*	*v*	*v*
		Annuity Based arrangements		*v*	*v*	*v*	*v*	*v*	*v*

Storm Water Drainage System - Strategy to achieve Vision and Goal (2005-2012)									
Component	**Activity**	**Institution**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Capacity Building	Identification of Problem Areas	ULB	v	v	v				
	R& R Planning	ULB	v	v	v	v	v	v	v
	Comprehensive Drainage Master Plan	HUDA	v	v	v				
Primary Drains Rehabilitation	Desilting & Removal of Weeds	ULB	v	v	v	v	v		
	Widening & Deepening	ULB	v	v	v	v			
	Construction of side walls & Lining	ULB	v	v	v	v	v	v	v
	Diversion of drains	ULB		v	v	v	v	v	v
	Construction of cross-drainage works	ULB	v	v	v	v	v	v	v
Construction of Secondary & Tertiary Drains	Drains on major arterial roads	ULB	v	v	v	v	v	v	v
	Drains on interior roads	ULB	v	v	v	v	v	v	v
	Conversion from kutcha to Pucca	ULB	v	v	v	v	v	v	v
	Rehabilitation of flood prone areas	ULB		v	v	v	v	v	v
	Rehabilitation of Nallas & Musi Riverbed Improvement	ULB/HMWSSB	v	v	v	v	v	v	v
	Conservation of Lakes	HUDA	v	v	v	v	v	v	v
Capacity Building	Identification of Problem Areas	ULB	v	v	v				
	R& R Planning	ULB	v	v	v	v	v	v	v
	Comprehensive Drainage Master Plan	HUDA	v	v	v				

Poverty Reduction - Strategy to Achieve Vision And Goal (2005-2012)								
Component	**Activities**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**

Poverty Reduction - Strategy to Achieve Vision And Goal (2005-2012)								
Component	**Activities**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Planning, Reforms and Governance	Development of Comprehensive data base	*v*						
	Conferring Tenural Rights		*v*	*v*				
	Evolving a policy on Notification and Denotification	*v*	*v*					
	Institutional Strenthening and Capacity Building	*v*	*v*	*v*				
	Providing Access to Social Infrastructure (Health and Education)	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Evolving a comprehensive Livelihood Policy							
	IEC	*v*	*v*	*v*	*v*	*v*	*v*	
	Strenthening CBOs	*v*	*v*	*v*	*v*			
Service delivery	Relocations of Slums located in Hazardous and vulnerable Areas			*v*	*v*	*v*	*v*	
	Identification of Infrastructure and Housing Deficiencies Improvement in Infrastructure	*v*	*v*					
	Development of Basic Services to the Poor	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Water Supply & Sewerage			*v*	*v*	*v*	*v*	*v*
	Roads	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Street Lights	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Community Toilets	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Construction of Storm Water Drains including primary drains	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Environmental Improvement of Slums	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Solid Waste Management	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Civic Amenities, Community Halls, Child Care Centres	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Rehabilitation of existing assets	*v*	*v*	*v*	*v*	*v*	*v*	*v*
	Housing Infrastructure	*v*	*v*	*v*	*v*	*v*	*v*	*v*

Strategic Action Plan-Urban Renewal

Urban Renewal - Strategy to achieve Vision and Goal (2005-2012)									
Component	Activities	Institution	***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Year 6***	Year 7
Governance	Policy on Transfer of Development rights	GoAP	v						
	Revision of Building Bye-laws	MCH	v						
	Grievance mechanism		v						
	Strategy for PPP		v						
	Pricing Policy for improvements		v						
	IEC		v	v	v	v	v	v	v
	Motivation of the Citizens		v	v	v	v	v	v	v
	Traffic calming policies	Police/ GoAP & MCH	v						
	Open Space policy	GoAP/ MCH	v						
Transportation Improvements	Removal of encroachments	MCH	v	v	v	v	v	v	v
	Widening of narrow roads		v	v	v	v	v	v	v
	Relocation of parking areas	MCH/ HUDA	v	v					
	Relocation of Bus shelters and bus stands	MCH/ APSRTC	v	v					
	Pedestrian facilities	MCH		v	v	v			
	Construction of flyovers	MCH/ HUDA		v	v	v			
	Pedestrian safety programs and projects-zebra crossings, dividers, etc.	MCH	v	v	v	v	v	v	v
Infrastructure Improvements	Rehabilitation of storm water drainage	MCH	v	v	v	v	v	v	v
	Street lighting	MCH	v	v	v	v	v	v	v
	Solid Waste Management	MCH	v	v					
	Underground cabling	MCH	v	v					
	Construction of Intercepting Sewers	HMWSSB	v	v	v				
	Construction of check dams	MCH/ HMWSSB	v						
	Open space revitalisation	MCH	v	v	v				
	Landscaping & recreation	MCH/ HUDA	v	v	v	v	v	v	v