



MUMBAI TRANSFORMATION SUPPORT UNIT  
Supported by the Government of Maharashtra

**Cities Alliance**  
Cities Without Slums

transforming mumbai

into world class city



**All India Institute of Local Self-Government**

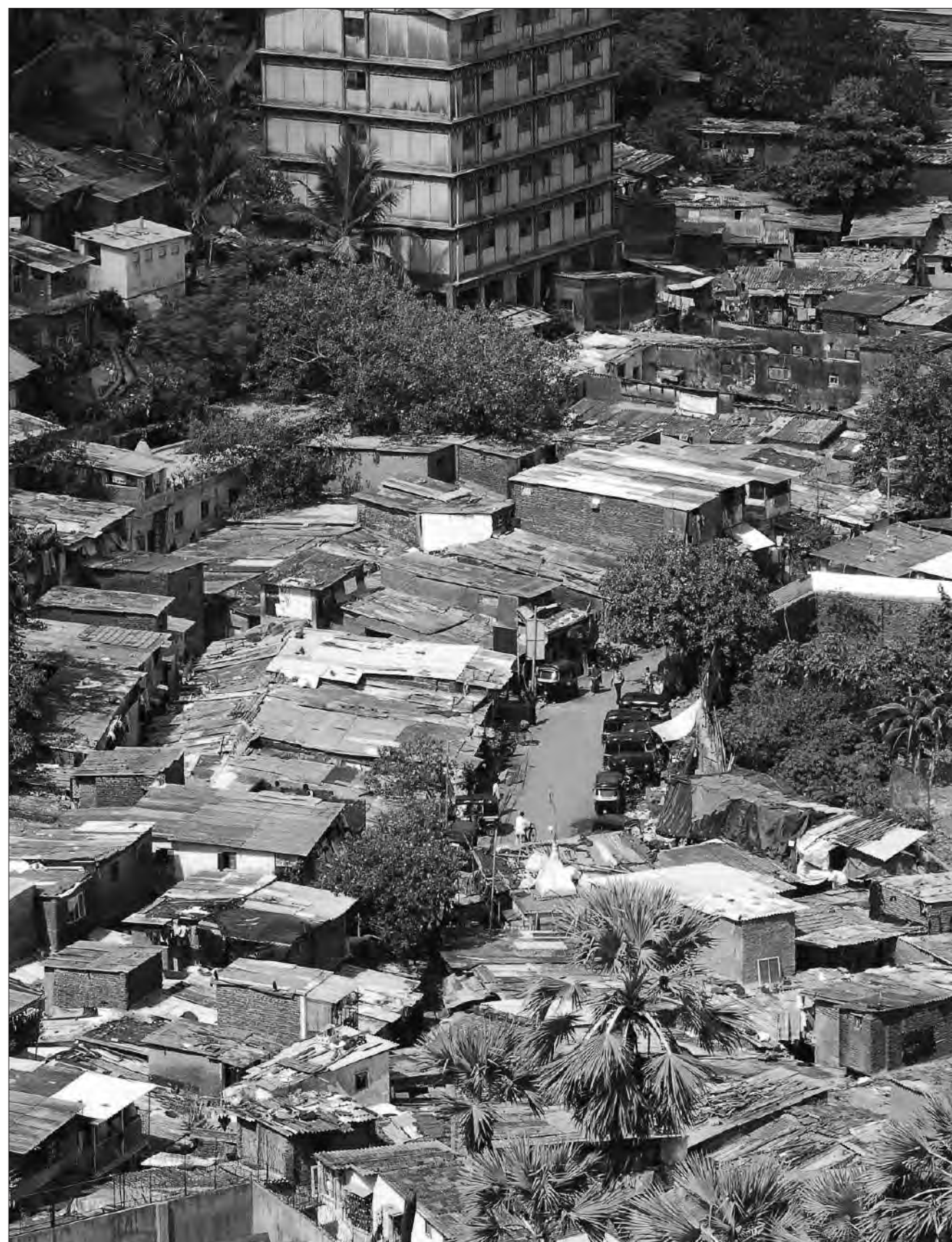
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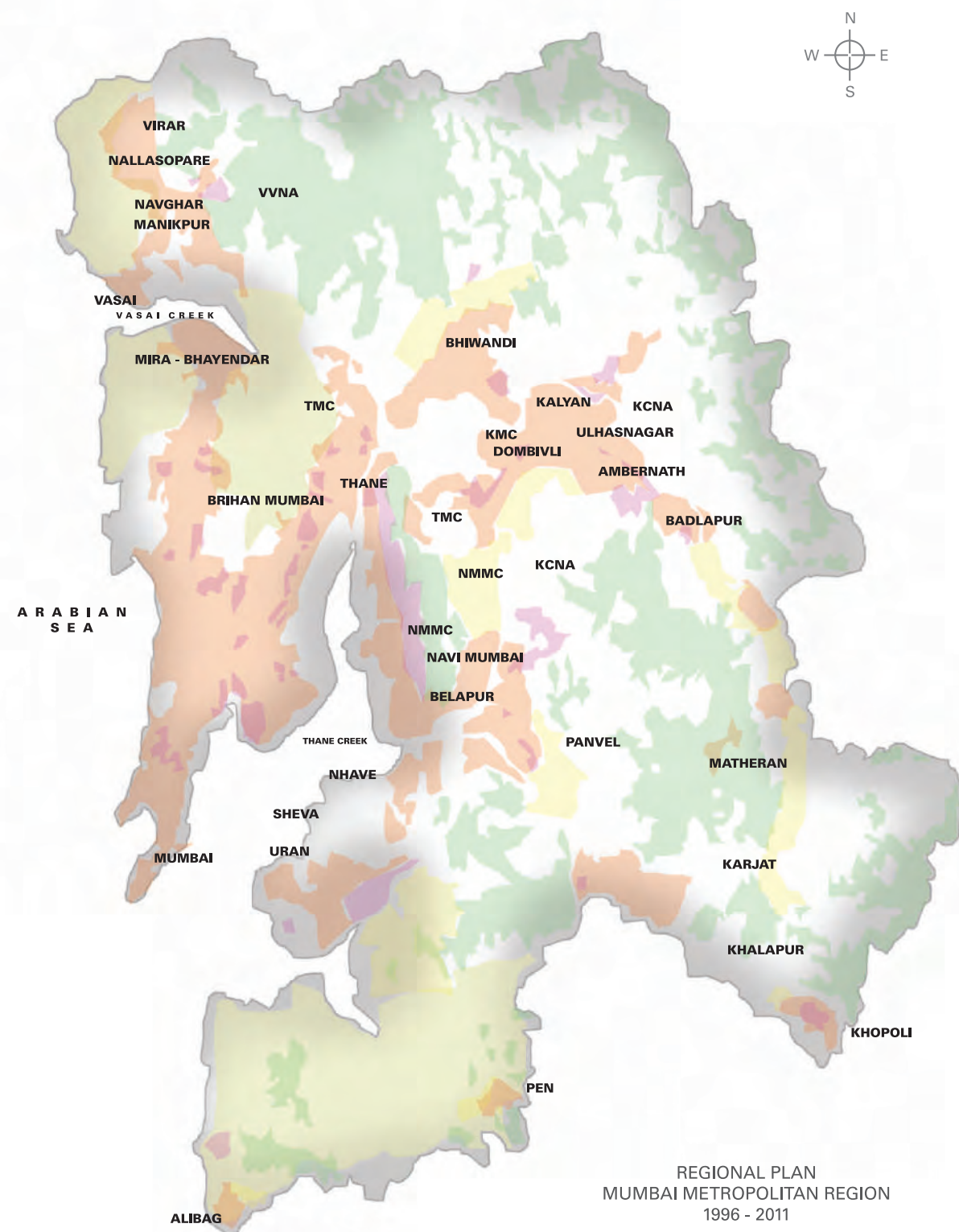
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# foreword

Statement by Mr. U P S Madan, Project Manager, MTSU, Phase - II



To the average Mumbaikar, Mumbai spells a city of dreams and, at the very least, opportunity. The Mumbai Transformation Support Unit (MTSU), set up with the combined efforts of the World Bank, Cities Alliance, Government of India and All India Institute of Local Self-Government, aims to provide not just a conducive environment for him to realize his potential but also a happy one. And the possibilities of such value-addition to a Mumbaikar's quality of life are endless.

To achieve this vision of a dream city, MTSU plans, monitors and pushes projects undertaken by various agencies and reform concepts that could bit by bit change the way we live, think and work. In physical terms, a global city encompasses smooth commuting, affordable housing, professional growth and a lifestyle that Mumbaikars can look forward to. These concerns, broadly, make up MTSU's terms of reference.

A metropolis such as Mumbai does not want for ideas. But the trick is in designing them in a way to suit the city's complicated mosaic of requirements, demands and sensibilities. This is where MTSU steps in to look at an issue or project from every angle: it gets the pulse of the people, guidance from the experts and evolves possibilities that can blend into a given situation in a harmonious manner.

The MTSU's ambit has been expanded to include not just the city of Mumbai from Colaba to Dahisar as we know it, but the entire region that has grown around the city and contributes to the city's growth. The Mumbai Metropolitan Region (MMR) thus extends over an area of 4,325 sq km comprising seven municipal corporations, 13 municipal councils and 982 villages and covers around 19 million people. The city of Mumbai, which is home to 11.91 million people, takes up a mere 10.7 % area of MMR.

With the expertise back-up of its consultants and outside experts, MTSU puts its nose to the grind, works around problems and works up solutions to make a decisive difference to life in the city. Be it creating better housing, roads, trains, new modes of transport, beautifying a precinct or an entire city, MTSU has been in the thick of every initiative—either driving it or facilitating it.

This qualitative facilitation is done in different ways, depending on the work at hand, such as offering in-house expertise and guidance for housing projects undertaken by agencies like MHADA and MMRDA, calling for tenders for the survey of Aarey milk colony, collecting ward-wise information about the city by pushing for cluster redevelopment of the city, devising vocational courses, devising a housing policy, etc.

If there is no breathing space in Mumbai, MTSU has striven to create it. To some extent, as we have tried to capture in this document, we have succeeded. But the road is long and arduous. The glass is only half-full.

This document is a report card of sorts seeking to showcase and share with all the efforts made by the MTSU over the past two years; it is also indicative of what we could have in store. There is a much bigger body of work behind us than we have covered in this document. It would have been difficult to incorporate all that we do in this slim book.

This book endeavours to reach out to our stakeholders, the Mumbaikars, with the purpose of informing them and involving them even more pro-actively in Mumbai's makeover. MTSU has the firm backing of its sponsor agencies and citizens' initiatives like Bombay First. But it will always need an equally firm support of the people of the city.

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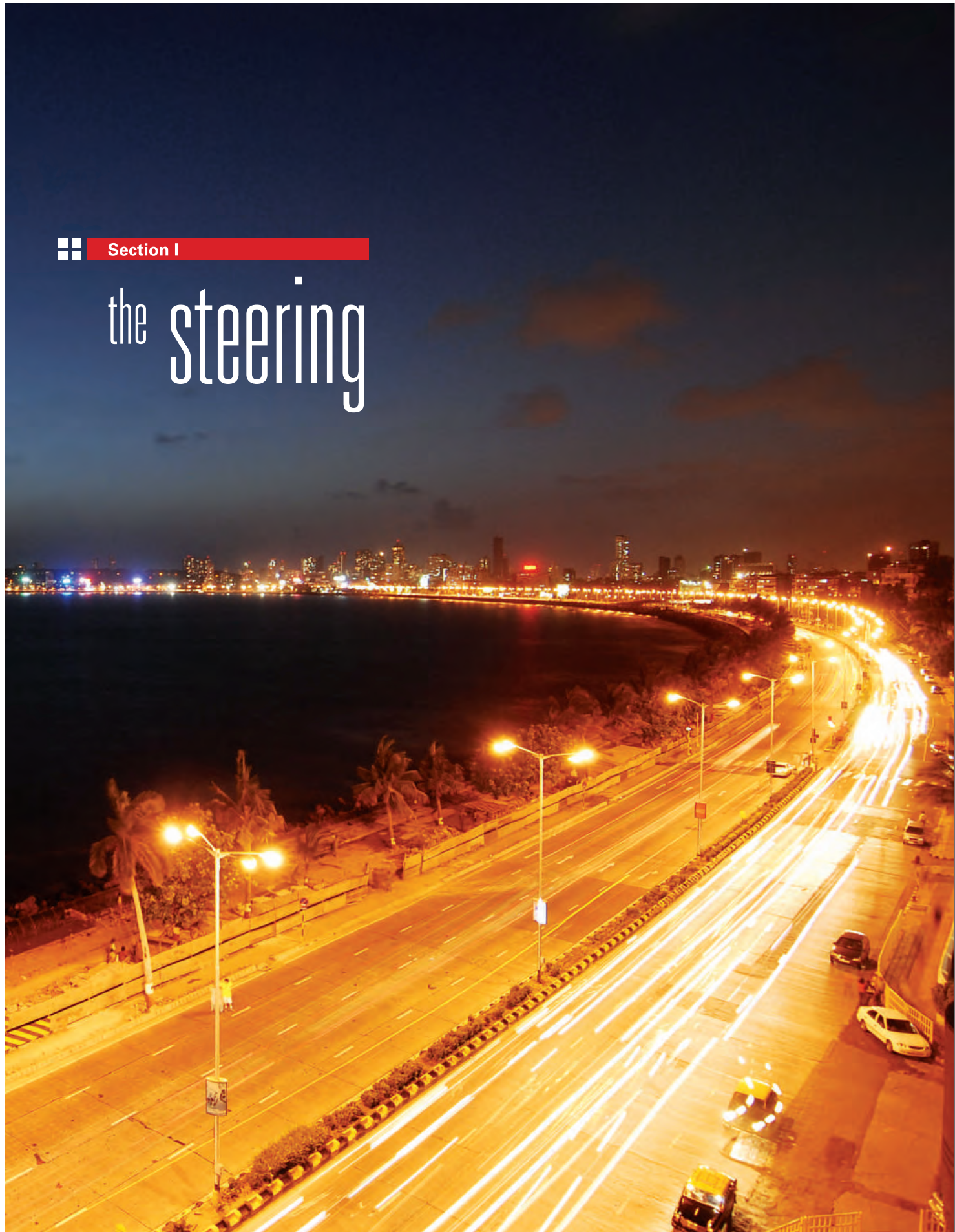
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## Section I

# the steering

## *Vision Statement:*

Transforming Mumbai into a world class city with a vibrant economy and globally comparable quality of life for its citizens.

### I.a

#### Introduction

Mumbai, home to 12 million people of different classes, castes and creed, has its own dynamic. The momentum of its ever-hungry enterprise is driven by a sound infrastructure, its mass transport systems, connectivity, and a will to succeed. With its humungous population and ever-expanding spheres of activity, there is an emergent need to feed this growth by providing futuristic enabling mechanisms. At the same time, there is an urgent need to revamp its look and revive those parts of its character that have fallen into disuse.

There are several agencies like Mumbai Metropolitan Region Development Authority, Municipal Corporation of Greater Mumbai, Maharashtra Housing and Area Development Authority (MHADA), Mumbai Railway Vikas Corporation, etc. to steer the city's growth in the right direction. The Mumbai Transformation Support Unit (MTSU) is an initiative of the World Bank, Cities Alliance, USAID and Government of Maharashtra, set up in 2004 under the aegis of the All India Institute of Local Self-Government (AIILSG) to coordinate and monitor all projects initiated by these agencies as part of the larger agenda to improve Mumbai.

The MTSU works in a consultative capacity to facilitate the process of Mumbai's transformation. Conceptually, its focus areas are physical and social infrastructure, environment, housing, governance, strategic planning and economic growth. Its canvas is therefore huge. From slum rehabilitation to rent control, from the Navi Mumbai airport to the Wadala truck terminal, from MUIP to MUTP, from health to education, from sanitation to beautification, it seeks to set the wheels in motion to reform and transform Mumbai into a city we can all be proud of.



History

The Catalyst

The process of giving Mumbai a makeover was kick-started by the **Vision Mumbai 2003** report. Prepared by McKinsey & Co.on behalf of Bombay First, the report led to the formation of a government Task Force in 2003, the Citizens' Action Group and the MTSU in 2005, and the Empowered Committee in 2006.

The report points out that Mumbai needs to undergo a change in mind-set : “from thinking of incremental improvement and debottlenecking, it must begin to think of making step-jumps towards achieving world-class status.”

It outlined an eight-pronged programme for the purpose as follows:

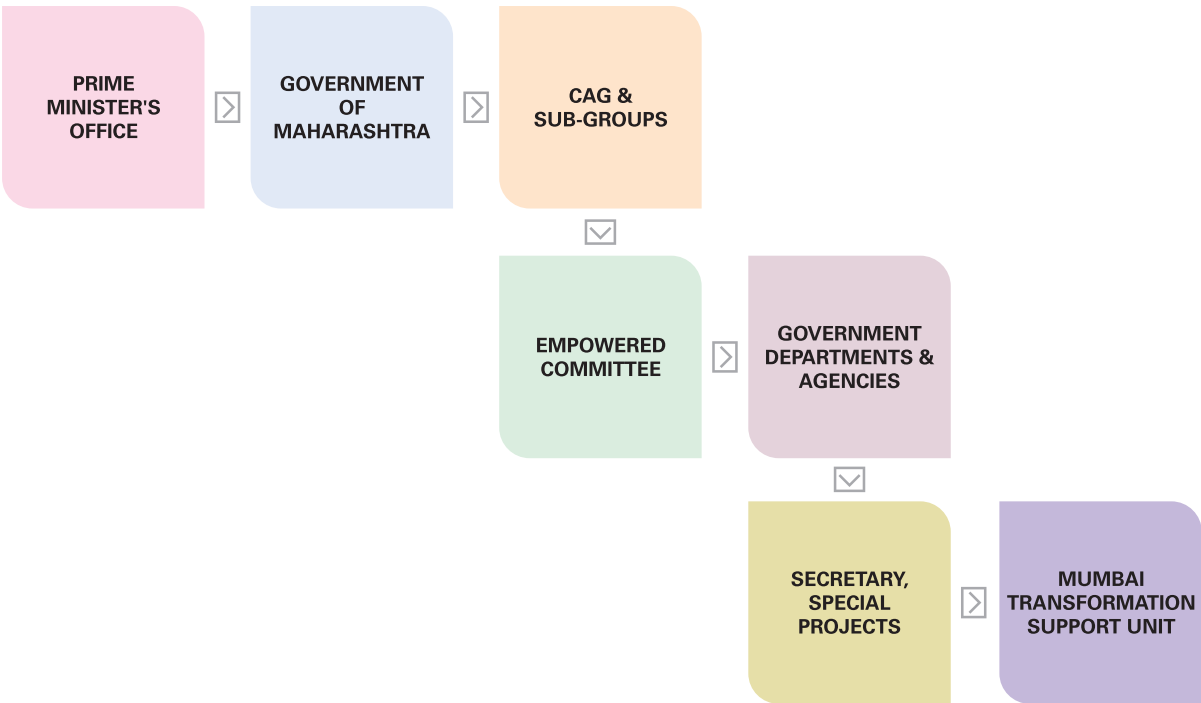


The 42-member Task Force was formed by the Government of Maharashtra (GR dated October 16, 2003) to crystallise the objectives spelt out in the Vision Mumbai report. Subject-specific sub-groups such as economic growth, governance, housing, infrastructure, etc. were formed under the Task Force. It intended to pilot the transformation of Mumbai by creating an appropriate framework through public-private partnership.

The 28-member Citizen's Action Group, comprising prominent citizens and NGOs, now works (GR dated July 17, 2004) as an external monitoring mechanism to complement government efforts towards achieving the objectives laid down by the Task Force.

This was followed by the formation of a core secretariat in the form of MTSU to provide that critical logistical back-up to the ambitious effort.

Institutional framework for Mumbai transformation



Assessment so far

- Mumbai transformation has become a talking point among the people.
- The process has succeeded in promoting the convergence of stakeholders .
- Speedy approval to projects has happened through the institutional framework of MTSU.
- Reform process has begun: some tangible results being a housing policy that resulted from MTSU's efforts, repeal of an obsolete Act that put a ceiling on urban land holding, beautification of cherished precincts and buildings such as Marine Drive, Gateway of India, Chhatrapati Shivaji Terminus.



Mumbai Transformation Support Unit

In response to a proposal of the Government of Maharashtra (GoM), the Cities Alliance offered technical support in the form of MTSU, which was set up within the AILSG. MTSU is headed by an IAS officer posted by GoM as project manager, and guided by in-house experts in various fields such as health and education, housing, transport and communication. The MoU of June 28, 2005, which created MTSU, lists its functions as the initiating, facilitating and monitoring mechanism for all activities that concern Mumbai. The deliverables were identified in the MoU, which MTSU has worked aggressively to achieve.

It has initiated various studies, base papers and policy papers for sectoral reforms in the field of education, economic growth, governance, health, housing, transport and a business plan for Mumbai Metropolitan Region.

It facilitates pilot projects and consultations on the sectoral issues for the GoM. It offers advisory support to the state government on all matters concerning the evolution and future of Mumbai.

It monitors the progress of all projects and policy reforms concerning MMR through a web-enabled information system.

MTSU also provides a convergence platform for people and agencies to meet and work in harmony for the city's betterment. The first phase of MTSU lasted from June 28, 2005 to March 31, 2008. During this period, MTSU could achieve several milestones and make its presence felt by giving a decisive push to many projects and policy reforms, apart from continuously stirring up debate on policy matters in the right circles. The first phase was marked by intensive studies, extensive consultations, pro-active monitoring, and some definitive strides in decision-making, with the MTSU playing the role of facilitator and catalyst. All through the process, it has been in touch with the pulse of the people and, at the same time, tapped the appropriate expertise to help it put its best foot forward. These efforts have gone a long way in taking correct decisions and drafting policy framework in different areas.

The Empowered Committee (EC)

In March 2006, the Task Force was upgraded to become the Empowered Committee of the GoM, with 17 members from the government and seven nominees from the CAG (later increased to eight). The EC meets once every month to initiate, deliberate, review and brainstorm over short-term and long-term projects for the city.







Thrust areas for Mumbai transformation



A swot analysis of Mumbai



The following thrust areas were identified and five sub-groups were set up under the task force to deliberate on them:

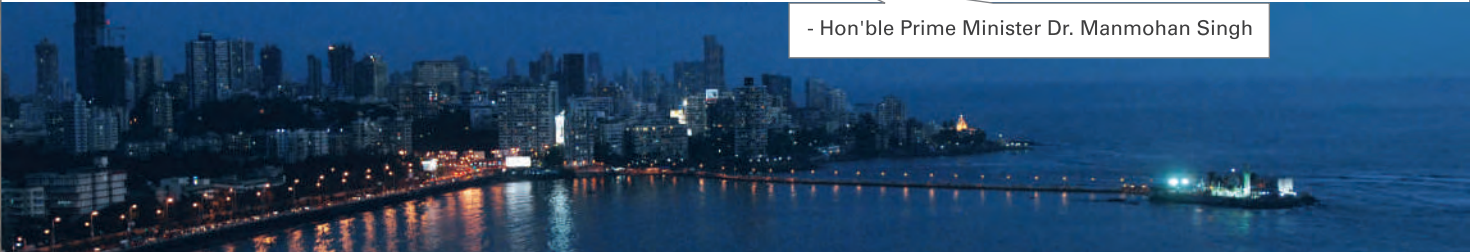
Transforming Mumbai

- Increasing housing stock
- Inclusive economic growth
- Sustainable infrastructure developmental
- Health and education infrastructure
- Governance



“When we talk of a resurgent Asia, people think of the great changes that have come about in Shanghai. But we can transform Mumbai in the next five years in such a manner that people will forget about Singapore and Mumbai will become a talking point.”

- Hon'ble Prime Minister Dr. Manmohan Singh







Section II

themes for transformation

Engaging in thrust areas:

THRUST AREA	Key Participants		
	Government	World Bank Experts	Expert Consultants
Increasing Housing Stock	Principal Secretary, UDD - I, Principal Secretary - Housing, MCGM, MMRDA, Thane Municipal Corporation, MHADA, SRA	Mr. Bob Buckley, Mr. David Dowall, Mr. Aashish Misra	Dr Vidyadhar Phatak, (Former Principal Chief T & CP Division MMRDA), Mr Shirish Patel (Planner Consultant, SPCL), Ms Neeta Chalke (SRS), Dr Amita Bhide (Former Director, TISS) <b>NGO</b> : Shelter Associates, Collective Research Initiatives Trust <b>Colleges</b> : Kamala Raheja Vidyanidhi Institute of Architecture, Academy of Architecture
Sustainable City Infrastructure Development	Principal Secretary, UDD - I & II, MCGM, MSRDC, MMRDA, PWD, BEST, Traffic Police	Mr. Hubert Nove - Josserand, Mr. Richard Clifford	Ms Bina C. Balakrishnan (Transportation Planning & Engineering Consultant), Mr Ashok Datar, Mr Sudhir Badami (Transport Experts) <b>Corporate</b> : MASTEK, LEA Associates
Inclusive Economic Growth	Principal Secretary Finance. Principal Secretary, Industries.	Mr Songsu Choi, Prof Remy Prud'homme, Mr. Shahid Yusuf, Ms. Paramita Dasgupta	Ms Manju Ghodke (ICMA), Dr Chandrahas Deshpande (MEDC), Prof Abhay Pethe and Prof Mala Lalwani (University of Mumbai), Mr Saugata Bhattacharya (Axis Bank), Dr S Chandrashekhar (Indira Gandhi Institute of Development Research ), Dr Marie Helen Zerah (Senior Researcher, Trust for Research development for Paris), Dr Sharit Bhowmik (Consultant, Tata Institute of Social Science)
Health and Education Infrastructure	MCGM, Additional Chief Secretary - Technical Education	<b>Health NGO:</b> SNEHA <b>Corporates:</b> Mahindra & Mahindra <b>Education NGO:</b> Pratham	Dr Renuka Narang (Education Consultant)
Governance	Principal Secretary, Urban Development Department- II	Mr. Michael Cohen, Mr. Sumir Lal	Mr. Madhuskar (Financial Analyst & Management Consultant), Mrs. Sudha Khire (Municipal Secretary, MCGM)





Increasing housing stock

Based on the recommendations of the Task Force, discussions were held with sub-groups, experts in the field of housing, NGOs, etc. Extensive studies were carried out in the identified housing sectors by MTSU while formulating the draft for the state housing policy.

Six studies were undertaken to address housing and land issues in MMR:

- Studies for the State Housing Policy and Review of the Town Planning Acts and Development Control Process of Maharashtra provide a broad framework for the growth of housing
- Three reports on housing issues in the MMR - 'Strategy for Land and Housing,' 'Pilot Studies' (for cessed buildings, slums, redevelopment of public housing, and transit oriented development) and 'Rehabilitation of Pavement Dwellers.'
- The sixth document is 'Communication Strategy for Housing Sector Reforms,' which is part of a general communication strategy recommended for Mumbai's transformation.



Housing policy

Background

MTSU steered the research and guided the housing policy of Maharashtra, which was declared in June 2007. It generated material of value to provide a comprehensive bulwark for the policy.

The housing policy lists the objectives and identifies constraints faced by the housing sector in the state and ways to address them. It also provides a framework to enhance the housing stock in urban and rural areas while addressing social, economic and environmental concerns.

Objectives of the housing policy :

- To give a fillip to housing construction by removing the constraints in urban and rural areas.
- To pursue the target of slum-free cities.
- To deregulate the sector, promote competition and public-private partnership in financing, construction and maintenance of houses of the Lower Income Group (LIG) category.
- To rationalize Development Control Regulations and streamline approval procedures.
- To promote and provide incentives to rental housing by amending the Rent Control Act.
- To facilitate redevelopment and renewal of inner city and dilapidated buildings through clusters while conserving heritage structures and places of archeological importance.
- To encourage innovative technology, build a sizeable capacity of trained construction workers.
- To create a ring-fenced fund in cities to support infrastructure.
- To promote environmentally sustainable townships and housing construction and conservation of ecologically sensitive areas.





Key recommendations of the housing policy

Human settlement studies :

As part of strategy, the policy recommends detailed studies before launching housing projects. Such studies could explore optimal use of land and infrastructure and avenues for finance for housing schemes.

Special schemes :

Specific schemes for renewal of old and dilapidated buildings and gaothan areas, slum development, workers' housing, rental housing as well as construction of new townships are emphasised.

Approach :

A market-oriented approach is recommended for construction, reconstruction and maintenance of housing stock.

Technology :

The use of advanced technology is indicated for the construction of durable, cost-effective, and eco-friendly housing.

Improvement in governance :

The policy seeks to remove the constraints in the form of laws and procedures that currently hinder development of the housing sector.

Some of its recommendations in this regard are :

- Amendment to the Rent Control Act and repeal of the Urban Land Ceiling and Regulation Act. The latter Act has subsequently been repealed in 2007
- Co-ordinating with stakeholders for reforms: Changes in building regulations to be decided through public dialogue
- Greater participation of the private sector in urban redevelopment and renewal schemes and their maintenance
- Setting up of a housing sector regulatory commission to safeguard the interests of stakeholders
- Realignment and revitalization of various institutions related to the housing sector
- Encouraging FDI to provide reach to modern technologies
- Set a time-line for implementation; introduce accountability for assigned works.



Review of Town Planning (TP) and Development Control Process

Background

Three Acts related to Town Planning and Development Control processes were referred to a core group formed by the MTSU to review the planning process, as recommended in the housing policy. These Acts are:

1. T. P. Act 1915 pertaining to T. P. Schemes : It pertains to the parts of the city located on virgin land, i.e. with less development, such as the Juhu T. P. scheme.
2. T. P. Act 1954 pertaining to comprehensive city plans : It covers the physical boundaries of the city. e.g. Mumbai development plan for Mumbai.
3. T. P. Act 1996 providing for regional planning of continuum urban-rural areas : It applies to more than one city along with rural settlements in peri-urban areas. e.g. the regional plan for MMR which includes Thane and Raigad districts as well.

The core group made the following recommendations on the basis of their interactions with stake-holders :

- Development Plans (DP) depict the end picture, which is close-ended and does not respond to the dynamic demands of a city economy and society. Issues such as migration of people, informal economy and need for low-income housing are not addressed by DPs.
- The process of planning is extremely time-consuming. The Acts mandated creation of DPs but did not mandate their implementation.
- No annual budget for implementing plans by Urban Local Bodies is mandated.
- Development charges levied are too low and static vis-à-vis investment needs. Cost escalations such as land value appreciation and the hike in provision of infrastructure are not considered while deciding development charges.
- Planning norms are compulsive and not indicative.
- People's participation is confined only to raising of objections.

Suggested amendments to the Town Planning Acts:

- Have separate accounts for collection and dedication of development charges for DP reservations.
- Master plans to be divided into annual target plans.
- Capital investment plans to be made part of the DP.
- An in-built equalization tool such as in the TP scheme needs to be introduced in the DP.
- Private sector participation in implementing DP.
- A two-stage process for implementing a DP.

Stage I :

Preparation of a structural plan, which defines the broad vision for the city, aims of planning, delineates land-use zoning and infrastructure needs

Stage II :

Detailed plans to be prepared from time to time for such sectors that include reservation for amenities, like the T. P. Scheme. These are to be self-financing with betterment contribution to balance expenditures for infrastructure needs.

- Peri-urban areas to be included in the DP to avoid unplanned development
- Additional legal provisions to address new demands that arise in cities



- Financial contributions, betterment contribution, cost-sharing provision for DP implementation to be part of legal provisions.
- Use of modern technology such as GIS planning tools and participatory planning to be mandated by the Act.
- Role of private sector in DP to be included in the Act.
- Provisions for development of new township



## Strategy for Land and Housing Development

A study group comprising eminent persons from the housing finance sector, developers, architects, NGOs and government officials has prepared a report on housing in Mumbai. A summary of the report is presented here:

### Problems of land and housing development

- The stagnation of economic growth of Mumbai is partly due to the high cost of real estate, declining investment in the sector as well as restrictive DC regulations.
- Trade and commerce are adversely affected by the paucity of affordable houses in Mumbai. The report noted that 70% families in Mumbai live in one-room tenements.
- Mumbai has the highest percentage of slum population in India and their access to basic civic services is poor.
- Stagnation of rental housing and the redevelopment of dilapidated cessed buildings are identified as two bottlenecks caused by the Rent Control regulations.
- A retrograde regulatory system, such as the Coastal Zone Regulation (CRZ) and time-consuming approvals, create a housing shortage.
- Expansion of the city along transport corridors and long commutes because of the north-south topography of Mumbai.

### Recommendations for better performance

#### Housing land policy :

- Repeal Urban Land (Ceiling and Regulation) Act.
- Bring mill lands, port lands, salt pan lands under development in a time-bound manner.
- Release public sector land for the development of low-cost housing and modify DC rules for the same.
- Rationalize FSI to factor in developmental and locational concerns.

#### Housing finance :

- Provide for summary foreclosure in case of default.
- Frame insurance and guarantee mechanism to deal with default.

#### Public housing :

- Promote redevelopment of low-rise, low-density public housing.
- Public lands to be used exclusively for low-cost housing.
- Public sector housing construction to provide low-cost housing.

#### Old housing stock renewal :

- Promote reconstruction of old buildings through cluster development.
- Phase out the government-managed repairs and reconstruction programme in five years.
- Rationalize the Rent Control Act to promote reconstruction of buildings by providing for market rents and just compensation for relinquishing tenancy.
- Charge impact fees to fund augmentation of infrastructure.

#### Rent Control Reforms :

- New tenancies to be free of standard rent. Facilitate long term tenancies.
- The increase in the rent of existing tenancies should equal inflation rate plus 4%.

#### Development of slum policies :

- Options for slum rehabilitation to be considered for the entire MMR on priority basis.



**Housing data collection and management :**

- Compilation of building permission data should include size and use of new and old demolished dwellings etc. per ward.
- Quantification of slums according to land ownership categories.
- Income and occupation profiles of housing loan borrowers.

**Proposed Overall Development**



Fig 11. Proposed Overall Plan

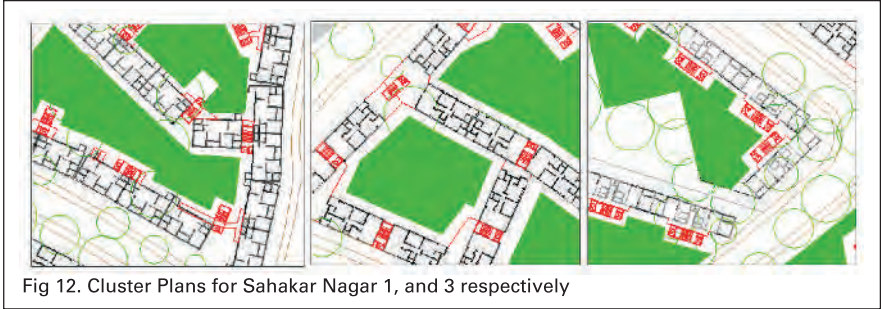


Fig 12. Cluster Plans for Sahakar Nagar 1, and 3 respectively



Fig 13. House Plans for Sahakar Nagar 1, and 3 respectively.  
The carpet area for proposed houses in Sahakar Nagar 1 is 700 sqft.,  
in Sahakar Nagar 2 is 900 sqft. and Sahakar Nagar 3 is 500 sqft.



**Pilot Studies**

**Background**

Four studies for devising micro-level, sustainable urban renewal policy were carried out in Mumbai focusing on slum dwellings, cessed buildings, public sector housing and transit-oriented development (TOD).

The pilot studies aimed at identifying issues and alternative approaches for redevelopment based on

- Precinct - based renewal of cessed buildings
- Participatory model for slum redevelopment
- New ways to provide for low - cost housing
- FSI and DC rules
- Legal and institutional framework

MTSU coordinated and supervised the studies, supported by the World Bank. Government agencies such as Maharashtra Housing and Area Development Authority (MHADA), Slum Rehabilitation Authority (SRA), Thane Municipal Corporation (TMC) and Mumbai Metropolitan Region Development Authority (MMRDA) also participated in it.

The Tata Institute of Social Sciences was a key mover in identifying and recommending policy reforms in all four pilot studies, which were incorporated in the state housing policy of 2007.

**Pilot study on slums**

**Background**

Around 6.5 million people (54% of the total population) of Greater Mumbai live in slums.

The 1995-96 Slum Rehabilitation policy devised by GoM aimed at the construction of one million tenements for slum dwellers in five years. The actual number of dwellings constructed so far is only 1,00,000. viz .only 10% of the target.

This includes 50,000 tenements constructed under the Mumbai Urban Transport Project (MUTP) and Mumbai Urban Infrastructure Project (MUIP) in the last five years.

**Existing policies :**

- Rule 33 (10) of DC Rules was based on the Afzalpurkar Committee report of 1995.
- Tenements of 225 sq. ft. are offered to slum dwellers as a redevelopment option.
- Rule 33 (4) permits the landowner to develop houses with incentive FSI.

**Inadequacies of SRA Policy :**

- It was found to be useful only in high demand areas.
- Complaints about developers inflating the number of slum dwellings to avail of higher FSI were received.
- TDR was used in areas with poor infrastructure.
- Financial viability depended on the value of FSI/TDR, which has fluctuated significantly in recent years.

**Objectives and methodology of the study :**

The socio-economic parameters of the population were analysed through structured interviews of slum-dwellers and land use, and infrastructure and physical surveys were carried out. Stakeholders were also asked to identify and prioritise issues.



Summary profiles of two selected slums

	Korba Mithagar	Dnyaneshwar Nagar
Location	Wadala, Mumbai	Vartak Nagar, Thane
Owner of land	State Government	MIDC
Age of settlement	30 years	30 years
Area	7.38 ha	8.05 Ha.
Density	469 units/ha	349 units/ha
Self occupancy	81 %	75 %
Tenement size	150 to 220 sq.ft.	150 to 220 sq.ft.
No. of households	3,000	3,000
No. of people	15,609	10,250
Average household size	4.58	4.1
Demography	48 % SC, 61% from Mah.	6% S.C., 78 % from Mah.
Average income (Rs)	5,094 (\$127)	4,016 (\$100)
Formal employment	58 %	62%
Pucca tenement	70 %	50 %
Access to sanitation	10 %	35 %
Amenities	school, healthcare, sewerage, water supply	school, healthcare, electricity, water supply



The studies suggested six options for redevelopment for Dnyaneshwar Nagar and four alternatives for Korba Mithagar with variations in various building designs.

Recommendations for change in overall slum policy :

- Precinct approach for redevelopment
- GIS mapping of all slums
- Density, infrastructure, development potential surveys for devising FSI incentives
- In situ redevelopment as far as possible
- Transparency in planning and entitlements to avoid cheating
- Promote self-development by granting collective tenurial rights
- Public-private partnership
- Free housing to be discarded as a long-term policy

Pilot study of cessed buildings

Background

Around 19,000 cessed buildings, built before 1960, are located in the island city of Mumbai. Many of these buildings are dilapidated and dangerous to live in.

The 1947 Rent Control Act has frozen the rents accruing from these buildings at 1940 levels. The paltry rents have deterred owners from undertaking important, and sometimes, critical, repair works to their buildings. The Government of Maharashtra therefore constituted a Repair Board for the purpose in 1969.

The subsequent amendment to the MHADA Act in 1986 adopted a different approach and facilitated formation of cooperatives. Private sector participation was brought in by the DC Rules of 1991 in the form of free housing for tenants for commercial benefits through FSI incentives [DCR 33 (7) and 33 (9)].

Four areas were studied and compared: Null Bazar (C Ward), Bora Bazar (A Ward), Girgaum (C/D Ward), and Dadar Parsi Colony (F-North ward). These areas showed up diverse profiles in physicality, demography, land use, condition of buildings, density, socio-economic character of communities, provision of amenities, open spaces, availability of parking, congestion, etc. The methodology included a socio-economic survey and an in-depth physical planning and design exercise.

Objectives :

- Seeking a policy response through planning and design
- To devise redevelopment options

Strategies for redevelopment

The following strategies for redevelopment were proposed for the four areas under study :

- **Null Bazar** : precinct redevelopment through amalgamation of plots
- **Bora Bazar** : phase-wise redevelopment and development of a commercial plaza
- **Dadar Parsi Colony** : plot-wise development and conservation of heritage buildings
- **Girgaum** : repair / redevelopment by residents and conservation of some buildings

Residents of these cessed buildings wanted to

- do away with the blanket policy on cessed buildings.
- promote co-operative societies for self-development.
- grant surplus FSI to tenants / owners.
- go for cluster approach wherever feasible / necessary.
- focus on reconstruction rather than repair.
- ensure a more pro-active role by MHADA in providing transit tenements.



**Recommendations**

- Go for a precinct approach.
- Go for GIS mapping.
- Incentivise redevelopment.
- MHADA should play the role of a facilitator.
- Rent Control Act should be amended and phased out.



**Pilot study on reconstruction of public housing**

**Background**

Sahakar Nagar, a fully residential area in Chembur (M -Ward) with a large number of trees, is spread on 1,44,355 sq. m. (14.43 ha) of land nearTilak Nagar railway station.

It is divided into five parts, with one-storied to three-storied structures making up 1,240 tenements that house 6,200 persons. As the residents are mostly from lower and middle income groups, the high cost of maintenance following reconstruction is a key concern for them.

Therefore, the cost of maintenance has been built into the financial model for redevelopment.

**Redevelopment strategy :**

The proposal for redevelopment of Sahakar Nagar 1, 2 and 3 (excluding eight buildings of No. 1 as they are already redeveloped or are in the process of being redeveloped ) is based solely on the consent of the residents

- Precinct-based self-development model with technical experts to be appointed by the community
- Profits generated from development will be used for sustaining maintenance
- The FSI for redevelopment plots is 1.31, while the FSI for sale plots is 2.82, with an average FSI of 1.8
- The need for transit accommodation is averted as the first phase of new buildings is proposed to be built on the available open spaces
- The strategy suggested by the study is accepted by the residents. MHADA will act as facilitator

**Pilot study onTransit Oriented Development**

Transit Oriented Development (TOD) is defined as the development of an area that is a 10 minute walking radius (0.8 km.) from a popular mode of transport such as light rail or heavy rail, mass transit system or bus rapid corridor.

A mix land use, housing, retail, office, hospitality, entertainment, etc are planned around the transit nodes. This allows for greater pedestrian movement.

The study was commissioned to identify / verify the potential of dense development and a relatively higher FSI in areas having adequate transport and other infrastructure. It also aimed at assessing the infrastructure requirements forTOD.

The Bandra Kurla Complex, developed by the MMRDA, with a plan for an MRTS system, was identified as the area of study.

Two metro stations were identified as the focus ofTOD planning. The study is under way.







## Rehabilitation of pavement dwellers

Pavement dwellers on its arterial roads are a peculiar part of the city's character and pose myriad problems.

Around 25,000 pavement families live on 100 km-long arterial roads in different parts of Mumbai.

### A study group formed by MTSU made the following observations :

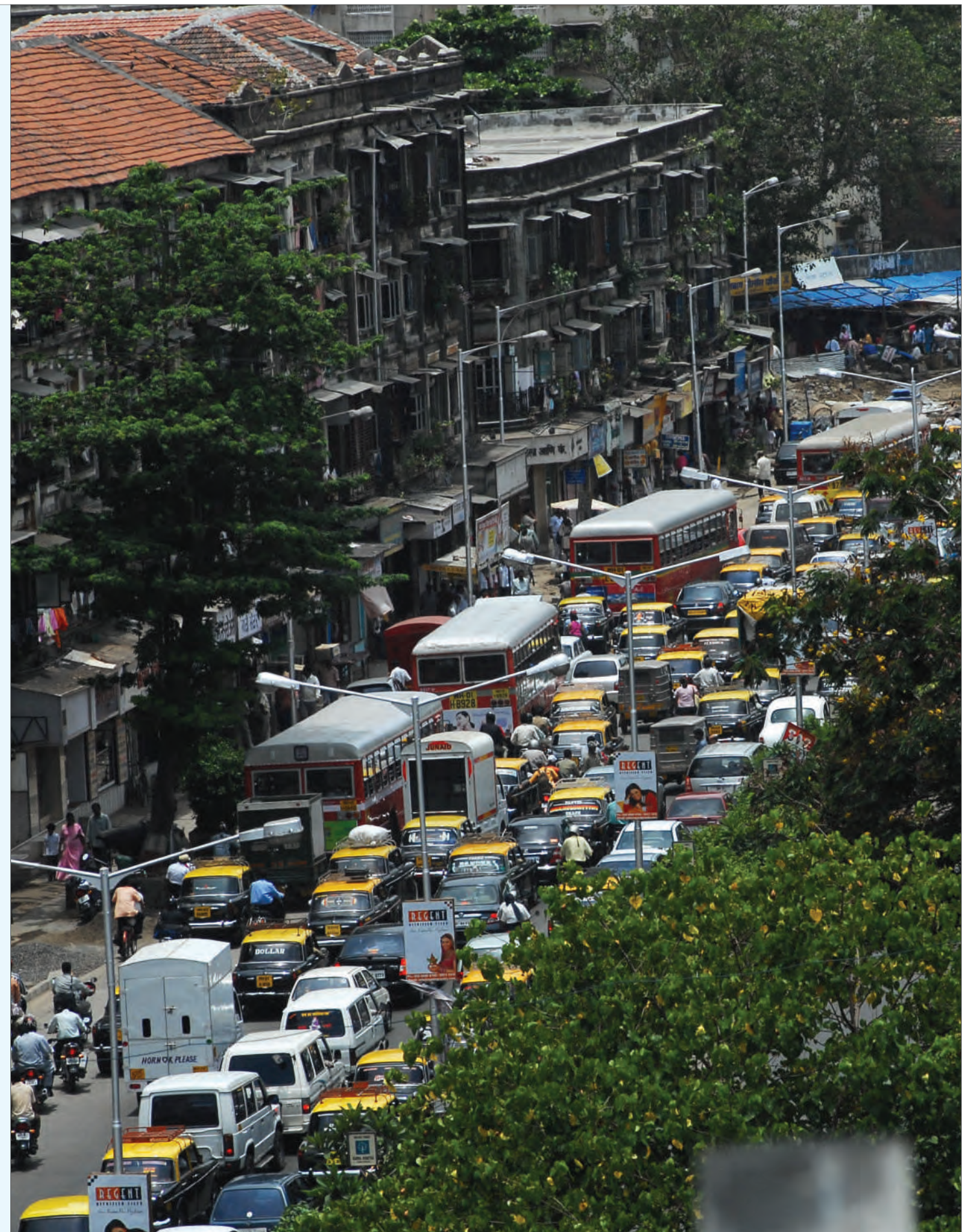
- They have a poor standard of living with no access to basic civic services, as they are not recognized as slums.
- The vehicular traffic poses a constant risk to their lives.
- Being close to the road, they are more susceptible to pollution.
- There is no state policy for pavement dwellers and they are excluded from the slum policy of 1996.

### Recommendations

- A detailed head count of pavement dwellers to be completed in one year.
- Amendment of the Slum Act of 1996 to include rehabilitation of pavement dwellers.
- The rehabilitation policy should include shifting them to transit camps to the allotment of tenements.
- A face-lift of the affected arterial roads including widening.
- A pavement protection scheme to keep them free of encroachment.
- MMRDA to take the lead and provide clearances for the project.
- Extra FSI and TDR to be given for this project.
- In the first phase, five areas to be considered for rehabilitation : P D'Mello Road, Senapati Bapat Road, E Moses Road, Keshavrao Khadye Marg and Byculla.
- The total cost of rehabilitation of around 25,000 pavement dwellers was estimated at Rs 75.62 crore (\$19 million), including resettlement assistance and improvement of the cleared pavements. This is expected to be met by an FSI and TDR incentive.

### Action taken on the report

- The Government of Maharashtra declared a scheme for the rehabilitation of pavement dwellers called, 'Mahatma Gandhi Path Kranti Yojana', to be monitored by a high-powered committee.
- Two important arterial roads, P. D'Mello Road and Senapati Bapat Road, have been cleared of all encroachments. All eligible slum-dwellers on these roads have been rehabilitated.
- It has been decided to hand over the cleared sections of these roads to corporate houses for beautification and protection.





II.b

### Inclusive Economic Growth

Mumbai is the growth engine of both Maharashtra and India. With 2% of the state's area and 20% of the state's population, MMR contributes to 37% of the state's GDP and 70% of the state's tax collection.

A sustained economic growth of Mumbai therefore translates into a sustained economic fillip for Maharashtra and India.

MTSU aims at an inclusive economic growth in MMR by

- boosting the economic growth rate from 9% to 12-15 % per annum.
- developing and main-streaming of the informal sector through policy interventions and capacity building
- promoting manufacturing
- supporting the service sector
- creating an enabling environment for better jobs and self-employment opportunities

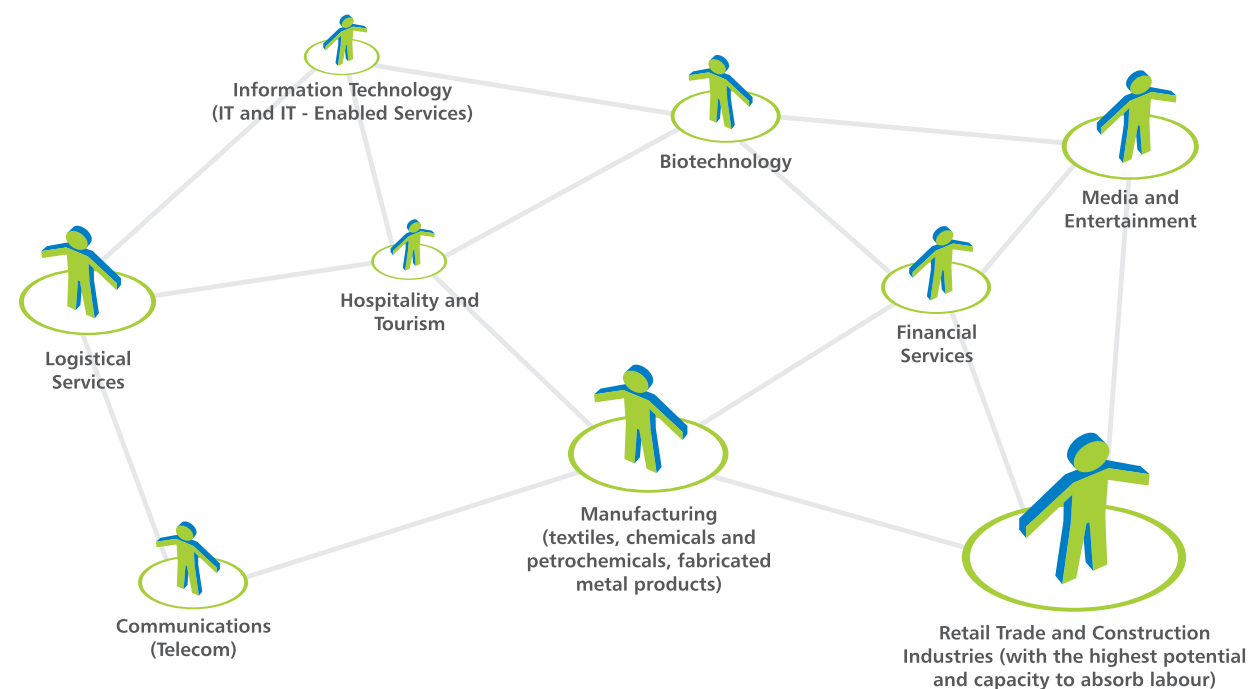
The MTSU has been pursuing these targets through studies, discussions and stakeholder consultations.

Some of its initiatives include a detailed study on the economic growth of MMR, backed by follow-up studies.

**The study on the economic growth of the MMR** was conducted by Ms. Manju Ghodke of L&T, for MTSU while on a sabbatical with the USAID / ICMA. Her report analyses conditions and trends in the economy of MMR and recommends a strategy to stimulate growth in key sectors.

The study takes the 'economic cluster' approach, which recognizes that manufacturing activities are not isolated; they need a large number of support activities. These clusters are responsible for the economic growth of a region such as MMR.

#### Key growth sectors in Mumbai





Summary of findings

- In recent years, the key driver of growth has been the tertiary sector as in most metropolises. The tertiary sector in MMR grew at a compound annual growth rate (CAGR) of 7.6% over the period 1993 - 94 to 2003 - 04 and its share increased from about 52.5% of total Gross Domestic Product (GDP) in 1993 - 94 to 63.5% in 2003-04.
- The share of the secondary sector has been dipping in the last 10 years from about 44% of GDP in 1993-94 to 34% in 2003-04, though there are signs of a revival. MMR still contributes to 50% of Maharashtra's manufacturing Gross State Domestic Product (GSDP) and over 8% of India's manufacturing GDP. Within MMR, Greater Mumbai accounts for about 60% of MMR's manufacturing GDP.

The secondary sector witnessed negative growth for three consecutive years (FY 2000 to FY 2002), with the major under - performers being manufacturing (-17%), construction (-6%) and utilities (-13%) in FY 2000; manufacturing (-9%) and utilities (-1 %) in FY2002

- The primary sector has a minor share in the GDP in MMR. (2.6% in 2003-04), down from 3.3% in 1993-94.

Recommendations

With a targeted growth rate of 12 - 15%, the study has talked of the need to improve the investment climate by reducing the general costs of doing business in the MMR. Sub-groups appointed under the Task Force have listed the following suggestions :

- Provide adequate physical and social infrastructure
- Create an efficient land / property market
- Strengthen workforce development
- Create an effective regulatory environment
- Rationalize taxation
- Improve access to market finance

Recommended Interventions

- Make efforts to promote the select sectors nationally by engaging the private sector prominently.
- Accord high priority to their projects and facilitate them by reducing regulatory barriers and extending other help.
- Work with educational institutions to provide specially designed research and training programs to bolster competition.
- Provide subsidies in areas of high pay-offs.
- Collate accurate data and statistics at disaggregated industry level within the primary, secondary and tertiary sectors.

Follow-up on the study on the economic growth of the Mumbai Metropolitan Region

To build on the strategy suggested by the USAID / ICMA study, the following studies were taken up :

1. `Local Public Finance' by Prof Abhay Pethe and Prof Mala Lalwani, University of Mumbai.
2. `Real Estate Markets in MMR' by Saugata Bhattacharya, UTI Bank.
3. `Incomes and Employment in the MMR' by Dr S Chandrashekhar and Dr Marie Helen Zerah.
4. `Dynamics of Growth' by Dr Ajit Ranade, Chief Economist, Aditya Birla Group.

Workforce development to support the economic growth agenda of MMR

In a rapidly growing economy, there is a gap between the demand for and supply of manpower. To meet the need for skilled manpower, MTSU has been holding brainstorming sessions with various stakeholders for designing suitable vocational courses in various sectors.

Government authorities associated with vocational education and industry experts have been participating in these sessions. This initiative has resulted in the preparation of 29 courses for the IT sector, three for the construction sector and one for the retail sector.

All these courses have been approved by the State Government. MTSU is in the process of designing further courses in IT, retail and hospitality Sectors.







Sustainable Infrastructure Development



Business Plan for MMR

Background

To counter a decline in economic productivity and achieve its true potential of growth, Mumbai needs to first articulate a concerted plan. The World Bank too agreed to support a market-friendly growth-inducing strategy that is equitable and inclusive and based on a business plan approach. Therefore, MMRDA, on behalf of the Government of Maharashtra, appointed LEA International Limited, Canada, in a joint venture with LEA Associates South Asia Pvt. Ltd., New Delhi (LASA), to prepare a Business Plan for Mumbai Metropolitan Region (MMR).

The Strategic Objective

The basic strategy is to sustain MMR in a cycle of economic growth, resource mobilization, investment in infrastructure and improved quality of life with the recognition that good governance plays a crucial role in implementing such a strategy.

Economic Growth

- GDP growth rate of 12-15% per annum with financial services, IT, ITES and media/entertainment growing at 15-18%
- MMR improving its rank in 'ease of doing business' among Indian cities to top 3
- Enhancing the work force participation rate to 40% by 2021 with significant increase in formal employment

Land, Real Estate and Housing

- Bring down office rentals to comparable cities in Asia
- Reduce ratio of Median House Price to Median Annual Income to 5
- Reduce the number of slum dwellers to 20% of the population



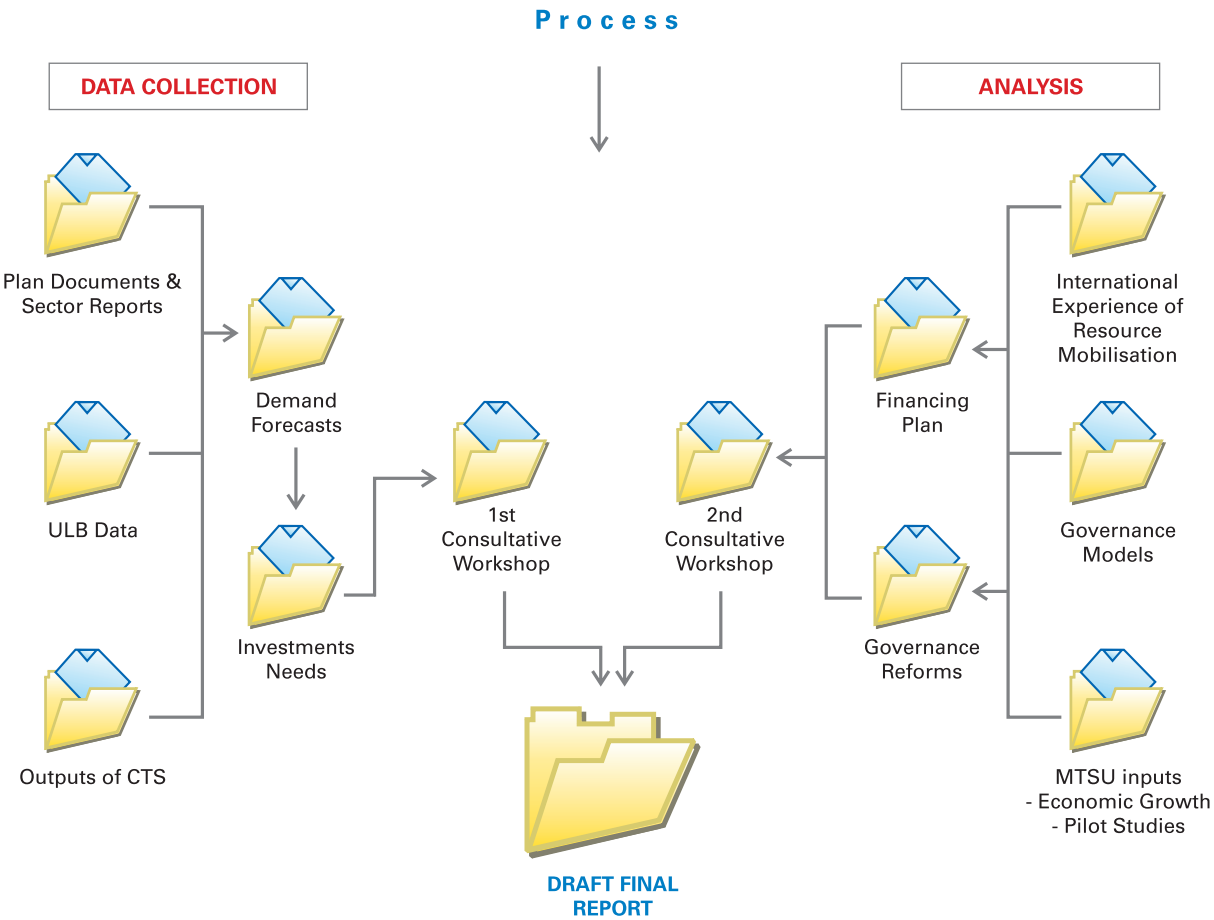


**Infrastructure**

- 24/7 power supply in entire MMR
- Water supply of 240 litres per capita per day (lpcd) in Greater Mumbai and 200 lpcd in rest of MMR on 24/7 basis
- 100% sewerage and sanitation coverage
- Prevention of loss of life and property due to flooding
- Daily 100% collection of solid waste and its environmentally compliant disposal
- Maximum density of passengers in trains to be 7/sq m; average bus speeds to be 20 km/hour and vehicular speed to be 30 km/hour

**Resource Mobilization and Urban Local Body Finance**

- Operating ratio i.e. revenue expenditure/revenue income should not exceed 0.9
- Private investment in infrastructure (billable services) to be at least 50% of requirement
- New real estate development to contribute at least 8% of its value to finance infrastructure development
- ULBs to improve debt-servicing to meet capital investment needs



**Action Plan**

**a) Economic growth**

- Assign the responsibility of planning for economic growth to MMRDA and strengthen it.
- MMRDA to develop necessary data systems for geographic coverage co-terminus with MMR to capture newly emerging economic activities and track the employment growth.
- Carry out further surveys if required and propose legal, regulatory and procedural reforms to improve MMR's ranking in 'ease of doing business'.
- MMRDA to prepare plans for LED, recognising the role of small manufacturing units in matching the job creation with the skill profile.

**b) Land, Real Estate and Housing**

- Remove legislative constraints on the supply of land and development rights - repeal Urban Land (Ceiling and Regulation) Act, modify CRZ - II provisions.
- Expand supply of land by developing salt pan lands and green-field sites along transit network.
- Undertake revision of Regional Plan and Development Plans in conjunction with the road and transit network proposed in the CTS including rationalizing FSI patterns.
- Simplify development control (DC) regulations and adopt procedures that reduce the time required for building permits by deploying information technology.
- Develop GIS-based information system that monitors growth of commercial floor space and housing with overlays of property prices in a geographically disaggregate manner.

**c) Infrastructure improvement and finance**

- Action on infrastructure projects like transit development and water resource development must be taken up as priority.
- ULBs have to improve their collection efficiency and user fee setting practices to enhance their debt-servicing capacity.

**d) Governance**

**Legal reforms**

- Repeal Urban Land (Ceiling & Regulation) Act.
- Amend the Rent Control Act.
- Amend the Maharashtra Regional and Town Planning Act 1966 to enable town planning schemes and make their implementation expeditious.
- Amend the MR&TP Act 1966 to enable levy of "price-linked development charge" for planning authorities and amending MMRDA Act 1974 to enable the government to levy additional development charge to finance metropolitan infrastructure.
- Amend municipal legislations to make it mandatory for ULBs to prepare City Development Plan including City Investment Plan and financing plan every five years.
- Amendment of Maharashtra Metropolitan Planning Committee Act 1999 to prepare metropolitan draft plan based on City Development Plans of ULBs and MMRDA to assist the MPC in that regard.
- Institutional Restructuring.
- Restructuring MMRDA to enable it to address economic growth, infrastructure finance, water resource development, and monitoring and evaluation of plan implementation.
- Enable Mumbai Urban Infrastructure Fund (MUIF) to access the capital market.



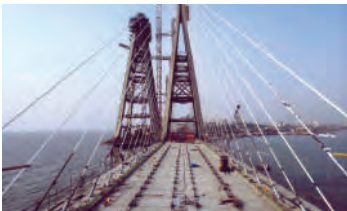
Procedural reforms

- Preparing five-yearly strategic plans (CDP) including CIP for MMR.
- Promoting GIS for planning and monitoring e-governance.
- Capacity building.
- Undertake capacity building at MMRDA by retraining existing staff. strengthening existing staff, infusing new skills and outsourcing certain activities.
- MMRDA may assist smaller ULBs in similar capacity building actions.



The MTSU has been monitoring and providing timely updates to the Empowered Committee on the progress of the following projects:

Project with description as follows:



Mumbai Trans-Harbour Sea Link Project (Sewree to Nhava)

Improving connectivity between the island city and the mainland by building a 22-km long, six-lane bridge through to facilitate housing and economic development in MMR.

Bandra-Worli Sea Link (BWSL)

Developing additional north-south corridor on the western flank of the city via 4 km long a sea-bridge from Western Express Highway and Swami Vivekanand Road at Bandra to the Worli Sea Face.



Western Freeway (Worli-Nariman Point)

Reducing the congestion on the western corridor between Bandra and Nariman Point via a 13.75-km sea-link or, alternatively, a sea - bridge up to Priyadarshini Park combined with a tunnel under the Malabar Hill.

Mumbai Urban Infrastructure Project (MUIP)

Augmenting east - west connectivity and strengthening the north - south corridors by developing 17 high-speed junction/signal-free corridors with dedicated bus lanes.







**Mumbai Urban Transport Project (MUTP)**

Investing in suburban railway, public bus transport, new east-west link roads and pedestrian subways to streamline traffic and transportation in MMR and generating additional capacity to bring down passengers per train (nine-coach) from 5,000 to 3,000 with World Bank assistance.

**Mumbai Metro Rail Project (MMRP)**

Providing rail-based mass transit connectivity, with a total length of 146.5 km (nine corridors), to people within an approach distance of 1-2 kms and serve areas not connected by the suburban rail system.



**Improving Public Transportation in MMR**

Encouraging a shift to public transport systems by improving the transport infrastructure, ensuring higher speeds, reduced travel time, improved operational efficiency, reduced congestion and automobile pollution on the roads; providing skywalks to encourage walking and facilitate transfers between roads.

**Fleet Taxi Scheme**

Introducing better and fuel efficient taxis with better safety and comfort to incentivize a popular shift from private to public modes of transport. These taxis will be demand responsive and fitted with GPS facility.



**Wadala Truck Terminal and Interstate Bus Terminus (ISBT)**

Providing truck operators with spaces for idle parking, godowns, loading/unloading facilities and allied facilities required for trucking activities to minimise the movement of goods vehicles, especially multiple consignment carriers, in the island city. Providing state-of-the-art centralised bus terminal facilities with passenger amenities, idle parking, washing, repair and maintenance, and fuelling facility for public and private buses.



**Modernization of the Mumbai Domestic & International Airports**

Providing world-class airport facilities and enhancing passenger capacity to 40 million passengers per year. The project involves upgrading and expanding of the existing airport by the Mumbai International Airport Ltd, a company formed by GVK.

**Airport at Navi Mumbai**

Developing a new airport of international standards to meet the growing demand for air travel and to tackle the problem of saturation at the existing airports. The new 1,140-hectare airport will accommodate two parallel runways for simultaneous and segregated parallel operation with provision of full-length taxiways on either side of the runways.



**Waterway Project**

Improving intracity connectivity through water transport along the east and west coast of the city. Projects for connecting Nariman Point and Borivili on the west coast and Ferry Wharf and Navi Mumbai on the east coast are in the pipeline.

**Middle Vaitarna Dam**

Providing 455 mld of additional water supply to Mumbai by 2012 to overcome water shortage. The project received CCEA, GoI approval for 35% assistance under JNNURM in March 2007 and involves the construction of a dam across Vaitarna river, a tunnel from Modak Sagar to Bell Nalla, a 35-km transmission main and water treatment plant at Bhandup Complex.



**Mumbai Sewage Disposal Project (MSDP)  
Stage-II Priority Works**

Providing a healthier and improved environment for people living in Mumbai while minimizing the impact of coastal water on natural environment through rehabilitation and upsizing of sewers, laying new trunk sewers and constructing pumping stations.





#### Slum Sanitation Program (SSP) Stage-II Priority Works

Improving sanitation facilities in the slums by construction of 35,000 toilet blocks by 2011 in the initial phase.

Upgrading stormwater drains in Mumbai to reduce flooding. The project has received 100% grant from Gol and involves replacement of old dilapidated drains, enlarging undersized, drains, installing high-capacity pumps.

Brimstowad



#### Mithi River development

Mitigating floods in the catchment area of the river, particularly in the financial hub, Bandra-Kurla Complex. Phase I works completed as of June 2006; phase II works include widening and deepening of Mithi river, Vakola nalla and other nallas in BKC and construction of a retaining/diaphragm wall.

#### Rehabilitation of pavement dwellers in Mumbai

Freeing the arterial roads of pavement dwellings and facilitating smooth movement of vehicular traffic and pedestrians while ensuring 100% resettlement of pavement dwellers. So far, two roads have been cleared.



#### Initiating the development of Dharavi

Improving housing and living conditions by rehabilitating over 50,000 families in the Dharavi slums over seven years through an integrated urban renewal approach and public-private partnership.



#### To designate Sir JJ Group of Hospitals and Grant Medical College 'A National Centre for Medical Sciences'

Raising the standards of the hospital to those of AIIMS, Delhi by upgrading the public health facilities such as ICU, EMS, laboratory and construction of cardiac and neuro-centre etc., constructing a students' hostel and restoring the hospital building, which is a heritage structure.

#### Improving health services and cleanliness through Mumbai Chakachak/ Parivartan drive

Initiatives like setting up zero tolerance zones, round-the-clock cleaning of major roads, elimination of community bins by introducing house-to-house collection systems and setting up ward-level dry waste, and construction and debris collection centers. The programme also includes cleanliness at railway stations and important public places.



#### Refurbishment of Marine Drive and Haji Ali Sea Face

Beautifying Marine Drive from Nariman Point to Tambe Chawk in a phased manner. Strengthening the sea-wall along the Haji Ali promenade and making the footpath pedestrian friendly.

#### Beautification of Gateway

Redeveloping the precinct in a planned manner and restoring the heritage 'Gateway of India' structure.



#### IMS Vikrant

Converting the decommissioned Indian Naval Ship 'Vikrant' into a museum ship.

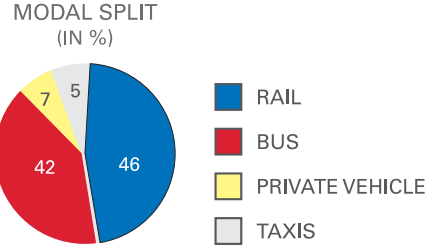
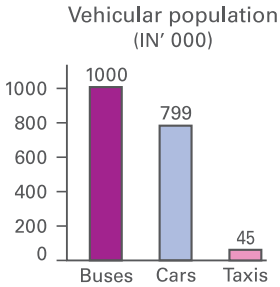
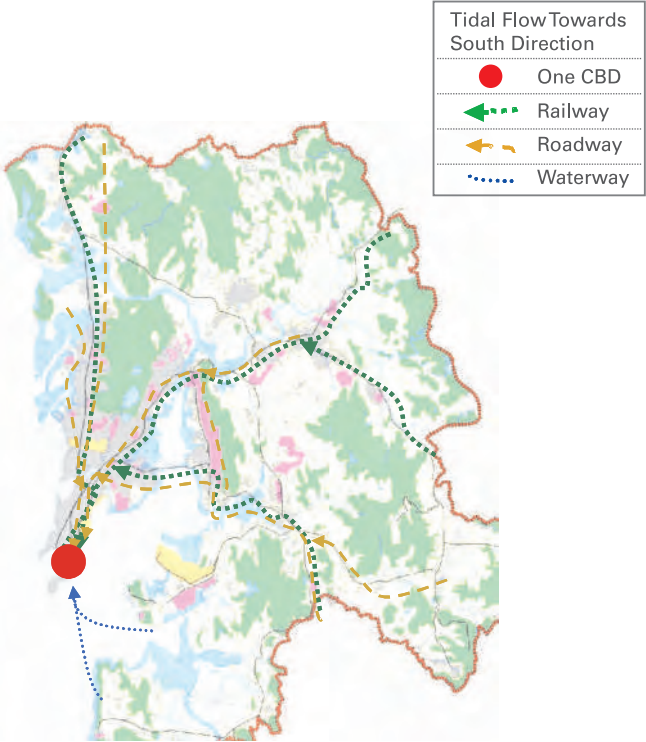


Transport scenario in Mumbai

Commuting travails probably make up a Mumbaikar's biggest woes, and are probably the main reason that businesses are increasingly shifting out of the city.

The primary reasons for this state of affairs are :

- Just a single central business district (CBD) in the southern tip and growth along the railway tracks.
- Resultant tidal flow of traffic, with directional split being 80: 20 (until five years ago) in the direction of the peak travel.
- Linear nature of the island triggering flow of mainland into the island for work and related services.





Improving public transportation in MMR

MTSU is striving to improve travel conditions by optimising existing resources and taking innovative leaps towards a sustainable future.

A workshop on re-engineering Mumbai’s road transport system was held by MTSU on September 27, 2007. Its focus areas were the licensing process, road design, rash driving and traffic management. About 120 people participated.

Some of the salient recommendations that emerged from the meet are listed here:

a) Licensing process:

- Outsourcing licensing and converting the government body into a regulator
- Training and certifying tutors and instructors
- Higher penalty for repeat offences
- Digitisation of data

b) Road Design :

- Development of EMAS System (Express Monitoring System) such as in Singapore.
- Geometric system must be followed
- Traffic counts to be taken for better signal timings
- Introduction of escalators on skywalks and reducing their height

c) Rash driving

- Educating youngsters about drunken and rash driving
- Enforcing punishment stringently
- Popularising safety measures like use of helmets
- Cancelling defaulters' licences

d) Traffic management

- Special attention for sidewalks, pedestrian crossings, interchange areas with public transport, etc
- ATCs to be operated by an integrated system of traffic police
- Regular road safety audit by MCGM
- Study by MCGM on user and congestion charges
- Accident reporting system
- Use of IT to modernize traffic control systems
- Better lane separation, signs and road marking system
- Red light cameras and CCTVs at junctions and signals
- Control systems should include pedestrians and cyclists



Initiatives :  
The following initiatives, which are interdependent and interrelated, have been proposed by MTSU.

No. Project		Objective	Area identified for pilot
1	Bus RapidTransit System	To facilitate high speed and quality bus services on dedicated corridors.	Bandra to Dahisar section of WEH and Sion to Cadbury junction of EEH
2	Dedicated Bus Lanes	To improve the speed, efficiency, and turnaround time of buses.	Dadar toThane
3	Introduction of luxury buses on contractual basis	To introduce high quality buses catering to the higher income segments of the city.	NA
4	Introduction of fleet taxi services	To provide an intermediate mode as a substitute for the private car, matching its advantages; to upgrade taxi services.	NA
5	Improvement of pedestrian facility and introducing sky walks	To enable easy, faster and smooth pedestrian movement wherever possible	Hill Road police station (Bandra west) to Bandra station to Anand Kanekar marg (Bandra east).
6	Control parking through a one-stop facility	To upgrade the existing pay and park system, to prevent un-authorised parking, especially along arterial roads, clearly designated off-street parking or parking on local streets, with all parking to be charged; parking charges to be hiked; parking to be designed as a holistic facility including valet facility, e-ticketing, car servicing, etc.	Bandra-Kurla Complex

Demand management:  
While these measures will optimize public road transport, the use of private vehicles which have a poor passenger load, will be sought to be curbed through incentives and disincentives in the form of attractive alternatives and policies.  
Parking is being studied as a demand management tool.



Integrated transport authority

Mumbai has a number of agencies dealing with different types of transportation. For all forms of mass transportation to operate at maximum efficiency, it is important for them to be integrated with one another and with transport and pedestrian facilities in the locality.

For MTSU, this was one of the articulated goals of the transformation process.

The Government of Maharashtra has set up a Unified Mumbai Metropolitan Transport Authority (UMMTA) under the chairmanship of the Chief Secretary to ensure such co-ordination.

The Authority has eight committees working on different subjects to work under it.

Constitution of UMMTA

The Government of Maharashtra recognized the urgency for setting up a mechanism to coordinate the works of various agencies involved in the transport sector in Mumbai, especially in the wake of rapid urbanization around the city. Some of these agencies are involved with the provision of basic services while some others are involved in transportation systems and yet others are involved in regulation of these systems.

The Authority consists of the following members:

- Chief Secretary.
- Secretaries from the departments of urban development, planning, finance, transport, special projects, public works, environment, law and judiciary.
- General Managers of Central Railway and Western Railway.
- Managing Director of Konkan Railway Corporation.
- Municipal Commissioner, MCGM.
- Metropolitan Commissioner, MMRDA.
- Commissioner Police, Mumbai.
- Transport Commissioner, Mumbai.
- Managing Director, CIDCO.
- Managing Director, MSRDC.
- Managing Director, MSRTC.
- General Manager, BEST Undertaking.
- Representatives of Chhatrapati Shivaji International Airport.
- Experts from transport and transport engineering.

The Authority has the powers to plan a holistic transportation plan for MMR, establish priorities in different nodes, and coordinate with all participating agencies.

Committees under UMMTA

Eight committees have been formed to look at different issues.

1. Strategic Planning Committee.
2. Finance Committee.
3. Traffic Engineering Committee.
4. Transport Operations and Management Committee.
5. Regulations, Safety and Environment Committee.
6. Terminals and Parking Committee.
7. Legal Committee.
8. Research and MIS Committee.







## Environment

A special sub-group of the Citizens Action Group was formed to tackle environmental issues arising out of development. The sub-group, under Mr. Jamshyd Godrej, has members from IIT Bombay, USAID, McKinsey, Bombay University and MCGM.

A one-day workshop on 'Sustainable Development and Climate Change' was organized by the sub-group on April 19, 2008, on the theme, 'Housing and transport sustainability'.

Experts from the field of environment, housing and transport participated in the workshop which crystallized in the preparation of a workshop. Based on conclusions of the workshop, NEERI is preparing a paper on methods of adopting eco-housing systems and put up topics for research on health and transport. They will also initiate a study on the environment strategy for Mumbai.

A concept plan has been prepared by NEERI providing a road map for the task.

Concept plan		
<b>Subject</b> Understanding basic sustainability issues	<b>Housing sector</b> <ul style="list-style-type: none"><li>* Current energy demand</li><li>* Current water demand</li><li>* Quantity of wastewater generated</li><li>* Quantity of solid waste generated</li></ul>	<b>Transport sector</b> <ul style="list-style-type: none"><li>* Current status of local and intercity transport</li><li>* Current need</li><li>* Assessing economies of transport for users and operators</li></ul>
<b>Future projections</b>	<ul style="list-style-type: none"><li>* Energy demand</li><li>* Water demand</li><li>* Waste water</li><li>* Solid waste</li></ul>	<ul style="list-style-type: none"><li>* Overall demand</li><li>* Modes of transport demand</li></ul>
<b>Impacts</b>	<ul style="list-style-type: none"><li>* Energy impact</li><li>* Water stress</li><li>* Construction impacts on health</li><li>* Impact of waste water on water bodies</li><li>* Impact of solid waste on people, land</li></ul>	<ul style="list-style-type: none"><li>* Energy demand impact</li><li>* Climate change impact</li><li>* Health and economic impact</li></ul>
<b>Sustainability direction</b>	<ul style="list-style-type: none"><li>* Delineate sustainability chart for each of the attributes.</li></ul>	<ul style="list-style-type: none"><li>* Delineate sustainability chart for each of the attributes.</li></ul>





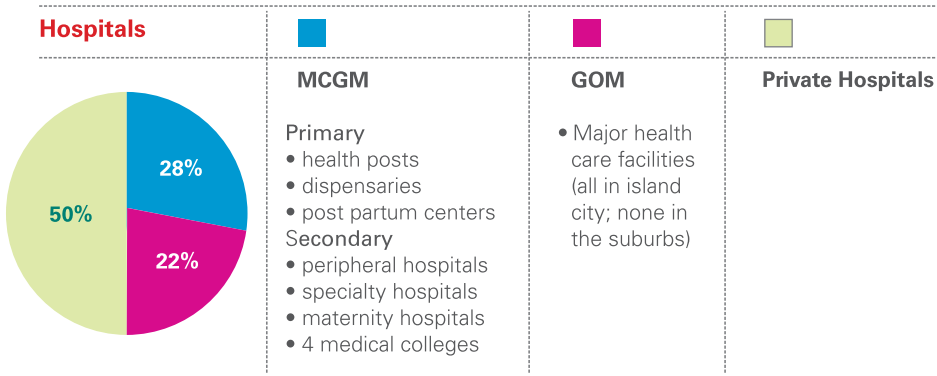


a) Background

Because of rapid and unplanned urbanization, the distribution of physical and social infrastructure among urban poor in Mumbai has been haphazard and unequal.

For people below the poverty line, the public sector hospitals are the lifeline. However, the existing hospital services designed for 5 to 7 million people, is clearly inadequate to cater to a population of 12 million. Prioritising health care is therefore a must. It includes improvement of services at the primary level, strengthening the public health care infrastructure and upgrading the quality of services and accountability of service providers to the citizens.

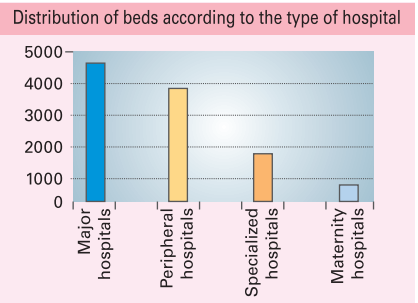
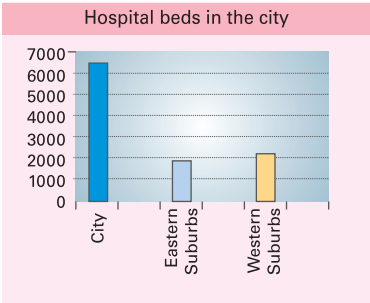
Good health promotes all-round well-being, especially in the social and economic fronts. It is thus a pivot for economic growth of the region as well.



The Government of Maharashtra and Government of India are developing a health strategy based on the goals adopted by the UN to reduce child and mother immortality.

Health sector goals:

- To develop a city health profile including quantitative and qualitative data about the health of the people and the conditions in which they live.
- To evolve a health policy for Mumbai region, delineating the roles of the state government, ULBs, private sector health institutions, and community-based/ non-governmental organizations.
- To facilitate the development of an integrated approach for all health care activities in the city.
- To enable communities to participate in the decision-making processes in the sector.
- To provide a rational basis for decision-making which reduces inequalities in health.



community-based/ non-governmental organizations



Health Strategy

- Developing effective and adequate health care infrastructure at convenient locations, with easy reach to doctors, paramedical and non-medical staff in times of emergency.
- A good surveillance system with trained medical staff in order to identify and combat fatal diseases, such as TB, HIV/AIDS, malaria, heart problems, cancer, etc.
- Maintaining a clean and healthy environment.
- Involving the community at every step of the way in whichever way possible.
- Education being an effective medium for creating health awareness, school curricula should weave in preventive measures, good sanitation practices, awareness about killer diseases, awareness against superstitions, etc.
- Identifying the needs of the citizen/ target group in order to compile, collate and disseminate information.
- Networking all hospitals to ensure prompt medical assistance in times of need and avoid costly time lapses.

The way forward : The consultative process

The way forward is to generate a health strategy through consultation with well-defined objectives, stake-holders and timelines.

Pilot study

A pilot study was undertaken on the public health services around Mahindra & Mahindra factory, Kandivili E, by MTSU with the assistance of Bombay First, and an NGO - Sneha. The objectives were to study the existing public health system and its utilization, to understand the perceptions of the people regarding their health needs and services, and to identify gaps in existing systems and evolve corrective strategies.

- In the community service areas of Hanuman Nagar health post and Damupada health post, 1.44 lakh people shared two health posts and one dispensary.

Methodology

- Rapid assessment - combination of assessment techniques used among the users and service providers
- Workshop involving stakeholders

Gaps identified

- Location - away from slum community
- Timings - not suitable for working class
- Staff - positions vacant
- Infrastructure - Poor condition of dispensary
- Insufficient medicines/equipments ,services
- Poor quality of services

Health-related environmental issues

- The study found inefficiency in the collection and management of waste within the community up to the MCGM common collection point. There was delayed clearance of solid waste and lack of community involvement.
- The water supply was found to be poor because of low pressure, and the water was contaminated. It was also tapped illegally by some residents.
- Sanitation too was not adequate. The number of toilets was insufficient. The infrastructure was poor, with inadequate water supply and poor lighting.

Way out

The study recommended the following solutions for the area:

- Establish an integrated urban primary health centre.
- Ensure promotive, preventive and outreach health services for vulnerable groups - mothers and children.
- Create women's groups in the community for behavior change.
- Form a partnership of stakeholders - public / private/corporate/NGOs/community - to plan, implement and monitor health.
- Innovative water, sanitation and garbage disposal measures.

Efforts are being taken to arrange a tie-up between MCGM, SNEHA, an NGO and Mahindra & Mahindra - the corporate house for implementation of the scheme.





## The Mumbai Chakachak Campaign

The Municipal Corporation of Greater Mumbai (MCGM) in collaboration with Centre of Environment Education (CEE), US-AID and MTSU launched a sanitation campaign - 'Mumbai Chakachak' during the 2006 Mumbai Festival. The initiatives involved coordination with the MSRDC, which is responsible for cleaning the flyovers constructed by it, PWD that maintains and cleans highways, airport and railway authorities, ALMs, NGOs and youth volunteers.

The campaign went beyond the festival period in order to significantly improve the cleanliness level in the city. The campaign has proved to be a big success and the results of the campaign are appreciated by all.

Take your neighbourhood from Garbage to **Gardens**

Mumbai is Transforming, and **YOU** can help.

**Duty of every citizen under the Municipal Solid Waste Management Rules 2000**  
Don't litter. Co-operate with the municipal body to manage wastes.  
Keep different types of wastes separate.

### Taking lessons from Nature

In nature, there are no wastes – dead plant or animal material is consumed by soil insects and worms for nutrition. The soil microbes further decompose wastes from these organisms to form simpler soil components, which act as nutrients for the plants – a perfect cycle, drawing sustenance from the Sun. No pollution, no choking.

You and your neighbours, your elected representative and your ward office are a community. Each of us, individually and collectively, has a role in waste management and keeping our city clean. Keep a watch on what can be improved - timing of cleaning, regularity of cleaning, method of cleaning, implements for cleaning, or linking with the MCGM dustbin. Make suggestions to the local community group, your elected representative and your ward office.

**Chuck waste into litterbins on platforms. Don't throw trash on the tracks.**

Railway is the lifeline of Mumbai. Its tracks that carry millions daily are clues of our train-life. The used plastic bags and bottles, vegetable peels, coffee cups, that we dispose off onto tracks are an ugly site and choke the drains.

Wastes from our houses and businesses are raw materials for the recycling industry, and the products of the recycling industry are raw materials for the manufacturing industry. If we can keep 'industrial nutrients' – paper, plastic, metal, glass – in perpetual cycles, our 'industrial ecosystems' can work better, our cities will be cleaner.



There's always something you **CAN** do.

There's always something **YOU** can do.





Education

Background

Access to education can make or break an ever-morphing metropolis like Mumbai. Good quality education can steer Mumbai's growth into a world-class city. As of now, a majority of the population of the lower socio-economic strata has access only to public schools run by the Municipal Corporation of Greater Mumbai (MCGM).

Early Childhood Care and Education (ECCE) and primary education are enshrined as a Constitutional right. With the intention of translating these rights into a practical reality, the Government of India launched the Sarva Shiksha Abhiyan (SSA) in November 2000.

The MTSU scrutinized the SSA, which is being implemented in Maharashtra including Mumbai. Here are some findings:

S. No	Subject	Facts	Problem areas	Recommendation
1	Early Childhood Care and Education	2491 schools covering 1,40,510 children	<ul style="list-style-type: none"><li>• Lack of balwadis (kindergartens) for age group of 3- 6</li><li>• 5000 balwadis required for 2,00,000 children</li></ul>	Recasting the education policy to ensure that there is a balwadi attached to each primary school.
2	Schools, buildings and classrooms	1,236	<ul style="list-style-type: none"><li>• Low intake of students</li><li>• Schools lying vacant</li><li>• Poor maintenance of schools</li></ul>	<ul style="list-style-type: none"><li>• Vacant school buildings in the city to be used for balwadis, vocational training or other educational activities.</li><li>• Portable cabins to be installed in slums or schools on wheels where there is a lack of toilet blocks especially for girls and drinking water facilities be provided in all the schools.</li><li>• Provision of ramps for disabled children.</li><li>• Procedures for repairs and maintenance to be simplified so that there is a speedy utilization of funds and the schools are properly maintained.</li></ul>
3	Teaching staff	12,625	<ul style="list-style-type: none"><li>• Surplus of Gujarati and Marathi teachers</li><li>• Shortage of teachers in Hindi and Urdu medium</li></ul>	Appoint teachers on contract basis to overcome shortage.
4	Enrolment and dropouts	Ward M/E - 18,362 dropouts Ward P/N - 7908 dropouts	<ul style="list-style-type: none"><li>• Class 7 level dropouts especially in the slum areas.</li><li>• Poor students for whom education is a 'luxury'</li><li>• Teachers find it difficult to handle students from poor homes.</li></ul>	<ul style="list-style-type: none"><li>• The quality of teaching in primary schools to be improved to motivate enrolment.</li><li>• A special campaign to be launched in Wards M/E, P/N, L, F/N, G/N and M/W so that 'out of school children' were brought back into schools.</li><li>• MCGM to encourage the private sector to build secondary schools so that all the children who pass class VII are assured of admission into a secondary school.</li><li>• Remedial coaching be organized for the upper primary classes so that the transition rate particularly from Class VII to VIII is improved.</li><li>• Special programs to be organized for street children, children living on railway platforms, working children, etc. so as to bring them into the education main stream.</li></ul>





Initiatives

To ensure improvement in ECCE and in primary education for the children of the lower socio-economic strata, the following efforts were taken under a public-private partnership (PPP) approach :

As per SSA norms, 1,187 primary schools under the MCGM made up 225 school clusters according to the electoral ward area. In each cluster, one school was identified as a nodal school and it was being developed as Cluster Resource Centre (CRC).

The survey collected details as under:

Total no. of clusters : 225		
S.No	Description	Quantity
1	Average enrolment	379
2	Average number of teachers	15
3	Average number of classrooms	10
4	Schools with no toilet blocks for boys	7
5	Schools with no toilet blocks for girls	20
6	Schools with no provision for disabled children	71
7	Schools had no drinking water facility	176

- TheTimes Foundation, a private sector organisation and MTSU approached the Secretary, School Education, Government of Maharashtra, with a proposal for taking the lead in mobilising the support of corporates in the city towards improving primary education.

The outcome of several meetings held between the government, on the one hand, and the private sector, NGOs, and education experts, on the other, was the formation of a Steering Committee, with an equal number of representatives from both the sectors.

A government resolution would define the powers, role and responsibilities of the Committee to improve and upgrade the quality of primary education in Mumbai city.

- The MCGM had developed a School Adoption Policy in 1999, under which about 28 organisations assisted 223 schools. In addition, special computer education projects had been set up by Reliance Infocomm and Sterlite Industries. However, none of the organizations adopted a school in totality. It was decided that in the Public Private Partnership pilot project, corporates would be requested to adopt a stand-alone CRC or a cluster of schools in a single building.

A school-level committee (SLC) would be required to be set up (with equal representatives of the school and the adopting agency) which would be empowered to oversee the day-to-day affairs of the school. The SLC would meet at least once a month. Through workshops with NGOs and officers of the MCGM, the role of the public and private partners pertaining to key areas in the PPP project were outlined.

- Plans are afoot to develop one model school using the PPP approach which other schools up for similar adoption can emulate. Upgrading primary education would attract more children to the school and more children would be capable of securing admission in an existing secondary school, which would indirectly ensure fewer dropouts, and less out of school children.

Strides in vocational education

The explosion of jobs in the construction, retail and IT sector has made it necessary to provide them access to training in these sectors. Towards this objective, MTSU organised brain-storming sessions with various stakeholders for designing suitable training programs.

Under an initiative to develop vocational courses to meet market demand for skilled manpower, a meeting of government officials, educationists and industry experts was held on March 13, 2007, following which a core group for vocational education was formed.

The core group entrusted to MTSU the task of developing vocational courses in IT, retail, construction and hospitality sectors.

InformationTechnology

Five meetings were held with experts, resulting in draft designs of 29 courses under the leadership of NASSCOM. Several corporates such as SUN Microsystems, Patni Computer Systems,TCS, Oracle India Pvt. Ltd. assisted in the development of these courses.

Retail

Five meeting were held with the participation of experts and leading companies like Pantaloon, Radhakrishna Foodland Pvt. Ltd., Trent, NIS Sparta, and Retailers' Association of India. A basic course 'Certificate course in retail operations' was designed along with reading material for it. Certificate courses for retail supervisor, cashier and store manager will be prepared after taking stock of the response to the basic course.

Construction

Assistance to design courses in this sector was sought from companies like Shapoorji Pallonji, HCC, L&T, Akruti Citigold Institute, etc. After three meetings with corporates and other experts, courses were designed for carpenter, mason and barbender and steel fixer.

All the courses were submitted to the government for implementation. The Maharashtra State Board of Vocational Examinations (MSBVE) and the Department of Higher and Technical Education of Government of Maharashtra have approved the courses.

Apart from designing more courses in these three sectors, MTSU is also working on designing new courses in hospitality, travel and tourism, and automobile sectors.







Governance

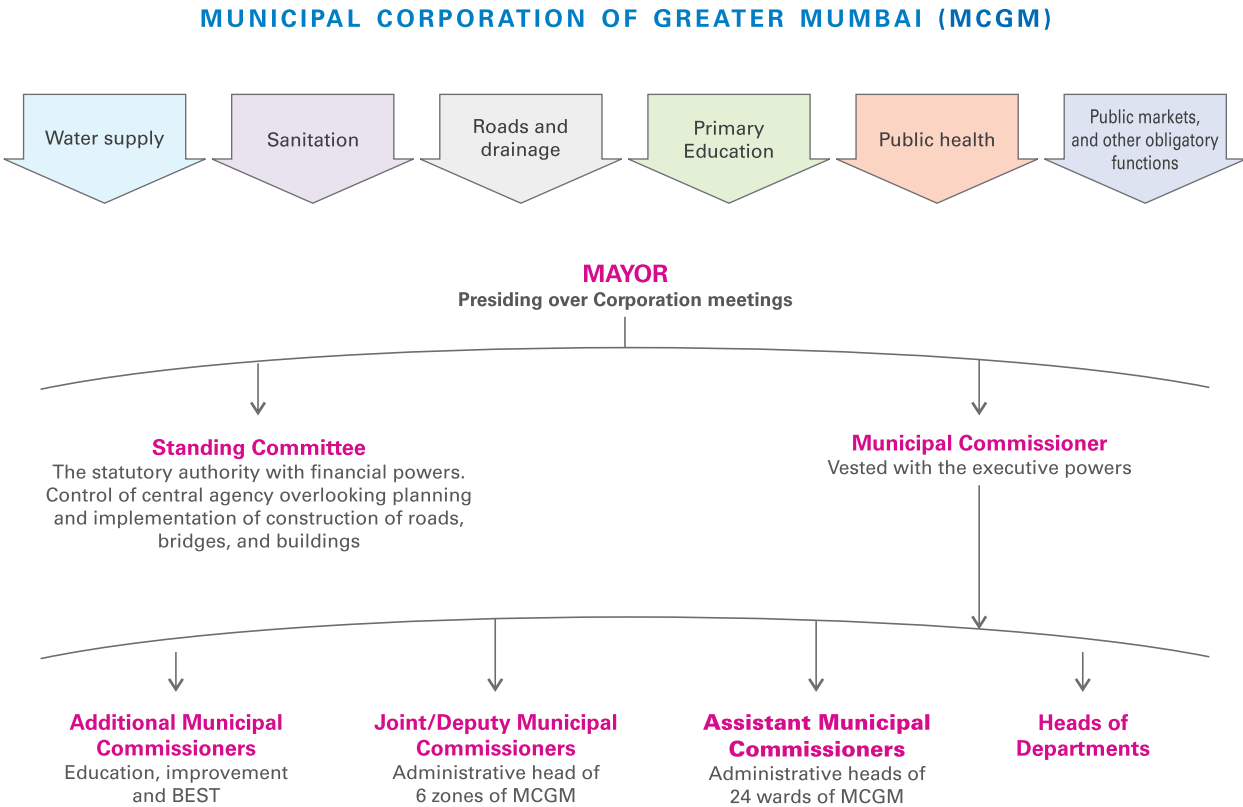
The urban local bodies (ULBs) in MMR are tasked with providing urban services, inclusive and equitable growth and sustainable development.

The new challenges call for a reform of their structure and the processes involved in the regulatory and development functions. This shift also entails a change of mindset.



i. Structure

Functioning of the MCGM as per the Mumbai Municipal Corporation Act 1888 :





ii. Metropolitan Planning Committee

There are some inherent weaknesses in the present system of civic governance in Mumbai: the mayor and the standing committee are not empowered enough to make strong decisions.

Moreover, as cities grow and multiple agencies are created to build facilitative systems in and around it, the inevitable byproduct is a shortfall in coordinated thinking. Each agency works to fill its space but in the absence of a bigger mechanism to direct the overall growth of such cities, the growth pattern suffers qualitatively and quantitatively.

It is in this context that the need for a metropolitan planning committee for each urban agglomerate has been acutely felt. The idea was definitively articulated first in the McKinsey report and then in the Business Plan of the MMRDA. Both talk of the cross-interactions of multiple agencies at work in a metro and the urgent need to remedy the situation.

Maharashtra had promulgated an ordinance in 1999 to allow for metropolitan planning committee (MPC) to be set up in every metropolitan area.

This was followed by a legislative Act in 2000 - the Maharashtra Metropolitan Planning Committees (Constitution and Functions) (Continuance of Provisions) Act 1999. The MPC is entrusted with the task of preparing a draft development plan for the area keeping in view local requirements and blending them with the dynamics of macro-governance issues.

The MPC will have powers to formulate guidelines for preparation of the draft plan as well, which are to be followed by the municipalities and panchayats while formulating their own plans.

Composition of MPC

The Act provides for 45 members on the MPC. In the MPC formed for MMR, two third of the members have been elected by and from corporators and chairpersons of the panchayats falling in that area.

The remaining 15 members are to be nominated by the Government of Maharashtra. Of the nominees, six have been nominated from officials such as Municipal Commissioners. Principal Secretary - I of Urban Developement Department and the Divisional Commissioner, Konkan are the ex-officio members. Two members from the state legislative assembly (MLAs) or members of the state legislative council (MLCs) of that area, and four from experts in various subjects such as urban development, finance, trade, etc. , are yet to be nominated. The Chief Minister of the State is the Chairman of the MPC. Six permanent invitees have also been nominated on the MPC.

iii. Mumbai Development Fund

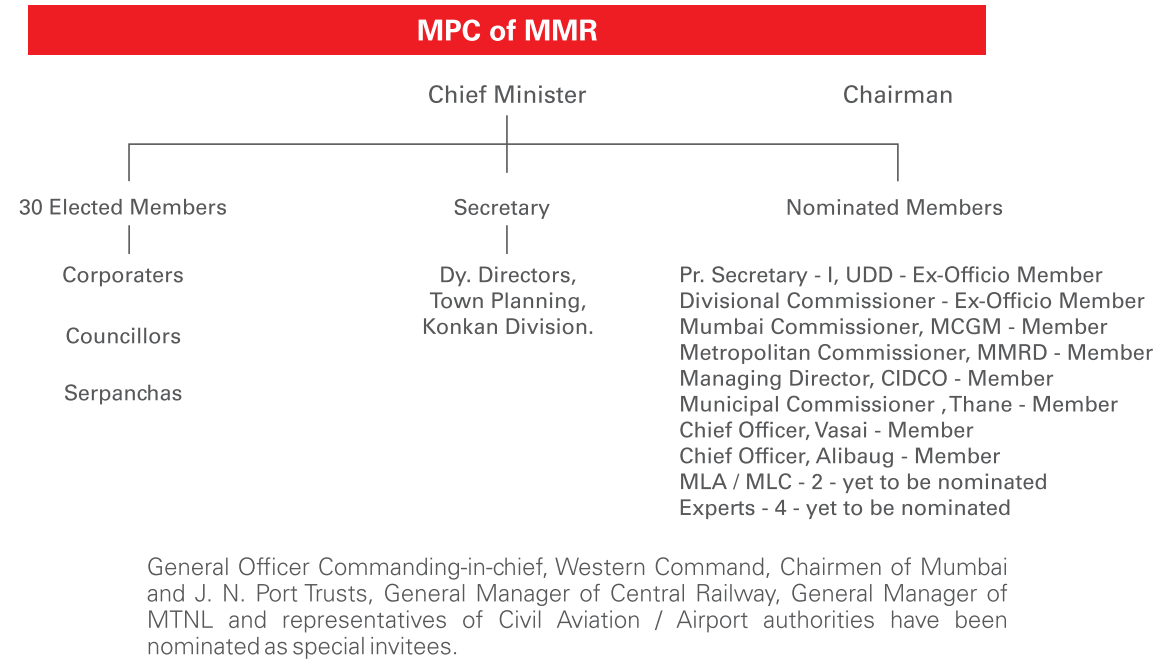
After studying the issues in the development of Mumbai's infrastructure, the MTSU has proposed a ring-fenced fund for Mumbai to provide a sound financial foundation for the city's infrastructure development.

The strategic business plan of MMRDA envisages total public and private investments of Rs 1,45,000 crore (\$ 36 million) over the next 15 years. The government will need to put in Rs 31,000 crore (\$ 78 million) with the rest coming from long-term loans financed by user charges and tax collections. Therefore, it is important that the contribution of Rs 31,000 crore by the tax-payers of the city is dedicated exclusively to the city's development.

The idea behind such a ring-fenced fund is to ensure all contributions to the MDF are confined to the Mumbai infrastructure development project. In turn, it is envisaged that increased economic activity would spur a higher contribution by the city to the central and state exchequer.

The MTSU has prepared a draft act towards setting up the MDF which is being considered by the State Government. Its salient features are :

- Its primary function will be to improve infrastructure by funding projects such as transport.
- It will absorb monies in other funds intended for Mumbai's development, all grants given by governments and government agencies, amounts charged for converting government leasehold land into freehold land in MMR, levies and tolls collected for this fund, and any premium charged on development by way of FSI or TDR.
- The Empowered Committee (EC) will plan and monitor projects. The funds will be released on the basis of physical and financial assessment of the project by the EC.
- The EC may also authorise and approve delays where necessary. Conversely, unauthorised time delays will lead to cancellation of an approval.
- The EC may also recommend any tax, surcharge, cess, fee to be levied for contributing to this fund.





# annexures



## i Way forward



Statement by  
**Mr. A K Jain, Project Manager, MTSU - Phase I**

The Mumbai Transformation Support Unit (MTSU) was set up in 2005 under a tripartite agreement between Government of Maharashtra, Citizens Alliance and All India Institute of Local Self-Government (AIILSG).

The objective of setting up of this unit was to provide secretarial and academic support to Secretary, Special Projects, GAD, Government of Maharashtra in the context of the Mumbai Transformation process which was initiated by the Government of Maharashtra in 2004.

Considering the premier position of Mumbai and its contribution to the state and national economy, the Government of Maharashtra committed itself to transforming Mumbai into a world-class city through a reform-based infrastructure investment strategy. The target was to improve infrastructure services and governance so as to achieve an economic growth of 8 - 10% in a sustainable manner.

The transformation process entailed the engagement of stakeholders including industrial houses, business groups and NGOs, academic institutions, state government departments and organizations outside the state as well.

The MTSU provided a forum wherein all the stakeholders could come together, evolve a strategy of transformation and provide policy inputs to the government.

One of the important contributions of the MTSU during first two years of its existence was to bring global expertise on board in urban planning for infrastructure and initiate a process of business plan for the Mumbai Metropolitan Region for enhancing the status of Mumbai.

I take this opportunity to acknowledge the support of the Cities Alliance in providing financial and technical support to the MTSU, and the excellent technical support given by the World Bank and USAID in providing research and technical inputs.

A special mention needs to be made of the AIILSG which provides not only physical infrastructure to locate the MTSU but also a highly supportive environment and financial support as well, to the MTSU and the entire transformation process.





ii Acknowledgements

- Cities Alliance and its Manager Mr. William Cobett for financing MTSU
- World Bank and their team leader Mr. Songsu Choi for its expert advice through its missions
- Government of Maharashtra and its agencies for their co-operation
- All India Institute of Local Self Government, its president Dr. Jatin Modi and Director-General, Mr. Ranjit Chavan for providing logistical support
- Bombay First and Vice Chairman Mr. Narinder Nayar and McKinsey and Co. for initiating the whole process
- Citizens Action Group members for their valuable time and intellectual inputs

CAG members:

Mr. Narinder Nayar Vice Chiarmen	Mr. B. G. Deshmukh	Mr. Gerson da Cunha	Mr. Nana Chudasama	Mr. Anand Mahindra
Mr. Nanik Rupani	Mr. Deepak Parekh	Mr. Jamshyd Godrej	Mr. F. T. Khorakiwala	Mr. Alyque Padamsee
Mr. Minoo Shroff	Mr. Noel Tata	Mr. Iqbal Chagla	Dr. Homi N Sethna	Ms. Lalita D Gupte
Mr. Subhash Dandekar	Ms. Sharada Dwivedi	Mr. Ranjit Pandit	Mr. A Jockin	Mr. Raj Shroff
Dr. Ashok Ganguli	Mr. Ranjan Kapur	Capt. C P Krishnan Nair	Mr. Sam Variava	Mr. Anand Jain
Ms. Sangita Jindal	Mr. V. S. Palekar	Mr. Vijay Meghani		

iii Abbreviations

AILSG	All India Institute of Local Self Government
BEST	The Brihanmumbai Electric Supply &Transport Undertaking
BRIMSTOWAD	Brihanmumbai Storm Water Drainage Project
CA	Cities Alliance
CAG	Citizen's Action Group
CAGR	Compound annual growth rate
CIDCO	City and Industrial Development Corporation
EC	Empowered Committee
GDP	Gross Domestic Product
GoM	Government of Maharashtra
ICMA	International City/County Management Association
IMaCS	ICRA Management Consulting Services
MbPT	Mumbai Port Trust
MCGM	Municipal Corporation of Greater Mumbai
MEDC	Maharashtra Economic Development Council
MHADA	Maharashtra Housing and Area Development Authority
MMR	Mumbai Metropolitan Region
MMRDA	Mumbai Metropolitan Region Development Authority
MRTS	Mass Rapid Transit System
MRVC	Mumbai Railway Vikas Corporation
MSDP	Mumbai Sewage Disposal Project
MSRDC	Maharashtra State Road Development Corporation
MTP	Mumbai Transformation Project
MTSU	Mumbai Transformation Support Unit
MUIP	Mumbai Urban Infrastructure Project
SRA	Slum Rehabilitation Authority
SSP	Slum Sanitation Program
UDD	Urban Development Department
ULCRA	Urban Land (Ceiling & Regulation) Act
USAID	United States Agency for International Development
WB	World Bank