

The World Bank & Government of Maharashtra
PPIAF-SNTA program

Assessment Report

Financing Strategy and Advice: Group 1: Municipal Corporation of Greater Mumbai

August 10

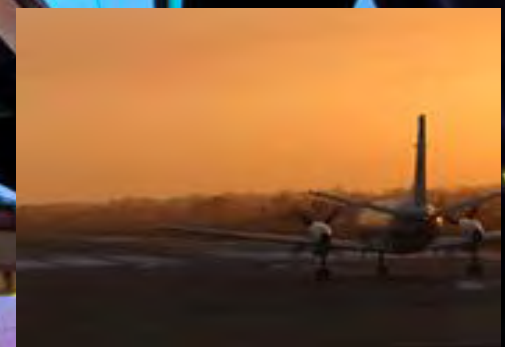
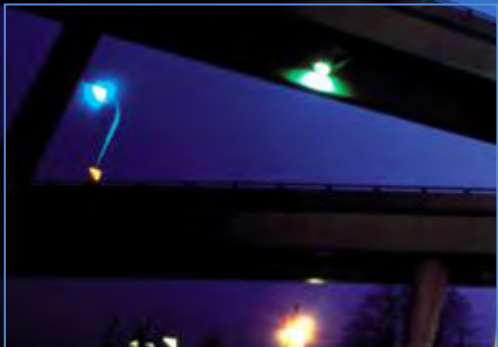
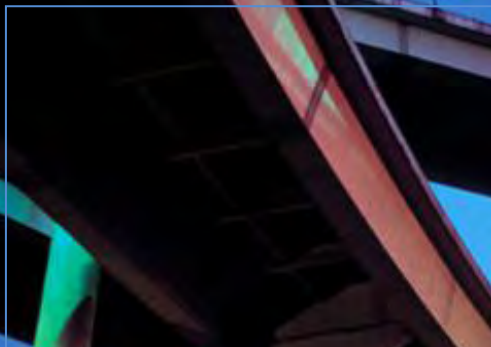


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Executive Summary

Mumbai city, like many cities in the developing world is a centre of economic growth and poverty. The implications of centralised planning, administrative and financial regime in the MCGM has manifested in poor quality of civic services, and lopsided and inadequate infrastructure development. The Business Plan for Mumbai Metropolitan Region identifies deficiency of infrastructure and the resultant poor quality of life, apart from the regulatory constraints, as a limitation to the economic growth of the region. Economic growth drives the demand for public goods, both environmental infrastructure such as water and sanitation as well as growth inducing infrastructure such as roads and transport. These investments are long gestation and capital intensive requiring long tenor finance if investments are not to be ad-hoc and grant dependant. We have estimated this infrastructure gap as about Rs. 20,600 Crore.

Typically, cities of the size and significance of Mumbai (such as Jo^hburg, Mexico City and Shanghai, Ahmedabad, Chennai) have established relationships with debt markets allowing the city to leverage its scarce grant resources with private finance to create long term infrastructure. This is because the size of the infrastructure deficits makes obvious the proposition that long term finance is needed if the scale of the infrastructure deficit is to be reduced in a short span of time. The main purpose of this study is to identify the infrastructure gap, estimate the normative financing requirement, and assess the borrowing capacity of the city for financing the needed infrastructure.

Currently a study of the capital investment profile would suggest that these are essentially dependant on ad-hoc grants and not investments which are ex-ante undertaken with the means of finance tied up. It is possible for Mumbai to continue this way, as it has over the past generated substantial investible resources (Rs. 10,000 Crore)for financing its immediate investment needs, notably the MSDP and water supply improvements (Rs. 6000 Crore) This is the business as usual scenario. In this submission, we use the available investment plans to project the financing requirements and match them with available resources.

However, if Mumbai needs to put in investments which address major deficits in a sustainable fashion, by reducing dependence on grants and leveraging its resources, Mumbai would require a medium term capital investment program with a means of finance built in. This medium term strategic option is the subject of the next submission.

1 Introduction

1.1 Structure of the Report

This ULB Assessment report is divided into three sections:

Section 1 is introduction which includes brief on assignment and the report

Section 2 assess the infrastructure need, potential projects and the finance demand

Section 3 presents a review of MCGMs legal framework

Section 4 presents an assessment of MCGMs current finances,

Section 5 attempts to build the financial model and develop financing scenario's going forward

Section 6 presents projects that may be taken up for detailed financing plan

1.2 Objective of the Study

The specific objectives of the assignment are:

- Assist Mumbai in leveraging funds through a robust financing plan, for select city-level priority urban projects
- Assist MCGM to prepare for market borrowing options for viable urban infrastructure project and provide a basis for eventual scale up.

1.3 Content of this report

In order to achieve this, the report presents an overall assessment of city's finances, as per the approach laid out in the Inception report, which shall include

- Assessment of current status of infrastructure demand and supply
- Review of MCGM Act to understand its legal and regulatory framework, its limitations and opportunities, its powers to raise revenues, creation of infrastructure and suggests improvement areas
- Assessment of City's finances, its commitments for capital expenditure and the financing gap
- Identification of a shelf of urban projects, that can be taken up by MCGM

Going forward, the report shall feed into:

- Developing a medium term financing strategy for the MCGM, which will assess impacts of various reforms and prepare a Financial Improvement Action Plan
- Identifying a shelf of projects which have the potential for PPP / to attract market financing and developing a Project Financing Plan for two revenue generating priority projects (to be finalised in consultation with MCGM)
- Preparation of Project Information Memorandum for one projects, for preparing for market borrowing

1.4 Feedback on Inception Report

The inception report laid down the approach to various activities under the assignment and provided a schedule for the same.

A meeting was called by MCGM to provide feedback and discuss the Inception Report, on the 25th June 2010. The meeting was chaired by the Additional Commission, MCGM and was attended by the Project Nodal Officer from MUIINFRA, and representatives of PwC. Some of the key issues that emerged during the discussion include:

- MCGM shifted to Accrual based double entry accounting system in 2007-08. The accounts for that year and subsequent years are yet to be audited and data gaps exist. It was suggested that consultant may spend some time to ensure accuracy of data.

- At the same time, in 2007-08, SAP based ERP system for accounting was also operationalized in MCGM. It is understood that the system is under stabilization and is not able to generate the desired results as far as MCGM finances are concerned
- MCGM needs to estimate its pension liabilities and its implications on the finances over a medium term
- MCGM is a rich corporation; however, it is not managing its cash and idle funds efficiently so as to maximize returns.
- The Corporation ends up spending majority of time in fire-fighting due to centralization of functions (planning, administration and finance), without any substantial time assigned for strategic planning process and projectization of works

1.5 Key challenges and concerns

It is noted that the accounts for the Year 2007-08 are yet to be audited. Hence, data gaps have been observed. Accuracy of data was one of the critical challenges.

Also, at the same time MCGM shifted to SAP based ERP system. It is understood that the system is still under stabilization. There is some limitation in terms of generating opening and closing balances, and head-wise accounts. The system is not able to generate the desired results as far as MCGMs finances are concerned.

The infrastructure need and investment analysis has been undertaken for core municipal services including water supply, sewerage, solid waste management, drainage, roads and social services like education and health, and excludes BEST undertaking (Brihanmumbai Electricity Supply and Transport), since it is managed as a separate undertaking of the corporation.

The PwC team has made its best efforts, in consultation with MCGM, to use figures that best represent the status of MCGM

2 Infrastructure Projects and Investment need assessment

This section presents an estimate of the infrastructure demand for MCGM. It draws on the Business Plan Report for MMR prepared in 2007 for basic estimates and attempts to update the same in terms of project executed and those that have not taken off.

2.1 Infrastructure gap and investments

The population of Greater Mumbai is expected to reach between 15.7 million to 16.3 million in 2021¹, forecasted on realist scenarios. The demand for water supply, sewerage, solid waste, education, healthcare and power supply is based on these forecasts.

The Business Plan for MMR, 2007, estimates the investment need for Greater Mumbai, by Year 2021, at Rs. 16,884 Crore. Majority of this investment is estimated for Sewerage and Roads, 32 % and 34 % respectively.

We note that a number of projects envisaged in the Business Plan, up till 2010, have been initiated while some are yet to be taken up. Investments are being undertaken; however, due to delays and modifications project costs have increased and so is the investment requirement. Our estimates draw on the Business Plan, incorporating updation based on projects that have been started / delayed or modified. We estimate that the infrastructure investment need for MCGM shall be about **Rs. 20,600 Crore**, to meet the demand for Year 2021. Majority of this investment shall be required in Roads, Sewerage and Drainage. Over and above this MCGM would be require to invest about Rs. 8000 Crore in source augmentation for water supply, of which more than Rs. 2750 Crore² is to be undertaken in the next 5 years.

It is noted that MCGM has had a history of under-investments in municipal infrastructure. However, driven by investments coming into development of regional infrastructure (through agencies MMRDA, MSRDC, loans, etc), MCGM has upped its investment in municipal services. MCGM is already undertaking substantial works to the tune of over Rs. 4200 Crore (Middle Vaitarna – Rs. 1600 Crore; Mumbai Solid Waste Management Project – Rs. 476 Crore; BRIMSTOWAD – Rs. 2200 Crore) in Core services with support from state government and central government. It is also investing more than Rs. 1,000 Crore in improving health and education infrastructure. Hence, going forward to keep pace with infrastructure demand MCGM will need to sustain these investments

Current Performance of Mumbai on key indicators of quality of life:

Indicators	Current service levels	Prescribed norm / basic service standards	World Class City standards
Water Supply	150	150	200 - 240
Sewage treated (as percent of sewage generated)	65	100	100
Solid Waste reaching land-fill/treated (as percent of solid waste generated)	80	100	100
Slum Population	55	0	0
Share of public transportation	52	50	82

Source: MCGM, City Development Plan, Census 2001, Analysis

¹ Business Plan Report for MMR, 2007; Comprehensive Transportation Study for MMR, 2007.

² Includes development of source – Middle Vaitarna and Gargai

Details of projects and investment requirements are elaborated in the subsequent sections.

2.1.1 Water Supply

The demand for water in MCGM, by 2021, is estimated to be around 4169 mld (total demand including industrial and leakage is estimated at 7194 mld)³. It is understood that the total water availability for domestic supply in 2005 and 2007 has been 3,175mld and 3,375mld, respectively, with corresponding water shortages at 24 % and 22%. The deficit in availability is being addressed through augmentation of water supply sources like Middle Vaitarna (477 mld), Gargai (452 mld), Pinjal (697 mld) and abstracting unutilised irrigation potential of Bhatsa Dam. There is also a proposal to set-up a desalination plant (100 mld) to treat sea water for drinking purpose. Other sources, Shai (940 mld) and Kalu (401 mld) are also proposed to be augmented to meet the demand going forward.

There is sufficient availability; however a lot needs to be done to tap the available resources. As on date, the Middle Vaitarna Project is under implementation and is expected to be completed in 2012 and will reduce the deficit by 477 mld. There is no action on other projects. It is expected that Gargai Project (452 mld) may start in 2012⁴ and the Desalination Plant, given the recent interest shown by the State Maharashtra, may start sometime in 2012-13.

It is estimated that **Rs. 8000 Crore**⁵ shall be required to augment the water supply sources for MCGM which may be invested in a phased manner, even beyond 2021. Key projects include:

Projects for source augmentation	Estimated Cost (in Rs. Crore at 2001 prices)
Pinjal Water Supply Project (697 mld supply to MCGM – proportional cost)	1156.00
Gargai Water Supply Project	1400.00
Shai source development	1740.00
Kalu source development	1655.00

The levels of satisfaction of citizens in respect of water supply services is rated higher than that of other services due to relatively better quality and the assured quantity⁶. On average water is supplied for 4 hours a day at 150 lpcd, with supply cuts imposed during delay in monsoon. NRW and UFW losses have been estimated at 18% and 23% respectively. To improve reliability, check leakages and reduce UFW, MCGM intends to replace and rehabilitate 197 kms of pipelines. The investment needs for augmentation and improvement of the distribution network is estimated at about **Rs. 447 Crore**.

As a part of the ongoing works, as mentioned above, MCGM is expected to invest about Rs. 2000 Crore, by 2013-14, partly by grant finance through JNNURM and State government share in the same and remaining through contribution from its own sources. Much more needs to be done by introducing professionalization aiming at 24X7 water supply.

2.1.2 Sewerage and Sanitation

The sewer and sanitation facilities in Mumbai are grossly inadequate - only 60 % of the area is covered through sewer network, only 65%⁷ of the sewage undergoes any kind of treatment and

³ Estimated in the Business Plan Report, based on per capita level of 240 lpcd (at par with World Class cities). Including industrial demand and leakages the demand is expected to be between 6969 mld and 7194 mld.

⁴ Feasibility Study is proposed in 2010

⁵ Based on estimates prepared in Business Plan Report, 2007; Includes cost estimates for sources dedicated to MCGM – Middle Vaitarna, Gargai, Shai and Kalu. Cost for other source development, namely, Pinjal and Damanganga, has been considered proportionally.

⁶ Concept Paper on Governance - MTSU, 2007

⁷ Only 28% compliance with the MSDP regulations due to poor treatment standards; MSDP report.

there is a need to add additional 5 lakh Public Toilet seats. To add to this, it is expected that Greater Mumbai shall generate an additional 2660 mld of sewage in 2021. The backlog of sewer services is due to delayed projects and now, more efforts and concentration is needed to expedite and execute the works.

As a part of its larger plans for sector improvement, the MCGM is implementing the Mumbai Sewage Disposal Project (MSDP) master-plan in 5 Phases. MCGM is currently implementing the priority works (under Phase I and Phase II) which includes 3 components. The Component I of the Priority works has commenced in 2007 and is being undertaken departmentally by MCGM at a cost of Rs. 1065 Crore. The works include improvement to the Sewer network (including upsizing and new sewers), tunnelling and screening and pumping arrangements. It is expected to be complete by 2012.

The Component II and Component III works shall include treatment works, transfer schemes, marine outfall, pumping stations, sewer rehabilitation and collector tunnels. The cost of these works is estimated to be Rs. 1,670 Crore and Rs. Rs. 2,826 Crore respectively, totalling to **Rs. 4,496 Crore**⁸. The works are expected to start in 2012 onwards.

The Phase III, IV and V of the MSDP, which is intended to be implemented between 2016 – 2025, includes works related to slum sanitation, augmentation of the sewer network and pumping stations.

Key project that are to be taken up include:

Projects for Sewerage system improvement	Estimated Cost (in Rs. Crore)
MSDP Stage II Priority Works (Component II)	1,670.00
MSDP Stage II Priority Works (Component III)	2,826.00
Remaining works for MSDP [Phase III (2011-16), Phase IV (2016-21), Phase V (2021-25)]	

2.1.3 Solid Waste Management

Greater Mumbai is expected to generate about 11,000 tons of municipal solid waste in 2021 (additional 3000 tons against current generation). Accordingly, a total of 397 hectares of land-fill area would be needed to meet the demand. As on date, the municipal solid waste collected is disposed off at the landfill sites at Deonar, Mulund and Gorai. All sites are reaching their capacity and are expected to run-out in 1 to 4 years time period. Closure works for Gorai has commenced and other sites are expected to commence going forward. Decentralized treatment system like vermi-composting and aerobic composting is limited to a very small quantity.

MCGM has taken up several initiatives in the field of collection and transportation⁹, but it primarily lacks necessary infrastructure facilities for processing and disposal of municipal solid waste. Hence, developing MSW processing and landfill sites is of major concern for Mumbai to handle the large quantity of waste generated. In order to meet the growing demand, MCGM is setting up a new land-fill site at Kanjur (141 Ha). The site development activities are ongoing for the same.

Under JNNURM, MCGM is undertaking improvement works to all three land-fill sites at an estimated cost of **Rs. 476 Crore** on PPP model (Estimated private sector contribution is Rs. 254 Crore for setting up processing plants). The works include re-development of the disposal sites by closure arrangements (Gorai, Mulund, Deonar, Kanjur) and reclaiming part of dump sites for setting up MSW Process Plants at Mulund & Deonar. It is understood that the above investment shall cater to the capital investment requirements for well upto 2021.

⁸ The Component II and III works have been reconfigured to bring forward some of the works that were intended for the future phases hence the cost increased from Rs. 1387 Crore to Rs. 4496 Crore.

⁹ 22 % of the municipal waste is collected through house-to-house collection system and rest through community bins (through scheme like Slum Adoption Program and Advanced Locality Management system); Street cleaning and sweeping is managed by MCGM and private contractor, where MCGM staff manages about 1100 kms of the total 1950 kms road length; Private operators are engaged to clean beaches, nallah's and drains and transportation of waste;

Key project that are being taken up include:

Projects for Solid Waste Management	Estimated Cost (in Rs. Crore)
Re-development of Disposal Sites (Gorai, Mulund, Deonar, Kanjur) – ongoing	476.00

2.1.4 Storm Water Drainage

MCGM is implementing the BRIMSTOWAD project at a cost of Rs. 2200 Crore¹⁰, since 2007. It involves priority works to meet the drainage demands and is expected to be completed by 2014. The ongoing works relate to 45 outfalls and augmenting the drainage network.

Based on discussion with MCGM, it is understood that Phase II works of BRIMSTOWAD, relating to remaining 60 outfalls and system augmentation, shall be taken up after current works are completed. The cost estimate for this project is under preparation. Based on discussion and normative calculation based on ongoing works, the future works are estimated to cost about **Rs. 4500 Crore**. Another important proposed project for augmenting the drainage capacity of the region is Meethi River Development Project (for development and improvement of a portion of Meethi river). The project is to be implemented by MCGM and MMRDA (Mumbai Metropolitan Region Development Authority) at a cost **Rs. 1300 Crore**.

Key project that are to be / being taken up include:

Projects for Solid Waste Management	Estimated Cost (in Rs. Crore)
BRIMSTOWAD Phase I – works to be completed till 2014	2,200.00
BRIMSTOWAD (Remaining works - 60 outfalls and system improvement)	4,500.00 ¹¹
Meethi River Development Project (MCGM and MMRDA)	1,300.00

2.1.5 Roads and Transportation

MCGM's infrastructure investment requirement for improving the road infrastructure and meeting the demand for 2021, based on the Business Plan Report, is estimated at **Rs. 6042 Crore**¹². The infrastructure works would involve local / DP roads, intersections, parking facilities, terminals, bus fleets of BEST and street lighting.

Some major projects that are under progress / proposed by MCGM include:

- Metro system proposals in MCGM – The master plan for Metro system includes a total of 7 corridors with an aggregate length of 146.5 kms. The Phase I (3 corridors) is under implementation and is being taken up on PPP, with the private partner bringing in the capital investment. Phase II (2 corridors planned between 2011-16) and Phase III (4 corridors planned between 2016-21) are proposed. The Metro system is estimated to cost about Rs. 33,550 Crore¹³, with almost all stretches expected to be on PPP model. The Metro projects are being handled by MMRDA.
- Mumbai Urban Transport Project (Road Component) – Under MUTP, major east-west links have been proposed in addition to other road based projects at a total cost of Rs. 1,016 Crore (2001 prices) (including projects, studies, monitoring, traffic management plan, etc).

¹⁰ The cost of the project was estimated in 2005 as Rs. 1200 Crore. The entire amount was provided as grant from Government of India to Government of Maharashtra. Subsequently, the cost estimates were revised based on the Chiatlae Committee report in 2005 to Rs. 1800 Crore. Presently, MCGM is implementing the project and the cost is estimated to have increased to Rs. 2200 Crore, due to delays and addition in works.

¹¹ Cost estimates are still being finalised by MCGM.

¹² Normative estimates @ Rs. 3700 per capita investment.

¹³ Comprehensive Transportation Study for MMR, MMRDA - 2007

Other projects like the Jogeshwari Vikroli Link Road and Santacruz-Chembur Link Road are under progress / completed. There are efforts to improve / replace the rolling stock¹⁴.

Details of other key project that are to be taken up are as follows:

Projects	Estimated Cost (in Rs. Crore at 2001 prices)
ROB at Jogeshwari (South)	80.00
ROB at Jogeshwari (North)	54.00
ROB at Vikroli	37.00
Pedestrian Grade Separation Scheme	73.00
Area Traffic Control in Island City	72.00
Station Area Traffic Improvement Scheme for 6 stations	73.00
Others (safety schemes, traffic management schemes, environment and air quality monitoring, technical and feasibility studies)	159.00

- MUIP Improvements – The proposed road network improvements under MUIP (mostly as per Sanctioned Development Plan) provide connectivity to the north-south and east-west arterial roads in Eastern and Western suburbs and Island city, construction of missing links, flyovers at critical junctions, elevated roads, ROB, RUB, vehicular underpasses, pedestrian subways and foot over bridges. The total cost of proposed improvements is Rs. 2647 Crore, at 2003 prices¹⁵.

In absence of a shelf of projects and fair estimates (the one's available are dated) of investment requirements, the estimates have been based on normative estimates linked to growth in population, as done under the Business Plan Report. The same is being considered here.

2.1.6 Other Civic Infrastructure

Other infrastructure facilities provided by MCGM include health (including medical colleges, hospitals), primary education facilities (running and maintaining its schools and supporting private schools through its program) and Fire protection.

Municipal health infrastructure consists of 3 major hospitals, one dental hospital, 16 peripheral hospitals in suburbs and 5 specialized hospitals with total bed capacity of about 10600. Private and other government hospitals cater to about 30000 bed spaces. The existing health infrastructure was planned between 1950 and 1980 to cater for a population in the range of 5.2 to 7.0 million, while the services are currently being used by nearly 12.5 million people. Based on normative estimates, it is understood that there is inadequacy in primary and secondary health care. As per the Business plan estimates, Mumbai will need to add between about 13,500 beds to meet the demand for 2021. The investment requirement for this is expected to be around **Rs. 365 Crore**. Ongoing works in MCGM include Modernisation of 16 Peripheral Hospitals (estimated cost Rs. 50 Crore), Strengthening of Health Outposts (estimated cost Rs. 50 Crore) and Upgradation of King Edward Memorial Hospital (estimated cost Rs. 500 Crore)

MCGM offer **primary and secondary education** through its schools. There are about 1188 and 975 municipal and recognized private primary schools respectively, and 51 secondary schools. As per the Business plan estimates, Mumbai will need to add between more than 850 primary schools and 214 secondary schools to meet the demand for 2021. The investment requirement for this is expected to be around **Rs. 778 Crore** (Rs. 640 Crore and Rs. 138 Crore respectively¹⁶ for primary schools and secondary schools).

¹⁴ MCGM is in the process of procuring 1000 new buses (with grant support under the Economic Stimulus package of the Government of India), to renew the fleet of BEST, of which over 800 buses have been delivered.

¹⁵ Estimated cost of works in 2010 shall be more than Rs. 3700 Crore

¹⁶ Business Plan estimates

3 Assessment of legal and regulatory framework

In this section of the report we present an overview of MCGM legal and regulatory framework, its ability to raise its revenues and create infrastructure.

3.1 Overview

The functioning of Municipal Corporation of Greater Mumbai is governed by Mumbai Municipal Corporation Act (MMCA), 1888, amended with Maharashtra Municipal Corporations (Amendment) Ordinance, 2007; which stipulated the obligatory and discretionary functions of the corporation, as well as covenants for raising revenue through imposition of taxes / charges to meet the revenue expenditure. Some of the key observations emerging out of the analysis are as follows:

- MCGM's service obligation includes all the 18 functions mandated to Urban Local Bodies under the 12th Schedule of the 74th CAA. It is functionally unique in the sense that it provides secondary education, medical education and distributes electricity in the island city.
- The Act provides for deliberative wing and Executive wing for effective administration. The deliberative wing of the Corporation is headed by the Mayor and the Executive wing is headed by the Commissioner. The corporation consists of 227 wards, each represented by a councilor in the house, in addition to the five nominated councilors. The commissioner is assisted by Additional Commissioner and Deputy Commissioner, Head of the department and Ward Officers, in discharge of business
- MCGM has adequately evolved administrative structure that helps service execution. The General Body of the Corporation is the highest decision making body. It is supported by five statutory committees - Standing Committee (SC), Improvements Committee (IC), Brihanmumbai Electric Supply and Transport (BEST) Committee, Education Committee (EC) and Wards Committees (WC), each of them having specific functions. Standing Committee is the statutory authority vested with all financial powers. Apart from these, MCGM has six special committees and four consultative committees to which the Corporation refers to for inquiries and reports or for opinion.
- For operational purposes the Corporation, 16 Ward Committees have been constituted, with functional and financial delegation. Their primary role is to address the concerns of the citizens with respect to provision of services. These committees have financial powers of undertaking works upto Rs. 500,000. However, planning and implementation of most of the capital works such as contraction of roads and bridges, and buildings are retained by agencies at City level. Also, water and drainage functions are outside the Ward purview. The Ward Officer has practically no role in the planning and prioritization of capital works.

MCGM has highly centralized planning, administration and financial regime which has manifested into service gaps and infrastructure inadequacy. Centralization has also kept the top management in a fire-fighting mode with no time being assigned to strategic planning process.

Although the Act is comprehensive in its coverage and provision, it is noted that the Act has some limitation. We have undertaken an assessment of the Mumbai Municipal Corporation Act to assess its completeness and coverage vis-à-vis the Model Municipal Law (MML), prepared for the Ministry of Urban Development, Government of India.

3.2 Areas of Improvement in the Act

The Model Municipal Law, suggested by the Government of India, aims to implement in totality the objectives of the 74th CAA and enhance the capabilities of the ULB in discharges its responsibilities. It is very comprehensive covering various aspects of the functioning of municipalities in the present day context. A number of provisions contained in the MML are not covered by MMCA, as briefly mentioned below.

- Sections 47 to 50 of MML deal with appointment of Municipal Ombudsman.
- Section 51 deals with setting up of a Review Authority for hearing appeals against the orders of the Municipal Ombudsman.

- Chapter XIV deals with borrowings. It is provided that the Municipality may raise loans within the prescribed limits, by issue of debentures or otherwise on the security of taxes, cesses etc. It may raise loans on the guarantee of the State Government also (Section 116). This guarantee provision is not found in MMCA.
- Under Section 117 of MML, the Municipality has the power to open credit account with a bank, with the sanction of the State Government, on the security of mortgage of its properties.
- MML has various specific provisions regarding raising finances for infrastructure projects. Section 129 lays down that subject to such guidelines and procedures as the Central Government may lay down from time to time and with the previous approval of the State Government, the Municipality may issue tax-free Municipal Bonds for financing of projects for development of urban infrastructure. Section 130 provides for credit rating of the Municipal Bonds. Under Section 131 the Municipal Bonds may be secured by movable and immovable assets of the Municipality and the tax revenues, through a special escrow account. Section 132 provides for setting up of a Debt Service Reserve Fund.
- Section 134 provides that the fund to be raised from the Municipal Bonds shall be used for capital investment for development of urban infrastructure in the spheres of water-supply, sewerage, drainage, solid waste management, markets, roads, bridges, and urban transport, and for reforming and improving the efficiency of existing systems of municipal administration and for repayment of loans for the aforesaid purposes raised through earlier issues of municipal bonds or otherwise.
- Section 136 deals with the Municipality's power to levy taxes. It is significant that this includes power to levy toll on roads bridges and ferries and on heavy trucks and vehicles. In this connection Sections 206, 207 and 208 may also be seen. Section 211 also provides for levying of toll on navigable channels. Further, Sections 186 to 193 deal with tax on advertisements.
- Another important provision in MML is Section 222 (Chapter XX). It provides that the Municipality may, either on its own or through public or private sector agencies, undertake the planning, construction, operation, maintenance or management of commercial infrastructure projects, including district centers, community and neighborhood shopping centers, industrial estates, bus or truck terminals and tourist lodges with commercial complexes and any other type of commercial projects on commercial basis.
- Chapter XXI (Sections 223 to 225) is also important as it deals with private sector participation in planning, development, operation, maintenance and management of urban infrastructure projects on BOT, BOOT and other modes. Section 329 further lays down that the Municipality may, either on its own or through any other agency authorized by it in this behalf, implement any scheme for construction, operation, maintenance and management of commercial infrastructure including district centers, neighborhood shopping centers, shopping malls and office complexes, and may rent out, lease or dispose by outright sale, such commercial infrastructure or any part thereof.

The above provisions of MML which pertain to raising finances, borrowing, municipal bonds, taxation and private sector participation in infrastructure projects are aimed at enabling municipalities to successfully implement schemes for growth of infrastructure. It is felt that similar provisions should be incorporated in MMCA.

3.3 Adequacy of revenue raising powers of MCGM

Chapter VIII of MMCA deals with municipal taxation. The Corporation has the power to raise finances through taxation in the following ways:

- a. property tax,
- b. water tax,
- c. sewerage tax,
- d. general tax,
- e. education cess,
- f. street tax,
- g. betterment charges,

- h. tax on vehicles and animals,
- i. theatre tax, and
- j. Octroi.

The Act contains elaborate provisions regarding the levy and collection of the above taxes and cesses.

The Commissioner prepares the annual budget estimates, including proposals as to taxation for the next ensuing year. The Standing Committee considers the proposals and frames the budget estimates and proposes the municipal taxes and rates etc. and also makes proposals to meet any deficit in the budget estimates by borrowing (Sections 125-127).

It is observed that the Corporation has powers to raise finances through taxes / cesses etc. and to revise the same annually or introduce new taxes / cesses and also to meet any deficit by borrowing.

3.4 Adequacy of flexibility for Creation of Infrastructure

The MMCA empowers the Corporation to develop infrastructure facilities such as drains and drainage works (Chapter IX), water works (Chapter X), public streets and lighting (Chapter XI), improvement schemes (Chapter XIIA), construction of municipal markets and slaughter houses (Section 399), public hospitals and dispensaries (Section 61), schools for primary education (Section 61), public parks, gardens or recreation grounds (Section 63), construction and maintenance of tramways and other transport facilities (Section 63) and supply of electric energy (Section 63).

Section 63A provides that the Corporation may either discharge such duties or perform such functions by itself, or cause them to be discharged, performed or implemented by any agency, provided that the Corporation may specify the terms and conditions for such agency arrangements, subject to the terms and conditions determined by the State Government. Under Section 69 the Commissioner is empowered to execute contracts on behalf of the Corporation. Under Section 72 tenders are to be invited for contracts involving expenditure exceeding Rs.50,000/-.

It is observed that the Corporation has limited powers for infrastructure development and can execute the same through contracting and procurement. However the MMCA does not have provisions for executing huge infrastructure projects under PPP in the BOT / DBFOT etc. mode or through formation of SPVs.

3.5 Assessment of legal feasibility for borrowing

Chapter VI of the Mumbai Municipal Corporation Act, 1888, as amended up to date (Act) deals with borrowing powers of the Corporation. The relevant provisions are as under:

- i) Section 106 provides that the Corporation may from time to time borrow or re-borrow and take up at interest from the Central or the State Government, or with the sanction of the State Government from any other person, any sum necessary for the purpose of:
 - a. defraying any costs, charges or expenses incurred or to be incurred by the Corporation in the execution of the Act;
 - b. discharging any loan contracted under the Act or any other loan or debt for the repayment of which the Corporation is liable;
 - c. making good any deficit in the budget estimate "B" framed under Section 126; and generally, carrying out the purposes of the Act including the advance of loans under Section 354W (for building purposes).
- ii) Under Section 108 the Corporation may mortgage its immovable property or taxes or the immovable property of the Brihan Mumbai Electric Supply and Transport undertaking to the persons other than the Central or the State Government, as security for the sums borrowed from them.
- iii) Under Section 109, the borrowing is subject to the following provisions:

- a. The sum borrowed for any purpose other than (a) the obligations arising out of the transfer to the Corporation of the powers, duties, assets and liabilities of Board of Trustees for the improvement of the City of Mumbai, (b) the obligations arising out of acquisition of the Brihan Mumbai Electric Supply and Transport Undertaking and (c) discharging the obligations relating to sewage and water supply, shall not exceed three times the ratable value of the premises in Brihan Mumbai assessable to property taxes.
 - b. Separate limits have been prescribed for the borrowings for the purposes mentioned at (a) (b) and (c) above and for making good any deficit in the budget estimate "B".
 - c. Money may be borrowed for period not exceeding 60 years, as determined by the State Government in each case.
 - d. Repayment by equal annual installments or by creating a sinking fund and investing the same in public securities.
 - e. Where money is borrowed for discharging a previous loan the time for its repayment shall not extend beyond the unexpired term of the original loan or 60 years from the date of the original loan.
- iv) Section 109A seems to provide that the Corporation may issue debentures in which the sinking funds created under Section 109 may be invested.
 - v) Section 109AA provides for annual examination of the sinking funds by the Chief Auditor Local Fund Accounts.
 - vi) Under Section 109B the Corporation may take cash credit from banks up to Rs.15 lakhs on the security of taxes or on the security of lands or property, for discharging the liabilities arising out of transfer to the Corporation of the liabilities etc. of the Board of Trustees.
 - vii) Section 109C: The Corporation may borrow from banks against Government promissory notes or securities.
 - viii) Section 110: Every mortgage shall be secured by way of debenture in the form contained in Schedule C.

3.6 Key observations and suggestions

Under Section 106 the Corporation can borrow money from „any other person“ with the sanction of the State Government. The term „person“ is not defined in the Act. Section 3 (42) of the General Clauses Act, 1897 defines “Person” to include any company or association or body of individuals, whether incorporated or not. The definition of “Person” under the Bombay General Clauses Act, 1904 is similar. The word „person“ refers not only to a natural person but even to a legal / artificial person, like a company, corporation or partnership firm.

Section 106 also lays down the purposes for which the Corporation can borrow money. The Corporation can borrow money for the expenses to be incurred in the execution of the Act or for carrying out the purposes of the Act.

In terms of Section 61 the duties of the Corporation include, inter alia:

- i) construction and maintenance of drains, drainage works, public latrines, urinals and similar conveniences;
- ii) urban forestry, protection of environment and promotion of ecological aspects;
- iii) construction and maintenance of works and means for water supply for public and private purposes;
- iv) scavenging and the removal and disposal of refuse and rubbish;
- v) establishing and maintaining public hospitals and dispensaries;
- vi) construction and maintenance of public markets and slaughter houses;
- vii) the entertainment of a fire-bridge and the protection of life and property in the case of fire;
- viii) construction maintenance, alteration and improvement of public streets, bridges, culverts, causeways and the like;
- ix) lighting, watering and cleansing of public streets;

- x) maintaining, aiding and suitably accommodating schools for primary education;
- xi) the improvement of Greater Mumbai

Further, in terms of Section 63 the Corporation may also provide for, inter alia:

- i) slum improvement and upgradation;
- ii) urban poverty alleviation;
- iii) furtherance of educational objects;
- iv) establishment, aiding or maintaining libraries, museums, art galleries, botanical or zoological collections;
- v) laying out or the maintenance of public parks, gardens or recreation grounds;
- vi) the planning and care of trees on road sides and elsewhere;
- vii) construction, purchase, organization, maintenance, extension and management of tramways, trackless trams, or mechanically propelled transport facilities for the conveyances of the public;
- viii) purchase, maintenance, management and conduct of any undertaking for the supply of electric energy or gas to the public or the subsidizing of any such undertakings;
- ix) any measure, likely to promote public safety, health, convenience or instruction;

Further under Section 354-B it is the duty of the corporation to execute city improvement schemes, street schemes, poor class accommodation schemes, reclamation schemes etc.

Therefore, for all the activities mentioned above, the Corporation can borrow money under Section 106.

3.7 Conclusion

The stylized facts which emerge from the legal framework are:

- Functional Fragmentation in the responsibilities in the Act and actual powers
- Powers to mobilize private equity investments through PPP arrangements
- Powers to mobilize debt through long term instruments as well financial institutions

4 Assessment of municipal finances

In this section of the report we present a detailed analysis of the current finances of MCGM.

MCGM is considered to be among the most financially stable ULBs in India, with robust revenue streams over the years. Recently, FITCH Ratings has reaffirmed the „AA“ rating awarded to MCGM in 2008. The financials are characterized by strong own-revenue sources, operating surpluses in every year and large reserves in special funds. MCGM has revenue and capital budget of 14,000 Crore, excluding the figures of BEST undertaking

MCGM has a track record of consistent timely repayment of debt raised from all sources.

4.1 Budgeting practices

The MMC Act defines the revenue and expenditure, through the Municipal Fund, of the MCGM. The fund is kept to receive all proceeds, rents, money raised through taxes, fees and fines, funds received from State Government / private party as grant, gift or deposit and profits arising from any investments or transactions in connection with moneys belonging to MCGM. Planning and management of separate responsibilities are managed by separate budgets, classified as follows:

- Budget „A“: General budget consisting of incomes and expenses pertaining to general tax, octroi, wheel tax, fire tax, license tax, market fee, secondary education, Deonar abattoir and entertainment tax
- Budget „B“: Incomes and expenses pertaining to improvement schemes of trust properties taken over by the Corporation in 1933
- Budget „C“: Incomes and expenses pertaining to BEST undertaking
- Budget „E“: Incomes and expenses pertaining to primary education such as education cess and receipt on account of government grants
- Budget G: Incomes and expenses relating to water and sewerage projects being undertaken by MCGM
- Tree Authority Board: Preservation, plantation and maintenance of trees in the Greater Mumbai area

For accounting purposes, Budgets A, B, E and Tree Authority are grouped together, with consolidated budgeting and financials available. For the purpose of our analysis, we will be considering the consolidated financials, under the label “Budget ABE”.

Budget “G” is ring-fenced without transfers of finances to and from other budgets. Budgeting and financials for this budget are available independently.

Budget “C” is wholly separated from other budgets of MCGM. The BEST undertaking functions in a fairly autonomous manner, with separate financial management. The financials are ring-fenced, with no transfers to and from them to other budgets. While BEST remains an integral part of MCGM’s scope of activities, this analysis of the latter’s financials shall be excluding analysis of BEST. This exclusion has been made on the basis of discussions with key stakeholders at MCGM.

Our analysis consists of evaluation of the past five years’ financials of MCGM, as well as projections for the next 10 years. The assumptions and norms for the projections have been incorporated in consultation with stakeholders at MCGM and have been reviewed by them.

4.2 Accounting practices and current scenario

MCGM’s accounts for budgets A, B, E and Tree Authority migrated from cash-based accounting system, to double-entry accrual-based system in FY2007-08. Budget G accounts have followed the double-entry accrual-based system since the inception of the budget.

Further, in FY2007-08, a SAP-based ERP system was taken up for implementation. While the financial module of the system has been fully implemented, data migration from manual records and reconciling of budget codes with the system are still ongoing. As understood by us, based on

discussions with MCGM officials, issues regarding reconciliation of accounts for FY2007-08, FY2008-09 and FY2009-10 have resulted in these accounts remaining open till date. Due to this situation, the financials available for these years are unaudited and subject to modification by MCGM.

It may be noted that the financials from 2006-07 onwards are based upon unaudited actual or budget/revised estimates, as mentioned. These financials have been incorporated on the basis of latest figures received from MCGM till date.

4.2.1 Legal provisions for borrowing

Legal provisions relating to borrowing have been discussed in the previous chapter. Further, the MMC Act specifies a borrowing limit for MCGM as follows – three times the total sum of Ratable Values of all properties within the MCGM area.

Based on data provided by MCGM, the sum of ratable values of properties within MCGM currently totals approximately Rs. 3,500 crore; therefore it may be inferred that sum of total outstanding debt for the current financial year (FY2010-11) is required to be less than or equal to Rs. 10,500 crore. The Ratable Value has increased at an average growth rate of 12 % (2004-05 to 2008-09), except for 2009-10 when it increase by 28.8 %.

The Ratable Value is expected to grow at an average growth rate of about 12 % in the future.

4.3 Best Practices Followed by MCGM

MCGM follows a number of good practices in financial management which carries „Significant Rating Value“. These best practices include:

- **Budgetary cushions:** MCGM maintains strong budgetary cushions, including large amounts of funds within Special Funds, such as Depreciation Fund, Asset Replacement Fund, Sinking Fund, Land Acquisition Fund etc. „Consolidated Water Supply and Sewage Disposal Loan“ and „Water and Sewage“ funds are established under the MMC Act to be used for expenditure on capital works for water and sewerage systems and repayment of loans raised for financing such works. It is understood from discussions with MCGM officials that over 70 such funds exist under Budgets ABE. Budget G too possesses several such funds. As of March 2010, it is estimated that the total value of major funds may be Rs. 10,640 crore (including accumulated surplus of Budget G), of which Rs. 2,407.53 crore would belong to Budgets ABE and Rs. 8,231.96 crore would belong to Budget G.
- **Multiyear financial forecasting:** MCGM follows a five-year forecasting system, which is regularly updated, based on information regarding revenue, expenditure, capital investment commitments, liabilities etc.
- **Policies regarding nonrecurring revenue:** No specific policy is followed regarding non-recurring revenue. However, future projections made by MCGM appear to be conservative, and do not appear to consider past streams of revenue which are non-recurring.
- **Depreciation of fixed assets:** The asset register for Budgets ABE is currently being compiled. However, an ad-hoc contribution of Rs. 150 crore per annum to the Depreciation Fund is being made currently. The asset register for the Budget G is available, and contribution to Depreciation Fund is being made on the basis of depreciation calculated by the straight line method.
- **Debt affordability reviews and policies:** The debt incurred by MCGM is very limited, as compared to the revenue and overall financials. Most of the debt is long-term in nature, taken from internal sources, other government bodies or international funding agencies.
- **Five-year capital improvement plan integrating operating costs:** the five-year CIP is maintained and regularly updated.
- **Conservative investment policy:** Investment of surplus funds is permitted in deposits with nationalized banks, deposits with the state government or any statutory corporation approved by the state government, or investments with public securities. Investments are typically in the form of Fixed Deposits with Scheduled Banks and low-risk investments. Based on discussions with key officials, it appears that MCGM has not currently invested

in high-risk equities etc. This ensures that the funds of the municipal corporation are not at risk due to market movements

4.4 Some key concerns

Based on discussion with MCGM officials, certain concerns regarding the financials may arise, as follows:

- **Unaudited accounts:** Following shifting of accounts to the SAP ERP system, along with double-entry accrual system, the accounts for 2007-08, 2008-09 and 2009-10 remain unaudited. Due to discrepancies in data fed into the SAP system, a funds mismatch is currently experienced. Closing of the past three years' accounts and finalization of the financials is a critical requirement for MCGM at this time.
- **Loans against pension fund:** Internal loans have previously been taken against the pension fund, and it is proposed to finance future requirements in the same manner. However, as per discussions with MCGM, the exact year-on-year pension liability is not clearly determined, leading to a risk of being unable to meet the liability due to use of funds as loan.
- **Limited returns from investments:** Due to conservative investment pattern, the returns on the investments made by MCGM are limited as compared to returns from a diversified portfolio of investments. However, considering the nature of MCGM fund requirement and the need to adequately safeguard funds from market risks, any possible changes in investment policy would be required to be made based on extensive analysis and adequate risk management.

4.5 Financial assessment of MCGM

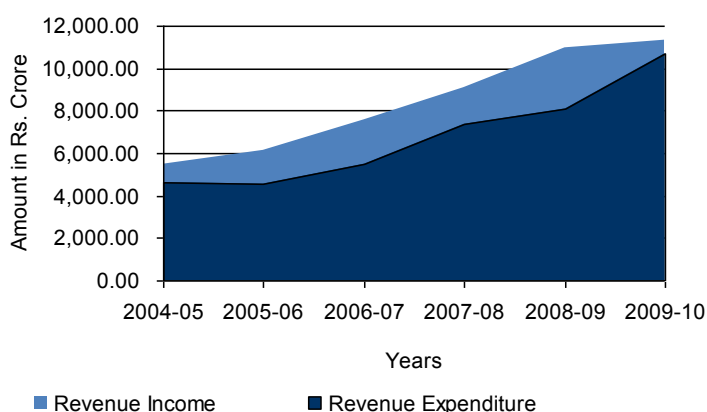
We have analysed the financials of MCGM for the past five years in order to develop the "as-is" scenario. The analysis has been carried out on the Budget ABE and Budget G, as well as a consolidated analysis of all four budgets

Revenue Income of the Corporation has grown to Rs. 10,963 Crore in 2008-09 from Rs. Rs. 5,511 Crore in 2004-05, at an annual growth rate of 18.7 percent. Revenue expenditure increased at an average annual rate of 15 % from Rs. 4,651 Crore to Rs. 8,124 Crore during the assessment period. The revenue account maintains surplus during the entire assessment period and maintained a maximum surplus of Rs.

2,840 Crore in 2008-09. Trends of revenue funds are presented in the sections 0 and section 0.

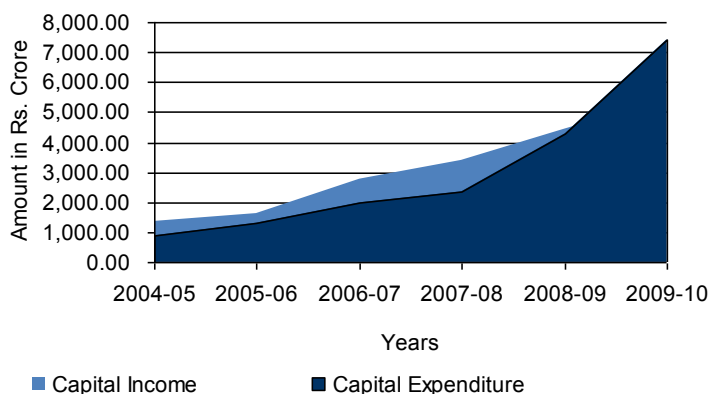
Budget estimates available for 2009-10, indicate that in spite of the high level of revenue expenditure resulting from investments being undertaken, the Corporation shall maintain an overall surplus. The overall surplus of the Corporation has been above Rs. 2,800 Crore, in last three assessment years (2006-07 to 2008-09). High revenue income during 2008-09 can be attributed

Figure 1: Trends of Revenue Income & Expenditure



Capital income and Expenditure Trends

Figure 2: Trends of Capital Income & Expenditure



to revision of property tax rates in 2008. Revenue income and expenditure trend is presented in following sections.

Capital income comprises of loans, grants and contribution in the form of various funds (like Asset Replacement Fund, Development Fund, Land Acquisition Fund, etc) and revenue account transfer for capital works. The capital account has witnessed surplus, upto 2008-09. Since, 2007-08, capital expenditure is witnessing a steep increase, fuelled by inflow of grants coming from central government (grants for BRIMSTOWAD and JNNURM). Majority of the capital works have been initiated in sectors like Water Supply, Drainage and Roads.

Table 1: Revenue Income and Expenditure trend

Item	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
	Rs. Crore					
Opening Balance	598.99	966.83	2,038.01	3,842.01	6,664.51	9,648.47
Revenue Accounts						
Revenue Income	5511.23	6140.04	7604.44	9090.86	10963.20	11319.71
Revenue Expenditure	4651.01	4559.88	5476.16	7347.27	8123.71	10677.75
Surplus / Deficit	860.22	1580.16	2128.28	1743.59	2839.49	641.96
Capital Accounts						
Capital Income	1,354.73	1,596.51	2,753.38	3,422.57	4,424.84	5,446.72
Capital Expenditure	900.56	1,290.12	1,966.12	2,343.66	4,280.37	7,410.35
Surplus / Deficit	454.17	306.39	787.26	1,078.91	144.47	(1,963.63)
Overall Surplus/Deficit	1,314.39	1,886.55	2,915.54	2,822.50	2,983.96	(1,321.67)
Closing Balance (surplus including OB)	966.83	2038.01	3842.01	6664.51	9648.47	8326.80

Source: MCGM budgets, Analysis

The following sections present detailed review of revenue and capital accounts, primarily aimed at assessing MCGMs fiscal status and providing a base for determining the ability of MCGM to sustain the planned investments.

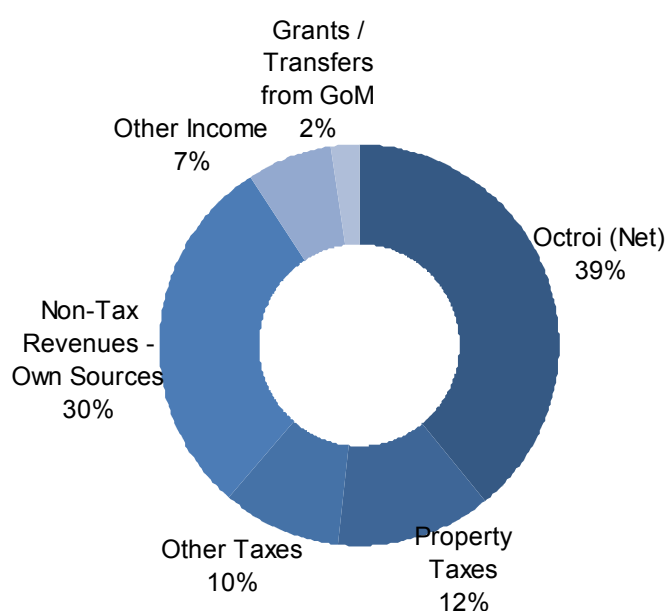
4.5.1 Revenue Accounts (Overall)

The revenue account comprises of two components, revenue income and revenue expenditure. Revenue income comprises of internal resources in the form of tax and non-tax items and external resources in the form of transfers and revenue grants from the State Government. Revenue expenditure comprises of expenditure incurred on establishments, operation & maintenance and debt servicing.

Revenue Income (Overall)

The revenue sources of Corporation can be broadly categorized as own sources and grants. Own sources contribute to about 97.5 percent of the Corporations revenue income, with minimal dependence on the State

Figure 3: Items of Revenue Income



Government and grants. Own revenue sources are further classified as tax revenue and non-tax sources that are generated by various sections of the Corporation.

The Tax sources for the Corporation include income sourced primarily from Octroi tax and property tax (General purpose tax, Fire tax, Street tax and Education Cess) and other taxes (water and sewerage tax, water and sewerage benefit taxes, etc.). The tax sources contribute to about 60 to 65 percent (about 2/3rd) of the revenue income, of which Octroi is the key driver contributing about 40 percent followed by Property taxes (12 to 13 percent). Income from taxes has grown at an average compounded growth rate of about 11 percent. However in the last two FYs it is noted that the share of taxes has reduced to below 60 percent, with increasing emphasis towards non-tax sources and grants.

The non-tax contributes about 28 percent of the revenue income and has growth at a compounded growth rate of about 18 percent during the assessment period. Key items include water charges and sewerage charges (34 percent of non-tax receipts), apart from fees and charges from shops and estates, supervision charges, receipts from development departments (30% of non-tax receipts).

Other income sources contribute about 5 to 6 percent to own sources, which mainly include other revenues from water and sewerage, and others.

Grants and transfers from State Government have been to the tune of about 2 to 3 percent, and have been lately increasing given the transfers under BRIMSTOWAD and JNNURM.

The source-wise income generated during the review period is presented in Annexure II – Abstracts of Accounts.

Table 2: Own sources in Revenue Income

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Taxes	3,677.48	4,132.50	5,247.34	5,969.19	6,715.82	6,763.16	7,283.53
Octroi (Net)	2,432.20	2,759.83	3,420.65	3,925.00	4,300.00	4,325.08	4,650.21
Property Taxes	729.99	807.39	939.17	1,001.57	1,352.06	1,419.66	1,540.00
Other Taxes	515.29	565.28	887.52	1,042.62	1,063.76	1,018.42	1,093.32
Non-Tax Revenues (incl. fees, water and sewerage charges, etc)	1,498.57	1,602.67	1,766.72	2,361.04	3,245.67	3,858.25	4,334.44
Other Income (including interest receipts, other water and sewerage revenues, etc)	206.90	258.58	339.97	551.05	765.63	652.21	704.23
Total Own Sources	5,382.95	5,993.74	7,354.03	8,881.28	10,727.12	11,004.13	11,985.06
<i>Share of Total Revenue Income</i>	<i>97.7%</i>	<i>97.6%</i>	<i>96.7%</i>	<i>97.7%</i>	<i>97.8%</i>	<i>97.2%</i>	<i>97.7%</i>
<i>Growth</i>	<i>-</i>	<i>11.35 %</i>	<i>22.70 %</i>	<i>20.77 %</i>	<i>20.78 %</i>	<i>2.58 %</i>	<i>8.91 %</i>

Source: MCGM budgets, Analysis

Revenue Expenditure (Overall)

Revenue expenditure of Corporation has been analyzed based on expenditure heads broadly classified as – Establishment expenses, Administrative expenses, Operation and Maintenance, Debt Service (Interest and Finance charges), Grants and Contribution, etc. These expenditure heads would primarily involve the following departments – General administration, Town Planning, Public works, Sanitation and Solid Waste Management, Health, Civic amenities and miscellaneous expenses. Water Supply and Sewerage revenue expenditure is maintained separately.

As can be observed, the over of establishment expenses 45% of total revenue expenditure high level of salary and pension to the MCGM impacts the average revenue income year-on-year transfer to the capital account turn limits the value of capital that may be carried out without of grants/loans from external Operation and Maintenance account for about 21 %. Debt of the Corporation accounts around 3 % of the expenditure, given the relative debt levels.

Revenue expenditure grew average growth rate of 15. against an average 13.1 % revenue income. This indicates that the revenue

deficit. Further, the growth in components of revenue expenditure has not followed any pattern. Its major component, the establishment expenditure, has grown at an average growth rate of 14.2 %, which has been lesser than the overall growth of revenue expenditure, indicating an increasing trend in the other components; primarily O & M expenditure (has grown from 14.5% share to 20.5% share). O & M expenditure grew at around 29.8 %.

A review of the outstanding loan of Corporation, as on March 31, 2010, reveals that the net outstanding debt liabilities of Corporation are at Rs. 1,556.55 Crore (for ABE and G budget). Majority of the outstanding loans are from Internal Sources, Public loans, MMRDA and World Bank.

It needs mention that the ratio of outstanding loans to own income (tax and non-tax revenues) is about 14 percent, which indicates that it is significantly under-leveraged. The ratio in terms of Ratable Value is 0.47; thereby indicating that the Corporation is capable of leveraging additional debt to finance its projects as this is below the threshold of 2 to 3¹⁷.

The details of revenue expenditure are presented in presented in Annexure II – Abstracts of Accounts.

Table 3: Items of Revenue Expenditure

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Establishment Expenses	2,365.56	2,718.90	2,672.29	3,314.16	3,594.53	5,018.75	7,187.73
Administrative Expenses	166.70	198.47	204.66	229.76	355.39	487.93	574.51
Operations & Maintenance	676.06	714.77	874.06	1,869.27	1,735.95	2,187.82	2,333.23
Interest & Finance Charges	347.61	328.12	314.00	298.68	241.90	206.76	156.96
Grants & Contributions	918.74	723.27	1,497.89	1,657.49	1,947.84	2,365.26	1,326.58
Other expenses	(133.38)	(123.65)	(86.74)	(22.09)	248.10	411.23	441.34
Total - Revenue Expenditure	4,651.01	4,559.88	5,476.16	7,347.27	8,123.71	10,677.75	12,020.35

¹⁷ Ratio of 3 is permitted under MCGM Act; 2 to 3 ratio is generally considered by financial institutions also

Source: MCGM budgets, Analysis

Funds available for transfer to Capital Accounts (Overall)

While total surplus (including opening balance for the year) may be higher, a limited amount is allocated by MCGM for capital account, while the remaining is retained as revenue surplus for the next year. In discussion with MCGM, going forward, we have considered the entire surplus to be available for capital account in future years.

Table 4: Status of Revenue Account

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Revenue Surplus / Deficit	860.22	1,580.16	2,128.28	1,743.59	2,839.49	641.96	411.28
Funds transferred to Capital A/c	1,009.65	1,337.18	1,737.13	2,342.63	3,374.10	1,553.29	389.36
Funds available for Capital Expenditure	1,459.21	2,547.00	4,166.29	5,585.60	9,504.00	10,290.43	8,738.08

Source: MCGM budgets, Analysis

MCGM has Rs. 9,504 Crore available for capital expenditure, in 2007-08. The Corporation has transferred Rs. 3,374 Crore into Capital Accounts the same year. Going forward, we have considered the entire surplus to be available for capital expenditure.

4.5.2 Capital Accounts (Overall)

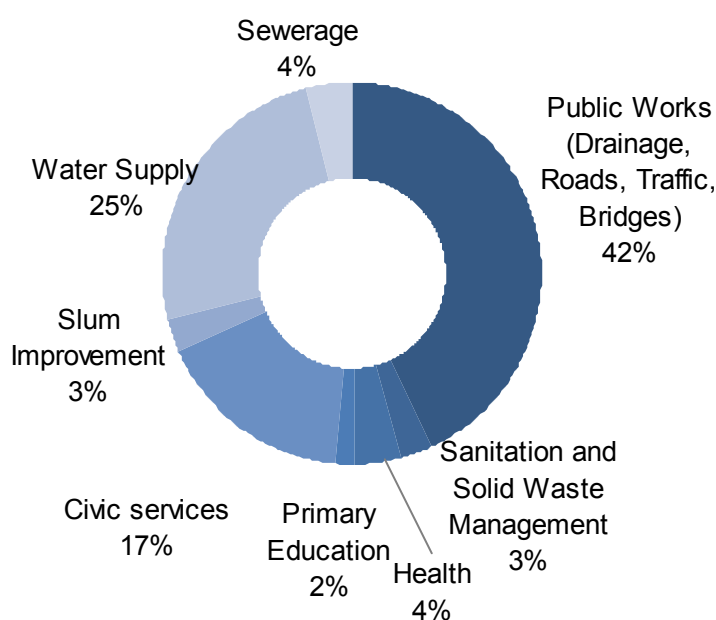
Corporations' Capital income comprises of loans, grants and own contributions (withdrawal from funds, other receipts).

Majority of the share accounted here comes as transfer from Revenue account, which is about 70%. Transfers have increased at an average rate of about 35%, till 2008-09. Going forward, the share Transfers from Revenue Account will substantially increase, as the surplus is proposed to be utilized for Capital Works. Besides, the two of the primary grants - BRIMSTOWAD & JNNURM, shall cease after 2012, reducing its share substantially in Capital Income.

Own contributions (through withdrawals from various fund Land Acquisition fund, A Replacement fund, Developn fund, Sinking fund, etc) constituted the maximum share after transfers, under this account account for 23% on an average. Asset Replacement Fund Sinking Fund have been the major sources for withdrawals (9.5% 7.5% respectively). About 9% capital income comes from Grants and Borrowing (generally project specific).

Majority of capital expenditure been directed towards public works (including drainage, roads bridges), water supply sewerage, and general purpose over the past four years. More recently, this is due to fact JNNURM / Central Government grant has catalyzed most of

Figure 5: Application of Capital Expenditure (excluding Principal Repayment of Debt) (excluding



Corporations" works in drainage and water supply. In 2008-09, Public works accounted for 38% or the investments, followed by Water Supply (22%).

The detailed components of capital income and expenditure are detailed in Table 5

Table 5: Items of Capital Accounts

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Capital Income						
Capital Grants	-	-	19.35	553.68	357.00	680.00
Capital Loans / Borrowing (excluding principal repayment)	43.76	86.63	65.22	53.87	8.84	45.00
Withdrawals (from funds – Asset Replacement, Sinking, Land Acquisition, Development, etc.)	238.13	101.62	783.87	362.70	613.06	3,050.57
Other receipts (including transfer from Revenue A/c, miscellaneous receipts)	1,072.84	1,408.26	1,884.94	2,452.32	3,445.94	1,671.15
<i>Total</i>	<i>1,354.73</i>	<i>1,596.51</i>	<i>2,753.38</i>	<i>3,422.57</i>	<i>4,424.84</i>	<i>5,446.72</i>
Capital Expenditure						
Public Works (including drainage, roads, traffic and bridges)	221.65	357.35	801.93	878.37	1,638.31	2,201.65
Sanitation and Solid Waste Management	42.62	68.71	81.89	69.16	109.49	159.95
Water Supply	200.29	323.64	351.59	415.69	949.96	2,353.45
Sewerage	15.69	44.09	143.44	176.82	147.07	364.93
Health	40.89	65.93	77.02	75.62	144.97	303.85
Education	15.63	25.20	12.97	33.53	63.54	99.83
Slum Improvement	106.79	172.16	101.99	55.91	104.95	218.69
Other Civic services	103.62	156.84	168.46	274.31	654.14	1,239.94
Principal Repayment of Debts	181.17	76.2	226.83	364.25	467.94	468.06
<i>Total</i>	<i>900.56</i>	<i>1290.12</i>	<i>1966.12</i>	<i>2343.66</i>	<i>4280.37</i>	<i>7410.35</i>
Capital Surplus /Deficit	454.17	306.39	787.26	1,078.91	144.47	(1963.63)
Overall Surplus/Deficit (revenue + capital)	1,314.39	1,886.55	2,915.54	2,822.50	2,983.96	(1,321.67)
Closing Balance	966.83	2,038.01	3,842.01	6,664.51	9,648.47	8,326.80

Source: MCGM budgets, Analysis

4.5.3 Analysis of A B E Budget

Revenue Income (A B E Budget)

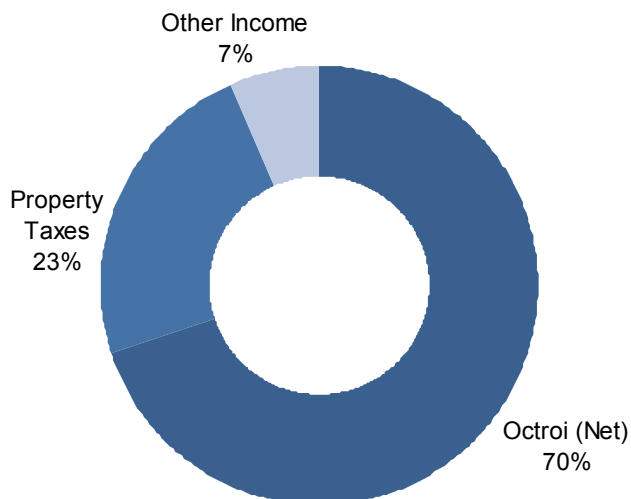
Own sources of income for ABE budget includes taxes and non-tax sources. The tax sources constitute about 73% of the revenue income, which primarily includes Octroi and Property tax (99% of the tax revenue of ABE budget)

MCGM benefits from a very strong tax base, primarily driven by **Octroi**, which constitutes about 55 – 56 percent of the total revenue income of the ABE budgets. Octroi receipts grew from Rs. 2342 Crore in 2004-05 to Rs. 4300 Crore in 2008-09. The share of Octroi has been gradually reducing, from around 60 % in 2004-05 to around 51 percent in 2008-09. Octroi is highly dependent on buoyancy of the state economy, mirroring the economic slowdown and the

subsequent recovery. It may be noted that octroi grew at a meager 4% year-on-year in FY2008-09, as against a growth of 21% for the previous year.

The dependence of revenue on Octroi constitutes a risk to MCGM's financial

Figure 6: Sources of Revenue Income – Budget ABE



as government and regulatory support for abolishing Octroi is increasing. As information from MCGM, there are current plans to abolish Octroi; however, in case such a decision is taken, the revenue would have to be replaced by levying taxes, such as sales tax. The Government of Maharashtra (GoM) has replaced Central Excise Duty (CED) by the local body tax (LBT) in 'Category 1' cities. Though MCGM is covered in this proposal, the change in the tax regime may eventually be implemented in MCGM in the long-run. However, based on MCGM's information regarding the maintenance of Octroi charges, this analysis is based on currently prevailing norms for revenue.

Apart from Octroi, **Property Taxes** constitute around 23% of total revenues. Property taxes include General tax, Fire tax, Street tax and Education Cess. The key driver of this source of income is the growth of new properties, as the tax rate has been last revised in 2008. The property tax collection ratio, after netting out properties under judicial consideration, in FY07 was 82%. The Corporation's performance in current property tax collection efficiency improved to 99.1 % in FY 2009-10, however, due to poor arrear collection the overall efficiency declined to 87.9 %.

The Corporation currently levies a consolidated property tax on Annual Ratable Value (ARV)¹⁸ basis, which was last revised in 2005. Property Tax for residential properties with or without water meter is 83.5% and 187.5% of ARV, respectively. For non-residential properties, the same is 112.5% and 320.5%, respectively.

It would be useful for Mumbai to maintain a data base of the number of properties, its classification (commercial, residential etc) so as to measure efficiency as well a basis for projections. Unfortunately such data are not available and hence we have worked with consolidated property tax receipts and are also unable to relate fees to property growth.

The other main source of revenue is fiscal transfers. Typically after the 74th and the establishment of SFC's these transfers are expected to be more rational and predictable being linked to percentages of state level taxes. In the case of Mumbai these transfers (as seen in the table below) vary and are tied to either sectors or projects.

The contribution of revenues sources to total revenue income for Budgets ABE is presented below. This chart further demonstrates the dependency of revenues on Octroi and Property Taxes.

¹⁸ The RV is deemed to be the gross annual rent that the property might at the time of assessment, reasonably be expected to be let from year to year, less an allowance of 10 per cent of the said annual rent for the cost of repairs and for all other expenses necessary to maintain the property in a state to command

Table 6: Revenue Income – A B & E Budget

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Rs. Crore							
Taxes – Own Sources (including Octroi, Property Tax, others)	3,162.93	3,567.90	4,360.45	4,926.82	5,652.63	5,745.32	6,190.21
Non-Tax Revenues (Fees, Charges, other revenues)	760.20	848.34	1,072.98	1,652.77	2,470.24	2,824.84	3,233.38
Grants / Transfers from GoM	128.29	146.30	250.41	209.58	236.08	315.59	446.57
Total – Revenue Income	4,051.41	4,562.53	5,683.84	6,789.17	8,358.95	8,885.75	9,870.17

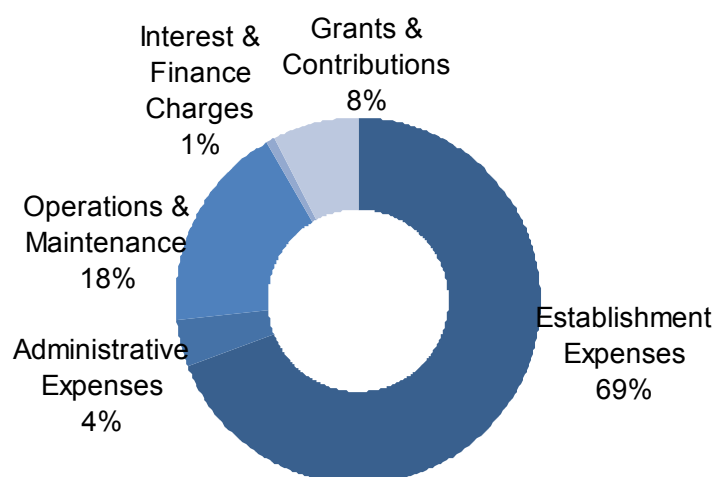
Source: MCGM budgets, Analysis

Revenue Expenditure (A Budget)

The bulk of revenue expenditure incurred on establishment expenses viz. salary and pension expenses. Establishment expenses for average of 55% of total revenue expenditure over the period 2004-05 to 2010-11.

The distribution of revenue expenditure for Budgets A B E is presented below. This chart underscores the large proportion of establishment expenses contributed to overall revenue expenditure.

Figure 7: Application of Revenue Expenditure – Budget A B E

**Table 7: Revenue Expenditure – A B E Budget**

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Establishment Expenses	2,075.97	2,373.88	2,333.31	3,018.44	3,226.27	4,465.10	6,506.98
Administrative Expenses	91.41	104.96	104.92	184.87	290.44	341.20	398.13
Operations & Maintenance	472.24	513.73	612.84	1,574.83	1,369.59	1,493.28	1,729.42
Interest & Finance Charges	232.69	218.19	211.04	193.13	157.79	112.10	69.30
Grants & Contributions	918.74	498.56	1,278.22	1,306.56	1,346.37	1,681.34	709.15
Other expenses	(92.90)	(80.77)	(47.64)	82.38	248.10	404.06	435.27
Total - Revenue Expenditure	3,698.15	3,628.55	4,492.69	6,360.21	6,638.56	8,497.08	9,848.25

Source: MCGM budgets, Analysis

The total revenue surplus and surplus allocated by MCGM for capital accounts for Budgets ABE is presented below. While total surplus (including opening balance for the year) may be higher, a limited amount is allocated by MCGM for capital account, while the remaining is retained as revenue surplus for the next year. However, going forward, as discussed with MCGM, we have considered the entire surplus to be available for capital account in future years. The opening balance for the future years has been calculated as the overall surplus after capital expenditure of the prior year

The overall positions of the revenue account for budget A, B, E is quite positive based on the operating surplus achieved. The surplus of receipt over expenditure of MCGM is just about sufficient to cater to capital works and contributions to various funds.

Table 8: Status of Revenue Account – A B E Budget

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
A B E Budget (Rs. Crore)							
Revenue Surplus (Deficit)	353.26	933.98	1,191.15	428.96	1,720.39	388.67	21.92
Funds transferred to Capital A/c	502.69	691.00	800.00	1,028.00	2,255.00	1,300.00	0.00
Funds available for Capital Expenditure	679.39	1,772.01	2,991.70	3,705.71	5,655.09	5,882.49	5,898.48

Source: MCGM budgets, Analysis

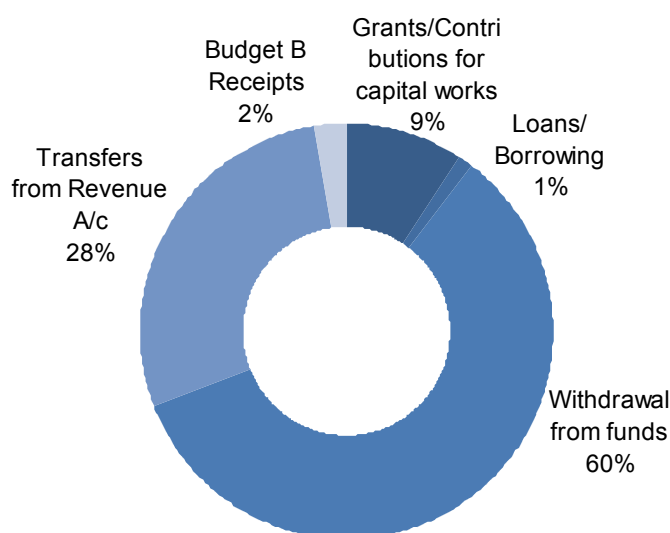
MCGM has Rs. 5,655 Crore available for capital expenditure, in 2007-08. The Corporation has transferred Rs. 2,255 Crore into Capital Accounts the same year. Going forward, we have considered the entire surplus to be available for capital expenditure.

Capital Income (A B E Budget)

The capital income and expenditure Budgets ABE is presented below. It may be observed, grants to MCGM have been limited and infrequent, mainly for the BRIMSTOWAD storm water drainage project.

Most of the capital income has been derived from withdrawals from funds which contributions are made on an annual basis accounted for in revenue expenditure. 60 % of the capital income was derived from withdrawals, primarily from Sinking Fund and Development Fund. The Asset Replacement Fund is tabbed in intermittently, while Sinking fund is used on regular basis. In 2009-10, the Asset Replacement Fund contributed 72% of the Capital Income. Withdrawals from sinking fund are used to repay the principal amount for public and internal loans, paid as a bullet payment at the end of the loan tenor.

Figure 8: Contribution to Capital Income – A B E Budget



Capital expenditure has been highest on roads & bridges as well as storm water drains. As per discussions with MCGM, this is due to ongoing works for MUTP and BRIMSTOWAD projects, as well as routine road re-surfacing carried out every year.

Table 9: Capital Income

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Grants/Contributions	-	-	-	400.00	-	423.00	757.25
Loans/Borrowing (excluding principal repayments)	9.27	39.65	27.91	12.16	8.84	45.00	35.00
Withdrawals (from funds – Asset Replacement, Sinking, Development, etc.)	238.13	95.93	747.78	362.70	613.06	2,725.08	1,246.54
Transfers from Revenue A/c	502.69	691.00	800.00	1,028.00	2,255.00	1,300.00	-
Other Receipts (including Budget B receipts)	63.19	71.08	147.81	109.69	71.84	117.86	86.03
Total Capital Income	813.28	897.66	1,723.50	1,912.55	2,948.74	4,610.94	2,124.82

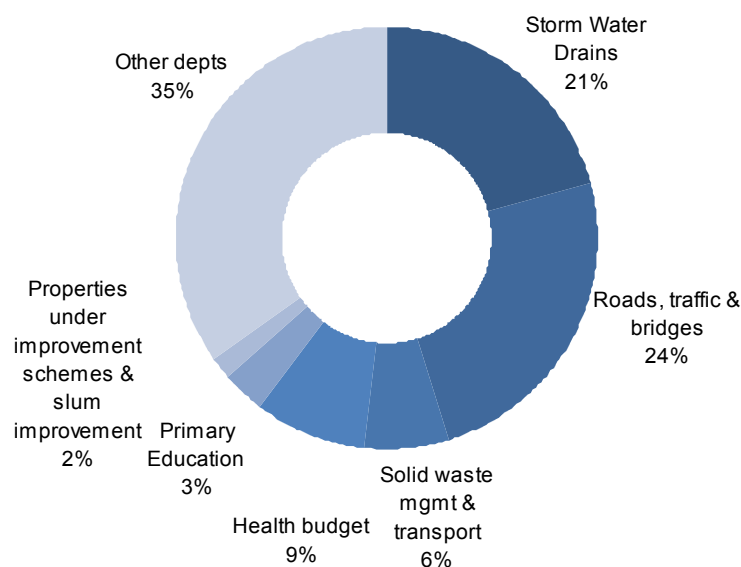
Source: MCGM budgets, Analysis

Capital Expenditure (A B Budget)

The sectoral distribution of capital expenditure is presented here.

Majority of the expenditure is incurred towards works in Roads Storm Water Drainage and other department works.

Figure 9: Sectoral distribution of capital expenditure

**Table 10: Capital Expenditure**

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Capital Works	525.07	846.52	1,267.84	1,386.90	2,715.08	4,222.32	4,852.65
Principal Repayment of Debts	129.58	22.60	170.61	296.66	394.93	394.55	266.50
Total Capital Expenditure	654.65	869.12	1,438.45	1,683.56	3,110.01	4,616.87	5,119.15
<i>Capital Surplus/Deficit</i>	<i>158.63</i>	<i>28.54</i>	<i>285.05</i>	<i>228.99</i>	<i>(161.27)</i>	<i>(5.93)</i>	<i>158.63</i>
<i>Overall Surplus (including revenue and capital a/c)</i>	<i>511.89</i>	<i>962.52</i>	<i>1,476.20</i>	<i>657.95</i>	<i>1,559.12</i>	<i>382.74</i>	<i>511.89</i>
<i>Closing Balance</i>	<i>838.02</i>	<i>1,800.55</i>	<i>3,276.75</i>	<i>3,934.70</i>	<i>5,493.82</i>	<i>5,876.56</i>	<i>838.02</i>

Source: MCGM budgets, Analysis

4.5.4 Analysis of G Budget

Revenue Income (G Budget)

The G budget revenues are not contributed by water and sewerage charges and taxes. Water and sewerage charges are telescopic in nature, with volumetric metering at the supply point.

As per MCGM estimates, there are approximately 350,000 metered connections and 50,000 unmetered connections with the municipal corporation limits. Water and sewerage taxes are charged to unmetered connections, based on a flat rate. While consolidated figures for revenue on account of water and sewerage charges have been made available to MCGM, the break-up of connection type, volume of water consumed and charges was not available. Therefore, the lump-sum values of charges collected have been considered for current and future calculations.

The telescopic rates and water and sewerage charges rules were modified before December 31, 2006.

Figure 10: Sources of Revenue Income – Budget G

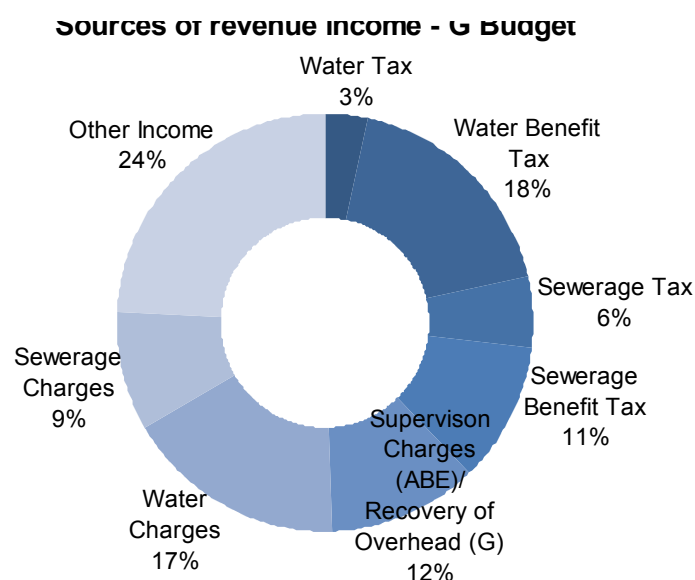


Table 11: Items in Revenue Income

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08			
	Rs. Crore						
Taxes (including taxes from water and sewerage)	514.55	564.60	886.89	1,042.37	1,063.19	1,017.84	1,093.32
Non-Tax Revenues (water charge, sewerage charges, supervision charges)	738.37	754.33	693.74	708.27	775.43	763.91	763.91
Other Income	206.90	258.58	339.97	551.05	765.63	652.21	704.23
Total	1,459.82	1,577.51	1,920.60	2,301.69	2,604.25	2,433.96	2,561.46

*Opening balance provided by MCGM – previous opening balances calculated. Source: MCGM budgets, Analysis

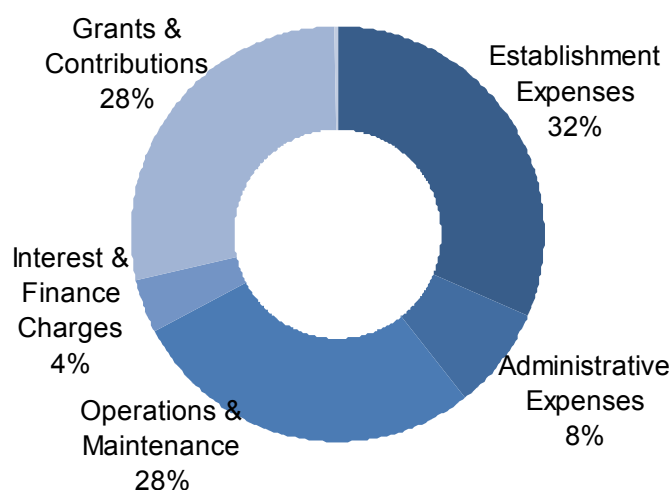
Revenue Expenditure (G Budget)

While establishment expenses are to be the single largest expenditure in Budget G as well, the contribution of overall expenses is lower, at around 30%. Grants and Operations & Maintenance Expenses also account for 28% each to Revenue Expenditure. Interest & Finance Charges & M expenses have also increased substantially, with double-digit growth in expenditure in Budget Estimate 2009-10.

Among grants and contributions, the contribution to Asset Replacement has grown substantially, more than doubling between 2007-08 and 2009-10.

Table 12: Revenue Expenditure

Figure 11: Application of Revenue Expenditure – Budget G



Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Establishment Expenses	289.59	345.02	338.98	295.72	368.26	553.65	680.75
Administrative Expenses	75.29	93.51	99.74	44.89	64.95	146.73	176.38
Operations & Maintenance	203.82	201.04	261.22	294.44	366.36	694.54	603.81
Interest & Finance Charges	114.92	109.93	102.96	105.55	84.11	94.66	87.66
Grants & Contributions	309.72	224.71	219.67	350.93	601.47	683.92	617.43
Other expenses	(40.48)	(42.88)	(39.10)	(104.47)	0.00	7.17	6.07
Total	952.86	931.33	983.47	987.06	1,485.15	2,180.67	2,172.10

Source: MCGM budgets, Analysis

A significant proportion of revenue expenditure (31%) is extended as contribution to pre-committed capital expenditure and other development / contributory funds. The Revenue account has a surplus of Rs. 1,119.1 Crore in 2008-09.

The total revenue surplus and surplus allocated by MCGM for capital accounts for Budgets G is presented below. MCGM transfers the annual surplus to capital account, year-on-year. Going forward, we have considered the entire surplus to be available for capital account (including the opening balance) in future years. The opening balance for the future years has been calculated as the overall surplus after capital expenditure of the prior year.

The overall positions of the revenue account for budget G is quite positive based on the operating surplus achieved.

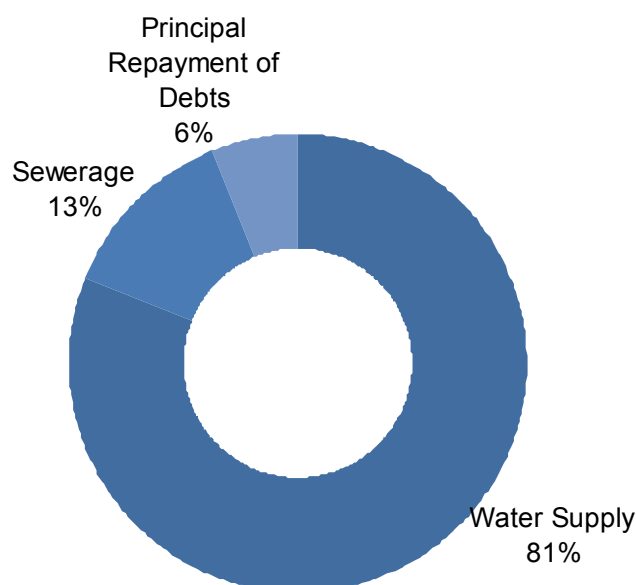
Table 13: Status of Revenue Account – G Budget

Item of Sources	Actuals				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Revenue Surplus /Deficit	506.96	646.18	937.13	1,314.63	1,119.10	253.29	389.36
Funds transferred to Capital A/c	506.96	646.18	937.13	1,314.63	1,119.10	253.29	389.36
Funds available for Capital Expenditure	779.82	774.99	1,174.59	1,879.89	3,848.91	4,407.94	2,839.60

Source: MCGM budgets, Analysis

MCGM has Rs. 3,848 Crore available for capital expenditure, in 2007-08. The Corp transferred Rs. 1,119 Crore in Accounts the same year. Going forward, we have considered the entire surplus available for capital expenditure.

Figure 12: Distribution of Capital Expenditure



Capital Income and Expenditure (Budget G)

The capital receipts have been contributed to by the grants for capital expenditure primarily from the JNNURM.

The works carried out against the budget comprise of the Middle Vaita development project, two major pipe projects and some priority works of the Sewerage Disposal Project (MSDP) to finance large volume of work on sewerage projects, withdrawals from the replacement fund have been made.

Table 14: Capital Income and Expenditure – Budget G

Item of Sources	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Capital Income							
Grants/Contributions	-	-	19.35	153.68	357.00	257.00	357.46
Loans/Borrowing (excluding principal repayments)	34.49	46.98	37.31	41.71	-	-	-
Withdrawal (from Asset Replacement Fund)	-	5.69	36.09	-	-	325.49	529.01
Transfers from Revenue A/c	506.96	646.18	937.13	1,314.63	1,119.10	253.29	389.36
Other Receipts (including B budget)	-	-	-	-	-	-	-
Total	541.45	698.85	1,029.88	1,510.02	1,476.10	835.78	1,275.83

Item of Sources	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Rs. Crore							
Capital Expenditure							
Common Services	6.13	(0.33)	(23.58)	-	0.32	1.59	8.79
Water Supply	200.29	323.64	351.59	415.69	949.96	2,353.45	2,721.48
Sewerage (including MSDP)	15.69	44.09	143.44	176.82	147.07	364.93	641.25
Principal Repayment of Debts	51.59	53.60	56.22	67.59	73.01	73.51	75.00
<i>Total</i>	<i>245.91</i>	<i>421.00</i>	<i>527.67</i>	<i>660.10</i>	<i>1,170.36</i>	<i>2,793.48</i>	<i>3,446.52</i>
<i>Capital Surplus</i>	<i>295.54</i>	<i>277.85</i>	<i>502.21</i>	<i>849.92</i>	<i>305.74</i>	<i>(1,957.70)</i>	<i>(2,170.69)</i>
<i>Overall Surplus (including revenue and capital a/c)</i>	<i>802.50</i>	<i>924.03</i>	<i>1,439.34</i>	<i>2,164.55</i>	<i>1,424.84</i>	<i>(1,704.41)</i>	<i>(1,781.33)</i>
<i>Closing Balance</i>	<i>128.81</i>	<i>237.46</i>	<i>565.26</i>	<i>2,729.81</i>	<i>4,154.65</i>	<i>2,450.24</i>	<i>668.91</i>

Source: MCGM budgets, Analysis

4.6 Status of Special Funds

4.6.1 A B E Budget

Based on discussion with MCGM, we understand the Budget ABE has up to 70 special funds included within in. However, most funds are highly specific in nature, with several being in existence under the MMC Act, but not currently in regular use. The key funds under Budget ABE that may be accessed to finance large infrastructure projects are the Asset Replacement and Rehabilitation Fund and the Land Acquisition and Development Fund. In addition, the Sinking Fund is of interest to this analysis, as it is used to repay the principal of loans taken as a bullet payment at the end of the loan tenor. This mainly applies to internal and public loans, which are structured in this manner. Other loans are typically structures as equated annual payments, and are paid out as a part of revenue expenditure every year.

The status of key funds for ABE budgets is presented below:

Table 15: Status of Funds – A B E Budget

Item of Sources	Revised Estimate	Revised Estimate	Budget Estimate
	2008-09	2009-10	2010-11
Rs. Crore			
Assets Replacement & Rehabilitation Fund	2423.35	1324.35	974.55
Land Acquisition & Dev Fund	747.31	667.31	367.31
Total	3,856.00	2,407.53	1,535.12
Funds available for use	3,170.66	1,991.66	1,341.86

4.6.2 G Budget

Budget G has a few key special funds, including Depreciation Fund, Fire & Accident Insurance Fund, Motor Vehicle and Third Party Insurance Fund,

Asset Replacement & Rehabilitation Fund, Contingent Fund and Land Acquisition & Development Fund. In addition, the surplus at the end of the financial year for Budget G is contributed to the Accumulated Surplus. Of the special funds, Depreciation Fund, Asset Replacement & Rehabilitation Fund and the Accumulated Surplus are available for capital works. The status of special funds and Accumulated Surplus is presented below:

Table 16: Status of Funds – G Budget

Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Depreciation Fund	1,010.90	1,140.58	1,262.97	1,386.56	1,507.29	1,632.29	1,789.00
Fire & Accident Insurance Fund	24.36	28.30	32.48	35.58	36.85	42.56	46.82
Motor Vehicle and Third Party Insurance Fund	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Asset Replacement & Rehabilitation Fund	400.47	462.57	550.17	641.11	783.64	943.08	739.79
Contingent Fund	46.97	53.30	59.93	64.69	69.08	75.75	100.75
Accumulated Surplus	852.50	1,089.96	1,655.22	2,267.41	3,363.55	5,537.78	6,206.69
Total	2,335.70	2,775.21	3,561.27	4,395.85	5,760.91	8,231.96	8,883.55
Funds available for use	2,263.87	2,693.11	3,468.36	4,295.08	5,654.48	8,113.15	8,735.48

Source: MCGM budgets, Analysis

4.7 Analysis of previous debt

The debt currently outstanding on MCGM is as follows:

4.7.1 Budgets ABE

The debt profile consists of public loans, internal loans – principally against funds including pension fund, loans from MMRDA against specific projects and development plans, as well as loans for other projects such as BUDP, DPDC and The World Bank for MUTP.

Public loans outstanding as of March 2009 total Rs. 23.14 crore with interest rate 11.50% to 12.00%; the principal on such loans is to be repaid as a bullet payment at the end of the loan tenor.

Internal loans of Rs. 911.50 crore are outstanding as on March 2009; typically taken against funds, including pension fund. Other debt includes Rs. 115.219 crores outstanding loan from MMRDA, DPDC and BUDP loans of Rs. 0.45 crore and Rs. 12.738 crore respectively. An internal loan of Rs. 3000 crore has been put up for approval; however, the loan is currently under consideration and has not been sanctioned.

4.7.2 Budget G

The debt profile consists of public loans, loans from MMRDA, loans from international funding agencies, loans from the Govt. of Maharashtra, as well as BUDP and DPDC loans.

Key loans for Budget G include Rs. 584.12 crore from the World Bank and Rs. 357.071 crore from MMRDA. Public loans, BUDP and DPDC loans total Rs. 20.261 crore.

The debt repayment schedule for the budgets for the period from 2004-05 to 2010-11 is presented below. It may be noted that the corporation has repaid all debts on time and in full in the past, without delays and defaults.

Table 17: Debt Repayment Schedule from 2004-05 to 2010-11

Heads / Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Rs. Crore						
Repayment of Interest	232.69	218.19	211.04	193.13	157.79	112.10	69.30
Principal Repayment of loan	129.58	22.60	170.61	296.66	394.93	394.55	266.50
Budget G							
Repayment of Interest	114.92	109.93	102.96	105.55	84.11	94.66	87.66
Principal Repayment of loan	51.59	53.60	56.22	67.59	73.01	73.51	75.00

Source: MCGM budgets

4.8 Key Ratios

A set of key financial indicators has been derived using the financial data procured from the Corporation for the assessment period. Table below presents these indicators. These indicators are used to assess the Corporation performance with regards resource mobilization, fund utilization, financial performance and collection efficiencies.

Table 18: Key Financial Indicators

Indicators	Value	Unit
A Resource Mobilisation		
1 Per Capita Income	8,738	Rs. p.a
2 Sources of Funds		
a Share of Own Sources in Total Revenue Income (RI)	97.85	%
Share of Octroi in Total Revenue Income	39.22	
b Share of Property Tax in Total Revenue Income	12.33	%
c Share of Revenue Grants & Subsidies in Total RI	2.15	%
3 Growth in Revenue Income	20.60	% p.a
4 Growth in Own Sources of Revenue Income	20.78	% p.a
5 Per Capita Own Income	7,802	Rs. P.a
B Fund Application		
1 Per Capita Expenditure	9,021	Rs. p.a
2 Uses of Funds		
a Share of Establishment Expenditure in Total RE	44.25	%
b Share of O&M Expenditure in Total Revenue Expenditure	21.37	%
c Share of Establishment Expenditure to Total RI	32.79	%
3 Growth in Establishment Expenditure	8.46	%
4 Growth in O&M Expenditure	-7.13	%
5 Growth in Total Revenue Expenditure	10.57	% p.a
C Debt Management		
1 Outstanding Debt per Capita (2008-09)	1,472	Rs.
2 Debt Servicing Ratio (D.S/ Revenue Income)	2.21	%
D Performance Indicators		
1 Growth in Per Capita Own Income	18.78	% p.a
2 Growth in Per Capita Grant	10.78	% p.a
3 Growth in Per Capita Total Revenue Income	18.60	% p.a

Indicators	Value	Unit
4 Growth in Per Capita Establishment Expenditure	6.66	% p.a
6 Growth in Per Capita O&M Expenditure	- 8.67	% p.a
7 Growth in Per Capita Revenue Expenditure	8.74	% p.a

Source: Analysis

Resource Mobilization Indicators - These indicators summarize the performance of the Corporation with regards sources of funds. MCGM derives over 95 percent of its revenue income from own sources. The share of non-tax revenue in total revenue has grown marginally over the period from 2004-05 to 2010-11.

Fund Application Indicators - These indicators are a measure to ascertain the utilization from the Corporation fund. Around 45 to 50 percent of the revenue expenditure is spent on establishment heads, leaving about 18 to 22 percent for O&M of Corporation assets and services. Establishment expenditure accounts for about 30 to 35 percent of the revenue generated the Corporation.

Debt Servicing – These indicators are a measure to ascertain the utilization from the Corporation fund regards to debt servicing. The ratio of debt servicing to revenue income stood at a mere 2.2 percent, indicating that the Corporation in under-leveraged.

Some key ratios to analyze financial health of MCGM are presented below.

Table 19: Key Ratio and trends

Particulars	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Tax revenue to total income revenue	67%	67%	69%	66%	61%	60%	59%
Non-tax revenue to total income revenue	27%	26%	23%	26%	30%	32%	32%
Own income to total revenue income	98%	98%	97%	98%	98%	97%	96%
Establishment expenses to total revenue expenditure	51%	60%	49%	45%	44%	47%	60%
Operating ratio	84%	74%	72%	81%	74%	94%	97%
Capital expenditure to total expenditure	16%	22%	26%	24%	35%	41%	42%
Capital utilization ratio	66%	81%	71%	68%	97%	136%	252%
Dependency ratio: grant income to total income	2%	2%	3%	6%	4%	6%	10%
Debt servicing ratio: Debt payment to total revenue income	10%	7%	7%	7%	6%	6%	4%

Source: Analysis

Overall financial performance - These indicators are a measure to assess the overall financial performance of the Corporation with regards operational performance and effective growth in revenue income and expenditure. The average operating ratio during the assessment period was maintained at a comfortable 0.75 to 0.80 and the capital utilization ratio was at a low 0.72.

Capital expenditure has more than doubled in the past seven years, owing to large projects being taken up under JNNURM, MUTP and BRIMSTOWAD.

While capital utilization ratio has historically been in the range of 0.60 to 0.70, the current estimates indicate planned capital utilization higher than inflows. As these are estimated values, they may undergo modification during the current financial year. Past analysis indicates that not more than 70 % of the budget estimate of capital expenditure is actually achieved during the year. In the event that such a trend continues for the present, the capital utilization ratio for 2009-10 and 2010-11 is likely to be 0.95 and 1.76. In order to address requirement of higher capital expenditure than currently planned capital income, a proposal for an internal loan of Rs. 3,000 Crore has been put forward within MCGM. This proposal is currently under consideration, and the decision may impact the capital works which may be carried out during the current financial year.

The indicators of growth in per capita income and expenditure item heads indicate the effective growth, giving a performance measure relative to the growing population. MCGM demonstrated a robust 18.60 percent annual growth in per capita revenue income, while the per capita revenue expenditure grew by only 8.74 percent. This indicates that the Corporation has more leeway to improve revenue spending as population increases.

The dependency on grant income from the state and Central government is limited to a maximum of 10% of total revenue to be received during the current financial year.

In summary, this analysis indicates that the MCGM is a fairly stable and revenue-positive corporation, with low dependency on funds for day-to-day operations. However, for large projects, the corporation has received grants and/or soft loans from the state and Central governments as well as international funding agencies in the past. In the event that such funding is not available in the future, the corporation may have to explore alternate sources of financing for future projects.

4.9 Key observations and conclusion

The main stylized facts which emerge from our analysis are:

- Strong operating ratios of around 74% to 97% in the past seven years
- Low debt –service ratio, consistently at or below 10% in the past seven years
- Low dependency on external grants from JNNURM or other sources overall; however, dependency on grants for capital expenditure has grown in recent years due to size of projects taken up and easy availability of external funds
- Strong position of special and other funds

5 Estimation of future financial requirements

The projection of future financials of MCGM along with the financing requirements has been carried out on the basis of information provided and discussed with key officials at MCGM.

5.1 Key Assumptions

The key assumptions on which the projections are based are presented below. Growth in Octroi and property tax revenues has been taken at 8% and 10% respectively, based on standard percentages considered by MCGM for projection of financials. Property tax growth rate is linked to development of new properties within the MCGM area, rather than revision of the rates themselves. Water and sewerage benefit taxes, water and sewerage other revenues and meter rent revenue have also been considered to grow at 10%, as they are also linked to development of new properties.

Water and sewerage taxes are not projected to grow in future, as these taxes apply to old buildings where metering is not possible. These revenues may remain stable in the immediate future, and are likely to be phased out as the old buildings are redeveloped.

Supervision charges for Budgets ABE, which are equivalent to recovery of overheads for Budget G, are taken at 10% of 70% of capital expenditure for each year. The rationale for this calculation is that the final capital expenditure typically amounts to 70% of the planned expenditure, and overheads and/or supervision charges amount to 10% of the expenditure.

Water and sewerage charges are planned to be revised in 2012, and every five years thereafter. Other revenues are projected to grow at a standard rate of 8% per annum.

The key assumptions are listed in Table 20.

5.2 Planned Capital Expenditure

The currently planned capital expenditure (base case) takes into account expenditure on various types of physical and social infrastructure as well as certain services rendered by MCGM for citizens.

Under the Budgets ABE, expenditure on storm water drains under the current BRIMSTOWAD project is planned to continue until 2012-13, with a total expenditure of Rs. 1613.53 Crore. Expenditure on roads, traffic and bridges is understood to be typically of operation and maintenance nature, as per discussions with MCGM officials. This includes upgrading of roads, resurfacing, routine and major repairs. The expenditure on such works is typically Rs. 500 Crore per annum, at today's prices. The annual expenditure on this sector has therefore been projected, taking annual cost escalation due to inflation at 2%.

Similarly, annual expenditure on solid waste management and transport is estimated to be Rs. 150 crore, annual health sector expenditure is estimated to be Rs. 100 Crore and annual expenditure on primary education is estimated to be Rs. 80 Crore. Health sector expenditure refers to maintenance of hospitals operated by MCGM and purchase of equipment. Expenditure on primary education refers to maintenance of schools operated by MCGM, repairs to school buildings and purchase of classroom equipment.

Slum improvement schemes and related activities attract approximately Rs. 100 Crore of expenditure per annum, while other departments, including expenditure on fire-fighting equipment and services, upkeep of gardens, IT equipment, markets etc. total approximately Rs. 500 Crore per annum.

Under the Budget G, the planned expenditure on water supply projects, including the Middle Vaitarna project, continue till 2013-14, while expenditure on MSDP under the JNNURM continues till 2011-12. In addition, annual expenditure for water and sewerage operation-related activities is projected at Rs. 800 Crore and Rs. 400 Crore respectively. Escalation due to inflation for all block cost estimates for capital expenditure has been considered at 2% per annum, as a conservative long-term rate.

In addition to projections for currently ongoing capital expenditure, we have considered certain planned projects and the proposed expenditure for them. The projects being considered are as follows:

- BRIMSTOWAD Stage II, beginning in 2014-15 and continuing for seven years
- Gargai water source development, beginning in 2014-15 and continuing for four years
- A water desalination plant to be started in 2012-13 and be completed in three years
- MSDP Stage II, Components II and III priority works, to be taken up in 2011-12 and completed in five years
- MSDP Stage II Balance Works, to be taken up in 2016-17 and completed over 10 year.

Table 20: Key Assumptions

Items	Assumption	Past Trend	Rationale
Octroi (Net)	8%	12%	MCGM estimates
Property Taxes	10%	14%	MCGM estimates
Water Tax	0%	12%	MCGM estimates – water and sewerage tax not to undergo change in future – may gradually phase out as old buildings without meters are redeveloped
Water Benefit Tax	10%	15%	MCGM estimates - dependent on property tax
Sewerage Tax	0%	15%	MCGM estimates – water and sewerage tax not to undergo change in future – may gradually phase out as old buildings without meters are redeveloped
Sewerage Benefit Tax	10%	15%	MCGM estimates - dependent on property tax
Other Taxes	0%	-5%	MCGM estimates
Fees, Charges and others			
Markets	8%	26%	MCGM estimates
Licences	8%		MCGM estimates
Deonar Abattoir	8%	8%	MCGM estimates
Receipts from Development Dept.	8%	7%	MCGM estimates
Rent from Estate properties	8%	32%	MCGM estimates
Hospitals/Medical Colleges/Health	8%	10%	MCGM estimates
S.W.M., Trade Refuge charges	8%	13%	MCGM estimates
Supervision Charges (ABE)/ Recovery of Overhead (G)	@7% of annual capital expenditure	NA	Taken as 10% of 70% of annual capital expenditure planned – based on MCGM information
Roads & Bridges, Parking charges, etc.	8%	48%	MCGM estimates
Others (Including shops and estates)	0%	43%	MCGM estimates
Water Charges	12% in 2012-13 and 12% after every 5 years	2% (annual)	Revision planned in 2012-13 and every 5 years thereafter

Sewerage Charges	12% in 2012-13 and 12% after every 5 years	1.4%(annual)	Revision planned in 2012-13 and every 5 years thereafter
Assigned Revenues - Own Sources	8%	0%	MCGM estimates
Other Income - Own Sources			
Meter Rent	10%	14%	MCGM estimates-dependent on property tax
Other Water Revenue	10%	12%	MCGM estimates-dependent on property tax
Other Sewerage Revenue	10%	23%	MCGM estimates-dependent on property tax

5.3 Scenario 1: Base Case – Business as Usual

Considering the capital expenditure in the base case, without additional planned projects listed above, estimated financials for the period 2010-11 to 2020-21 have been projected.

The revenue surplus for Budgets ABE remains positive throughout the period, in the range of Rs. 1000 – 1500 Crore. Although capital income is lower than capital expenditure, through use of reserves and surplus, the overall financials show a surplus at the closing of each financial year. The revenue surplus for Budget G is also positive throughout the period under consideration, in the range of Rs. 400 – 900 Crore. Capital income is not considered to be received after 2011-12, as JNNURM grants cease after this period. However, it is possible that some grants/ soft loans may be received due to new government Missions or programs. As such plans are not currently known, no such income has been considered. In case such fund inflows occur in future years, the projected financials for Budget G may be impacted to a significant extent.

Starting for 2011-12, the projected financials for Budget G are estimated to show a deficit, due to lack of capital income and continuing capital expenditure. This deficit would require to be met, either from internal reserves and funds, or through external sources of funds, such as grants or loans.

The overall financials represent the combined revenues and expenditures of both budgets. However, this assumes that the deficits in one budget may be met through funds from another. In the case of ABE and G budgets, this may require special permission from the highest levels of authority within the municipal corporation.

Table 21: Scenario 1: Base Case – Business-as-usual

Items	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Rs. in Crore										
Opening Balance	8,326.80	6,028.01	4,940.13	5,330.68	5,992.15	6,763.47	7,608.72	8,696.62	9,731.29	10,842.18	12,035.43
Total - Revenue Income	13,734.76	13,869.72	15,038.08	16,050.43	17,237.70	18,409.12	19,737.74	21,268.79	22,761.01	24,423.86	26,230.42
Total - Revenue Expenditure	12,553.33	11,951.18	12,941.04	13,956.11	15,110.17	16,412.39	17,804.05	19,238.56	20,826.85	22,525.01	24,372.36
Revenue Surplus/Deficit	1,181.43	1,918.54	2,097.04	2,094.32	2,127.53	1,996.73	1,933.69	2,030.23	1,934.16	1,898.85	1,858.06
Funds available for Capital Expenditure	9,508.23	7,946.55	7,037.17	7,425.01	8,119.69	8,760.21	9,542.41	10,726.85	11,665.45	12,741.03	13,893.49
Total Capital Income	2,969.94	878.66	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	6,450.16	5,281.67	3,786.10	3,861.17	2,475.91	2,560.01	2,562.55	2,604.24	2,655.52	2,707.18	2,760.24
Closing Balance (including O/B)	6,028.01	3,543.54	3,790.64	4,133.28	6,281.37	6,943.32	7,859.15	8,943.53	9,910.97	11,023.49	12,220.93

Source: Analysis

5.4 Scenario 2: Additional Projects

This scenario considers the addition of planned projects going forward, without any additional internal or external sources of financing. This analysis may assist us in estimating the financing gap for future years.

As limited additional projects have been considered for Budgets ABE, the impact of the additional expenditure is relatively low. The major additional capital expenditure considered is for BRIMSTOWAD Stage II, which impacts the overall closing balance to a limited extent after 2014-15.

Under Budget G, significant additional capital expenditure results in a wider estimated deficit at the end of each year, in the range of Rs. 2000 – 3000 Crore. This deficit would need to be addressed through use of internal or external funds.

The consolidated financials show a lower surplus at the end of the year, as some amount is used to meet the additional requirements of the Budget G. However, this assumes that the deficits in one budget may be met through funds from another. In the case of ABE and G budgets, this may require special permission from the highest levels of authority within the municipal corporation.

Table 22: Scenario 2: Additional Projects

Items	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Rs. in Crore										
Opening Balance	8,326.80	6,028.01	4,440.13	4,320.68	4,461.95	4,059.81	3,708.13	3,575.16	3,364.54	3,205.24	3,102.90
Total - Revenue Income	13,734.76	13,869.72	15,038.08	16,050.43	17,237.70	18,409.12	19,737.74	21,268.79	22,761.01	24,423.86	26,230.42
Total - Revenue Expenditure	12,553.33	11,951.18	12,941.04	13,956.11	15,110.17	16,412.39	17,804.05	19,238.56	20,826.85	22,525.01	24,372.36
Revenue Surplus/Deficit	1,181.43	1,918.54	2,097.04	2,094.32	2,127.53	1,996.73	1,933.69	2,030.23	1,934.16	1,898.85	1,858.06
Funds available for Capital Expenditure	9,508.23	7,946.55	6,537.17	6,415.01	6,589.49	6,056.55	5,641.82	5,605.39	5,298.71	5,104.09	4,960.96
Total Capital Income	2,969.94	878.66	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	6,450.16	5,281.67	3,786.10	3,861.17	2,475.91	2,560.01	2,562.55	2,604.24	2,655.52	2,707.18	2,760.24
Closing Balance (including O/B)	6,028.01	2,240.71	1,644.47	1,466.92	1,891.54	1,689.90	940.33	779.43	1,026.67	843.60	719.53

Source: Analysis

5.5 Scenario 3: Financing from Internal Funds

This scenario considers the planned projects going forward as well as financing through use of internal funds (special funds). The funds which may be used for this purpose are the following

Budget ABE: Asset Replacement & Rehabilitation Fund & Development Fund, and

Budget G: Accumulated Surplus, Asset Replacement Fund, and Depreciation Fund

The Budgets ABE do not require additional funds to be used, considering the projects currently planned by MCGM. The accumulated surplus, Asset Replacement Fund and Depreciation Fund or Budget G are used to meet the additional capital expenditure requirements. All funds are projected to be exhausted by 2018-19, and external sources of financing would have to be sources for further capital expenditure. It may be noted that this scenario assumes exhausting entire funds of Accumulated Surplus and Asset Replacement Funds (except Rs. 1 lakh, mandated by the MMC Act). In practice this may not be possible or financially prudent, and debt may have to be raised prior to 2018-19, in order to maintain an appropriate level of finances within these special funds. The overall financials, even considering transfers between ABE and G budgets, also shows a deficit in 2018-19 and thereafter.

It may further be noted that the estimated deficits are at the end of the period under consideration, thereby indicating requirement of external financing only in the medium to long term. Further, no future project, Mission or Programme related grants have been considered, as plans for the same are unknown. However, it is likely that some such programs may come up in future years, leading to grants and soft loans for urban sector projects, thereby reducing the financing burden of MCGM. On receiving information regarding such programs and eligible projects under the same, it may be advisable for MCGM to re-evaluate the financial requirements for capital works going forward.

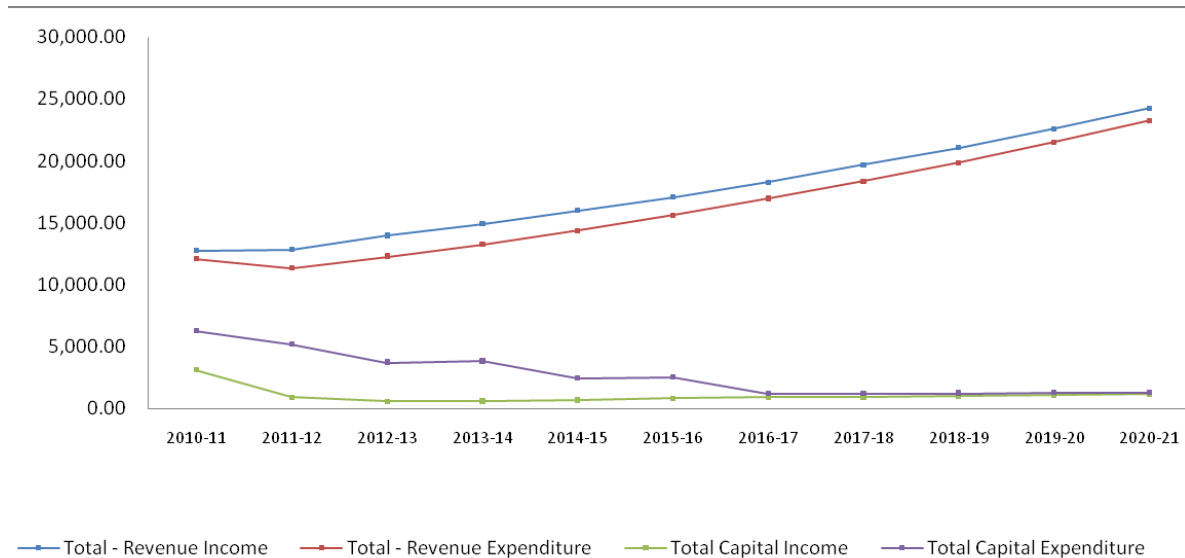
Table 23: Scenario 3: Financing from Internal Funds

Items	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Rs. in Crore										
Opening Balance	8,326.80	6,028.01	4,440.13	4,320.68	4,461.95	4,059.81	3,708.13	3,575.16	3,364.54	3,205.24	3,102.90
Total – Revenue Income	13,734.76	13,869.72	15,038.08	16,050.43	17,237.70	18,409.12	19,737.74	21,268.79	22,761.01	24,423.86	26,230.42
Total - Revenue Expenditure	12,553.33	11,951.18	12,941.04	13,956.11	15,110.17	16,412.39	17,804.05	19,238.56	20,826.85	22,525.01	24,372.36
Revenue Surplus/Deficit	1,181.43	1,918.54	2,097.04	2,094.32	2,127.53	1,996.73	1,933.69	2,030.23	1,934.16	1,898.85	1,858.06
Funds available for Capital Expenditure	9,508.23	7,946.55	6,537.17	6,415.01	6,589.49	6,056.55	5,641.82	5,605.39	5,298.71	5,104.09	4,960.96
Total Capital Income	2,969.94	878.66	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	6,450.16	6,584.50	5,432.26	5,517.53	5,335.53	5,109.77	5,580.78	5,646.88	5,173.07	5,250.14	5,329.11
Closing Balance (including O/B)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(1,020.19)	(2,259.30)	(2,344.06)

The individual financials for Budgets ABE and Budget G respectively for each of the three scenarios above have been presented in **Annexure III – Projections of Future Financial Requirements**.

5.6 Overall Trend of Income and Expenditure

The overall trends of revenue income and expenditure, going forward, are presented below:



5.7 Position of Various funds in the future

In the case of Scenario 3, internal funds are used (for Budget G). It is proposed that the accumulated surplus be used initially, followed by the asset replacement fund and finally the depreciation fund, if necessary.

Therefore, the status of funds for Budget A B E, going forward, is estimated as follows:

Table 24: Trends of Key Funds under ABE Budget

Fund (Rs. Crore)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Asset Replacement & Rehabilitation Fund	5,711.54	9,690.43	13,219.27	16,510.29	18,977.83	20,633.95	21,650.28	21,892.53	21,358.62	20,581.68	19,805.38
Land Acq. And Dev Fund	367.31	304.31	553.16	814.45	1,088.81	1,376.88	1,679.36	1,996.97	2,330.45	2,680.61	3,048.27

Source: Analysis

In case of Budget G, as may be observed, the Accumulated Surplus and Asset Replacement Fund are exhausted within the first three and four years respectively, while the depreciation fund is exhausted in 2018-19.

Table 25: Trends of Key Funds under G Budget

Fund (Rs. Crore)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Accumulated Surplus	6,996.91	4,797.49	2,121.29	-	-	-	-	-	-	-	-
Asset replacement fund	739.79	739.79	2,861.08	1,987.32	-	-	-	-	-	-	-
Depreciation fund	1,632.29	1,782.29	4,848.57	7,041.09	7,105.34	5,428.31	3,268.49	1,158.38	-	-	-

Source: Analysis

5.8 Key Observations and Conclusion

The main stylized facts which emerge from our analysis are:

- Strong operating ratios of around 88% to 96% between 2010-11 and 2020-21
- Low debt –service , with an average DS/TR of close to 4% in 2010-11, reducing to about 0.4% in 2020-21
- New major capital investments largely independent of JNURM funding and underleveraged
- Capacity to finance the existing pipeline for the next decade with accumulated surpluses providing inter account borrowing is authorized.

6 Prioritisation of Projects

The section attempts to list the projects that have been indicated by MCGM and GoM, as priority for Project Financing Plan.

6.1 Projects short-listed for detailed Financing Plan

Detailed discussions with the officers of MCGM and consultants lead to a conclusion that considering the needs, priority and preparedness the following two projects can be identified as priority projects for funding commencing from F.Y. 2011-12 onwards.

- Gargai Water Supply Project for augmentation of water sources by 440 MLD.
- Mumbai Sewerage Disposal Project – II (MSDP – II)

Feasibility studies for these projects are already on hand with the consultants appointed by the MCGM. Technically the projects are very much feasible and involve simple solutions and therefore even the detailed project engineering studies can be concluded fast, subject to addressing the issues of environmental clearances.

6.1.1 Gargai Dam Water Supply Project

This is a project based on Gargai River which is a tributary of Vaitarna River. 440 MLD of water will be available from the River by construction of Gargai Dam. Water from Gargai Dam is planned to be transmitted to the existing Modak Sagar Dam through a proposed tunnel of 3 meter diameter and 2 kms length. From Modak Sagar, the water from Vaitarna (Upper Middle and Lower) as existing plus 440 MLD of water arriving from Gargai will be conveyed up to village Gundovali through the existing conveyance system and from Gundovali to Bhandup treatment complex through an underground tunnel which is already under construction. An additional water treatment plant to treat 440 MLD of Gargai water is also planned to be put in place.

Mott. Mac Donald, Engineering Consultants appointed by MCGM are in the process of finalizing project feasibility for consideration of the MCGM. The preliminary cost estimates, as assessed by Mott. Mac Donald is Rs. 1396.4 Crores. However, the final estimate will be around Rs. 2000 Crores considering the costs of rehabilitation and resettlement of the two villages which would be under submergence of the Dam, afforestation, etc.

Final feasibility study for the project, administrative approval and the detailed engineering project report with bid documents shall have to be concluded within next six months, if the project is to be taken up on priority.

The project is technically feasible as well as simple because it involves construction of a Dam on the River Gargai and transmission of 440 MLD of water to the existing Modak Sagar water supply system. The other important component is the additional water treatment plant. This plant is also to be constructed in the existing Bhandup complex where land is available. Thus, the project can very well be taken up for implementation by April 2011 and can be completed and made operational by 2016.

MCGM will have to address and resolve the issue of getting environmental clearance from the Ministry of Environment and Forests, Government of India for the construction of the Dam so that the project can be implemented in time. MCGM will also have to properly plan and implement resettlement and rehabilitation of the two villages that will be under the submergence of the Dam

6.1.2 Mumbai Sewerage Disposal Project – II (MSDP – II)

The MSDP – II project is needed to address the following key issues:

- Large volume of untreated sewage along with preliminary treated effluent from Varsova and Malad gets disposed off in to the Malad Creek. This affects the environment and ecology.
- Almost 100 years old sewer lines in many parts of the project areas needs rehabilitation and up-gradation.
- Provision of new sewerage network, extend sewage conveyance system, new pumping stations, treatment and disposal facilities to meet with 16 million population by 2025.

The project involves:

- Laying of 60 Kms long new sewers,
- Upsizing of 100 Kms of sewer lengths,
- Rehabilitation of 360 Kms of sewer lengths,
- Construction of 18 new pumping stations,
- Expansion of 43 pumping stations,
- Construction of 2 new waste water treatment plants,
- Up-gradation of 7 waste water treatment plants,
- Ocean outfall at Erangal – I,

Mott. Mac Donald – RV Anderson Associates, the consultants who have prepared the master plan for the MSDP have in the year 2002 summarized the costs below. The total cost of the project is expected to be around Rs. 4,496 Crore.

The project can be completed by 2015.

MCGM will have to address the following issues relating to land / encroachment and Erangle outfall. Some of these issues are identified by the consultants as under:

- City Pumping Stations
 - Afghan Church – ROW from Church Authority
 - Harvey Rd – Permission from Gardens Dept
 - Nepean Sea Rd – Permission from MSRDC
 - Jai Bharat – permission from Railway Authority
 - Chimbai – Permission from DP Department
- Colaba WWTF – Relocation of Staff Quarters
- Worli WWTF – Land Procurement
- Bandra WWTF – Conflict with MMB Land Requirements
- Dharavi WWTF – Land Procurement
- Priority Sewer Shaft – Land Procurement
- Outfall Headworks – Land Procurement

Revised Costs for Priority Works Components	Rs. Lakh
Colaba WWTF	4,420
Colaba EPS + Cogen	236
Worli WWTF	23,725
+ Digester	5,035
+ Cogen	2,320
Bandra WWTF	8,993
+ Cogen	1,600
Versova WWTF	10,500
Malad WWTF	48,870
+ Cogen	3,500
Bhandup WWTF	29,560
+ Cogen	1,600
Ghatkopar WWTF	41,720
+ Cogen	2,450
Dharavi WWTF	16820
+ Digester	4370
+ Cogen	2000
Recycle	1330
Versova EPS Versova Transfer to Erangal	11,468
Malad EPS Malad Transfer to Outfall	19,352
Erangal Outfall	40,000
Mitigation of Interface problems at Globe Mill, Dadar. Mahim and Wylie PS	1,096
Afghan Church	444
Nepean Sea Road PS	344
Chinchpokli PS	355
Harvey Road PS	322
Duncan Causeway PS	
Chimbai PS	411
Jai Bharat PS	2,995
Bhramhanwadi PS	376
Versova IPS	18,717
Charkop PS	
Goregaon PS	
Malad IPS	25,928
Vallabh Nagar PS Gorai PS	3,496
New Bharat Petroleum PS	1,592
Priority Sewer	27,070
Rehab of Man Entry Sewers	38,400
Total for construction	401,415
Allowance for Design and Project Management at 12%	48,170
Revised Total for Priority Works	449,585

Source: Mott. Mac Donald Anderson

6.1.3 Conclusion

MCGM has expressed keenness to implement the Gargai Dam Water Supply Project and the MSDP – II. The total investments required for these two projects shall be about Rs. 6,495 Crore.

Name of Projects	Estimated Cost (in Rs. Crore)
Gargai Water Supply Project	2000.00
MSDP Stage II Priority Works	4495.00

The projects need to be taken up in parallel for the comprehensive improvement of the existing water and sewerage facilities for the city of Mumbai. MCGM will have to emphasize on project formulation, bidding processes, raising of financial resources on priority so that the projects can be completed in next five years.

Annexure

Annexure I - List of Officers met from GoM, MCGM, WB and PPIAF

Annexure II – Abstracts of Accounts

Abstracts for Budget A B E

Abstracts for Budget

Consolidated Statement of Abstracts (for Budget ABE & G)

Annexure III – Projections of Future Financial Requirements

Planned Capital Expenditure

Scenario 1: Base Case – Business as Usual

Scenario 2: Additional Projects

Scenario 3: Financing from Internal Funds

Annexure I - List of Officers met from GoM, MCGM, WB and PPIAF

S. No	Name	Functional Area
1.	Mr. Manu Srivastava	Secretary UD, Government of Maharashtra
2.	Mrs. Ashwini Bhide	Jt. Metropolitan Commissioner, MMRDA
3.	Mr. Ashish Kumar Singh	Additional Municipal Commissioner, Municipal Corporation of Greater Mumbai
4.	Mr. Anil Diggikar	Additional Municipal Commissioner – Projects, Municipal Corporation of Greater Mumbai
5.	Mr. Ajay Saxena	PPP Expert, Government of Maharashtra
6.	Ms. Bhavna Bhatia	Regional Program Leader, Public Private Infrastructure Advisory Facility
7.	Mr. Paul Reddel	Regional Program Leader, Public Private Infrastructure Advisory Facility
8.	Mr. Tarun Shankar	Infrastructure Specialist, Public Private Infrastructure Advisory Facility
9.	Ms. Vasudha Sarda Thawakar	The World Bank
10.	Mr. Ram Dhas	Chief Accountant, Municipal Corporation of Greater Mumbai
11.	Mr. Kulkarni	Municipal Corporation of Greater Mumbai
12.	Mr. SS Palav	Municipal Corporation of Greater Mumbai
13.	Mr. Charankar	Municipal Corporation of Greater Mumbai
14.	Mr. PS Awate	Executive Engg. SWM, Municipal Corporation of Greater Mumbai
15.	Mr. Sanjay Devnani	Project Manager, Mumbai Sewage Disposal Project

Annexure II – Abstracts of Accounts

Abstracts for Budget A B E

Sr. no.	Item of Sources	ACTUALS				Revised Estimate	Revised Estimate	Budget Estimate	
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	
		Rs. Crore							
Opening Balance		326.13	838.02	1,800.55	3,276.75	3,934.70	5,493.82	5,876.56	
Revenue Accounts									
A	Revenue Income								
A-1	Taxes - Own Sources	3,162.93	3,567.90	4,360.45	4,926.82	5,652.63	5,745.32	6,190.21	
1	Octroi (Net)	2,432.20	2,759.83	3,420.65	3,925.00	4,300.00	4,325.08	4,650.21	
2	Property Taxes	729.99	807.39	939.17	1,001.57	1,352.06	1,419.66	1,540.00	
3	Other Taxes	0.74	0.68	0.63	0.25	0.57	0.58	0.00	
A-2	Non-Tax Revenues - Own Sources	760.20	848.34	1,072.98	1,652.77	2,470.24	2,824.84	3,233.38	
1	Fees, Charges and others	760.20	848.34	1,072.98	1,652.77	2,470.24	2,824.84	3,233.38	
A-3	Assigned Revenues	-	-	-	-	-	-	-	
A-4	Other Income	-	-	-	-	-	-	-	
A-5	Grants / Transfers from GoM	128.29	146.30	250.41	209.58	236.08	315.59	446.57	
A	Total - Revenue Income	4,051.41	4,562.53	5,683.84	6,789.17	8,358.95	8,885.75	9,870.17	
B	Revenue Expenditure								
B-1	Establishment Expenses	2,075.97	2,373.88	2,333.31	3,018.44	3,226.27	4,465.10	6,506.98	
B-2	Administrative Expenses	91.41	104.96	104.92	184.87	290.44	341.20	398.13	
B-3	Operations & Maintenance	472.24	513.73	612.84	1,574.83	1,369.59	1,493.28	1,729.42	
B-4	Interest & Finance Charges	232.69	218.19	211.04	193.13	157.79	112.10	69.30	
B-5	Grants & Contributions	918.74	498.56	1,278.22	1,306.56	1,346.37	1,681.34	709.15	
B-6	Other expenses	(92.90)	(80.77)	(47.64)	82.38	248.10	404.06	435.27	
B	Total - Revenue Expenditure	3,698.15	3,628.55	4,492.69	6,360.21	6,638.56	8,497.08	9,848.25	
Revenue Accounts Surplus/Deficit		353.26	933.98	1,191.15	428.96	1,720.39	388.67	21.92	
Capital Accounts									
C	Capital Income								
C-1	Grants/Contributions for capital works	-	-	-	400.00	-	423.00	757.25	
C-2	Loans/Borrowing (excluding principal repayments)	9.27	39.65	27.91	12.16	8.84	45.00	35.00	
C-3	Withdrawal from:	238.13	95.93	747.78	362.70	613.06	2,725.08	1,246.54	
C-4	Transfers from Revenue A/c	502.69	691.00	800.00	1,028.00	2,255.00	1,300.00	-	
C-5	Other Receipts	30.47	43.21	56.79	88.03	0.50	4.63	3.48	
C-6	Budget B Receipts	32.72	27.87	91.02	21.66	71.34	113.23	82.55	
C	Total Capital Income	813.28	897.66	1,723.50	1,912.55	2,948.74	4,610.94	2,124.82	
D	Capital Expenditure								
D-1	Capital Works	525.07	846.52	1,267.84	1,386.90	2,715.08	4,222.32	4,852.65	
1	Storm Water Drains	66.04	106.47	331.16	272.49	673.72	1,012.92	1,013.53	
2	Roads, traffic & bridges	155.61	250.88	470.77	605.88	964.59	1,188.73	1,179.02	
3	Solid waste mgmt & transport	42.62	68.71	81.89	69.16	109.49	159.95	308.05	
4	Health budget	40.89	65.93	77.02	75.62	144.97	303.85	418.46	
5	Primary Education	15.63	25.20	12.97	33.53	63.54	99.83	169.21	
6	Properties under improvement schemes & slum improvement	106.79	172.16	101.99	55.91	104.95	218.69	81.18	
7	Other depts.	97.49	157.17	192.04	274.31	653.82	1,238.35	1,683.20	
D-2	Principal Repayment of Debts	129.58	22.60	170.61	296.66	394.93	394.55	266.50	
D	Total Capital Expenditure	654.65	869.12	1,438.45	1,683.56	3,110.01	4,616.87	5,119.15	
Capital Accounts Surplus		158.63	28.54	285.05	228.99	(161.27)	(5.93)	(2,994.33)	
Overall Surplus		511.89	962.52	1,476.20	657.95	1,559.12	382.74	(2,972.41)	
Overall surplus (including O/B)		838.02	1,800.55	3,276.75	3,934.70	5,493.82	5,876.56	2,904.15	

Abstracts for Budget G

Sr. no.	Item of Sources	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
		Rs. Crore						
Opening Balance		272.86	128.81	237.46	565.26	2,729.81	4,154.65	2,450.24
Revenue Accounts								
A	Revenue Income							
A-1	Taxes - Own Sources	514.55	564.60	886.89	1,042.37	1,063.19	1,017.84	1,093.32
1	Water Tax	55.14	60.62	97.35	106.15	108.28	97.34	97.34
2	Water Benefit Tax	236.27	272.06	390.62	453.48	458.67	472.65	519.92
3	Sewerage Tax	81.62	69.03	165.88	210.72	221.02	165.88	165.88
4	Sewerage Benefit Tax	141.52	162.89	233.04	272.02	275.22	281.97	310.18
A-2	Non-Tax Revenues - Own Sources	738.37	754.33	693.74	708.27	775.43	763.91	763.91
1	Water Charges	456.54	469.20	453.81	472.28	518.50	501.58	501.58
2	Sewerage Charges	281.83	285.13	239.93	235.99	256.93	262.33	262.33
A-3	Assigned Revenues	-	-	-	-	-	-	-
A-4	Other Income	206.90	258.58	339.97	551.05	765.63	652.21	704.23
A-5	Grants / Transfers from GoM	-	-	-	-	-	-	-
A	Total - Revenue Income	1,459.82	1,577.51	1,920.60	2,301.69	2,604.25	2,433.96	2,561.46
B	Revenue Expenditure							
B-1	Establishment Expenses	289.59	345.02	338.98	295.72	368.26	553.65	680.75
B-2	Administrative Expenses	75.29	93.51	99.74	44.89	64.95	146.73	176.38
B-3	Operations & Maintenance	203.82	201.04	261.22	294.44	366.36	694.54	603.81
B-4	Interest & Finance Charges	114.92	109.93	102.96	105.55	84.11	94.66	87.66
B-5	Grants & Contributions	309.72	224.71	219.67	350.93	601.47	683.92	617.43
B-6	Other expenses	(40.48)	(42.88)	(39.10)	(104.47)	0.00	7.17	6.07
B	Total - Revenue Expenditure	952.86	931.33	983.47	987.06	1,485.15	2,180.67	2,172.10
Revenue Surplus/Deficit		506.96	646.18	937.13	1,314.63	1,119.10	253.29	389.36
Capital Accounts								
C	Capital Income							
C-1	Grants/Contributions for capital works	-	-	19.35	153.68	357.00	257.00	357.46
C-2	Loans/Borrowing (excluding principal repayments)	34.49	46.98	37.31	41.71	-	-	-
C-3	Withdrawal from:	-	5.69	36.09	-	-	325.49	529.01
C-4	Transfers from Revenue A/c	506.96	646.18	937.13	1,314.63	1,119.10	253.29	389.36
C-5	Other Receipts	-	-	-	-	-	-	-
C-6	Budget B Receipts	-	-	-	-	-	-	-
C	Total Capital Income	541.45	698.85	1,029.88	1,510.02	1,476.10	835.78	1,275.83
D	Capital Expenditure							
D-1	Capital Works	194.32	367.40	471.45	592.51	1,097.35	2,719.97	3,371.52
1	Common Services	6.13	(0.33)	(23.58)	0.32	1.59	8.79	
2	Water Operation	41.73	69.23	201.83	252.23	357.85	1,116.81	1,280.10
3	Water Supply Project	158.56	254.41	149.76	163.46	592.11	1,236.64	1,441.38
4	Sewerage Operation	7.03	17.74	106.61	132.88	59.80	186.63	181.95
5	Sewerage Project	8.66	18.76	26.24	27.86	64.58	123.68	206.83
6	M.S.D.P.	(27.79)	7.59	10.59	16.08	22.69	54.62	252.47
D-2	Principal Repayment of Debts	51.59	53.60	56.22	67.59	73.01	73.51	75.00
D	Total Capital Expenditure	245.91	421.00	527.67	660.10	1,170.36	2,793.48	3,446.52
Capital Surplus		295.54	277.85	502.21	849.92	305.74	(1,957.70)	(2,170.69)
Overall surplus		802.50	924.03	1,439.34	2,164.55	1,424.84	(1,704.41)	(1,781.33)
Overall surplus (including O/B)		128.81	237.46	565.26	2,729.81	4,154.65	2,450.24	668.91

Consolidated Statement of Abstracts (for Budget ABE & G)

Sr. no.	Item of Sources	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
		Rs. Crore						
Opening Balance		598.99	966.83	2,038.01	3,842.01	6,664.51	9,648.47	8,326.80
Revenue Accounts								
A	Revenue Income							
A-1	Taxes - Own Sources	3,677.48	4,132.50	5,247.34	5,969.19	6,715.82	6,763.16	7,283.53
1	Octroi (Net)	2,432.20	2,759.83	3,420.65	3,925.00	4,300.00	4,325.08	4,650.21
2	Property Taxes	729.99	807.39	939.17	1,001.57	1,352.06	1,419.66	1,540.00
3	Water Tax	55.14	60.62	97.35	106.15	108.28	97.34	97.34
4	Water Benefit Tax	236.27	272.06	390.62	453.48	458.67	472.65	519.92
5	Sewerage Tax	81.62	69.03	165.88	210.72	221.02	165.88	165.88
6	Sewerage Benefit Tax	141.52	162.89	233.04	272.02	275.22	281.97	310.18
5	Other Taxes	0.74	0.68	0.63	0.25	0.57	0.58	0.00
A-2	Non-Tax Revenues - Own Sources	1,498.57	1,602.67	1,766.72	2,361.04	3,245.67	3,588.75	3,997.29
1	Fees, Charges and others	760.20	848.34	1,072.98	1,652.77	2,470.24	2,824.84	3,233.38
2	Water Charges	456.54	469.20	453.81	472.28	518.50	501.58	501.58
3	Sewerage Charges	281.83	285.13	239.93	235.99	256.93	262.33	262.33
A-3	Assigned Revenues	-	-	-	-	-	-	-
A-4	Other Income	206.90	258.58	339.97	551.05	765.63	652.21	704.23
A-5	Grants / Transfers from GoM	128.29	146.30	250.41	209.58	236.08	315.59	446.57
A	Total - Revenue Income	5,511.23	6,140.04	7,604.44	9,090.86	10,963.20	11,319.71	12,431.63
B	Revenue Expenditure							
B-1	Establishment Expenses	2,365.56	2,718.90	2,672.29	3,314.16	3,594.53	5,018.75	7,187.73
B-2	Administrative Expenses	166.70	198.47	204.66	229.76	355.39	487.93	574.51
B-3	Operations & Maintenance	676.06	714.77	874.06	1,869.27	1,735.95	2,187.82	2,333.23
B-4	Interest & Finance Charges	347.61	328.12	314.00	298.68	241.90	206.76	156.96
B-5	Grants & Contributions	918.74	723.27	1,497.89	1,657.49	1,947.84	2,365.26	1,326.58
B-6	Other expenses	(133.38)	(123.65)	(86.74)	(22.09)	248.10	411.23	441.34
B	Total - Revenue Expenditure	4,651.01	4,559.88	5,476.16	7,347.27	8,123.71	10,677.75	12,020.35
Revenue Surplus (Deficit)		860.22	1,580.16	2,128.28	1,743.59	2,839.49	641.96	411.28
Capital Accounts								
C	Capital Income							
C-1	Grants/Contributions for capital works	-	-	19.35	553.68	357.00	680.00	1,114.71
C-2	Loans/Borrowing (excluding principal repayments)	43.76	86.63	65.22	53.87	8.84	45.00	35.00
C-3	Withdrawal from:	238.13	101.62	783.87	362.70	613.06	3,050.57	1,775.55
C-4	Transfers from Revenue A/c	1,009.65	1,337.18	1,737.13	2,342.63	3,374.10	1,553.29	389.36
C-5	Other Receipts	30.47	43.21	56.79	88.03	0.50	4.63	3.48
C-6	Budget B Receipts	32.72	27.87	91.02	21.66	71.34	113.23	82.55
C	Total Capital Income	1,354.73	1,596.51	2,753.38	3,422.57	4,424.84	5,446.72	3,400.65
D	Capital Expenditure							
D-1	Capital Works	719.39	1,213.92	1,739.29	1,979.41	3,812.43	6,942.29	8,224.17
1	Storm Water Drains	66.04	106.47	331.16	272.49	673.72	1,012.92	1,013.53
2	Roads, traffic & bridges	155.61	250.88	470.77	605.88	964.59	1,188.73	1,179.02
3	Solid Waste Mgmt & transport	42.62	68.71	81.89	69.16	109.49	159.95	308.05
4	Health budget	40.89	65.93	77.02	75.62	144.97	303.85	418.46
5	Primary Education	15.63	25.20	12.97	33.53	63.54	99.83	169.21
6	Properties under improvement schemes & slum improvement	106.79	172.16	101.99	55.91	104.95	218.69	81.18
7	Other depts.	97.49	157.17	192.04	274.31	653.82	1,238.35	1,683.20
8	Common Services	6.13	(0.33)	(23.58)	0.00	0.32	1.59	8.79
9	Water Operation	41.73	69.23	201.83	252.23	357.85	1,116.81	1,280.10
10	Water Supply Project	158.56	254.41	149.76	163.46	592.11	1,236.64	1,441.38
11	Sewerage Operation	7.03	17.74	106.61	132.88	59.80	186.63	181.95

Sr. no.	Item of Sources	ACTUALS				Revised Estimate	Budget Estimate	Budget Estimate
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
		Rs. Crore						
12	Sewerage Project	8.66	18.76	26.24	27.86	64.58	123.68	206.83
13	M.S.D.P.	(27.79)	7.59	10.59	16.08	22.69	54.62	252.47
D-2	Principal Repayment of Debts	181.17	76.20	226.83	364.25	467.94	468.06	341.50
D	Total Capital Expenditure	900.56	1,290.12	1,966.12	2,343.66	4,280.37	7,410.35	8,565.67
	<i>Capital Surplus</i>	<i>454.17</i>	<i>306.39</i>	<i>787.26</i>	<i>1,078.91</i>	<i>144.47</i>	<i>(1,963.63)</i>	<i>(5,165.02)</i>
	<i>Overall surplus</i>	<i>1,314.39</i>	<i>1,886.55</i>	<i>2,915.54</i>	<i>2,822.50</i>	<i>2,983.96</i>	<i>(1,321.67)</i>	<i>(4,753.74)</i>
	Overall surplus (including O/B)	966.83	2,038.01	3,842.01	6,664.51	9,648.47	8,326.80	3,573.06

Annexure III – Projections of Future Financial Requirements

Planned Capital Expenditure

Plans for ongoing expenditure:

Capital Works	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
TOTAL CAPEX	5,925.50	5,513.13	4,162.58	4,183.62	2,798.54	2,854.83	1,587.37	1,619.47	1,652.23	1,685.66	1,719.79
1 Storm Water Drains	1,013.53	300.00	300.00	-	-	-	-	-	-	-	-
2 Roads, traffic & bridges	1,179.02	500.00	510.00	520.20	530.60	541.22	552.04	563.08	574.34	585.83	597.55
3 Solid waste mgmt & transport	308.05	171.95	150.00	153.00	156.06	159.18	162.36	165.61	168.92	172.30	175.75
4 Health budget	418.46	100.00	102.00	104.04	106.12	108.24	110.41	112.62	114.87	117.17	119.51
5 Primary Education	169.21	80.00	81.60	83.23	84.90	86.59	88.33	90.09	91.89	93.73	95.61
6 Properties under improvement schemes & slum improvement	81.18	100.00	102.00	104.04	106.12	108.24	110.41	112.62	114.87	117.17	119.51
7 Other departments	1,683.20	500.00	510.00	520.20	530.60	541.22	552.04	563.08	574.34	585.83	597.55
8 Common Services	8.79	9.23	9.69	10.18	10.68	11.22	11.78	12.37	12.99	13.64	14.32
9 Water Operation	-	800.00	816.00	832.32	848.97	865.95	865.95	883.26	900.93	918.95	937.33
10 Water Supply Project	-	2,228.69	1,173.29	1,440.25	-	-	-	-	-	-	-
11 Sewerage Operation	-	400.00	408.00	416.16	424.48	432.97	432.97	441.63	450.46	459.47	468.66
12 Sewerage Project	-	-	-	-	-	-	-	-	-	-	-
13 M.S.D.P.	-	323.26	-	-	-	-	-	-	-	-	-

Additional projects have been planned, which have an estimated capital expenditure schedule as follows:

Additional Capital Works	Project Cost (Rs. Crore)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
TOTAL CAPEX		5,925.50	5,513.13	4,162.58	4,183.62	2,798.54	2,854.83	1,587.37	1,619.47	1,652.23	1,685.66	1,719.79

Additional Capital Works		Project Cost (Rs. Crore)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	Storm Water Drains	4,500	-	-	-	-	642.86	655.71	668.83	682.21	695.85	709.77	723.96
2	Roads, traffic & bridges	500	-	500.00	510.00	520.20	530.60	541.22	552.04	563.08	574.34	585.83	597.55
3	Gargai Project	2,200	-	-	-	-	550.00	550.00	550.00	550.00	-	-	-
4	Desalination Plant	1,000	-	-	333.33	333.33	333.33	-	-	-	-	-	-
5	MSDP Stage II - Comp II	1,491	-	298.26	298.26	298.26	298.26	298.26	-	-	-	-	-
6	MSDP Stage II - Comp III	2,523	-	504.57	504.57	504.57	504.57	504.57	-	-	-	-	-
7	MSDP Stage II - Balance Works	12,474	-	-	-	-	-	-	1247	1247	1247	1247	1247

Scenario 1: Base Case – Business as Usual

Budget A B E

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	5,876.56	4,568.88	4,940.13	5,330.68	5,992.15	6,763.47	7,608.72	8,696.62	9,731.29	10,842.18	12,035.43
Total - Revenue Income	10,854.42	11,131.99	11,956.65	12,850.49	13,868.89	14,920.23	16,059.99	17,295.70	18,635.55	20,088.44	21,664.04
Total - Revenue Expenditure	10,372.31	10,001.71	10,788.78	11,656.70	12,603.49	13,628.53	14,685.49	15,899.36	17,219.44	18,654.43	20,214.49
Revenue Surplus/Deficit	482.12	1,130.29	1,167.87	1,193.79	1,265.40	1,291.71	1,374.50	1,396.34	1,416.11	1,434.01	1,449.55
Funds available for Capital Expenditure	6,358.68	5,699.17	6,108.00	6,524.47	7,257.56	8,055.18	8,983.22	10,092.96	11,147.40	12,276.19	13,484.98
Total Capital Income	2,056.72	693.65	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	3,846.52	1,452.69	1,316.88	1,101.76	1,131.67	1,189.58	1,165.90	1,182.59	1,206.25	1,230.40	1,255.03
Closing Balance (including O/B)	4,568.88	4,940.13	5,330.68	5,992.15	6,763.47	7,608.72	8,696.62	9,731.29	10,842.18	12,035.43	13,317.64

Budget G:

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	2,450.24	1,459.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total - Revenue Income	2,880.34	2,737.73	3,081.43	3,199.94	3,368.81	3,488.89	3,677.75	3,973.09	4,125.46	4,335.43	4,566.38
Total - Revenue Expenditure	2,181.03	1,949.48	2,152.26	2,299.41	2,506.69	2,783.86	3,118.56	3,339.20	3,607.41	3,870.58	4,157.87
Revenue Surplus/Deficit	699.31	788.25	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Funds available for Capital Expenditure	3,149.55	2,247.38	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Total Capital Income	913.22	185.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Expenditure	2,603.64	3,828.98	2,469.21	2,759.41	1,344.23	1,370.43	1,396.66	1,421.65	1,449.27	1,476.79	1,505.22
Closing Balance (including O/B)	1,459.13	(1,396.59)	(1,540.05)	(1,858.87)	(482.11)	(665.40)	(837.47)	(787.76)	(931.21)	(1,011.94)	(1,096.71)

Scenario 2: Additional Projects

Budget ABE

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	5,876.56	4,568.88	4,440.13	4,320.68	4,461.95	4,059.81	3,708.13	3,575.16	3,364.54	3,205.24	3,102.90
Total - Revenue Income	10,854.42	11,131.99	11,956.65	12,850.49	13,868.89	14,920.23	16,059.99	17,295.70	18,635.55	20,088.44	21,664.04
Total - Revenue Expenditure	10,372.31	10,001.71	10,788.78	11,656.70	12,603.49	13,628.53	14,685.49	15,899.36	17,219.44	18,654.43	20,214.49
Revenue Surplus/Deficit	482.12	1,130.29	1,167.87	1,193.79	1,265.40	1,291.71	1,374.50	1,396.34	1,416.11	1,434.01	1,449.55
Funds available for Capital Expenditure	6,358.68	5,699.17	5,608.00	5,514.47	5,727.36	5,351.52	5,082.63	4,971.50	4,780.65	4,639.25	4,552.45
Total Capital Income	2,056.72	693.65	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	3,846.52	1,952.69	1,826.88	1,621.96	2,305.13	2,386.51	2,386.77	2,427.87	2,476.45	2,525.99	2,576.53
Closing Balance (including O/B)	4,568.88	4,940.13	4,830.68	4,982.15	5,233.27	4,905.06	4,796.03	4,609.83	4,475.43	4,398.49	4,385.10

Budget G:

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	2,450.24	1,459.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total - Revenue Income	2,880.34	2,737.73	3,081.43	3,199.94	3,368.81	3,488.89	3,677.75	3,973.09	4,125.46	4,335.43	4,566.38
Total - Revenue Expenditure	2,181.03	1,949.48	2,152.26	2,299.41	2,506.69	2,783.86	3,118.56	3,339.20	3,607.41	3,870.58	4,157.87
Revenue Surplus/Deficit	699.31	788.25	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Funds available for Capital Expenditure	3,149.55	2,247.38	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Total Capital Income	913.22	185.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Expenditure	2,603.64	4,631.81	3,605.37	3,895.57	3,030.40	2,723.26	3,194.01	3,219.01	2,696.63	2,724.14	2,752.58
Closing Balance (including O/B)	1,459.13	(2,199.42)	(2,676.21)	(2,995.04)	(2,168.27)	(2,018.23)	(2,634.82)	(2,585.12)	(2,178.57)	(2,259.30)	(2,344.06)

Scenario 3: Financing from Internal Funds

Budget ABE

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	5,876.56	4,568.88	4,440.13	4,320.68	4,461.95	4,059.81	3,708.13	3,575.16	3,364.54	3,205.24	3,102.90
Total - Revenue Income	10,854.42	11,131.99	11,956.65	12,850.49	13,868.89	14,920.23	16,059.99	17,295.70	18,635.55	20,088.44	21,664.04
Total - Revenue Expenditure	10,372.31	10,001.71	10,788.78	11,656.70	12,603.49	13,628.53	14,685.49	15,899.36	17,219.44	18,654.43	20,214.49
Revenue Surplus/Deficit	482.12	1,130.29	1,167.87	1,193.79	1,265.40	1,291.71	1,374.50	1,396.34	1,416.11	1,434.01	1,449.55
Funds available for Capital Expenditure	6,358.68	5,699.17	5,608.00	5,514.47	5,727.36	5,351.52	5,082.63	4,971.50	4,780.65	4,639.25	4,552.45
Total Capital Income	2,056.72	693.65	539.56	569.44	637.59	743.12	879.30	820.92	901.04	989.64	1,087.68
Total Capital Expenditure	3,846.52	1,952.69	1,826.88	1,621.96	2,305.13	2,386.51	2,386.77	2,427.87	2,476.45	2,525.99	2,576.53
Closing Balance (including O/B)	4,568.88	4,440.13	4,320.68	4,461.95	4,059.81	3,708.13	3,575.16	3,364.54	3,205.24	3,102.90	3,063.59

Budget G:

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening Balance	2,450.24	1,459.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total - Revenue Income	2,880.34	2,737.73	3,081.43	3,199.94	3,368.81	3,488.89	3,677.75	3,973.09	4,125.46	4,335.43	4,566.38
Total - Revenue Expenditure	2,181.03	1,949.48	2,152.26	2,299.41	2,506.69	2,783.86	3,118.56	3,339.20	3,607.41	3,870.58	4,157.87

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Revenue Surplus/Deficit	699.31	788.25	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Funds available for Capital Expenditure	3,149.55	2,247.38	929.17	900.53	862.13	705.03	559.19	633.89	518.06	464.84	408.51
Total Capital Income	913.22	185.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Expenditure	2,603.64	4,631.81	3,605.37	3,895.57	3,030.40	2,723.26	3,194.01	3,219.01	2,696.63	2,724.14	2,752.58
Closing Balance (including O/B) – using internal funds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(1,020.19)	(2,259.30)	(2,344.06)