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Guidebook on Capital Investment Planning for Local Governments

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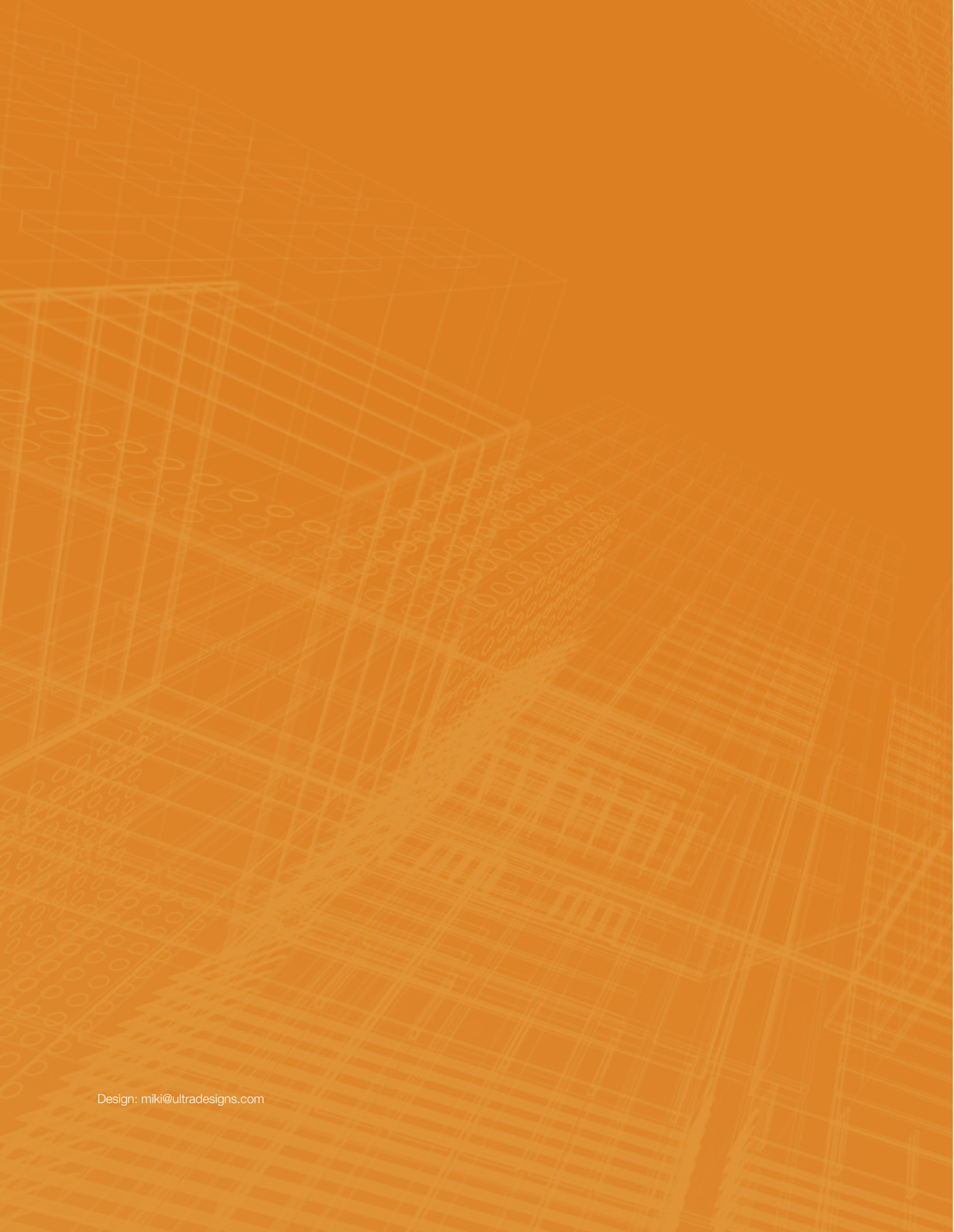

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URBAN DEVELOPMENT SERIES KNOWLEDGE PAPERS

Guidebook on Capital Investment Planning for Local Governments

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Urban Development Series

Produced by the World Bank's Urban Development and Local Government Unit of the Sustainable Development Network, the Urban Development Series discusses the challenge of urbanization and what it will mean for developing countries in the decades ahead. The Series aims to explore and delve more substantively into the core issues framed by the World Bank's 2009 Urban Strategy Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation. Across the five domains of the Urban Strategy, the Series provides a focal point for publications that seek to foster a better understanding of (i) the core elements of the city system, (ii) pro-poor policies, (iii) city economies, (iv) urban land and housing markets, (v) sustainable urban environment, and other urban issues germane to the urban development agenda for sustainable cities and communities.

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Foreword

Urbanization is growing rapidly. For the first time in history, more than 50 percent (3.3 billion) of the world's population reside in urban areas. By 2030, this number is expected to grow to almost 5 billion. Over 90 percent of this urban growth is taking place in developing countries.

This unprecedented growth creates a pressing demand for local governments (LGs) in developing countries to further invest in infrastructure and other assets to support economic and social development. Such investments require capital that often far exceeds available resources. The unavailability of capital, in turn, puts a premium on the need for LGs to build capacity to appraise and prioritize their investment decisions.

This guidebook on capital investment planning is designed to help LG officers; managers of municipal utilities and service companies; and the staff of donor agencies, particularly in developing countries, to improve their capital investment decisions to build infrastructure and enhance service delivery to their citizens and businesses, particularly to the urban poor.

The guidebook was developed with support from the Cities Alliance and in collaboration with the Urban Institute, which has extensive international experience in these issues.

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Abbreviations

BRL	Brazilian real
CIP	Capital Investment Planning
DRM	Disaster Risk Management Program
GHG	Greenhouse gas
ICMS	*Imposto sobre Operações relativas à Circulação de Mercadorias e Prestação de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação*
LCCA	Life cycle cost analysis
LDO	Law for Budgetary Guidelines (São Paulo)
LG	Local government
LOA	Law for Annual Budget (São Paulo)
M&R	Maintenance and repair
MEGA	Municipal Economic Growth Activity
O&M	Operations and maintenance
PPA	Multi-Year Plan (São Paulo)
PPP (P3)	Public-private partnership
R&M	Restoration and modernization
UI	Urban Institute
URF	Urbanization Review Framework
USAID	United States Agency for International Development
VAT	Value-added tax
WBDG	Whole Building Design Guide

Introduction

The purpose of this guidebook is to provide practical advice to local governments (LGs) in developing countries on how to establish and maintain a process of planning and funding capital investment as a regular activity integrated with other activities of the LG and based on principles of good public management. The guidebook is addressed mainly to cities that have not yet established such a process or are interested in revising their current processes. The guidebook is written for decisionmakers and technical experts in LGs who are engaged or should be engaged in this process. The guidebook is designed primarily for urban LGs, but much of the information is useful for mixed or rural jurisdictions as well. This guidebook also is useful for the staffs of donor agencies and/or consultants who assist cities in municipal development projects.

This guidebook is one instrument integrated with other World Bank urban programs and instruments that support sustainable urban development in developing countries within the framework of the World Bank Urban and Local Government Strategy. These other urban programs include the (1) Urbanization Review Framework (URF), which provides macro-level diagnostic tools to identify key policy issues related to urbanization and the investment priorities for it; (2) Eco^2: Ecological Cities as Economic Cities (city or metropolitan sustainable urban development initiative that assists developing country cities to achieve environmental and economic sustainability; and (3) Disaster Risk Management Program (DRM). This guidebook will help LGs prepare specific capital investment plans (CIPs) based on their national urbanization strategies and city-based sustainable urban development plans elaborated through the Eco^2 initiative and/or various DRM instruments. The guidebook will be especially useful to LGs if they have adopted their urbanization strategies and established clear investment priorities.

Throughout this document, users will note that engaging in full-scale capital investment planning implies that government decentralization has reached some depth. First, the LG needs to have the responsibility and authority to plan and make capital investments for a specified set of functions. Second, the LG should have the degree of fiscal autonomy that enables it to raise funding for its capital investment either through local taxes, fees, and other local sources; or through borrowing or involving the private sector. At a minimum, the LG should have influence over how outside funding—from upper levels of government or donors—is spent. Furthermore, LGs should have the authority to carry out the local budgeting process because a regular capital investment planning (CIP) process requires that updates of a capital investment plan be linked to the budgeting cycle. However, given that LGs' financial autonomy varies widely among countries, the guidebook identifies the elements of the CIP process that can be useful to introduce even if government fiscal decentralization and local self-governance are still at an early stage. In other words, the guidebook suggests starting points from which the CIP process can be developed and advanced incrementally as local self-governance deepens and matures.

How to Use This Guidebook

The guidebook consists of seven chapters. The first two describe the context of the capital investment planning process. The purpose of these chapters is to describe how the CIP process needs to be positioned among other functions of LGs. Chapter 1 provides a general overview of how the CIP process is related to other areas of LG activity such as long-term planning, asset management, and financial planning and budgeting. Chapter 2 reviews more specifically how urban planning, strategic planning, and asset management serve (or should serve) as sources of potential capital investment projects. In particular, this chapter details how *life cycle costing*, a key component of asset management, should be incorporated into the CIP process. The second chapter also provides an overview of the general financial aspects (how LGs usually fund and finance their capital investments) and practical instruments for public participation in the CIP process. Both chapters refer readers to specialized sources of guidance on such subjects as asset management, municipal creditworthiness, and public-private partnerships (PPP).

Chapter 3 is a more detailed discussion of how the financial capacity of a LG is assessed and how this assessment forms the basis of its CIP process.

Chapters 4 and 5 present a step-by-step outline of how to establish and maintain a CIP process. These chapters are designed to provide practical help in setting up the CIP process. Chapter 6 provides suggestions on how to sustain the CIP process once it is established. This chapter also discusses a basic set of activities for starting the CIP process, which later can be enhanced incrementally.

Note: Chapters 2 and 3 are important for understanding the context of the CIP process and its intrinsic links to other activities. Thus, they are recommended as mandatory reading for decisionmakers. However, technical experts interested only in the organizational and technical aspects of the process can read chapter 1 and skip directly to chapter 4. They can review chapters 2 and 3 later.

Chapter 7 presents two detailed case studies: the City of Nis in Serbia and the City of São Paulo in Brazil. The case studies illustrate how the CIP process functions in each city. The "lessons for the future" sections at the end of both case studies are likely to prove especially instructive because decisionmakers and others involved in CIP can take these lessons into account while establishing and maintaining their own CIP processes.

Finally, the appendixes provide samples of key forms and documents that LGs require to establish the process suggested in chapters 4 and 5 and a list of useful references for various CIP-related issues.

1 Overview: CIP at Local Governments and Its Links to Other Activities

In the context of the public sector, and of LGs (LGs) in particular, *capital investment* is understood as investment in the acquisition or building of new assets; or major repair and replacement of existing assets that have an economic life longer than one year and a value above a specified threshold. *Capital investment planning* (CIP) by LGs includes (or should include) capital investment by the government itself and by its entities, including enterprises established and owned by the government for the provision of municipal services (utility companies). CIP also may include investment by the private sector through public-private partnerships (PPP).

There is no universal approach to CIP by LGs, not least because the frameworks for local financial management vary greatly from country to country, and even within one country. Moreover, LGs face at least four substantial challenges in dealing with capital investment planning:

1. *Demands and desires for capital investment are always higher than available funding; therefore, LGs must make choices.*
2. There is an intrinsic timing challenge. On the one hand, allocating funding for capital projects should be done annually within a city's budgeting cycle. On the other hand, complex infrastructure projects may require several years' preparation and "packaging" before external financing (grants or loans) can be sought.
3. Contemporary approaches to evaluate options for complex infrastructure projects usually exceed the LGs' technical capacities, even in large cities.[1]
4. Capital investment planning is an evolving area of public management. Local governments across the world are continuously trying new approaches.

The framework suggested here is grounded in an approach that emerged approximately 30 years ago in certain North American cities and since then has been tried and tested. Over the past 20 years, this approach has been recognized as a "good practice" by various organizations and adopted (and adapted) by cities in many other countries.

This guidebook also was influenced by core ideas of New Public Management, an approach that, over the past 10–15 years, has shaped how a growing number of countries understand the management of government assets. Specifically, the core of this guidebook's approach builds on six assumptions:

1. A LG takes care of assets only if they are needed to provide municipal services to constituencies or to perform other mandatory obligations of the LG.[2]
2. Since the financial resources available to a LG for capital projects are limited, a process should be established *to evaluate the competing needs of various municipal services to maximize the use of the financial resources in the areas of highest priority to the LG.*
3 *Local financial policy needs to be formulated and enacted to define in which assets to invest, capital investment priorities, and finance sources.*
4. *The approach should be multiyear.*
5. Capital investment should be considered within the frameworks of life cycle costing and assessment of alternatives (for example, reducing demand for the service/facility, engaging the private sector).
6. The process and results should be inclusive and transparent, involving all departments, senior staff, the local

1 An example of such an option would be whether to build infrastructure as a purely municipal project or to engage in a PPP.

2 In developing countries, this principle can be blurred by the fact that central government agencies, often with donor assistance, implement capital investment projects (for example, water, sanitation, roads) on LG territory without involving the LGs. Such projects have implications for LG CIP and budget, as discussed later in this guidebook.

legislative body (Council), the business community, and the public.

Following such principles ensures that five activities take place:

1. Local government does not spend its limited resources on "frivolous" investment in projects that should not be government business (for example, speculative commercial real estate).
2. All needs are compared objectively.
3. Prudent long-term fiscal policy is exercised.
4. Innovative solutions at the project level are considered.
5. Individuals have effective channels through which to express their preferences.

The fact that this framework balances the conflicting interests and preferences of different stakeholders (residents, businesses, municipal utility companies) is perhaps its strongest feature. In particular, such balancing makes the framework itself reasonably resilient after changes of ruling party or ideology. Nevertheless, the above principles need to be made compatible with the complicated realities in which LGs operate. This guidebook is an outline that users can adjust to their local realities and needs.

The product of the CIP effort is a multiyear (usually 3–6 year) program of capital investment projects prioritized by year with anticipated beginning and completion dates, annual estimated costs, and proposed financing methods. The program usually is approved by a local elected body such as a City Council. After approval, the program can be used internally, by city government itself; and externally, for example, by seeking outside financing from donor institutions or banks. Each year, the program is reviewed, revised, and projected for an additional year. In particular, the approved CIP connects mid-range plans with the annual budgetary process. When the process is established, the CIP becomes a rolling plan, linked to the annual budgeting process: (1) the previous (past) year is removed from the CIP, and a new year is added at the end of the CIP period; and (2) current-year capital budget expenditures are approved as a part of the total budget.

Capital investment is not a standalone activity for LGs. Rather, it sits at the intersection of two interrelated areas: asset management[3] and financial management. Nevertheless, capital investment by LGs has a direct, multifaceted impact on local life. Three key implications are:

1. ***Quality of life in a particular*** city and its attractiveness to people and businesses depend, to a substantial degree, on the quality of public infrastructure and related services. In most cases, this infrastructure in turn is an outcome of local capital investment planning. Given that public funding for capital projects usually is limited, making the right choices among competing investments becomes an important factor in the city's long-term vitality and competitiveness.
2. ***Long-lasting spatial effects*** of capital investment projects impact local life after the projects have been implemented. Locating public capital investment wisely and according to private sector demand can serve as a catalyst to attract private sector capital investment—on top of public investment—in a particular location and thus create a node of urban renewal or growth. Conversely, errors in locating public capital projects can dramatically reduce their utility and waste limited public resources. For instance, infrastructure-equipped land for industrial uses can sit vacant for years due to oversupply. Erroneous choices also can have negative socioeconomic implications. An example is housing for the poor built by the government in locations far from jobs and markets.
3. ***Fiscal legacy.*** Capital investment by LGs often requires some form of long-term borrowing. Moreover, even if new properties and infrastructure are acquired or built without borrowing, making wise choices is important because funding spent unwisely could be used better elsewhere. In addition, capital investment usually leads to ongoing annual operation and maintenance expenses.

Capital investment planning should be viewed in the context of the LG functions and activities with which it is connected. Understanding these connections is critical for developing the CIP process as an integral part of LG

3 Asset management is the process of acquiring, holding, managing, operating, and disposing of capital assets (such as land, buildings, infrastructure facilities and networks, movable property) and other assets needed for attaining government goals.

that can evolve and mature. Otherwise, CIP could be a one-time effort, disconnected from other LG activities. Figure 1 presents a "big-picture" overview of how CIP typically relates to other areas within a reasonably mature LG system (a system with reasonably established, long-term spatial planning, budgeting and financial planning, and asset management).

The three green boxes depict factors that establish a fundamental context for CIP: conceptually, legally, socially, and economically. First, a key principle of contemporary good public management is that the properties and infrastructure in which LGs invest should be only those needed for the services and programs that these governments provide for their populations. In turn, which services to provide are defined either by law (mandatory services) or by local policies (discretionary services). For example, a law may require LGs to provide preschool childcare, so LG may invest in daycare facilities.[4] For example, the same law may not list elder care as a LG function. However, a city may decide to acquire/build and operate a nursing home for the elderly. Providing this home would be a discretionary service.

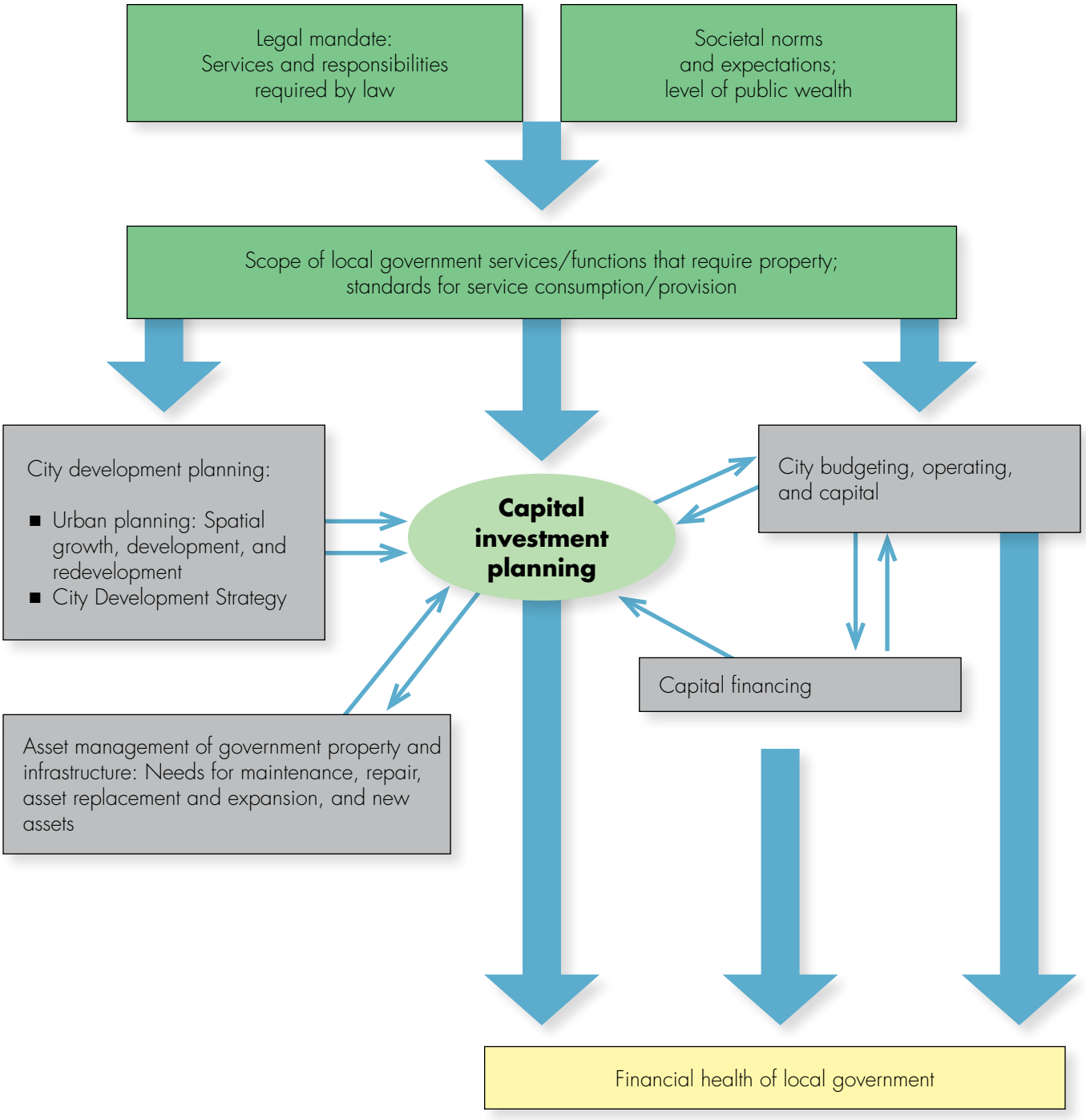
The challenge here is that laws very often are silent about the specific content, quantities, and qualities of the services that LGs must provide. In such cases, societal norms and expectations— often not formalized in any document— come into play. These are underpinned by the overall wealth of the public sector (real or perceived), which, in turn, often is related to regional economic conditions. For example, in one country, the public expects public schools to be available in quantities sufficient to accommodate all pupils in one shift. In another country, cities might be able to afford less, so school buildings will accommodate 2 or even 3 shifts of students each day. Questions about which property assets and what costs LGs can, or should try to, afford go to the heart of good governance. These questions should be asked in every city, because, at the end of the day, all services come from public financial resources that belong to the people. For example, who, if anybody, in the city government should have the use of a municipal car? Should it be an inexpensive car or a Mercedes-Benz? Should a city build and maintain a municipal soccer field or a swimming pool?

In any event, service provision mandates, along with societal expectations and the wealth in the public sector, form the scope of properties and the standards for consumption and provision of services that the LG must address in its CIP process (figure 1). These scopes and standards also profoundly influence what cities include in their development planning and public budgets. Very often, however, the types of properties and property consumption limits permitted for government capital investment have not been formalized. The absence of formal rules and resulting ambiguity opens numerous opportunities for unwise or excessive capital spending by short-sighted government officials. In this regard, the CIP process, especially if it is transparent to the public, can be an important instrument for instilling discipline and accountability in government officials. In particular, having a smart, written local policy specifying which capital expenses are permitted is "good practice" for addressing this issue (chapter 3).

The gray boxes in figure 1 show three interrelated factors that provide input to the CIP progress: sources of projects, funding, and finance. The complex relationships among them are reviewed in the next chapter. Finally, figure 1 depicts a very important aspect of CIP: decisions related to capital investment, city budgeting, and financing all directly impact the city's financial health and its future ability to fund services for its inhabitants.

4 Note that nonproperty solutions can exist as well. For example, this service could be outsourced to private sector providers with their own spaces. Noncapital investment solutions to certain needs will be discussed further in chapter 2.

Figure 1. How Capital Investment Planning Is Related to Other Local Government Activities



Source: Authors

2 Inputs to the Investment Planning Process

Sources of Suitable Investment Projects

City Development Planning

City development planning identifies potential capital investment needs and often is a source of projects for the CIP process. At least two components of city development planning should be distinguished (figure 1). The first is regular urban planning, which deals with spatial aspects and is practiced, in some form, by almost all cities. Forms of spatial planning range from long-term development plans (typically, 10–20 years), such as a Master Plan, which usually are developed for an entire city; to shorter term detailed spatial plans for specific urban areas. All of these forms address the planning of urban growth and development and the redevelopment of certain areas. Spatial plans usually have components related to the infrastructure—both physical (roads, public transportation, water, sewage) and social (schools, healthcare facilities)—required to implement these plans. Therefore, implementation of urban plans implies that new infrastructure, for which the LG or its enterprises are responsible, should be built, which, in turn, requires capital investment. Urban planning also may include an infrastructure retrofit for areas previously developed formally or informally.

There are several challenges related to incorporating the infrastructure stipulated by a spatial development plan such as a Master Plan into projects for a capital investment plan. First, when it comes to suggesting projects for capital investment, most of the "real" planning is done by line departments or enterprises responsible for services such as roads, water supply, sewage, or public transit systems. If these multiple entities all act consistently by following the spatial concept of a Master Plan, the infrastructure required to implement the spatial plan will be built,[5] as in Singapore. However, in many cities, the actions of different departments and enterprises are inconsistent with stated long-term spatial plans. In addition, LGs themselves often lag far behind in providing infrastructure according to their own planning documents.

Moreover, urbanization in developing countries often occurs so rapidly that even a well-prepared Master Plan becomes irrelevant. In these cases, land development by the private sector often goes ahead—with varying degrees of informality—without public infrastructure. In turn, such development makes it necessary later to retrofit the infrastructure.

In summary, to avoid gaps between what is planned and what is built, LGs need to secure:

1. Good institutional coordination both within the government and with external stakeholders to ensure that a real link exists from a Master Plan to the implementation of infrastructure investment that it stipulates
2. Increased capacity to physically deliver the infrastructure projects in a timely manner, at a pace consistent with urban growth. In this regard, a simple solution that can work in some countries is to engage the private sector to design and build infrastructure according to plan specifications instead of relying on the government's own capacity.

In addition, LGs often get caught between the complex and demanding requirements of the spatial plans and zoning regulations imposed by a central government and these LGs' limited capacity to develop such plans and regulations locally and enforce them when they exist.

5 Assuming resources allow.

Another layer of complexity is that, in many cities, Master Plans are outdated or lag behind rapid urban development and often are not responsive to signals of economic demand for land for development or redevelopment. In these cases, the spatial planning system needs to be revised and adjusted to meet the needs of fast-paced urbanization and increasing competition to attract and retain private investment and jobs.

Second, many projects from Master Plans, especially those related to transportation infrastructure in large cities, are too expensive for LGs to finance on their own, even if they can borrow. Examples of such projects are new major ring or radial roads, bridges, passenger rail systems (under- and above-ground), and major water treatment plants. Implementation of such projects then becomes dependent on whether higher levels of government are ready to co-fund or fully fund them. Similarly, for smaller cities, many capital investment projects that by law are the responsibility of LGs are beyond their financial capacities. Sometimes, an entire group of projects can be included in a capital investment plan only conditionally, on the assumption that the central government will provide the funding.

However, the cost of building public infrastructure for areas developing as a result of urban growth depends, to a substantial extent, on whether these areas are planned as low-density sprawls or more compact, higher density areas. By planning higher density residential land uses, cities can shorten the length of all linear infrastructure networks (roads, streets, water lines), thus substantially reducing the capital and life cycle costs of the networks per household (box 1).

The above peculiarities of urban planning have at least two implications. First, at a practical level, urban planners should be required to attach price tags to their urban plans (or, using more formal terminology, conduct financial impact studies); and these costs should be based on a credible methodology. More broadly, both citizens and LGs should begin to be more conscious about the sustainability of land use patterns in their cities and the public costs associated with low-density land uses.

It is important to note that the CIP process is exactly the point at which spatial planning aspects intersect with financial capacities and realities. One of the functions of CIP is to link these aspects.

The second planning component that could supply inputs for the CIP process is a City Development Strategy or similar document such as a Strategic Economic Development Plan. Such documents exist less often than spatial urban plans, because they are required less often by law. However, if a City Development Strategy or a similar document exists, implementation of some of its elements typically requires capital investment. Therefore, incorporating these needs in the CIP process is critical if LGs want their strategies implemented.

For example, in the City of Nis, Serbia (Case Study 1), five projects with the highest priorities in the CIP correspond to specific actions explicitly identified in the recent City Development Strategy. These actions include reconstruction and expansion of the local airport; construction of social housing; and transmission, collection and treatment of wastewater. The challenges are similar to ones outlined above:

First, is there any entity in the city government tasked with implementing priority capital projects from the Strategy? Alternatively, was the responsibility for specific projects explicitly allocated to specific entities, which would promote the projects in CIP? If not, the capital projects from the Strategy are unlikely to be implemented.

Second, how feasible are these projects based on the LG's financial capacity? In this regard, the quality of the Strategy and its fiscal considerations are critical. Indeed, if the Strategy did not include estimates of the costs and resources needed to implement various projects, the chances of implementation are substantially reduced. Of course, even if estimates were included, if the costs of implementing a project are too high, it is unlikely to be implemented.

In contrast, Strategies that rely on mobilizing the resources under a jurisdiction's control can be especially promising.

Box 1. Impact of Land Use Density on Infrastructure Costs

Using the scenarios in the Life Cycle Costing Tool developed by the Canada Mortgage Housing Corporation (CMHC), it is possible to estimate public infrastructure costs at different densities of land development. Let us compare two scenarios:

1. A low-density "conventional suburban development" with approximately 22 residential units per hectare (ha), a curvilinear road network (requiring more km of roads than would a grid), and single-use residential development
2. A high-density "downtown core" or a "neotraditional" development with 272 residential units per ha, a grid road network (requiring fewer km of roads than would a curvilinear network), and mixed use (box table 1).

Box table 1.

Scenario	Gross area	Residential area		Housing units	Residential density
	(ha)	(%)	(ha)	No.	(Land, m^2/ housing unit)
Neotraditional/High density	40	50	20	5,430	37
Conventional suburban/Low density	40	100	40	860	465

The CMHC tool estimates that the "neotraditional high-density" scenario has lower initial capital costs and lower annualized life cycle costs per household than the conventional suburban development. The annualized life cycle cost is an annual average of the total life cycle cost calculated here as the sum of the initial capital costs, annual operating costs, and replacement costs amortized over a 75-year time horizon.

Within specific cost categories, annualized life cycle costs that are linked to population size, such as most municipal services (for example, fire, police, and waste management), remained approximately the same in each scenario. However, in cost categories linked to the density of a development, such as hard infrastructure, annualized life cycle costs are almost 200 percent lower in the more dense (neotraditional) developments. Initial capital costs show an even greater difference between the two scenarios: the hard infrastructure costs in high-density developments account for less than 25 percent of the same costs in low-density developments.

In general, initial capital costs per household in the high-density developments represented in the CMHC Life Cycle Costing Tool are more than 250 percent lower than the per-household initial capital costs for low-density developments. Annual operating costs for both scenarios are approximately the same (box table 2).

Box table 2.

Scenario	Initial capital costs		Annual operating costs		Annualized life cycle costs	
	Total development ($)	Household costs ($/HH)	Total development ($)	Household costs ($/HH)	Total development ($)	Household costs ($/HH)
Downtown core/ High density	41,163,802	5,725	34,562,280	5,825	37,389,283	6,086
Outer suburbs/ Low density	13,266,191	15,426	5,065,340	5,890	5,898,170	6,858

Source: CMHC 2008, 6–7.

Note: HH = household.

Asset Management

Asset management is the prime area of LG activity that supplies projects for the CIP process. The capital assets under LG control include property and infrastructure such as buildings, roads, parks, water and sewage systems, city landfills, and vehicle fleets. Among other things, asset management means managing each property or facility for its entire life, as long as it is owned or controlled by a LG or its entities (institutions, enterprises). Asset management addresses the costs associated with property's life cycle: the acquisition cost, operation and maintenance and repair costs during the life of the asset, and replacement or disposition cost of replacing it when the property exhausts its useful economic life.

Which life cycle costs are included in capital investment planning; and which, instead, are a part of operating budgets vary across countries, even among cities in one country (for instance, depending on city size). Which costs are included also can vary depending on accounting rules. Often, this division between capital and operating expenses is a subject of convention, locally or nationally. However, some of these costs—buying land for a new building, building a new facility, conducting major repair or modernizing an existing facility, or replacing long-lived components of a building (for example, the roof)—usually are included in capital investment planning.

Most importantly, regardless of the specifics of exactly what is considered capital investment, there are deep connections between asset management and capital investment planning, which LGs must factor into the CIP process. These connections are:

- In cities in which some infrastructure already exists, a proportion of capital expenses (sometimes, a very substantial part) should be appropriated not for new construction but for the repair and replacement of existing assets. The necessity to allocate capital funding to existing assets implies that the *asset condition and needs assessment* by departments and enterprises—part of their asset management—should produce a significant number of investment requests. Moreover, it can be useful to have formal or informal policies that give priority to the repair and replacement of existing core infrastructure over the construction of new facilities that could be "flashier" for politicians to support than the prosaic replacement of invisible pipes and pumps.
- The initial construction cost of most government capital assets—from general municipal buildings to city roads—constitutes only a part of the total cost incurred by the LG during the useful life of these assets. (This total cost is called the life cycle cost, defined below.) Moreover, as a rule, the construction cost makes up only a fraction of the total cost incurred during the 50-year life of a facility. This fact demonstrates very clearly that capital investment is only the first, and not the main, cost related to government assets. The implication is that planning any new construction or capital reconstruction must be linked to simultaneous planning for the future institutional and financial operation of the new property. In particular, LGs should define (1) which entity will manage and operate the new infrastructure and (2) from which sources the operating expenses will be funded. Thus, figure 1 has arrows indicating that capital investment planning has an impact on both asset management and city budgeting. If any new capital asset is planned to be built or purchased, managing it during its life as government property would become a task of asset management. In addition, future operating costs should be factored into obligations for the city operating budget (unless this asset is used by a fully independent and financially self-sustaining operator).

For LGs with advanced asset management, all asset activities, including capital planning, originate from a Strategic Asset Management Plan, which defines long-term intentions regarding assets based on the government's service and program needs. When a Strategic Asset Management Plan does not exist, three areas of asset management become critically important for the capital planning process and associated budgeting:

1. Inventorying assets
2. Tying capital investment to life cycle costing
3. Estimating long-term repair and replacement needs for the entire asset portfolio.

In addition, contemporary asset management can suggest new, alternative options for addressing infrastructure needs, including private sector participation and integrated service provision.

Table 1. Example of Basic Property Inventory

NN	Property current function	Address	Cadastre no.	Total floor area (sq m)	Land area (sq m)	Year of construction	Building condition	Building book value (thousands, local currency)	Current occupancy (%)	Notes
1	2	3	4	5	6	7	8	9	10	11
1	Administrative building	Chapichi St., 4	170,477	7,500	2,600	1985	Good	80,670	80	
2	Kindergarten # 1	Sevani St., 2	NA	580	350	1980	Satisfactory	3,500	100	
3	Kindergarten # 2	River St., 57	NA	990	690	1964	Bad	5,018	33	
4	Culture center	Karmin St., 39	NA	6,500	4,500	1984	Bad	61,732	50	

Inventorying assets. To reflect conditions and the maintenance and repair needs of the assets in the CIP process, a LG needs use these data to create and maintain an asset inventory. Many LGs do not maintain a comprehensive inventory of their capital assets. It is recommended that LGs start by creating a basic inventory with a simple database. As the scope and sophistication of their asset management as a whole grows, the LGs can advance incrementally to a more sophisticated database such as one linked to a geographic information system (GIS).

As a start, the inventory should include a brief description of the asset (or group of assets), its location, condition, year of acquisition, remaining useful life, and replacement cost.[6] The initial inventory can be a simple spreadsheet (see table 1 for an example), which later can be imported into a more sophisticated database. Even basic inventory information can help prioritize capital project needs.

Usually, there are records that can be used as initial data sources for the inventory. The goal is to identify all capital assets and assemble initial data that would help estimate and forecast asset repair and replacement needs. The legal or line departments typically have records of existing capital assets. Often, asset ledgers are maintained by LG accountants. Department managers and technical experts also can provide valuable information on the current condition of existing capital assets.

Furthermore, assets usually are grouped in inventory databases, for example, by asset type or by holders/managers (departments, municipal enterprises). Typical groupings may include:

- Utility and sanitation assets, including sewer and water systems, solid waste facilities, and municipal electric and lighting systems
- Highways, roads, and bridges
- Public buildings (in large cities, this portfolio can be further specialized: government use, education, sport, culture, public housing)
- Land or rights to land
- Certain improvements to land other than buildings

6 In asset management, a common practice is to express various expenses associated with maintenance, repair, and operations of a property as percentages of *replacement cost.* In this document, replacement cost includes the base construction cost; supervision, inspection, and overhead (typically 6% of base construction cost); design and planning (9%); and contingencies (5%). (Whitestone Research 2010–11)

- Certain equipment, vehicles, and furnishings.

A set of sample forms for asset inventorying can be found, for example, in "Nova Scotia Implementation Guide to Tangible Capital Assets for Municipalities" and adapted or simplified for local conditions.[7]

It is important to note that the content of the inventory database depends on the tasks for which the data will be used. The data outlined above is needed to plan capital investment and life cycle costing. However, for other asset management tasks, such as optimization of the building portfolio, a LG would need to collect and maintain other information (for example, the level of vacancy of each building).

Life cycle costing. The useful life of buildings and infrastructure facilities and networks can be 25–75 years or even longer. The costs associated with the useful life include:

- Construction/acquisition
- Annual expenses
- Disposition.

The annual costs, in turn, have many components. There is no unified view on how these components should be grouped. In addition, annual costs depend on the type of facility, materials and equipment used, climate (in some places, heating is needed; in others, air conditioning; in some, both or none), and labor. One of the established classifications is presented in box 2 and includes three groups of costs: maintenance and repair, operations, and restoration and modernization (or accumulation of funding for replacement after the end of the useful life).

Moreover, as mentioned above, there are differences in interpreting which expenses should be paid from the operating budget and which from the capital budget. However, commonly recognized ideas underpin good public sector asset management policies and practices:

1. Maintenance and repair (M&R) costs are distributed unevenly during an asset's life and depend on the type of the asset (figure A1). As noted, these costs vary geographically as well.
2. Annual operations costs, compared with replacement costs, also vary substantially by type of asset and constitute a substantial amount (table A1). The M&R and operations costs together, taken over the asset lifetime, are much larger than the initial (replacement) cost. Just as with the M&R costs, the operations costs vary very substantially geographically.
3. Less certainty and agreement exists about what should be included in annual restoration and modernization (R&M) costs, which also are called *recapitalization* or *depreciation,* and how these costs should be distributed over the useful lives of assets or beyond.[8] Nevertheless, it is commonly recognized that sufficient resources should be budgeted and accumulated to fund restoration and modernization or to replace the asset after the end of

Box 2. Possible Classification of Annual Life Cycle Costs

Maintenance and repair (M&R)	• Preventive maintenance and minor repair • Unscheduled maintenance • Renewal and replacement
Restoration and modernization (R&M) (also known as depreciation)	• Replacement due to obsolescence • Change-in-use modifications • Policy-mandated modernization • Acts of war and nature • Restoration from neglect • Long-lived component replacement
Operations	• Custodial • Energy • Grounds • Management • Pest control • Refuse • Road clearance • Security • Telecoms, water, sewer

Source: Whitestone Research 2010.

7 http://www.gov.ns.ca/snsmr/muns/manuals/PDF/guide_tangible_capital.pdf

8 Detailed discussion and references can be found in Lufkin and others 2005.

Box 3. Reserve Fund for School Facilities, Tokyo's Chuo Ward

As do many other administrative areas in Japan, Chuo Ward, 1 of the 23 wards of Tokyo's metropolitan government, keeps a fund for the maintenance, rehabilitation, and replacement of school facilities. The ward sets aside annually an amount close to the depreciation amount for the ward's 16 elementary schools and 4 lower secondary schools. The fund may be used only for the intended purposes unless the ward council decides otherwise.

At the end of FY 2009, the balance of the fund stood at approximately ¥10 billion (US$100 million), which was sufficient to construct 3 school buildings. Under a long-term investment plan, Chuo Ward plans to replace three school buildings in a few years.

Source: Suzuki and others 2010.

its useful life (box 3). Moreover, without proper R&M, even if the M&R and operations costs are fully covered, it is impossible to maintain the productive capacity of public assets during their life spans. *As a result, without R&M, the overall life cycle cost will be higher, because performing emergency repairs costs more than planned repair and replacement*. Despite many methodological differences among property and asset managers, engineers, and accountants, the consensus is that *the simplest rough estimates of needed annual allocations for R&M can be calculated as linear depreciation, that is, by dividing the replacement cost of the asset by its assumed life* (table A1). This amount may be insufficient, especially at certain periods of the life cycle or if the asset has accumulated deferred investment. Nevertheless, systematically allocating and using the amount for either real R&M works, or accumulating it in an earmarked fund for use when needed, would be significantly better than the typical systematic deferred investment that takes place at the local level in most of the world. One challenge in establishing and protecting such a fund is that local politicians might feel that establishing a reserve fund dedicated for future investment or refurbishment is a poor use of resources when there are always immediate needs for other expenditures.

4. The total annual costs associated with properties/facilities during their lives are almost always many times higher than the initial construction costs. However, these annual costs may be lower (although still more than the initial construction cost) for facilities that cost more to build—if the savings on the M&R and operations costs exceed the extra construction cost (box 4). The same is true for the costs of certain types of repair, replacement, or renovation. For example, replacing an old air conditioning system with a modern, energy-efficient one can lead to substantial savings on annual energy cost, so that in a few years, the investment is recaptured and life cycle savings begin.
5. Failing to properly fund M&R or R&M costs results in deferred maintenance, repair, and recapitalization. These, in turn, diminish the useful life of the assets and the initial investment in their construction.

A "good practice" method for accumulating proper resources for maintenance, rehabilitation, and replacement of public facilities and infrastructure is to set up special budgetary funds for these purposes. Box 3 illustrates how special funds have been used by LGs in Japan. Appendix 2 provides an example of a local comprehensive infrastructure replacement policy in a United States town that also relies on special replacement funds.

The above review has very practical implications for LGs' asset management in general and the CIP process in particular:

- Planning any capital expense should be accompanied by planning for future annual costs. This is good practice even if these costs initially can be estimated only approximately, for example, when local data or regional benchmarks are not available for a more accurate forecast. Based on appendix 1, very rough initial estimates expressed as percentages of the replacement cost are annual maintenance and repair (M&R), 2 percent–6 percent; annual operations costs, 5 percent–19 percent; and annual depreciation, 2 percent–3 percent (see definition in footnote 5).
- Moreover, when projects are evaluated during the CIP process, if funding sources for future M&R and operations costs for new capital assets cannot be realistically planned, it is advisable to consider whether this capital investment should be postponed (chapter 4).

Box 4. Opportunities for Cost Savings and Other Benefits under Integrated Waste Management, Vancouver, Canada

Following European practices of integrated waste management, a 2007 British Columbia government study assessed how improved business cases could lead to more sustainable management of waste to generate energy, reduce costs and greenhouse gas (GHG) emissions, and other benefits. Subsequent policy changes encouraged municipalities to pursue resource recovery. As a part of this change, in 2009 Sequel IRM, Inc. analyzed how to maximize waste-related benefits for Vancouver's North Shore communities. The analysis projected that over $1.14 billion in life cycle savings could be achieved compared to traditional practices.

- A traditional waste management solution assumed building a new tertiary treatment plant with minor energy capture, for a projected cost of $335 million with annual gross operations and maintenance (O&M) costs of $7.4 million, before financing. However once the financing and full life cycle costs were included, the actual total cost to the taxpayer rose to $1.1 billion over the 50-year life cycle projection.
- Six nontraditional scenarios also were assessed. The best scenario ("preferred system") assumed combining liquid and solid organic waste processing with sequenced but well-established technologies (anaerobic digesters, gasification, district energy loop with exchangers and pumps). The preferred scenario proposed and paid for replacing building heating boilers in nearly 300 properties to be able to sell them the recovered heat, cold, and water. This scenario also reduced GHG. It is projected to generate a net dividend to the taxpayers of $40 million after all of the costs—construction, eventual replacement, O&M, and finance—excluding inflation, are funded.
- The preferred system's initial costs were more than twice those of the traditional liquid waste treatment approach. However, the preferred system's full costs will be covered by revenues. A cost-focused approach that minimizes costs would fail to identify this value.
- The model measured success on minimizing net tax per household over 50 years. Since sustainable investment benefits usually are long term, it is critical to use a life cycle valuation approach. A traditional discounted cash flow analysis was compared with the comprehensive model. The analysis did not reveal the potential of the preferred system largely because discounting tends to emphasize early revenues and reduce long-term value. The reason is that the issue with long-term, sustainable infrastructure is less about the initial value, which is lowered due to the cost of finance, and more about the long-term equity created. Long-term equity is especially important for community infrastructure.
- Environmental benefits were fully integrated and priced. GHG reductions were expected to be 23 percent–25 percent below 2007 levels—roughly 5 times Kyoto Protocol targets. Ten percent of water would be recovered initially and distributed through a 33-mile energy and water system, supplying the community with capacity for significant expansion.
- The central driver was a strong profit focus and use of a comprehensive, integrated full life cycle valuation model, linked with an engineering and energy management model. While complex—with over 1,800 cash flows and 9,000 engineering variables—the underlying method is a business valuation model known in the private sector. Financial, community, and environmental goals all were measured to optimize the value gained from selling the recovered resources.

The projected $1.14 billion in savings is for a community of approximately 175,000. The project is moving toward implementation: recommendations have been accepted by Metro Vancouver's Board, and an implementation plan is being prepared. Wider application could create substantial tax and environmental benefits, estimated at over $10 billion for metropolitan Vancouver alone. The discussion is moving to focus on policy changes in waste management and business case modeling and reporting.

Source: Adapted from Metro Vancouver 2010.

- Property and facility managers in each department or municipal company dealing with a specific portfolio of assets should establish and maintain systemized logs of all maintenance, repair, replacement, and operations works performed; and of the annual costs associated with these works for each capital asset under their care. Simple guidance on basic low-technology maintenance and repair records for regular properties (buildings) is provided in appendix 10. The managers should group the works/expenses in meaningful classes, similar to those shown in box 2. Grouping enables managers to total the annual costs for each group and calculate simple annual indices for each asset (table A1).
- In addition, managers should set up a system to evaluate the condition of assets and reasonable schedules for maintenance, repair, and replacement. Practical recommendations and forms are provided in appendix 10. Accumulated over time, the records of factual past expenses, combined with an evaluation of the condition of the assets, will become an important basis both for objectively allocating the next year's operating budget among different assets and for developing CIP requests.

Note that one element of life cycle cost that is not discussed here is disposition cost. It usually consists only of the transaction cost if the property is sold at the end of its useful life. The transaction cost would include the administrative costs of the municipal lawyer and other staff time and of the documents needed for disposal. However, in some cases, the disposition cost can be very substantial and should be foreseen over the asset life cycle. A typical example is the cost of closing a landfill and rehabilitating the land. For example, if a LG signs a contract with a private operator to operate the landfill for 20 years, does the contract stipulate how the closure will be paid for? Or after contract expiration, will the LG be left to cover this cost? Other cases with potentially significant disposition costs are those in which substantial demolition/debris removal is required or a land site requires decontaminating before it can be disposed of or reused. For LGs, it is important to make provisions for such disposition (or end-of-contract) costs in the initial contracts with land or property lessees or users.

Another important note related to capital investment planning is that the construction cost and the life cycle cost together still do not constitute the total cost. The total cost comprises additional components, such as the cost of land and borrowing. If borrowing is a financing option, LGs should examine the financial viability of projects with the cost of borrowing included (chapter 3). The cost of land also should be accounted for in many cases, even if a land site is taken from municipal land stock and no monetary outlay is needed.[9] When land must be acquired—for example, by expropriation to widen streets—this cost obviously must be included.

Forecasting long-term repair, replacement, recapitalization, and expansion needs. The useful life of buildings and infrastructure facilities and networks is 25–75 years or even longer. At the same time, the number of assets in even mid-sized cities can be counted in the hundreds and easily becomes thousands as cities grow. With this in mind, and given that the annual life cycle needs of each asset fluctuate over its lifespan (figure A1), the total annual needs for capital investment in the entire portfolio unavoidably will fluctuate as well (see example in figure A2).

Such fluctuations imply that that prudent asset management requires projecting the capital needs for the entire portfolio, or at least for groups of assets, for a time horizon much longer than the 3 to 6 years covered by the CIP.[10] There are no commonly accepted rules for how far into the future to forecast, and to date not many LGs have established this prudent practice. Making such projections is more difficult for large cities with thousands of capital assets than for small cities. However, in practice, the task is simplified by the fact that different types of assets (water works, roads, schools) are managed by different departments or enterprises. Consequently, creating and maintaining a system that enables long-term projections for each portfolio can be a realistic task for advanced asset management and long-term financial planning. Moreover, an initial step, from which a system could grow incrementally, would be to identify the most important public-service properties and facilities (schools, hospitals, waterworks, or whatever is under LG

9 In particular, in some cases, the final "product" of an investment will not be a mandatory LC function, or could be delivered by the private sector (for example, housing or parking garages). In such cases, to know the total cost to society, the LG must include the market value of the land in the estimated investment cost.

10 Note that, in large cities, the relative range of fluctuations will be smaller.

management) and start forecasting long-term investment needs for these properties/systems only.

A useful advanced instrument of long-term planning for municipal utilities is to develop a strategic plan for a specific service (for example, water/sewerage, solid waste). This process is similar to the process of developing a strategic plan for a city. This strategy would include a capital investment plan for the particular utility, which should, in the ideal case, feed into the LG CIP process.

Finally, it is the function of asset managers to identify, investigate, and justify the use of new modes of delivering and financing public services. For example, box 4 illustrates how new technologies and a paradigm change in such traditional service areas as waste management could change the financial profile of a service from a cost center to a profit center and produce environmental benefits along the way. There is no single answer to the question of who should serve as asset managers, especially for such functions as developing innovative approaches to municipal service delivery. As a starting point, it can be useful to appoint a temporary cross-department task force led by a high-level municipal official (for example, a deputy Mayor or financial department director), which would include representatives of municipal utility companies, the construction/public works department, and the departments that hold property portfolios. This task force should be charged with (1) reviewing current practices related to municipal services and capital construction, specifically for identifying opportunities for cost savings, both operational and capital; and (2) identifying potential innovations used by peers in other LGs in the country or region.

Incorporating new approaches such as PPPs in municipal practices takes time and effort. Investigating opportunities and preparing initial justifications should be begun as asset management and financial management activities. One critical challenge is to determine whether private sector participation in service/asset delivery benefits the local population. In other words, LGs should develop and evaluate the proposal to establish a PPP or outsource; make a preliminarily business case; perform a pre-feasibility study; estimate economic and financial scenarios; and demonstrate that a PPP or outsourcing solution is better than a traditional service or asset delivery model. Otherwise a LG should not initiate a PPP/outsourcing.

Municipal managers should not have illusions; this kind of justification is not easy. Governments around the world still experiment with how to make such decisions cost-efficiently. Some PPP guidance documents specifically designed for LGs are suggested in the References. These documents include (1) a guidebook prepared by the Cities Development Initiative for Asia; (2) a toolkit for pro-poor municipal PPPs based on experiences in Europe and the Former Soviet Union (3) an interactive learning guidebook on municipal PPPs along with two toolkits on municipal PPPs in solid waste management and in water and sanitation, respectively.

Within the context of the current guidebook, an important question is how considering a PPP should be linked with the CIP process (chapter 3). Nevertheless, PPPs dealing with capital investment are not usually recommended for LGs that are only beginning to introduce systematic multiyear capital planning.

Higher Level Government Projects

As noted, in many developing countries, projects funded by central or regional government agencies ("central schemes") often represent the bulk of local public capital investments. Such projects create a number of complications for LGs. First, the projects often are selected without consultation or coordination with LGs, with the result that these projects may not reflect local priorities. Second, their schedules can conflict with capital projects of LGs themselves. Third, such projects, when finished, often have a major impact on local budgets. LGs are supposed to pay for the M&P and operations costs of the newly built facilities, which generates a substantial, often unsustainable, budgetary liability. This liability often leads to the elimination of current local budget surpluses, financially crowding out high-priority local projects. Moreover, the "imposition" of centrally planned projects reduces the incentives of local policymakers to engage in the time-consuming CIP process. Ideas of how LGs can deal with this issue are discussed in later chapters.

Financial Aspects

Finally, capital investment planning is closely related to two elements of financial planning: *capital financing* and

budgeting.[11] Capital financing deals with identifying and securing funding and financing for capital investment projects. Budgeting is a process of aligning resources to needs for a given fiscal period. In many systems, the government budget has two components: the operating budget and the capital budget.

Figure 1 shows the principal links among CIP, capital financing, and budgeting. First, *at the end of the day, financial resources available for capital investment define what can be implemented*. Second, if a LG has an *established budgeting process*, capital investment spending will not take place without being approved as part of a budgetary cycle. In addition, the implementation of a capital investment plan has an impact on the budget. Indeed, as outlined in the previous section, the government needs to take into account the after-acquisition life cycle costs of new or renovated assets, and these costs must be planned for and incorporated in budget forecasts during the capital investment planning stage.

In sum, another *key input in the capital investment process is knowledge of the LG's financial capacity to fund capital investments*. This capacity includes the feasibility of incurring debt and the attitude toward borrowing. *The list of projects prioritized through the CIP process is nothing more than an expression of local needs and preferences unless there is a way to fund and implement at least some of them. Most LGs around the world can only finance a few priority projects in any one year and only a small percentage of their total capital needs.*

The LG should analyze its financial capacity for capital investments before deciding which projects to support, so that it will know in advance how to allocate financial resources to capital projects. Such an analysis provides projections of future revenues and expenditures and determines the financial resources that can be used to fund investments or finance debt. Instruments for such analysis are detailed in chapter 3.

Given that the use of debt financing has long-term implications for a LG's financial standing, it is very important for LGs to understand the benefits and risks of incurring and managing debt. Moreover, LGs need to find out whether national legislation explicitly permits them to borrow or, at the very least, does not directly prohibit local borrowing.

Finally, some capital investment needs can be addressed through the use of nonfinancial or nontraditional solutions. On the demand side, as mentioned, governments can reduce the need for new infrastructure by planning for higher density land uses in growing cities. On the financing, building, and operating side, engagement of the private sector in the process through various forms of public-private partnerships is a growing trend, at least in large cities. Finally, use of such nontraditional instruments as land-based financing can enhance a government's financial capacity,[12] as detailed in the next section.

Sources of Financing and Funding

The total capital investment for any period of time (that is, the entire Capital Investment Plan) and the individual projects included in it can be financed through a combination of sources. Usually, sources of financing are defined for separately each capital project (or for a group of similar projects, such as street repairs in different parts of the city). Often one project, especially an expensive one, has several sources (see examples in Case Study 1).

Typically, potential sources include[13]:

- ***Targeted transfers (grants) from upper levels of government.*** Often they are allocated for specific sectors (for example, water, roads) or specific projects. In some countries, such transfers may give some discretion to LGs to decide how to use the funds, especially in countries with more advanced decentralization (such as Indonesia).
- ***Local budget***, which may include such sources as:
  a. *Surplus from the annual operating budget.* This can

11 This section draws partly from several documents produced by the Local Government Reform Project II/Croatia/USAID/Urban Institute during 2004–07 and other USAID-sponsored guidance documents.

12 Land-based financing includes the mobilization of the economic value of the government-owned land and government's power to impose fees and charges, in particular on developers, or to sell "development rights" to generate additional revenues to fund infrastructure. See Peterson 2009.

13 Modified from Peterson and Clarke-Annez 2007 and Peterson 2009.

be the surplus remaining from the previous year or the expected surplus from the current year. Sometimes this source for capital expenditures is called "pay-as-you-go." The surplus can be created either from own-source revenues (or savings of expenses) or from general (not earmarked) transfers from upper levels of government.

b. *Dedicated local taxes and fees for capital projects.* Such taxes and fees (for example, land development fees) usually are charged to developers and are used to fund city-wide extensions of public infrastructure. In some cases, the fee amount is linked to the need for additional infrastructure caused by the new development (impact fee). The possibility of imposing this kind of tax or fee often is defined by national law, but the implementation and administration are left to LGs.

c. *Users' contribution.* This one-time contribution can be a substantial funding source. For example, hook-up/connection charges commonly are used in many countries for water projects. In most South Asian countries, this charge covers approximately 10 percent of investment costs. In Jordan, citizens contribute up to 50 percent for local roads (street pavement). Contributing to the cost also builds citizens' sense of ownership and contributes to citizens' selecting priority projects and controlling implementation—at least, to some extent.

A good way to manage dedicated local taxes and fees ("b" above) is through a *Special Reserve Fund*. This is a special permanent (multiyear) budgetary fund established through a formal LG resolution. This fund accumulates specific earmarked resources identified in its establishing documents for the future repair and replacement of essential capital assets. These funds usually cannot be used for other purposes. Often, LGs have several such funds, each dedicated to a particular infrastructure system or group of properties (for example, roads and streets; water, sewerage, rainwater; general immovable properties). The existence of such funds and relevant accumulations in them often indicate that prudent long-term financial planning and asset management policies are in place (see example in appendix 2).

For infrastructure systems that provide user-paid services (for example, water, sewerage), some part of the user fee should constitute a dedicated source for capital investment (that is, for paying for capital components of M&R costs and for restoration and recapitalization). Tariffs for such fees are critical (box 5).

Box 5. Tokyo Waterworks: How to Finance a Water Pipeline Replacement Project

When determining the appropriate level of reserve funding for revenue-generating enterprises such as water companies, it is important to take into consideration fees and charges. The Tokyo Waterworks, which serves 12.5 million people in metropolitan Tokyo, has been financing its operating expenses and capital expenditures by relying on water tariff revenues. Various reserve funds have been set aside to cover fluctuations in these costs. Currently, the utility is facing the daunting task, beginning in 10 years, of replacing old water pipes. The total investment required is approximately ¥1 trillion (US$10 billion), which represents 40 percent of the utility's total assets of ¥2.5 trillion (US$25 billion) in current yen.

To meet this challenge, Tokyo Waterworks started identifying ways to level out the ¥1 trillion planned investment over a reasonable period by planning for maintenance and rehabilitation (M&R) well ahead of the project and establishing a detailed construction plan. Meanwhile, the utility has already started accelerating debt repayments so that outstanding debt may be maintained at the current level of ¥0.5 trillion even after project financing has been undertaken. The accelerated repayments are being covered by water tariff revenues even though the Tokyo metropolitan government lowered the water tariff on January 1, 2005. The utility plans to finance the ¥1 trillion replacement project by implementing a reasonable tariff adjustment.

Source: Suzuki and others 2010.

A good practice is that tariffs should be based on full cost recovery. Usually, this implies that the tariff would cover the M&R costs, operations costs, debt service (that is, payment of loan interest), depreciation, and, for private companies, profit. In such cases, the loan principal is repaid from the depreciation.

The amount calculated for depreciation, if not consumed by debt repayment, should go into a special reserve fund/account for capital investment to replace assets as they reach the end of their useful lives. As good practice, such reserve funds should be supervised independently by a special board. Moreover, these special funds must be protected by local regulations from use for other purposes and be available only for capital investment by the designated service. For example, if water and sewerage are provided by a special municipal company, the Water Reserve Fund should be available for the water company to use according to a *pre-approved* CIP. In some countries, depreciation is included in the user fees by law.

However, two problems are common. First, tariffs often do not recover the full cost due to concerns that the full-cost tariffs would be not affordable for some users. To address the resulting budget shortfall, the first sacrifice is the reserve for recapitalization (depreciation). Second, municipal service enterprises often include depreciation in the tariffs but spend this portion of the fees on operating instead of capital expenses. They make this choice for a number of reasons, one of which is lack of a proper supervision of their activities. When tariffs are set below full cost-recovery due to concerns about affordability, there are two good-practice mechanisms that LGs can consider, rather than simply reducing tariff. These mechanisms are (1) cross-subsidizing residential users from fees charged to industrial and commercial users; and (2) in more advanced cases, targeting direct subsidies to households in need so that they can pay the full tariff.

- ***Borrowing***. Loans from financial institutions such as general banks, or specialized banks and financial entities (Europe), or municipal bonds (US) are the most common forms of long-term borrowing from the financial markets by LGs. However, LG borrowing from the financial markets can be prohibited or limited by national laws and regulations. Even if borrowing is not prohibited, entering the financial markets requires a certain level of financial management maturity and sophistication. Local governments also need to establish their creditworthiness to be able to obtain credit on conditions acceptable to citizens.[14]

In practice, borrowing is not available to LGs in many developing countries for several reasons. They range from under- development of financial markets to lack of policy and regulatory support from the central government to LG lack of capacity to handle the borrowing responsibly. In general, LGs' ability to borrow is closely correlated with political and fiscal decentralization. Moreover, long-term financing options required for infrastructure often do not exist in developing countries. Again, the depth of the LG financial markets tends to mirror political decentralization, which is incomplete in some countries. Sometimes, LGs can obtain short- or midterm loans from the upper levels of government.

Finally, in many countries, LGs sometimes can obtain loans from specialized donor-funded entities, such as Municipal Development Funds or Urban Infrastructure Funds. These entities may be designed to support specific types of projects. As a result, this funding may not be available for all projects in a LG CIP or even for its high-priority projects. Nevertheless, it can be an important source of funding for LGs.

For cities that may borrow, deeper discussion of practical issues related to the incorporation of borrowing into overall financial planning appears in chapter 3.

- ***Local balance sheet: Mobilization of land and property assets owned by the LG***. Many LGs are "cash poor, land rich." They have limited fiscal autonomy and/or small budgets. Nevertheless, they control substantial holdings of land and built-up properties that they do not need for public use now or in the foreseeable future. Being "land rich" is particularly true for cities in many former centrally planned economies. Identifying such "surplus" land and built-up properties and selling them at auction can generate substantial revenues to fund capital investment.

  Public land and property are practically unrecoverable resources, that is, once sold, they cannot be recouped without significant expense. Therefore, good governance principles should be applied carefully in making this decision:

  - The "surplus" nature of properties should be established following an inventory of all public land and property under LG control and after public-use land has been reserved for future development ("rights-of-way" for streets and engineering and

14 The subject of LG borrowing and creditworthiness is discussed more in the next section. However, in general, it is beyond the scope of this guidebook, and readers should use specialized resources (see References).

social infrastructure). This careful preparation helps LGs to avoid selling land for private development that is needed, for example, for school construction or other public use.

- Land sales should be planned for several years ahead, but flexibly adjusted to conditions on the real estate market so as not to oversupply land and to avoid sales during downturns of the real estate market ("time-to-market").
- Sales should take place in the form of simple auctions, in most cases, for the highest price offered. Note that "auction" does not imply only a transfer to private ownership. Long-term (and even short-term) land leases can be auctioned as well.
- To increase revenues, the value of LG land should be enhanced before sale. A very useful step is to remove excessive land use restrictions and conditions by permitting broader combinations of land uses and higher densities. Fiscal benefits for local budgets can be very substantial, with no harm to public interest.
- The sale revenues should be placed in a special permanent budgetary fund used only for capital investment and repaying long-term debt, as discussed above for Special Reserve Funds.
- Sales of undeveloped land (land without infrastructure) should be coordinated with infrastructure provision for this land (either by the government or its entities or by private developers as a binding requirement for them).
- Expropriation of land from sitting tenants should be avoided or minimized.

- ***Grants from international donors.*** In some regions of the world, LGs can "shop" for grants from various donor-sponsored sources. For example, in many countries in Eastern and Central Europe, grants from the European Union are available for certain types of projects, both for countries preparing for future membership and for those recently accepted. This funding may be available for specific types of projects only, and qualified projects may not be the highest priorities on the LG's CIP list. Nonetheless, it makes sense for a LG to be familiar with funding potentially available through this channel. Obviously, use of international donor funding should be investigated before an LG turns to borrowing. On the other hand, in many countries, no grants are available.
- ***Private sector participation,*** which can include:
  - *Various forms of public-private partnerships (PPPs or P3).* The prevailing form of PPPs is based on a contractual relationship between the government and the private partner (which can be a consortium of private entities). A less common form is a joint legal entity established by the government and the private partner—a joint venture, which usually is established with shares either held by the initial partners or publically traded.

    Private partners in PPPs can play several roles, which include providing financing, expertise, and efficiency; and, if a PPP is well structured, taking on specific risk. However, long-term PPPs associated with capital investment are the most complex instruments of all that LGs might use. For this reason, other budgetary or balance-sheet instruments are more important. Only a minority of LGs are likely to use PPPs. Moreover, as with borrowing, PPPs usually are possible only if the LGs have a certain level of financial autonomy.

    On the financial side, there are two primary models, with a continuum of hybrids in between. The first model applies to PPP projects that can become completely financially self-sufficient and do not require public funding. For example, a public garage is designed, financed, built, and operated by a private partner on a government-owned land site, with parking prices controlled by the government. The private sector partner does this in exchange for permission to build a mixed-use commercial building on the site as well. In such cases, investors recapture their costs and obtain profit from the revenues generated by the property/facility they build, while the government obtains the public-use facility (garage) built without public capital outlay.

    The second model requires public funding, but the initial capital costs are borne by the private partner in a PPP. The LG government repays this cost over, say, a 15-year period from the operating budget. In this case, the LG's financial obligations are very similar to debt service. The reason to use a PPP is to allocate specific risks to a private-sector developer and benefit from the innovations and efficiency of the private sector. Many local facilities such as schools and jails have been constructed or reconstructed this way.

PPPs also can provide savings on life cycle costs by integrating stages of capital projects that are fragmented in the traditional public sector approach. For example, the integration of design, building, and operation in the hands of the same partner can lead to very substantial savings. In addition, a major benefit of PPPs is that well-structured PPP contracts protect public budgets from the risks of budget overruns and funding drying up before project completion. The project costs and funding for the entire project are stipulated in the PPP contract, before the construction starts.

Nevertheless, as already noted, long-term PPPs associated with capital investment are very complex transactions. They require specialized LG expertise. The LG must have the capacity not only to prepare, procure, and negotiate a PPP but also to manage it. For LGs, the recommendation is to engage in PPPs gradually, starting with simpler, short-term forms such as outsourcing O&M of selected municipal services or facilities (street cleaning, for instance). It is advisable to enter into long-term PPPs only after gaining experience with simple contracts. Experience shows that starting with complex long-term PPPs is risky unless qualified and often expensive technical assistance is provided to the LG at all stages of PPP preparation, procurement, negotiation, and contract management. Without this support, complicated PPPs often lead to deals that do not best represent the public interest.

In particular, LGs in developing countries tend to sign complex contracts without understanding all of the fiscal implications. An example would be that if users did not provide a pre-agreed volume of solid waste or wastewater to be treated at the PPP facility, the government would have to pay the private provider for the lost revenues. If and when LGs plan to engage in PPPs related to capital investment, it should be part of their regular CIP process. Furthermore, the choice to implement investment through a PPP should come after the project identification stage (chapter 4).

- *Lease—or installment purchase*—is another less traditional form of acquiring capital assets. Under such arrangements, the costs to acquire premises or equipment are similar in some respects to purchases made with debt proceeds in that they are funded over more than one year and subject to certain terms and conditions; and create future payment liabilities.
- *Developer exactions.* This form is used widely around the world and implies that developers build on-site infrastructure on their own, with no public funding or finance. This form sometimes morphs into a "negotiated" contribution of off-site infrastructure (see below), in addition to on-site infrastructure. For example, a developer is required to build an access road to its development site, or complete off-site infrastructure that was supposed to have been built by the government or its utility company but was not.
- *Voluntary and negotiated contributions.* These are instruments such as *business improvement districts*, in which property owners in a specific area agree to pay a predefined amount for specific improvements of infrastructure and services in the area, before investment in these improvements is made. In some countries, there are also more complicated models, such as tax increment financing (TIF).[15]

  Several forms of PPPs and land-based financing such as sales of development rights are presented in Case Study 2 (chapter 7).

There are no universal rules on how a LG should decide on which sources to use. *Using own resources (budget and balance sheet)* is the simplest, because there usually are no external strings attached. However, these resources are always limited and usually are not sufficient to fund large-scale infrastructure investment. Common sense dictates that, as the next best source, and before any other external sources are tapped, free money (donations, grants) should be used to the maximum extent feasible. However, *grant funding* has certain disadvantages:

- Most grant funds have specific goals, which do not necessarily correspond to the highest priorities on the municipality's list. For example, the European Union or another donor institution may provide grants for environmental protection investments and therefore

15 Tax increment financing (TIF) is a public financing method that has been used as a subsidy for redevelopment and community improvement projects in many countries including the United States for more than 50 years. Costs and benefits of using this instrument continue to be a subject of debate and research.

wish to finance a wastewater treatment plant, whereas for the LG, investing in water supply may be a higher priority. Moreover, grants usually do not pay for future maintenance, repair, and operations costs. Thus, before using a grant, the LG needs to identify who will manage the property, facility, or infrastructure and how the annual costs will be covered.
- Grant funding requires substantial additional preparatory and reporting work.
- The amount of grant money usually is limited and there is a risk of discontinuation as a result of fiscal deterioration or changes in priorities in donor countries.

The second constraint—additional preparatory and reporting requirements—often is applicable to *municipal borrowing* as well. Preparing "bankable" municipal projects in a format acceptable to lending institutions requires substantial research and preparation. This issue is discussed further in the next section and in chapter 5.

Nevertheless, debt financing is used by many LGs. The rationale is that it enables project implementation to be accelerated and financed immediately. Long-term debt results in infrastructure that is used by more than one generation also being paid for by more than one generation. Short-term debt, such as debt with a pay-back period of five years or fewer, is more problematic because debt service then becomes a large expenditure and significantly reduces the LG's near-term investment capacity.

It is important to follow these rules for debt financing:

- Use debt to finance only strategic infrastructure projects that service mandatory LG functions.
- The life of a loan should not exceed the useful life of the asset acquired with the loan.
- When possible, use loans to cover any gaps in financing after own sources and grants; that is, LGs should prefer grant financing to loans.
- Make a careful forecast of the capacity to repay the loan, because the limitations on borrowing that can be established by law can be insufficient to prevent your LG from over-borrowing. A LG that has not exceeded its legal debt limits still may not be able to repay its debt. This point is elaborated in chapter 3.
- Exercise caution when taking out large loans. If, as a result of borrowing, the LG has no spare borrowing capacity, financing other projects can become problematic.

More information about debt financing is provided in chapter 3.

Public Participation and Overall Transparency of the CIP Process

"Public participation" should provide channels not only for citizens but also for the business community to have a say in the CIP process and product. Public participation ensures that what is funded and how these capital investments are paid for reflect the views of not only the politicians and technical experts from the government but also a broader constituency of local taxpayers, both individual and corporate (box 6). At the same time, public participation in the CIP process enables the government to convey to the public unpopular truths: about the true cost of new or improved services and the associated tariff/fees implications for the public. Without such communication, there is a risk of a common problem: people like services to be improved but tend to ignore the fact that improvements cost money.

Box 6. Benefit of Long-Term Planning and Public Participation: Contra Costa Water District, California (US)

In the Contra Costa Water District, which serves approximately 450,000 customers, developed a 10-year CIP as part of an annual cycle that includes operating and capital budget development and rate setting. In addition to a first-year plan for funding capital projects, the CIP estimated operations and maintenance (O&M) and debt service costs, projected reserve balances, and projected revenue requirements. By projecting rates over 10 years, the district was able to absorb one-time revenue shortfalls or unexpected expenditures without being forced to react with large rate increases. Moreover, increasing rates in small annual increments—rather than steep, sudden hikes—was aligned with the financial plan and has slowed the rate of inflation. These increases went virtually unnoticed compared to most tax or rate increases. Area developers even agreed to substantial increases in the district's "facility reserve charges" after participating in a technical advisory committee to review these charges relative to the plant investments required to serve growth.

Source: Suzuki and others 2010.

The overall transparency of the process—both within the government and for the public—and of the CIP is no less important than the direct contribution of nongovernmental players. Transparency is essential to keep the government accountable and to reduce opportunities for corruption, especially since government investment and construction projects around the world have been prone to corruption. Practical transparency instruments are discussed in chapter 5.

There are at least four public participation entry points in the CIP process, each with specific instruments to be used. These key opportunities are:

1. Active engagement of the elected representative body
2. Public participation in the CIP Committee
3. Public input during the preparation of project requests
4. Public input into the draft CIP and capital budget.

These entry points are presented in chapter 4 with related steps in the CIP process. Furthermore, in addition to "standard" methods of public participation, there are endless opportunities for LGs to employ creative approaches to engage the people in addressing specific challenges of capital investment planning (box 7).

And, as mentioned, the public should be involved in the spatial and strategic planning of the city.[16]

16 In the early 1990s, an approach to public participation in capital investment planning called *participatory budgeting* emerged in Porto Alegre, Brazil. This approach is different from the one detailed in this guidebook. Participatory budgeting generally involves four steps: (1) Community members identify spending priorities and select budget delegates; (2) With help from experts, budget delegates develop specific spending proposals; (3) Community members vote on which proposals to fund; and (4) The city or institution implements the top proposals. Since then, various elements of this process have been tried in many cities in different countries. However, the future of participatory budgeting in its birth city is not clear. Since 2005, with a change in the political party at the helm, participatory budgeting has been supplemented by a parallel system of public-private initiatives. It appears that participatory budgeting as practiced in Porto Alegre is vulnerable to changes in a city's political landscape. https://nacla.org/node/4566

Box 7. Engaging the Population in Raising Funds for Water System Improvement: City of Uzgen, Kyrgyzstan

The City of Uzgen's potable water supply system was built for a population of 12,000 . Since then, the population has increased by approximately 350 percent, but the system has not been properly maintained. During the 2000s, the World Bank-funded Community Development and Investment Agency provided grants for local infrastructure in Kyrgyzstan. However, Uzgen could not meet the eligibility condition that required LGs to make a matching contribution of 3 percent of the total cost. At that time, neither the city nor the water utility, which had a large debt from nonpaying customers, could provide the match.

The city administration designed and implemented a creative and successful public relations campaign to convince residents to make a one-time contribution to raise the funds. To solicit funds for the first stage, the local administration asked all schools to teach a lesson for 1st-graders on "Why We Need Clean Water" and to ask 5th-graders to write an essay on the same topic. The 1st- and 5th-graders' work was sent home to parents, and the work convinced families to make the needed contributions. A few years later, for the second phase, the local administration rented 6 buses and invited 300 women activists, all city elders, and members of the City Council on a field trip to the water supply reservoirs to see their bad condition and, as a contrast, a billboard with detailed design renderings of the reconstructed facility. This campaign led to a second contribution by the population. The entire project was finished in 2009 and increased the share of the population who have centrally supplied potable water from 30 percent to 65 percent.

Source: Interview with A. Nosirov, Deputy Mayor, 2011.

3 Assessing Local Government Financial Capacity

Knowing and planning its own capacity to fund and finance capital projects and maintaining fiscal discipline on this front are critical for a LG's financial sustainability. Such financial planning is the foundation on which capital investment planning should be based.

Analysis and Forecast of Revenues and Expenses

Financial planning starts with an objective analysis and forecast of revenues and expenses. Not all of the sources for capital investment listed in chapter 2 are equally available in various countries. For example, long-term PPPs or municipal borrowing may not be legally permitted, may be unattractive for private lenders and investors, or may be too expensive for LGs. Even if these instruments are potentially available, the *primary* factors in determining LG financial capacity are (1) the extent to which a LG can generate revenue or has a stable stream of grants and subsidies from upper levels of government, and (2) the extent to which a LG can control expenditures. Furthermore, countries vary greatly in the roles that LGs and upper levels of government play in funding local capital investment. In many countries, various formula-based grants (such as capital development grants or unconditional grants) from upper levels of government are the dominant source of LG capital finance. In other nations, own-source revenues are the main source of finance for capital projects. For example, in the case of Nis, Serbia (Case Study 1), central government capital grants constitute 9.4 percent of CIP funding, while the city's own budget and that of the municipal utility companies combined contribute 28 percent.

Revenue Receipts

Transfers from upper levels of government for capital investment and grants from donors usually are not sufficient to fund the capital needs of LGs with responsibilities for specific services. Therefore, one of the main factors in determining LG financial capability is the size of its local revenue base. This is the amount of revenue that the LG is entitled to receive and collect. Sources of LG revenues usually are set by national laws, which entitle LGs to receive certain types of taxes and other fees. Usually, two types of revenues are distinguished: operating (recurrent) revenues and capital revenues (such as one-time revenues from land sales).

Several channels often have some potential to increase local revenues:

- ***Improved administration and collection of local fees and charges,*** focusing on those that would produce the biggest addition to the budget or produce the largest increase in funding for capital investment. Commonly, these payments would be related to land (land rent, land lease, land tax) and services (water, solid waste removal).
- ***Gradual increase of tariffs for services,*** toward the level of full cost recovery. Note that tariff increases should be tied to simultaneous improvement of the quality or quantity of the service and should address affordability concerns through targeted subsidies.
- ***Enhancement and mobilization of municipal land values,*** as discussed above, through the more sophisticated mechanism of *selling development rights* (see São Paolo examples, Case Study 2).

Operating Expenditures

In evaluating the financial capacity of a LG, one should be concerned with the number and extent of the public services that is the LG is mandated by law to provide and the accompanying municipal expenditure. The costs of providing services are determined by the cost of labor, materials, and energy for each service plus the administrative costs of running the LG. In addition, LGs that have borrowed money have loan repayments, which are part of their expenditures. A useful indication of the ability

to provide services can be obtained from looking at the structure of the LG's operating expenses, especially how much is spent on items other than staff salaries.

Financial Balance (Net Results) and Financial Analysis

Financial balance is simply the comparison of revenues to expenditures. If operating revenues exceed operating expenditures, there is an operating surplus. If expenditures exceed revenues, there is a deficit. Municipal policymakers (local representative body) and financial managers (Mayor and finance director) should be concerned with both the operating balance in any one year and future trends. Both the LG and potential grantors and lenders are concerned with the stability of the operating balance (and total balance) from year to year and whether there may be wide swings between surpluses and deficits.

Speaking pragmatically, to establish the limits for the capital budget for the current year and realistic multiyear targets, *an analysis of an LG's financial condition and capacity to finance future capital projects should be made early in capital programming*. The analysis needs to be prepared and discussed prior to the preparation of project requests. A workshop for elected officials should be scheduled to discuss the analysis along with economic and noneconomic trends, expected amount of available capital funds, and preferred methods of financing. In this way, elected officials will be able to use the information to prepare the policies and guidelines to be followed by those who will develop the requests. The establishment of fiscal parameters by the policymakers enables a more rational and realistic approach to the selection of projects in the CIP process.

At a minimum, financial analysis should comprise:

- Three-to-5-year financial analysis of own-source revenues by major source, expenditures, operating and capital reserves and surpluses/deficits
- (If borrowing is an option), analysis of current and future debt capacity
- (If borrowing is an option), analysis of per capita debt, debt as a percentage of revenues, and debt service as a percentage of budget
- Analysis of lease obligations
- Analysis of potential future changes in funding from upper levels of government
- Analysis of potential capital funding sources.
- In conducting the analysis, the following questions should be asked:
- What are the operating expenditure, revenue, and net operating result (surplus, deficit) trends?
- What are the reasons for these trends?
- What would happen to the net result if key parameters such as a fee rate or a collection rate changed?
- How dependent is the government on one-time revenues (such as land sale revenues) and funding from upper levels of government?
- What is the current amount of outstanding debt (if applicable)?
- What is the borrowing capacity (if applicable)?
- What is the level of debt service (if applicable)?
- What is the potential for new sources of capital funds?
- How much will be available for capital financing?
- How can you improve the government's financial condition?

Spreadsheets for cash flow forecasts are required to conduct this kind of analysis. Sample forms for the basic cash flow analysis are shown in appendix 3, sheets 1 and 2. Appendix 3 also includes a spreadsheet (sheet 3) for matching available financing with requests for capital funding assembled in the CIP process.[17] This kind of analysis is a part of financial management and should be undertaken whether or not the LG is carrying out capital planning. The analysis should use scenario-based simulations under various assumptions about parameters that can be changed by the LG (from salaries of government employees to rates for local taxes and tariffs for local fees). The forecast also should include a sensitivity analysis.

Note that sheet 2 in appendix 3 has sections (IV and V) that simulate the impact of annual operating expenses caused by new capital projects on LGs' net operating results. Moreover, in connection with capital projects built by higher levels of government, if the future annual expenses (M&R, operations) are expected to be borne by the local budget, it is recommended that these costs also be included in the simulation.

17 Matching finance to requests is discussed further in chapter 4, step 8.

Debt Financing and Debt Policy

To what extent the use of borrowed finance—if legally permitted—is feasible and prudent depends on several factors: availability of such finance from the financial market, creditworthiness of a particular LG, and its interest in borrowing. Moreover, most countries have special regulations and limitations on LG borrowing that should be factored in. For example, the CIP budget planned by the City of Nis, Serbia (see Case Study 1) was limited by the regulation that the total outstanding debt of the city could not exceed 50 percent of operating revenues generated in the previous budget year.

Once a loan has been incurred, debt service payments must be included in operating expenditures going forward (appendix 3, sheet 2). A key question, then, in evaluating debt carrying capacity is whether the surplus will be sufficient to cover the debt service payments associated with a given loan or loan program. The more the net operating surplus exceeds a LG's anticipated new debt service payments, the more creditworthy that LG is. Indeed, the ratio of net operating surplus to anticipated new debt service payments often is considered the most important indicator of a LG's debt carrying capacity.

If the ratio is close to 1.0, any serious fluctuation in a LG's operating revenues or expenditures (or in exchange rates, if the loan is denominated in a foreign currency) could produce serious problems in meeting the payment terms of the credit. If, on the other hand, the ratio of net operating surplus to debt service payments is substantially higher than 1.0 and is forecast to remain stable over several years, a LG's ability to support the anticipated debt is reasonably secure.

To properly assess creditworthiness, a LG needs to look at this issue in more detail (Peterson 1998, 2000).

Incurring debt also is a matter of local policy. A LG should determine whether, to what extent, and under which conditions, to borrow money. Local officials should adopt a formal policy to provide general direction in planning and borrowing to finance capital investment. A debt policy needs to:

- Establish parameters for the acquisition or issuance of debt and for acceptable levels of debt
- Provide a basis for evaluating the impact of acquiring debt on the LG's overall financial condition
- Communicate to citizens the importance of financial management
- Communicate to investors and the financial community in general that the LG is prudent and has a policy basis for debt.

Adoption of a debt policy provides parameters for the consistency and continuity required to achieve financial goals. It clearly communicates to the finance department a hierarchy of sources for the capital budget, so that staff can use this framework to carry out their responsibilities in debt management. The framework should be reasonably flexible so that officials can respond quickly to changes in the financial market or other conditions without jeopardizing essential services.

Obviously, the debt policy needs to comply with the framework of existing laws and be based on a LG's projections of its future financial condition. Moreover, it may be prudent for each LG to establish its own *additional* limits on borrowing, beyond those set by national regulations.

More specifically, the LG debt policy should address the following questions regarding the specific local situation:

- What is the appropriate use and acceptable level of short-term debt?
- What is an acceptable level of long-term debt?
- For what purposes (types of projects) will long-term debt be used?
- When should tax-supported (or asset-backed) general obligation debt be used versus self-supporting revenue debt (debt that finances projects that generate revenues sufficient to repay the debt)?
- What is the desired mix of financing from current budget revenues and from debt?
- When should variable rate debt be used, if at all, versus fixed rate debt?
- What maturity schedules should be used for short-term and long-term debt?

Appendix 4 provides an example of a simple LG debt policy, which, nevertheless, establishes important parameters for borrowing. The example can be used as a prototype and adapted as needed.

4 Steps in the Investment Planning Process

Before delving into the details of the CIP process,[18] it is useful to sum up common problems with capital investment in the absence of a proper process:

1. Capital investment plans do not include realistic assumptions about funding/financing and end up being a "wish lists."
2. Capital investment decisions are made without reference to life cycle costs and management. This disconnect from the realities on the ground often occurs when capital investment is funded or planned at the central or regional level—or by donors—but management of the completed asset and the operations and maintenance costs are the responsibility of the LG.
3. Capital investments result in LGs taking on a level of debt that is unsustainable or that substantially constrains future activities.
4. Local governments plan or establish PPPs without a clear justification and without the capacity to manage them effectively.
5. Capital investment priorities are distorted by the availability or lack of funding for specific sectors/works. For example, the existence of grants or central government funding for specific types of projects may result in such projects being implemented—and increase the city's O&M expenses—even if these projects are not priorities for the community.
6. Capital investment decisions are not transparent and allow opportunities for all sorts of abuses: from unnecessary "pet projects" promoted by local politicians or officials to conflict-of-interest deals to outright corruption.
7. Capital investment decisions are made without sufficient public participation, including by the business community.

Capital programming and budgeting is a dynamic process that generally involves four stages:

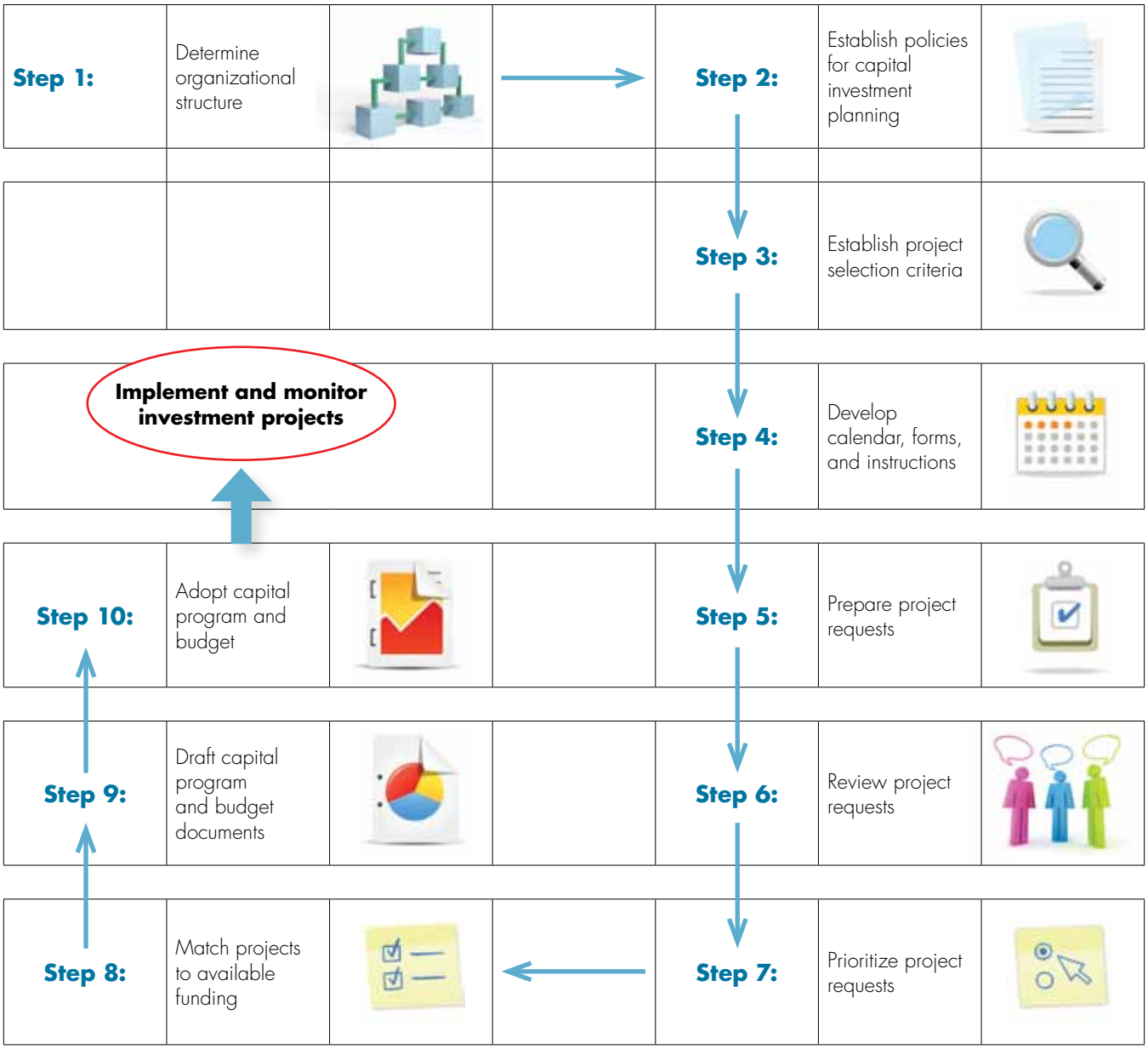
1. Financial planning
2. Project identification and prioritization
3. Program and project management
4. Monitoring and evaluation (M&E).

The complexity of the process depends on the law; the extent of central government regulations; and the LG's size, organizational structure, staff capabilities, and financial condition. For planning, this process can be divided into a number of steps. Many elements of financial planning were considered in the previous chapter; the rest are presented in this chapter and the next and depicted in figure 2.[19]

18 Note that the appendixes contain useful sample documents for most of the steps described in this chapter and the next. Many of these samples can be used as templates that may be adapted for local conditions by LGs that do not yet have their own forms.

19 This chapter draws partly from several documents produced by the Local Government Reform Project II/Croatia/USAID/Urban Institute during 2004–07 and the Municipal Economic Growth Activity/Serbia/USAID/Urban Institute, and other USAID-sponsored guidance documents.

Figure 2. Steps in Investment Planning Process



Source: Remake based on various USAID-funded project materials.

STEP 1

Determining the Organizational Structure

The process of developing CIP documents requires coordination, oversight, and preparation of the project recommendations to be included in the CIP. It is therefore necessary to ensure an equitable and efficient process that complies with policies and guidelines. The organizational structure will depend on local circumstances, including the size of the LG. For midsized and large jurisdictions, a common approach follows:

A ***CIP Committee*** is responsible for drafting policies for CIP development, determining the process and the timeframe, overseeing each step and providing additional guidelines, reviewing project requests, organizing public participation, assigning priorities, and recommending the Capital Investment Plan to the Mayor. The committee's composition is either defined by the elected body (local Council) or the Mayor.

There is no universal formula for selecting the members of this committee. In some jurisdictions, the committee includes members of the local council and business and professional communities. Other LGs' CIP Committees are comprised of technical staff from key departments, public enterprises, and budgetary institutions. In deciding who should be a member of the committee, the following should be considered:

- This process requires knowledge, time, and commitment from the CIP members.
- Members of the committee should be officials and/or professionals who understand the importance of the plan.
- The CIP recommended by the committee must be supported by the local council and the public.
- The role of the committee is critical in balancing competing needs for capital funding in the CIP process. Having various interests represented on the committee, therefore, is crucial.

It is instructive to see the difference between two actual approaches (box 8).

Box 8. Approaches to CIP Committees: Lessons from the Case Studies

1. ***São Paolo, Brazil.*** São Paolo has a special consultative council, associated with the department in charge of capital planning (Case Study 2). The council has 17 members with 2-year pro bono terms:
   - Five members are elected directly by the population, 1 for each of the 5 big sectors of the city.
   - Three are nominated by professional and business associations: *Instituto de Engenharia* (Engineering Institute), *Associação Comercial* (Commercial Association) and *Federação do Comércio* (Commerce Federation).
   - One is delegated by the City Council.
   - Eight are nominated by the Mayor (all City Secretaries, 3 of whom are permanent members: Planning, Government and Participation, and Partnership).

   The responsibilities of the consultative council are to advise the Mayor and the Planning Secretary on public policies related to the multiyear plan and to monitor execution of its hundreds of programmed actions, ensuring that there is no overlap and that they comply with the city and sector policies.
2. ***Nis, Serbia.*** The CIP Committee has 13 members, including the Mayor and Deputy Mayor, but no representatives of citizens or businesses. Only five members of the CIP Committee were involved in project evaluation, further limiting representation.

The ***Coordinator for CIP Preparation*** should be a member of the CIP Committee and is responsible to:

- Coordinate the entire process
- Organize meetings of the Committee
- Ensure that the Committee makes all of the required decisions
- Ensure that all involved carry out their tasks on the schedule.

The CIP Coordinator usually is appointed by the Mayor (or the executive in charge) and should have sufficient authority in the LG to make the required decisions, direct others' work, and resolve any disputes.

The ***Technical Support Office*** provides support throughout the process. The staff train government departments and enterprises on the CIP process and, in particular, on how to prepare project requests; compile data; help with needs assessment and cost estimates; review project requests; and draft a preliminary Capital Investment Plan for the CIP Committee to finalize.

STEP 2

Establishing Policies for Capital Investment Planning

One of the first tasks of the CIP Committee is to develop a clearly defined written policy for the capital investment plan. An illustrative sample policy is presented in appendix 5. The policy should cover, at least, the following:

- ***Period covered by the Capital Improvement Plan.*** As noted, the period usually is 3–7 years. In Nis, the period is 5 years (Case Study 1), and in São Paolo, 4 years (Case Study 2).
- ***Eligible types of investment.*** The policy should list the types of investment eligible for inclusion in the CIP and identify which types/components of cost should be included. For example, the policy presented in appendix 5 stipulates that rehabilitation, replacement, reconstruction of existing infrastructure, public-use facilities, and social-use and government-use properties under the mandate of the city government are eligible for inclusion. Also eligible are the construction of these types of new infrastructure facilities, if and when construction is economically and financially justified, and the acquisition of land for such construction. Acquisition of equipment and vehicles for public functions under the mandate of the LG also is allowed. With respect to cost components, the policy in appendix 5 states clearly which expenses must be funded and from which budget—capital or operating. Note that, if the policy identifies eligible types of projects clearly enough and the policy is followed in practice, it can prevent (or reduce) spending on "pet projects" by politicians that do not serve the public interest (such as commercial real estate).

  The policy also may outline priorities for capital investment, which then should be reflected in the project selection criteria. For example, for cities that do not experience fast growth, the policy may state that the priority should be given to investment that preserves the useful lives of existing infrastructure and public facilities.

- ***Definition of what constitutes a capital investment project.*** In effect, this definition sets the minimum criteria for inclusion in the CIP (usually, the minimum cost and useful life of the asset). For example, in Case Study 1, capital investment projects are defined as costing not less than 100,000 Euro with a period of implementation (construction) not less than 2 years.
- ***Assignment of organizational responsibility for capital investment plan preparation and submission.*** Outlined above, under Step 1.
- ***Methods of financing capital projects.*** This policy should list specific sources that are available and that the LG intends to use, accompanied by the specifics of using these sources. For example, it can be very useful to state in the policy that net revenues from the sale of land and property will be used for capital projects only and to identify other revenue sources earmarked for capital investment. Such revenues may include a certain portion of the operating surplus and the total of various land-based revenues, such as the land development fee, revenues from selling development rights, and lease fee.
- ***Borrowing limits.*** These limits are defined in specific terms in compliance with national and subnational laws and regulations, in accordance with local views on borrowing, and based on a preliminary understanding of the LG's current financial standing. Setting these limits in this policy does not imply that borrowing necessarily will reach the limits, because a more detailed analysis of the financial capacity later in the process may further limit borrowing (see sample schedule of the CIP process in appendix 7).
- ***Criteria for prioritizing projects or how and who will establish the criteria.*** The policy should establish who is charged with developing (drafting) these criteria and

who will approve them. Typically, the CIP Committee drafts the criteria for prioritizing CIP projects, and either the local council adopts them as an ordinance or the Mayor establishes them in a special decree.

- ***Methods and timing of public participation.*** The policy may state that the CIP Committee is responsible for securing public participation and indicate during which periods, but may leave it to the Committee to define specific methods.

This policy (or set of policies) usually is approved by the local council as a special local ordinance and becomes a binding document that should be followed in the CIP process, under CIP Committee supervision.

STEP 3

Establishing Project Selection Criteria

The project evaluation and prioritization process is more objective and rational if criteria are predetermined and clearly defined. It is important that the CIP Committee involves key individuals, including key staff, the Mayor, and members of the representative body, in defining the selection criteria. Public participation through *focus groups* and *suggestion boxes* can be used to provide citizens and the business community with an opportunity to participate in the formulation and review of selection criteria. To provide guidance to those drafting the requests, evaluation criteria should be established prior to the preparation of project requests (Step 5).

However, no evaluation system is perfect. Not all criteria will apply to every project. Good judgment, common sense, and political considerations will continue to play important roles, particularly when a local council approves a CIP in which project priorities were established using the selection criteria. Nevertheless, carefully prepared criteria will sharpen distinctions among projects, narrow the range of disagreement, provide a basis for discussion, and, hopefully, make the entire process more transparent. It is critical that project selection be supported by accurate and relevant information. Moreover, practical experience shows that it is desirable that the priority setting process have the following characteristics[20]:

- Is understandable to both participants and users of the process
- Is practical in terms of cost, time, and personnel available to carry it out
- Considers all major consequences of a project
- Is supported by reliable, relevant information
- Avoids double-counting evaluation criteria (use of two highly interrelated criteria)
- Indicates clearly whether the key value judgments (for example, assigning "weights" to each criterion) are to be made by technical experts or elected officials
- Provides information not only on the relative ranking of projects but on their individual merits or value
- Identifies critical and noncritical projects
- Is applicable to a wide range of projects
- Considers the interdependence of the suggested projects.

Priority setting is guided either by ranking projects or by calculating a total score for each. In the latter case, the total score is the sum of the project scores for each criterion. The higher the total score, the higher the priority. Sometimes the score for each criterion is weighted in the total with predefined weights.

Appendix 6 provides two examples of simple project rating systems. Under the first option, all projects are sorted into 4 priority groups. A project goes into the first (highest) priority group if it satisfies 6 or more criteria from a predefined list of 6–10; it goes into the second priority group if it satisfies only 4 criteria, and so forth.

STEP 4

Developing Calendar, Forms, and Instructions

Calendar

Capital programming should be scheduled to begin well before the operating budget cycle to avoid an excessive staff workload and ensure adequate time for review. Initiating capital programming several months prior to the

20 Adapted from Hatry and others 1984.

development of the operating budget also provides valuable information on the potential effects of capital projects on the operating budget. In addition, adequate time needs to be allowed for the CIP Committee and local council to review project requests and obtain public input before the city staff and local council must focus on the operating budget. Appendix 7 furnishes a sample CIP calendar.

Forms and Instructions

Project request forms are used to collect detailed information on each proposed project. Obviously, there should be consistency between the project selection criteria and the project request forms. The forms should contain the information and data needed for project rating. Pertinent project information includes department/enterprise, project name, location, description, purpose, priority according to department/enterprise, justification of need, expected useful life, estimated capital costs (total and annual), recommended sources of financing, status of planning and engineering, construction data, net effect on annual costs (M&R, operations), effect on local revenues, relationship to other projects, and conformance with local plans. Completed forms make it possible for the CIP Coordinator or CIP Committee to compare projects, assign whole-of-government priority, and even determine suitability for the CIP. An incomplete form often is the first sign that a project is not ready to be considered for the CIP.

Appendix 8 provides two sample project request sheets. In developing a local form, it can be a good idea to review forms that are required by national or donor agencies for capital projects. For example, in developing its project request form, the City of Nis in Serbia slightly modified a form needed to apply for funding from the National Investment Fund (Case Study 1).

Use of standardized forms and instructions ensures uniformity and completeness of the information supplied by various departments and enterprises. The CIP Coordinator should design the forms and instructions. A common mistake to be avoided is to require information that is not needed for review and evaluation.

If the CIP process is being organized for the first time, the CIP Coordinator should work closely with 1 or 2 key departments in developing the forms to ensure that the staff will be able to successfully use them. Pilot testing the forms and instructions will help to identify and correct problems prior to a city-wide introduction of the form. The CIP Coordinator should provide training for all project-submitting departments and enterprises on how to prepare the forms. During the request preparation period, s/he should provide continuing TA to departments.

It is important to note that even when LGs use relatively sophisticated project request forms in the CIP process, these forms often are less detailed and have fewer supporting materials than may be required at a later stage. The request for additional information usually arises once the project is approved as a part of the CIP, especially if the project will need external financing from lenders or grantees. Therefore, "packaging" the CIP-included projects to present them to lenders and grantees is a separate activity and reviewed in chapter 6.

STEP 5

Preparing Project Requests

See Chapter 2 on the identification of investment projects at this stage of the CIP process. Note that LGs with substantial deferred maintenance and deferred investment in existing assets should be particularly diligent in assessing their past unsatisfied needs and should include them in the project requests.

Starting the Annual Cycle

This step on the CIP calendar should be officially announced by the Mayor (or executive in charge of CIP) to the LG representative body. The CIP Coordinator should send out requests for project proposals, instructions for their completion, and a timetable to all contributing departments and enterprises. These documents should be signed by the mayor (or executive in charge of CIP). If departments sense that top management is not involved or not committed to the CIP process, they are likely to reduce their efforts.

Local government staff should not expect too much too soon. If this is the first year of developing a CIP, staff

should have realistic goals. The CIP Committee and CIP Coordinator might want to introduce a simple program in the first year and add new features in subsequent years. The first year may be spent working with department heads and gathering important information on a few of the most important projects. The CIP Coordinator should ensure that the first departmental CIP meeting takes place at a time when most participants are able to meet. The first meeting is to review the forms and calendar and to answer questions.

After carefully reviewing the forms, the CIP Coordinator should be very clear about the timetable. Offering separate meetings with the staff who will fill out the forms can be useful. During this period, while departments and enterprises are preparing project requests, the CIP Coordinator should follow up with telephone calls and personal visits to these departments and enterprises, to see what progress is being made and/or whether any major obstacles have been encountered.

Addressing challenges. When departments or enterprises prepare project requests, this step poses a number of challenges to the entire CIP process:

- ***How does a LG balance the schedule and resource constraints of the CIP process with project preparation needs?*** Preparation of accurate project requests requires substantial work that is lost or becomes outdated if the project is not included in the CIP. For example, it is not efficient to complete all of the needed feasibility studies, including financial and economic analyses (especially for large scale projects) and impact studies; and to make accurate cost estimates before the project is approved for the CIP. In fact, in practice, these procedures are beyond the technical and financial capacity of most LGs. However, without such studies and reliable cost estimates, LGs are at risk of approving projects that turn out to be substantially more expensive to implement than initially planned, or not feasible at all due to legal or ecological factors that were not identified in the requests.
  - For example, it could turn out that a city does not have clear ownership of a land site on which it had planned to build a school. Resolving this legal issue could postpone the project for a long time. It could happen that the site has serious soil contamination, which was not known when the request was prepared and approved. As a result of these unforeseen factors, cost and time overruns on government capital investment projects are very common.
  - There is no universal way to handle this challenge, and LGs usually find compromises in their approaches that are acceptable in their particular local situations. For example, some governments, especially when the CIP process is not yet fully developed, allow rough cost estimates in the project requests, but later have a second phase to clarify these estimates with project-specific data for the projects selected for inclusion in the draft CIP. Furthermore, in well-established CIP systems, project requests show how the requested amount will be distributed over time (see sample forms, appendix 8). For large projects, first-year expenditures usually are for studies and other preparatory work, including clarification of the costs for the later stages of the project. These activities can be undertaken before the projects are considered for the CIP.
  - Another very common practice is that the CIP itself, even after being approved, is not a budget document, so it does not provide any spending authorization. Instead, only the first-year requests for funding from the CIP are included in the annual budget and authorized (table 4).
  - Another practical approach is to stipulate in the CIP documents that as soon as a project is approved as a part of the CIP, relevant departments or enterprises may use their budgets to pay for studies, surveys, investigation of options, and engineering advice.
- ***Are all costs recognized and accounted for?*** In their CIP processes, governments and their departments commonly recognize components of the investment costs[21] and include them in cost considerations and planning. However, governments often do not include in their analysis and decisionmaking other cost components, such as the cost of financing and components of life cycle costs such as R&M (chapter 2). For example, Case Study 1 indicates that, in the City

21 The investment costs include feasibility and planning studies, engineering and architectural design, land acquisition, demolition, construction and construction management, contingency, site improvements, equipment, and furnishings.

of Nis, departments and enterprises participating in the first CIP process did not include future operations and M&R costs in their project requests. As already discussed, including even rough estimates as part of the financial analysis is important. Guidelines for making these estimates are suggested in chapter 2 and appendix 1.

- ***Are material cost savings attempted in project requests?*** Construction technology and materials are changing rapidly, but municipal utilities and departments of public works often either are not familiar with these new opportunities or are not concerned with potential costs savings from the use of cheaper contemporary materials, equipment, and technology. For example, a municipal utility may suggest upgrading a sewage network using cast iron pipes, which were used in the past. However, using plastic alternatives could save up to 33 percent of the cost. This example indicates that scrutinizing technologies and the costs of material inputs is very important for capital investment planning. A challenge for LGs, especially small- and medium-sized ones, is to ensure that their technical staff have the capacity and incentives to keep up to date on cost-effective technical solutions.
- ***Can simple life cycle savings be found?*** Savings of this kind are not necessarily difficult to achieve or complex (box 9). Looking for such opportunities should be encouraged as a part of asset management and CIP.
- ***When should projects for donors be "packaged"?*** Some projects are expected to be cofinanced through external funding (grants, borrowing). These projects will require much more careful and detailed preparation ("packaging") for presentation to potential sponsors than is typically needed for financing through the LG's own sources. The implication is that after such a project is included in the approved CIP, the project will need to undergo the second, in-depth appraisal and "packaging."
- ***When is the right time to consider PPP options?*** As mentioned, another challenge is to identify projects that are suitable for PPPs. The short period allocated for project requests in an annual CIP preparation cycle is not sufficient to carry out the initial steps to identify whether a particular service/investment need can appropriately be considered for a PPP. A possible solution to this timing challenge resembles the one suggested above for large projects: to allocate resources from the operating budget or the special funds to conduct the required studies before the project enters the CIP cycle. As noted, given the complexity of such PPPs, not many cities are expected to use them to create and operate capital facilities. However, globally, a broad range of local properties, facilities, and infrastructure have been built and operated through PPPs (box 10). Before undertaking such PPPs, LGs are well advised to build their capacities to manage contractual relations by starting with simpler, short-term contracts.

Box 9. Cost Savings from a Simple Life Cycle Costing Decision

The Park District of Urbana, Illinois in the United States maintains detailed expense records for each of its land and property assets. The business office, which maintains the records, discovered that the heating expenses for one of its properties were very high. An inspection and cost-benefit analysis revealed that changing the old heating system to gas would pay for itself in two years and permanently decrease operating expenses. This replacement was included in the Park District's budget and implemented.

Source: Kaganova and others 1999.

Finally, although the finance staff should provide recommendations for capital financing alternatives, it is beneficial for the operating departments and public enterprises preparing project requests to recommend financing sources. Individual staff in these entities sometimes possess financing source information not otherwise available. Suggestions of proposed financing methods should be recorded as specifically as possible in the project request forms.

STEP 6

Reviewing Project Requests

At this point in the process, the completed project request forms have been received from the operating departments and public enterprises. The first step is for the CIP

Box 10. Local Public Facilities Built through PPPs

Around the world, local public facilities built through public-private partnerships (PPPs) include roads and bridges, parking garages, passenger and freight railways and stations, light rail systems, metros and subways, ferries, bus lines and terminals, multimodal public transport hubs and terminals, airports and ports, water treatment and distribution, sewage systems and wastewater treatment, solid waste management systems, power generation and distribution, central heating and cooling systems, hospitals and jails, city government offices, sports facilities and auditoriums, police and fire stations, libraries, school, dormitories and social housing, and farmers' markets.

Source: CDIA 2010.

Coordinator to review the forms, checking each for com pleteness and accuracy. During this initial screening, no judgment is made regarding the merits of the proposed projects. Project ranking and selection occur later in the process, once all of the information required to evaluate the projects has been compiled.

In this first round, the CIP Coordinator, with the assistance of the technical support staff, reviews project request forms to determine whether the information appears "reasonable." Written project justifications should demonstrate the level of planning and care that has gone into preparing these project proposals. In reviewing the applications, the reviewer needs to ask six questions:

1. Is the project appropriate for submission for funding through the capital budget?
2. Is the information complete and accurate?
3. Has the project justification section been written with enough detail and specificity to be useful in the evaluation?
4. Does the project overlap with submissions from other departments? Can two or more of the proposals be consolidated?
5. Are cost estimates reasonable? Can these estimates be used to develop a capital program and budget? Note that this question requires expert review because departments and enterprises are not always realistic in their assumptions and can underestimate cost components, particularly the cost of land acquisition or borrowing.
6. Do projects with large costs need to be broken down into phases that can be financed and built separately?

A sample checklist for reviewing project requests appears in appendix 9.

An LG should not be surprised if the first submission of project requests contains a large number of incomplete forms, especially if this is the first CIP cycle. Incomplete forms may be due to confusion, because not all of the information is readily available or because department representatives underestimated the amount of work involved. The LG should reserve as much time as possible in the schedule for this step. If information is missing, the CIP Coordinator should contact the appropriate department representative, who should supply the missing information.

Department heads also may be consulted if further clarification is necessary. If an important department fails to submit project requests, the CIP Coordinator should speak immediately to the department head. If the department head cannot commit to submit the requests on time, the Mayor (or executive in charge) needs to be notified and her/his assistance requested. This kind of delay can cause enormous problems for the CIP Coordinator and the CIP process. In fact, at this juncture, the CIP Committee and the Mayor (or executive in charge) need to come to a joint decision as to whether to proceed to the next step without all of the projects having been submitted and reviewed.

Sometimes, for the sake of efficiency, especially in large jurisdictions, the CIP Committee may decide to simplify scoring and prioritizing projects. For example[22]:

- Conduct a preliminary screening of submitted project requests and reject some outright (because the data provided is not complete or the project is not desirable) For relatively inexpensive projects, request less information
- Focus the review on the most important projects, or

22 Hatry and others 1984.

- Focus on projects near the "cutoff" point, that is, projects whose inclusion in the CIP is problematic (for example, controversial projects), and put less effort into evaluating projects that clearly will be included in the CIP.

By the end of this step, the CIP Committee will have a list of projects eligible for inclusion in the CIP. Based on the individual project sheets (numbered consecutively), the CIP Coordinator should create a summary sheet (table 2). Usually future M&R and operations costs are not included in the summary (but they should be recorded on individual project sheets!). However, future costs should be included in the financial planning simulations of the LG budget (chapter 3). If a requesting department or enterprise suggests borrowing, the cost of borrowing should be included in the summary. Note that the CIP Committee must be clearly informed about which costs are included in such a table and which are not.

A useful appendix to this list—and, later, to the final list of CIP projects—can be a list of capital projects in the LG's jurisdiction that are sponsored by higher levels of government for the period for which CIP is being developed. It also may be possible to find out what the sponsors of such projects expect the future maintenance and repair (M&R) and operations costs to be—and whether these costs will be the LG's responsibility. At least three benefits can be expected from adding such an appendix to the CIP:

1. If the future annual costs are expected to be paid out of the local budget, the budget forecast should incorporate them (chapter 3 and appendix 3).
2. The appendix may result in modifications to schedules or other details of local projects and prevent waste of local resources. For example, it makes no sense for the LG to put new pavement on the main street in June, if the central government plans to dig it up in September to replace a sewage main.
3. The list of CIP projects and the list of potential central projects may be a tool for the LG to guide central project selection by making local priorities explicit and known to the central government.

STEP 7

Prioritizing Project Requests

If Steps 3, 5, and 6 have been done carefully, Step 7 is made much easier. In this step, the CIP Coordinator needs to exert all possible skill to manage the work of the CIP Committee. The first stage is to review with the procedural rules, schedule, and desired outcome with the CIP Committee. It also is necessary for each committee member to understand the purpose and scope of each project before attempting to provide a rating. Conveying this understanding is accomplished by convening the first meeting and asking one person from each department to explain each project and to answer questions. Depending on the number of projects that need to be evaluated, going through all of these explanations may take one or more meetings.

Second, the criteria need to be reviewed again by committee members and used in a hypothetical review of several projects. The hypothetical review doubtless will reveal many unanticipated consequences, and there will be ques-

Table 2. Projects to Consider for CIP
(units of local currency)

Project no.	Name	Dept.	2007	2008	2009	2010	2011	Total
C-13	River Bridge Replacement	C	7,800,000	8,400,000	0	0	0	16,200,000
C-7	Drainage System Improvements	C	120,000	6,000,000	6,000,000	6,000,000		18,120,000
F-3	Fire Station no. 3 Renovation	F	0	180,000	220,000	0	0	400,000

tions about using the criteria. If appropriate for the system of criteria selected, the CIP Coordinator should prepare evaluation sheets for each evaluator to use in rating each project. It is important to realize that this exercise requires more judgment than precision. In addition, the amount of work required by the CIP Committee will depend on the number of projects to review. Evaluation may take a few meetings or a few months of regular meetings.

The process should enable CIP Committee members to hold discussions about individual projects and to change their minds and revise their evaluation scores if needed. Changes often occur as committee members hear from other members and are a natural part of the process. Remember that this evaluation is not a mathematical exercise but a process to identify the projects that will most benefit the community.

The final product in this step is a list of all eligible projects in order of priority and arranged by category. A summary report should be compiled that shows the projects arranged in priority order according to the categories used in the scoring process.

Public participation in this and the next step can be secured through nongovernmental members of the CIP Committee (box 8).

STEP 8

Matching Projects to Available Funding

Ideally, one output of the financial analysis would be a table of revenue sources available for capital financing for the first year and forecasts for the subsequent years of the CIP (chapter 2, financial sources; chapter 3; appendix 3).

This information is the basis for selecting projects for year one and the subsequent years of the CIP program. Continuing projects should be funded first. High-priority projects need to be matched with the remaining available funding sources. If some of the sources have special earmarks, projects that qualify for these eligibility rules should be matched with these funds.

The CIP Committee needs to work closely with the finance department on Step 8. Several iterations may be required to reconcile the budgetary forecast and list of suggested projects.

Due to limited funding, it is common that many projects will not be matched to any funding sources. For example, in many US cities, available annual funds can pay for approximately only 10 percent of the total need. Furthermore, projects with the highest priority occasionally do not receive funding, but the next projects in line do. Being passed over can occur for several reasons, such as special earmarking (for example, from international donor organizations) and because very large projects often exceed all funding available so must be skipped temporarily.

As mentioned, there are no hard rules for deciding how each project should be financed. Relatively small projects often are funded from the city's own resources or the resources of its service enterprises, whereas bigger projects require multisource financing.

The final product in this step is for the CIP Coordinator to develop summary tables. Two of them will be key. The first is a short list of the projects suggested for inclusion in the CIP, with their ratings and suggested cost allocations among finance sources (Case Study 1, table 6). The second key table will show, for each project, the suggested timing of expenditures during the CIP period and the spending prior to it. In the second table, after both the CIP and the annual budget are approved, the first year's spending becomes part of the annual capital budget for the upcoming year (table 4).

Other Summary Schedules

Other project summaries should be prepared that arrange the projects by department and prioritize projects by purpose. A list of unfunded projects from the CIP process also should be created, as it will be the starting point for the next year's CIP. (High priority unfunded projects may get funding later in the year as new funding sources become available.) Debt and debt service schedules also should be provided. Tables showing forecasts of total revenue available for capital expenditures and total capital needs should be prepared for each year of the multiyear funding cycle (table 3).

The CIP Coordinator or the CIP committee should transmit the results of this step to the Mayor (or executive in charge) in a memorandum.

STEP 9

Drafting Capital Program and Budget Documents

The Mayor (or executive in charge) finalizes the recommended capital program and the budget and submits them to the representative body (local council). The CIP program and budget may be combined in one document or be presented as two separate documents. Typical components of the document are:

- Capital program message or transmittal letter
- Summary schedules
- Detailed project information for the projects recommended for funding in the first year.

A narrative statement or letter of transmittal summarizes key issues that have influenced the selection of projects in the proposed capital improvement program and budget (for example, financial trends, condition assessments, and new development).

STEP 10

Adopting Capital Program and Budget

The schedule should include enough time for the public and for the representative body to review the program and budget. Workshops and study sessions for the local council offer an informal setting in which to discuss project proposals with the CIP Committee and technical support staff. Site visits also are a valuable educational tool.

The first step in engaging the public is to disseminate information about the CIP process through newsletters, radio and television programs, and social media. Second, the public should have a chance to provide ionput. Focus groups and public hearings are good means of obtaining input from businesses and residents. When the citizens and businesses participate in the process, they develop a better appreciation of the challenges facing local officials and the tradeoffs involved (box 4). Public hearings also provide the residents with an opportunity to consider how the program affects their community. Public meetings take two forms: public hearings and community meetings.

1. Public Hearings

A public hearing is a structured event used to gather residents' and businesses' comments concerning the CIP prior to its adoption. A public hearing reaches a large

Table 3. Sample Summary of Requested Project Costs, Available Revenues, and Unfunded Difference

(thousand units of local currency)

	2007	2008	2009	2010	2011
2007–11 Requested project costs	93,386	208,692	145,104	138,792	49,911
Total					635,884
2007–11 Available revenues	32,009	11,764	18,077	13,040	10,300
Total					85,189
Unfunded difference	61,377	196,927	127,026	125,754	39,611
Total					550,695

number of people and provides opportunities for them to comment directly on an issue. Open hearings enable major objections to the program and budget to be discussed before the representative body formally adopts the CIP. A public hearing may result in the need to amend the preliminary capital program and budget. These changes should be made before submitting the final capital program and budget to the representative body for adoption.

2. Community Meetings

Meetings with local residents can be held at the community or neighborhood level. Meetings can be scheduled during the CIP process to solicit citizen input on proposed capital projects. The informal structure of these meetings enables for indepth discussions, direct and immediate response to questions and comments, and clarification of facts or ideas.

To ensure adequate public notice for the meetings, the CIP Coordinator or other designated individual should place an advertisement in the local newspaper or radio announcing where and when the public meetings will occur enough in advance to enable public participation. The CIP Coordinator also should develop a process for conducting the public meetings.

Organizational issues to consider include:

- Who will represent the LG
- What procedures will be used for obtaining public input, including who is eligible to speak and the time limitations on remarks
- Whether written comments will be accepted
- How information collected through the public hearing process will be used
- How meetings results (including changes to CIP) will be reported back to the public.

After completing its review of staff recommendations and public opinion, the representative body should adopt the capital program and budget (for at least the first year) to demonstrate its commitment to the program and to confirm its policy regarding the community's approach to meet its future capital needs. Adoption of the program is not a binding commitment to fund projects other than for the first year (table 4).

Some representative bodies object to formally adopting the program because they believe it restricts their policymaking authority and flexibility. They may decide to approve it in principle or merely accept it. Acceptance is not binding for the representative body. Instead, the body may only adopt the capital budget and appropriate funds.

Failure to adopt the program as a binding document does not eliminate its value. The program still serves as an effective planning and management tool. Moreover, it keeps the representative body informed of the LG's capital needs and helps the body respond to public inquiries about the status of projects.

Table 4. Sample Fragment of Approved CIP, with First Year Approved Budget (2010)

				Budget by year (thousand €)						
#	Project	Requesting dept./ enterprise	Score	Before 2010	2010 (Budget approved)	2011	2012	2013	2014	Total (thousand €)
1	Airport Reconstruction and Upgrade	Municipal enterprise "Airport"	73	0	1,467	533	0	0	0	2,000
2	Social Housing Project # 1	Municipal housing enterprise	70	0	0	1,200	2,100	1,200	0	4,500
3	Livestock Cattle Quarantine	Department of rural affairs	67	81	25	0	0	0	0	106

Once the CIP process is established, it produces a rolling product. The following year, the column for the past year (2010 in table 4) will be removed, and a new column (for 2015) will be added, with the necessary adjustments to the list of projects and cost estimates.

Responsibility for managing an approved project normally is delegated to an operating department. However, the implementation of capital projects requires multiple steps and activities by various departments and actors. At this stage, multiple inefficiencies and delays commonly happen, even if the land and financing are available.

5 Implementing and Monitoring Investment Projects

Several lessons learned from best practice can increase effectiveness and efficiency (Westerman 2004):

- Centralize responsibility for overall program oversight in the financial department.
- Treat project management as a professional function. The project manager should focus on the management of resources, time, product, and risk, not on individual technical tasks such as design. Having project management duties performed by a central agency, as opposed to an operational department, can help prevent parochialism and promote a relatively objective orientation toward the basic goals of project delivery. In addition to project management skills, project managers need ready access to project information, such as budget, expenditure, and contract information; and sufficient authority to effectively manage design consultants and contractors.
- Engage professionals from the private sector to support government project managers or replace them entirely, especially in the execution of extensive, complex, or ambitious capital programs. For larger, more sophisticated LGs, it would be beneficial to shift away from the traditional fragmented public sector model, in which various elements (such as feasibility studies, design, and construction) are procured and delivered separately (if they are outsourced to the private sector at all), or are delivered by separate governmental agencies. Instead, elements of the process can be integrated under a single private sector provider within a PPP scheme (in this case, "design-build").

Government strategies to improve project management may include:

- Seeking methods to streamline interdepartmental project elements such as procurement, contract and payment processing, and zoning and building approvals.
- Reviewing intradepartmental processes, organizational structures, and workloads to identify opportunities for eliminating roadblocks and enhancing accountability
- Leveraging economies of scale by consolidating schedules (such as solicitation of proposals), standardizing processes and products (such as correspondence and "boilerplate" sections of project specifications), and increasing automation and accuracy through electronic tools.

It is useful if the CIP Coordinator maintains up-to-date information on each project. Quarterly CIP meetings with department representatives should be held to report progress and discuss problems in implementation.

Preparing Projects for External Financing

Typical project requests prepared during the CIP process do not contain all of the data and information demanded by lenders and specialized grantors. Therefore, an important task on the way to implementation of projects that were planned to be financed in part through borrowing or special grants is to present ("package") the projects according to the requirements of a particular grantor or lender.

It is useful for the LG to start by identifying all potential grantors and lenders; establishing a database with their contact information; and studying the conditions, requirements, and limitations that each sponsor imposes. These steps can be carried out jointly by the CIP Coordinator and Head of Finance Department. This procedure enables a LG to zero in on the sources that fit best with a specific project in need of external grants or finance and focus on preparing a proposal as required by a particular sponsor.

Techniques for "packaging" projects for external funding and finance go beyond the scope of this document.

(Some specialized guidelines are listed in a special section in the References.) However, as an illustration of what can be expected, appendix 10 provides an outline of a proposal for a loan or grant (based on requirements typical for Eastern and Central Europe). This outline shows that a proposal requires a large amount of information and preparation, which may require hiring outside consultants. However, the level of sophistication expected from such proposals varies by region and by lender or grantor. In addition, the focus of each lender and grantor may differ. Commercial lenders may care most about the financial standing of the borrower and its ability to repay the loan (creditworthiness) and the project's viability. Donors, for example, the European Union for its pre-accession funds, typically also care about the net economic impact of the project. They want to see a cost-benefit analysis that reflects not only the financial but also the economic and social benefits of the project. For a LG, this required cost-benefit analysis indicates that obtaining grants may require additional analyses (for example, presenting an investigation of a project's net impact on economic welfare measured by several different indicators) beyond those required by commercial lenders.

In any event, donors often indicate that the existence of an approved CIP improves the chances of a LG to receive funds. Moreover, a CIP can be an effective tool for a LG to use to lobby for its capital funding priorities with central government agencies and programs sponsored by international donors.

Finally, making a case for a PPP with the financial participation of a private partner requires advanced expertise on the LG's side (chapter 2). Guidance documents are suggested in the References.

Monitoring Projects in the Capital Budget and Their Implementation

The CIP Coordinator needs to develop a system for monitoring and reporting on the projects in the CIP. The credibility of the CIP process rests on the timely implementation and completion of the construction or reconstruction of the priority projects.

The CIP Coordinator must develop a system that will monitor the managerial and fiscal aspects of projects. A CIP database is essential for monitoring project implementation. The following are the basic categories of information that should be maintained and updated by the CIP Coordinator quarterly during the construction implementation period:

- Project title
- Responsible department
- Key contact name
- Total project cost
- Project phases (schedule)
- Estimated expenditures/phase
- Actual expenditures/phase schedule by phase
- Fiscal year/quarter.

Close communication between the CIP Coordinator and the finance staff is necessary to monitor timely drawdowns of funds and to be aware whether payments are exceeding the level of completed work.

Local governments lacking a tradition of budget discipline and capital planning face at least two big challenges in implementing a CIP. The first challenge is that the priorities included in the CIP, even if they were approved by the representative body, may be revised during a fiscal year; and other projects not included in the CIP may be funded instead. For example, instead of capital repairs of two schools, funds may be used to repair street lighting and refurbish the Mayor's office. The second challenge occurs when cost estimates included in the CIP turn out to be insufficient and need to be increased, thus consuming funds planned for other investments. For example, street repair may cost twice what was budgeted, so that a kindergarten roof cannot be replaced. Overcoming such shortcomings requires better government accountability and planning and effective public participation.

Project Reporting

Status reports are a crucial aspect of project monitoring and oversight. The format and frequency of the reports should reflect the information needs of the CIP Coordinator, Mayor (or executive in charge), and representative body. The CIP Coordinator should make quarterly reports

to the representative body. Basic information includes department, project name, start date, estimated completion date, percentage of completion, funding source, and costs (budgeted and actual). Costs can be broken down by cost category such as planning, land acquisition, design, engineering, construction, and contingency. Narrative explanations of delays, cost overruns, funding and construction problems, and proposed corrective action are critical. Figures and tables simplify the presentation for the Mayor and representative body.

Transparency and Public Information

To maintain the public's support, the LG needs to make special efforts to keep the public informed about the status of projects. Inviting the public to meetings of the representative body when CIP status reports are being presented can be one important method. Even for cases in which LGs are just beginning the CIP process, transparency can be achieved through simple, inexpensive means if the political and administrative will is there. For example, if a LG does not have yet an established system of monitoring and reporting on its capital investments, it can simply publish annually a list of capital projects paid for during the past year that includes costs, and a list of projects *planned* for the past and upcoming year. These lists would be very informative for residents and would show whether the LG had been disciplined in following its plan. "Publishing" can be as simple as posting a table with the list of planned and executed projects and related costs on a billboard at city hall or on a city website. If the capital planning process is already established, transparency can include reporting on achieving the "targets" of a multiyear plan. For example, in São Paolo, the press closely follows the implementation of the 4-year development plan, *Agenda 2012*, against the established targets (case study 2, chapter 7).

6 Sustainability and Evolution of the Investment Planning Process

Cities that develop a sustainable CIP process are far more capable of making sound decisions with respect to spending public funds and providing benefits to the community as a whole than cities that do not. International experiences have shown that maintaining a multiyear CIP process also prepares LGs to work more successfully with institutions that offer financing for local capital improvements.

Developing a capital investment plan for the first time is time consuming and resource intensive. For smaller LGs, it can easily require one full-time person for part of the year and part of the time of several departmental representatives. For larger LGs, this amount of staff time easily can be multiplied by a factor of 2 or 3. See Case Study 1 for references to LGs' challenges in preparing their first CIPs. Due to the difficulties, it is not surprising to find LGs that develop a capital investment program for the first year, then abandon it, Three areas that can improve the sustainability of the process are to

- Build a strong CIP administrative structure
- Formally adopt CIP policies
- Hire consultants for specific professional expertise.

Build a Strong Administrative Structure

Step 1 of chapter 4 and the beginning of chapter 5 have provided guidelines on determining the appropriate administrative structure for developing a CIP program and managing a comprehensive investment process. Some LGs assign these tasks to the Department of Public Works, some to the Department of Finance. Other LGs choose to create a separate department to implement integrated management of the investment process, such as a Development Department or a government land development corporation. Smaller LGs usually assign coordinating the process to one staff member.

While on the surface it appears that the function of coordinating the CIP could be given to a relatively junior person, doing so often is a mistake. The coordinator should be a senior person who can communicate on comfortable terms with key department heads. It is a common that key departments often are late in delivering their completed project requests and frequently challenge the availability of the data and even the credibility of the CIP Coordinator. The position itself requires a person with strong organizational, communication, and computer technology skills combined with finance and project management knowledge.

Another important matter alluded to in earlier chapters is that the CIP Coordinator needs to have a clear delegation of authority from the executive. The CIP Coordinator needs to communicate clearly and, in some cases forcefully, with department heads. Additionally, because the CIP is developed in the context of political pressure, the CIP Committee needs to develop the list of projects eligible for inclusion in the CIP independent of undue influence of parochial or commercial interest groups.

Finally, the CIP function needs to be supported with sufficient budget. The work of a CIP Coordinator is preparing reports, communicating, and holding many meetings. The individual needs an office, up-to-date office and communication equipment, and use of a meeting room. Similarly, the technical support staff should be authorized to spend the time necessary to perform their work for the CIP process.

Define and Make Explicit Local Investment Policies

The CIP is much more than a technical procedure. The plan is closely interrelated with the asset management and the budget processes, and all are at the heart of the political process. Asset management reflects, explicitly or implicitly,

societal norms, whereas the budget reconciles the conflicting needs and allocates limited resources among competing interests. Capital investment, if not performed within a transparent process such as CIP, often incorporates private interests of those close to the government, not broader public interests. Even in democratic societies, a CIP process is riddled with policy issues, choices, and political pressure. This is why the CIP needs to operate under the guidance of established *written policies*, not the opinions of strong individuals. This guidebook shows or mentions examples of the policies that should be discussed in all communities.

It is common to think of only one option when considering an approach to achieve something. However, many issues and challenges can be solved in multiple ways. Ultimately, the way chosen by each community should be tailored to that community and the result of discussions among key stakeholders. The key factor to sustain a CIP process is to embed it within the local policy framework. Once the LG decides its policies on the investment process and determines the steps that it wants to follow in this process, these policies and steps should be reflected in an official local policy on investments that has been approved by the representative body. In practice, this official local policy can be a set of policies, simple or complex. However, at a minimum, the formal local policy should determine the range of eligible projects, the way that projects are identified and proposed, the degree and components of citizen involvement, and the approach to financing the investment projects.

Technical Support through Outsourcing

Many elements of the investment process require professional expertise. Some LGs, especially small ones, might not have such expertise in house. Lack of local expertise should not prevent LGs from implementing an effective investment process. The solution to the problem of not having in-house expertise is outsourcing specific tasks to a LG consultant. Note that donor financial support for consultants sometimes is available as well.

Typical Obstacles to Overcome

Capital programming and budgeting are difficult and time consuming. A LG and CIP Coordinator should expect to encounter obstacles as they implement the system. These obstacles will likely consist of political resistance, staff resistance, information barriers, and others.

- ***Political resistance.*** Elected officials resist capital programming for several reasons. Some contend that it introduces excessive rigidity into policymaking because plans for projects become solidified and are difficult to change. Others fear that it raises unrealistic public expectations that cannot be met due to limited funding. They may believe it is not practical to plan more than 1 or 2 years into the future or beyond their term of office. Others believe that since only limited funds are available, it is meaningless to go through the effort of creating a detailed program and budget.
- ***Staff resistance.*** Staff often will object to capital programming because they feel it takes an inordinate amount of time and effort. Staffs frequently complain of a lack of commitment to the process by elected officials and top management. There is a belief that elected officials will not adhere to the program and will give overriding consideration to political factors. The staff may be concerned that the process will place excessive information demands and controls on them. Finally, they may believe that they will not be given adequate resources to do the job and that the process is merely an empty exercise.
- ***Inadequate information.*** Inadequate information is a major obstacle. Data on the condition of existing investments frequently is limited. Information on complaints and service interruptions may not be tracked and analyzed. Information on project costs and funding information and on financial condition and potential funding sources often is unavailable. Finally, it is difficult to quantify the benefits of many projects.

Where to Start?

Some elements outlined in this guidebook in connection with capital investment planning, such as life cycle costing or evaluation of facilities conditions, require relatively advanced systems of asset management and property management. These systems might not be in place in a particular jurisdiction. However, practically any LG, if its functions and responsibilities are defined, can start systematic planning of capital investment with a simplified set of activities, which can become more sophisticated over time.

Thus, the question is: What can be included in the CIP process at its simplest? A set of nine possible activities follows. (See preceding chapters for detailed guidance on each.)

1. Make a basic inventory of the *main* capital assets and infrastructure under LG control and assess whether capital repair is needed and how urgently. For example, children freezing in a school because the heating is broken probably should qualify as "urgent."
2. Assess what assets that the population needs most *are lacking*. Public participation in identifying these priorities is critical.
3. Assess your resources: *What do you expect* from your budget for the next 1 or 2 fiscal years? What can you mobilize locally? (For example, is there a vacant plot of land across the street from the Mayor's office that could be auctioned and sale revenues earmarked to fund the urgent investment?) What could you solicit from the upper levels of government and donors?
4. Define which types of *capital investment* projects your government is planning to invest in the next one or two fiscal years and in which order. Discuss these intentions with your residents and business community and modify according to their input.
5. Think creatively *whether and how* you can convince residents and businesses to pay for some costs through one-time contributions or increased tariffs (boxes 6 and 7).
6. Assemble simple project requests from all your departments and institutions. Try to include not only the capital cost estimates, but annual M&R and operations costs as well (see chapter 2, section on life cycle costing for guidelines to make rough estimates). Seek specific input from the public. Select projects to be funded according to the priorities agreed earlier by matching the projects with funding you plan to assemble. However, do not include projects for which it is unclear who would manage the asset or for which there is no realistic plan for covering annual costs.
7. Discuss the suggested list of projects and funding sources with your citizens and businesses at a public hearing and correct the list if necessary.
8. Implement the plan and report the results to the public: What did and did not work? Which deviations were made and why?
9. Repeat next year, with corrections from lessons learned during the first year.

7 Case Studies: The Cities of Nis, Serbia and São Paolo, Brazil

The two case studies—for Nis, Serbia, and São Paolo, Brazil—describe in detail their 2011 capital investment plans and how they were developed. Each study concludes with general lessons from the case. As background for the case studies, a snapshot of the size and budgetary position of these two cities follows:

	Nis, Serbia	São Paolo, Brazil
Population (thousands)	255.5	11,244.3
Annual city budget (2011, planned) (US$ per capita)	384	1,901
Annual city capital investment (2011, planned) (US$ per capita)	149	371

Case Study 1

The City of Nis, Serbia

The City of Nis is the administrative center of Nisava District and the regional center of South East Serbia. Nis is the third largest city in Serbia, with 3.3 percent of the population of the country and 65.5 percent of the population of Nisava District.

The City of Nis provides 4.02 percent of Serbia's total GDP. The city's dominant industry is processing, which, in 2008, received approximately 39 percent of total private and public investment. The transportation sector received 25 percent, followed by the construction industry, electricity, gas, and water supply.

In 2007–09 the Nis city budget reflected cautious fiscal policies and worsening microeconomic conditions. In 2008 the city budget was 62 million Euros. In 2009 due to the economic crisis and drastic cuts in transfers from the central government, the budget was only 59 million Euros. Nevertheless, financial results were relatively stable, due primarily to the fact that the city maintained strong financial controls over operating expenditures, keeping increases in line with the growth of operating revenues. In 2009, thanks to the Strategy of Expenditure Reduction implemented by the city, operating revenues were even higher than in 2008.

In the structure of operating revenues, shared revenues typically made up a much larger share of the budget (83 percent) than did the own revenues of the city (17 percent). However, in 2009, this ratio changed, primarily because of the transfer cuts, which reduced shared revenues to 75 percent. Among own-source revenues, the largest contributor has been the land use fee (averaging 35 percent of own-source revenues for 2007–09) and the property tax (averaging 27 percent for the same period). The most stable recurrent revenue is the shared wage tax, which increased even in the period of extreme economic downturn. Although by 2008, central government transfers were considered to be a stable source of revenue, in 2009 they were cut. If this trend continues, capital investments are likely to be reduced since it is easier to reduce capital expenses than operating expenses.

The share of capital revenues in total city revenues has been significant—averaging 31 percent in 2007–09. This revenue flow enabled the city to implement a program of extensive capital expenditures without causing financial deficits. Capital revenues consist of a self-contribution fee for capital improvements from property owners, land development fee, land lease fee, capital donations, capital transfers from the central budget, and revenues from sale of assets. Note that the land development fee may be a good indicator of investment activities because it is paid by each person or entity that obtains a building permit. In 2009 this fee generated less revenue than it had in previous years.

Capital Investment Planning Process

The Draft Capital Investment Plan (CIP) of the City of Nis is a document of strategic importance that defines the city's midterm development guidelines. It is a five-year plan of budget investments in infrastructure, public buildings, and facilities and equipment.

This document was prepared by the CIP Working Group, appointed by the mayor, and made up of the staff of the Local Economic Development Office and representatives of the Nis administration. The process was facilitated by advisors from the US Agency for International Development (USAID)-sponsored project, Municipal Economic Growth Activity.

The CIP is designed to bring together the City Development Strategy and the City's financial capabilities. One of important final results of the strategic planning process is a list of potential capital projects that will be implemented in the future.

The CIP draft relies on the following documents[23]:

- Development Strategy of the City of Nis (adopted at the City Assembly session on December 3, 2007)
- Revised Development Strategy of the City of Nis 2009–2020 (adopted at the City Assembly session on April 15, 2010) and Operational Plan 2009–2011
- Sustainable Development Action Plan of the City of Nis 2010–2014 (adopted at the City Assembly Session on April 15, 2010)
- Spatial Plan of the Administrative Area of the City of Nis 2021—Draft
- Local Environmental Action Plan of the City of Nis
- Housing Strategy of the City of Nis
- Local Economic Development Strategy of the City of Nis
- General Urban (Development) Plan of the City of Nis 2010–2025.

The idea behind the CIP was to enable the city to better use its budget capacities, define priorities, prepare project documents in a timely manner, and improve access to external sources of finance (EU pre-accession funds, ministries' funds and programs, and other donor funds).

In October 2009, the mayor issued a Decision on the Formation of the CIP Working Group. He appointed 21 members to the working group and 1 CIP Coordinator (a staff member from the Mayor's office). This was the first time that Nis embarked on such an endeavor. This work was supported by advisors from the Municipal Economic Growth Activity project. The CIP was finalized in November 2010 and submitted to the City Council for adoption.

Other LGs in Serbia include in their CIP Working Groups representatives of public utility enterprises and organizations outside the municipal budget system. However, members of the Nis CIP Working Group were primarily representatives of line departments and city budgetary institutions. Specifically, in addition to the mayor himself and his deputy, other members of the CIP Working Group represented the Department of Utility Activities, Energy and Traffic; Department of Finance, Own Revenues and Public Procurement; Department of Planning and Construction; Department of Economy, Sustainable Development and Environment; Department of Property and Inspections; Information and Communication Technologies and Maintenance Office; Mayor's Office; Local Economic Development Office; City Council; Public Housing Enterprise; and Public Construction Enterprise. Because no staff member was officially appointed to provide technical support to the working group, individual staff members, particularly those from the Department of Finance and the Department of Planning and Construction provided significant support during the process.

Indirectly, all stakeholders relevant to city development were included in the process because they were able to submit project requests. These stakeholders comprised city departments, public enterprises, public utility enterprises, education, science and research institutions, health care institutions, and social welfare institutions.

The CIP Working Group developed the following guidelines, assessments, and forms:

- Period to be covered by CIP: 2010–15
- Definition of a capital investment project: Sectors that

23 They are available on the City's website: http: //www.ni.rs/government.html

may be included (table 5); minimal value: 100,000 Euro; period of implementation: Not fewer than 2 years
- Possible sources of finance: City budget, the National Investment Plan and other central government programs, loans, donations, own resources of municipal public companies, and concessions (public-private partnerships)
- CIP calendar, according to which the document had to be adopted in December 2010
- System for rating projects (see below)
- Assessment of city's financial capacity and budget projections through 2015 prepared by Department of Finance
- Project Proposal Form (project request) was adopted. Nis slightly modified the form in order to apply for funding from the National Investment Fund. The form included five sections: (1) general project information; (2) project goals and strategic framework; (3) project description; (4) degree of project readiness for implementation; and (5) project management structure/ project sustainability. The CIP Working Group sent the form to all direct budget beneficiaries. They distributed it on to indirect beneficiaries and public utility companies.

Budget institutions and public utility companies filled out the forms and sent them back to the working group. Once the project proposals were submitted, the working group eliminated those that did not comply with the defined criteria (cost was below 100,000 Euro or was not from the targeted sectors, or implementation period was fewer than 2 years). Next, the working group rated the remaining projects according to the 16 criteria, with a weight (from 1 to 3) assigned to each criterion. Each project was scored against each of the 16 criteria; the points were multiplied by the weights and added to produce the total score for the project.[24]

Note that only 5 of the more than 13 members of the CIP Working Group were assigned to rate the projects.

Content of the Capital Investment Plan

The first part of the CIP describes the city's organizational structure, composition of the CIP Working Group, and city development vision and general data about the city: population, economy, employment, education, natural and cultural resources, and transportation infrastructure (chapters 1, 2, and 3).

The second part presents the methodology used to draft the CIP. The methodology includes guidelines on formulating the CIP, calendar, project selection criteria, assessment of city's financial capacities, and selection of project proposal form (chapters 4–10).

The third part of the plan provides project descriptions and ratings. Projects were described by value, budget share of funding, and degree of readiness for implementation. Two projects that had been included in the SLAP system also were presented.[25] A total of 33 projects were selected and ranked (table 6).

The top priority projects in the CIP were for utility infrastructure and general infrastructure: reconstruction and expansion of the local airport; parking garage; central waste water treatment system; and a farmers' market. In addition, three social housing projects (housing at subsidized prices) also received high ratings. Table 5 shows the distribution of project cost by sector and source of funding and finance.

24 Author's note: From the materials provided, the rating system is not quite clear and appears to be overcomplicated.

25 SLAP is a database of municipal projects ready for financing hosted by the Serbian Standing Conference of Towns and Municipalities.

Table 5. Distribution of Nis CIP Projects by Sector and Source of Finance

Investment sector	By source of finance (thousands Euro)							
	Ministry	City budget	Loans	Dona-tions	Own sources of beneficiaries	Other (PPPs)	Total	%
Sport and recreation	600	1,000	0	0	0	0	1,600	1.6
Utilities and other infrastructure	5,960	5,386	54,100	1,360	1,600	7,367	75,773	73.7
Education	0	2,780	0	0	0	0	2,780	2.7
Culture	2,344	5,631	0	0	0	0	7,975	7.8
Social housing	700	950	5,480	2,000	4,830	0	13,960	13.6
Rural development	83	530	0	0	73	75	761	0.7
Total	9,687	16,277	59,580	3,360	6,503	7,442	102,849	100.0

With budget projections for the following five years provided by the Department of Finance and the assessment of the city's financial capacity, the city government will be able to make better informed decisions about spending on capital investment projects. The total budget funds available for investments are calculated as the sum of the net operating surplus, capital revenues, carryovers from the previous year, and revenues from interest rates. The budget projections were produced using special creditworthiness assessment software.

However, the budget forecast did not include future operations and maintenance (M&O) costs for the new infrastructure and facilities because project proposals provided this data only for 2010.

Six different funding sources and finance are expected to be used (table 5). Most of the projects, mainly relatively small ones, are planned to be funded from the city budget. The remainder will use a combined bundle of 2, or even 3 or 4 sources.

No. of sources of finance	No. of projects with this no. of sources
1	20
2	7
3	4
4	2
Total	33

Three projects for which private participation in funding is planned are a parking garage, visitor center, and sewerage line in one district.

CIP Approvals

The CIP Working Group submitted the draft CIP to the City Council, which adopted it in November 2010 and submitted it for adoption to the City Assembly,[26] where as of February 2011 it was pending.

The CIP guidelines stipulate an annual update of the CIP by adding new projects or eliminating completed ones according to the same procedure used for the CIP's adoption.

Lessons for the Future

The following observations and comments regarding the CIP process are related to the experience of the City of Nis but, to a certain degree, are applicable to all LGs in Serbia and their CIP processes:

- The CIP process is a complex set of activities that requires almost 12 months of engagement. Unfortunately, LGs do not always understand this, and after a period of initial enthusiasm, only a couple of employees followed through on the entire process.
- The experience of using the National Investment Fund application form for CIP project requests produced

26 A local representative body in Serbia.

mixed results. On the one hand, it is a good form that requires solid data and information. On the other hand, many projects still lack technical and engineering documents. For this reason, it often was impossible to complete the form. For instance, in Nis, only one project (the relocation of the Nis-Niska Banja railway) was fully prepared for implementation so that all of the information required by the form was available.

- Even when technical documents (for example, surveys, engineering studies and design) have been prepared for a project, an economic feasibility assessment usually is lacking, and often there is no financial analysis. Consequently, it is impossible to specify the timing of project expenditures. The LG should allocate more attention and resources to prepare feasibility studies.
- A CIP calendar should allocate more time for budget beneficiaries and public utility companies to fill out and return the project proposal forms and for members of the CIP Working Group to evaluate and rate projects.
- It would be better to include the entire CIP Working Group in evaluating projects. Doing so would secure a broader based evaluation, less influenced by judgment of the Mayor, his deputy, and other members of the 5-member evaluation group.
- Although there is no "standard" for selecting CIP Committee members, in addition to budget beneficiaries and public utility companies established by the LG, it is desirable to include businesses, institutions, and citizens in the CIP process. It is especially desirable to include citizens' and businesses' vision of investment priorities in the city. In Nis, for instance, no public participation was brought into the process.
- The City of Nis CIP is based on well-prepared strategic documents, which clearly identified the long-term needs of the city.
- Lack of documents such as pre-feasibility studies often makes it impossible to identify all of the investment cost components.
- The project request form did not include a section for estimates of future maintenance and repair, investment maintenance, and operating costs of the projects. As a result, except for 2010, this information was not collected, making it impossible to evaluate the impact of future annual costs on the city budget.
- Midterm budget projections (for five years) often are unreliable due to uncertain fiscal and monetary policies and an unpredictable inflation growth. It also is impossible to rely on such sources of revenue as donations and funds provided by central ministries.
- CIP preparation and adoption often depend on the distribution of political power in the City Assembly. Obstruction by political parties has occurred. To overcome such obstacles, a clear CIP methodology must be in place.

Table 6. Projects Included in Nis CIP, 2010–15

No.	Name of project	Submitter	No. of points	Funding sources and finance (rounded to thousand Euro)						
				Ministry	City budget	Loans	Dona-tions	Own sources (PUC)	Others	Total
1	Reconstruction and Additional Construction of Airport	Municipal Co. Airport	73	1,600	400					2,000
3	Construction of Branko Bjegovic Apartment Block	Municipal Housing Co.	70	700			2,000	1,800		4,500
2	Livestock Cattle Quarantine	Uprava za poljoprivredu i razvoj sela	67	33	25			48		106
4	Construction of Ledena Stena Apartments	Municipal Housing Co.	60			3,980		1,000		4,980
7	Construction of Apartments on Mayakovski St	Municipal Housing Co.	61		950	1,500		2,030		4,480
5	Parking Garage	Parking Service Co.	55					1,600	1,200	2,800
6	Central Waste Water Treatment System	Municipal Utility Co. Naisus	54			54,100	1,000			55,100
8	Reconstruction, Expansion, and Construction of an Additional Floor over National Library	Library Stevan Sremac	48		622					622
9	Farmer Market Krive Livade	Municipal Utility Co. Tržnica	48	4,000	4,000			6,047		14,047
10	Heating Pumps for Swimming Pools	Sport Center Èair	44		300					300
11	Final Works on Museum Building	Museum	44	2,204	2,204					4,408
12	Reconstruction and Conservation and Restoration Works on Walls of Nis Fortress	Historic Preservation Institution of Nis	44		100					100
13	Visitors Center	Dept. of Rural Development	43	50	150			25	75	300
14	Sanitary Sewer - Gornji Mateje-vac	Dept. of Rural Development	43	360	360		360		120	1,200
15	Solar Energy for Heating Water	Sport Center Èair	42		400					400
16	Renewal of Opera Section of National Theater	Theater	40		270					270

(Continued)

Table 6. Projects Included in Nis CIP, 2010–15 *(Continued)*

No.	Name of project	Submitter	No. of points	Funding sources and finance (rounded to thousand Euro)						
				Ministry	City budget	Loans	Dona-tions	Own sources (PUC)	Others	Total
17	Construction of Second Phase of Outdoor Swimming Pool	Sport Center Èair	39	600	300					900
18	Environmental (Posts) Stations	Municipal Utility Co. Mediana	37		349					349
19	Livestock Market	Dept. of Rural Development	36		105					105
20	Reconstruction and Restoration of National Theater	Theater	28	140	80					220
21	Reconstruction and Construction of an Additional Floor over Serbia Gallery	Public Art Gallery	25		1,230					1,230
22	Construction of a Swimming Pool in Bambi Kindergarten in Medijana Municipality	Kindergarten Pèelica	25		130					130
23	Construction of Additional Floor and Steep Roof over Leptiric Kindergarten	Kindergarten Pèelica	25		300					300
24	Reconstruction of Neven Kindergarten	Kindergarten Pèelica	25		250					250
25	Reconstruction of Plavi Cuperak Kindergarten	Kindergarten Pèelica	25		250					250
26	Construction of Kindergarten and Providing Equipment in Pantelej Municipality	Kindergarten Pèelica	25		800					800

Case Study 2

The City of São Paulo, Brazil

The City of São Paulo City, with a population of over 11 million, is governed by a directly elected Mayor with a 4-year term. Elections of the Mayor and of City Councilors are held simultaneously. The city has 30 administrative subdivisions, *(Subprefeituras)* managed by appointed "Submayors" *(Subprefeitos)*, which have executive functions and permanent staff. The direct administration also includes 22 secretariats in charge of 15 investment funds and 8 city-owned companies, some of which have independent budgets.[27] There are also six indirect administration autarchies (local authorities).

All secretariats, *Subprefeituras*, investment funds, autarchies, City Council, auditing authority (*Tribunal de Contas*), and ombudsman's office *(Ouvidoria*) are explicitly budgeted within the system of city planning and budgeting described below. Six of the city's companies are publicly traded (S.A., or *Sociedade Anônima*),[28] although the city is the majority shareowner (with 51 percent–99.95 percent of shares). As public companies, they have their financial statements independently audited and published and call regular shareholders' meetings. However, these S.A.'s are more or less permanently in deficit. Their accounts are balanced through capital transfers from the city, making them dependent on the total city budget. Table 8 lists these companies, their business lines, and their investment budgets.

Definitions

Investment in the City, according to the city planning budget glossary, is defined as "any expense related to planning and execution of (public) works; real estate acquisition and its utilities, equipment and permanent assets; constitution or capital increase of (government) companies that are not of commercial or financial purpose."[29]

Investment is included in ***capital expenses*** and constitutes its largest part (over 90 percent). ***Financial investments*** (including the acquisition of properties in use, assets for resale, credit titles, and equity and loans) and ***capital transfers*** make up the rest of capital expenses.

Operating expenses comprise ***cost expenses*** (including payroll, materials, and maintenance of properties) and ***operating transfers*** (for subsidies, debt interest, and social security, among others).

Although it is not always summarized clearly, budget information is publicized and easy to access. Most planning information includes "Operating Expenses" and "Capital Expenses."

São Paulo City Planning System

São Paulo City expenditures and investments are coordinated by the ***Municipal Planning, Budget and Management Secretariat*** (SEMPLA, or *Secretaria Municipal de Planejamento, Orçamento e Gestão)*, which is in charge of the SP City Planning System. SEMPLA's current structure was established in 2010. It results from the fusion of two secretariats, the Municipal Planning Secretariat (SEMPLA) and the Modernization, Management and Debureaucratization Secretariat *(Secretaria de Modernização, Gestão e Desburocratização*). Formerly, in addition to budget and economic planning, SEMPLA was in charge of urban planning.[30] In 2009 this last function was transferred to the ***Municipal Secretariat of Urban Development*** (*Secretaria Municipal de Desenvolvimento Urbano,* or SMDU).

The ***SP City Planning System*** was organized in 2005 and has been SEMPLA's responsibility since the secretariat was established. The city planning system's "fundamental task is to develop and execute the city budget," which is an

27 An exception is COHAB, the City Housing Company, which is treated in the budget as an autarchy.

28 This business model was created during the 1960s and 1970s to render government management more agile. However, today, all of these companies are subject to bidding and contracting rules similar to those of the direct administration, but with few practical advantages.

29 http://sempla.prefeitura.sp.gov.br/orc_homenew.php#orc_glossario.php

30 Until 2004, SEMPLA was in charge of only urban planning, whereas economic planning was a Finance Secretariat responsibility. City budget management was passed to SEMPLA in 2005.

instrument to control and monitor governmental actions. These actions, in turn, are divided in two categories: those of *direct visibility* (such as income generation, transportation, and leisure), and those of *indirect visibility* (such as urban infrastructure, security, health, education, and environment).

The city planning system operates through a set of three local laws: ***Multi-Year Plan (PPA,*** or *Plano Plurianual*), ***Law for Budgetary Guidelines (LDO,*** *Lei de Diretrizes Orçamentárias*) and ***Law for the Annual Budget (LOA,*** or *Lei do Orçamento Anual*). All three must be passed by the City Council after being presented by the Mayor and his secretaries.

Structure of Funding Sources

City special funds all are allocated in the PPA and LOA. All of these special funds (with one exception) are linked to a specific *Secretariat* and managed by a *Secretariat Board*, usually headed by the *Secretary*. Table 7 lists the funds, the corresponding secretariats, the main funding sources, and the identifiable capital expenses.

According to the 2011 LOA, of a total income of BRL 35.6 billion, 41 percent will come from "tributary income" (that is, from city taxes, fees, and improvement contributions). Thirty-six percent will come from "operating transfers" (mainly State VAT, or "ICMS," transfers).[31] The remaining 23 percent will flow from "capital income" (11 percent) and other operating incomes, such as contributions, property, and services.

[31] ICMS (*Imposto sobre Operações relativas à Circulação de Mercadorias e Prestação de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação)* is a Brazilian state tax for goods and services. The tax ranges from 7%–25% and is payable at all stages of sale from manufacture to consumer.

Table 7. São Paulo Special Funds

Code in city budget	Special fund	City Secretariat	Main funding sources	Business lines	Total allocation in 2011 LOA (BRL million)	Capital expenses in 2011 LOA (BRL million)
18	Health	Health	• Specific taxes, through city budget • Penalties, fees, and services' income	Funding and management of SUS (Sistema Único da Saúde or Unified Health System)	5,161.2[1]	307.1
81	Urban Cleaning	Municipal Authority for Urban Cleaning (Autarchy)	• Fees • City budget • State and Federal governments' budget transfers focused on urban cleaning	Funding of the urban cleaning system and of the autarchy	0.01[2]	none
86	Sanitation and Infrastructure	Housing (SEHAB)	City budget	Funding works and services related to urban upgrading, stream cleaning and channeling, title regularization, urban drainage and earth slope containing, and expropriations	400.0	400.0
87	Traffic Development	Transportation	• Traffic penalties • State and Federal governments' budget transfers focused on traffic	Financing and improving traffic development programs and projects	660.5	39.2
88	Heritage Preservation	Culture	NA	NA	0.4	0.4
89	Sports, Leisure and Recreation	Sports, Leisure and Recreation	• City budget • State and Federal governments' budget transfers focused on sports	Support of sports, leisure, and recreation projects	8.8	0.2
90	Children and Teenagers' Rights	Participation and Partnership	• City budget • State and Federal governments' budget transfers focused on children and teenagers' rights • Tax incentives	Complementary funding for the development of public policies	116.6	9.0
91	Housing (FMH)	Housing (SEHAB)	• City budget • State and Federal governments' budget and tax transfers focused on housing	Management of low income housing programs and projects	55.0	33.0

(Continued)

Table 7. São Paulo Special Funds *(Continued)*

Code in city budget	Special fund	City Secretariat	Main funding sources	Business lines	Total allocation in 2011 LOA (BRL million)	Capital expenses in 2011 LOA (BRL million)
93	Social Assistance	Assistance and Social Development	• City budget • State and Federal governments' budget transfers focused on social assistance	Financing social assistance public policy	602.5	11.6
94	Environment and Sustainable Development (FEMA)	Green Areas and Environment	• City budget • Penalties and indemnities due to environmental abuse	Plans, programs, and projects aimed at environmental sustainability Control, protection and recuperation of environmental assets Environmental education	64.8	60.6
95	Promotion of Cultural Activities	Culture	• City budget • Tax incentives • Box office income	Funding of artistic and cultural projects	10.6	none
96	Tourism	Government (also linked to Mayor's office)	• Rental of premises, except of Anhembi compound • City budget	Funding of the City Tourism Plan	0.6	0.6
97	Protection of Cultural and Environmental Assets	Culture	• City budget • Penalties due to mistreatment of cultural or environmental asset	Heritage preservation works Acquisition of heritage properties	0.8	0.8
98	Urban Development (FUNDURB)	Urban Development (SMDU)	• City budget. • State and Federal governments' budget transfers focused on urban development • Income from additional real estate development rights • Income from concessão urbanística PPPs	Support and implementation of plans, programs, and projects defined in or derived from PDE (Plano Diretor Estratégico, or City Urban Master Plan)	161.0	161.0
99	Public Lightening (FUNDIP)	Services	• Contribution for public lighting funding (charged through private electricity companies) (COSIP)	Financing of public lightening	253.6	56.9
Totals					7,496.4	1,080.4

Source: City of São Paulo, Planning Secretariat (SEMPLA). http://sempla.prefeitura.sp.gov.br/orc_homenew.php

In addition to the funds, public enterprises have their own lines of capital expenses, which account for an additional BRL 3,040 million in the 2011 LOA**.**

Developing the Multi-Year Plan (PPA), Law for Budgetary Guidelines (LDO), and Law for the Annual Budget (LOA)

Among its many activities, SEMPLA is in charge of developing the draft ***PPA*** and monitoring its implementation, developing the draft ***LDO***, and developing the draft ***LOA***.

The development of a new ***PPA*** is linked with the start of a newly elected administration and must be presented to the City Council by September 30 of the council's first year and passed by December 31 that year. The plan should be valid for the next ***four years*** (which would include the first year of the following administration). São Paulo is in its second PPA, for ***2010–13.*** The PPA law includes three technical appendixes:

1. Appendix I presents forecasts developed by SEMPLA and the Central Bank[32] and scenarios that support the figures used.
2. Appendix II lists the proposed indicators.
3. Appendix III details the targets established for the four-year period.

The PPA includes both operating and capital expenses with both physical and financial targets.

The legal structure of this budget planning is in line with Brazil's Federal Constitution and Sao Paolo's City Statute. In addition, following its election campaign platform, the present administration established, during its first year (2009), ***Agenda 2012***.[33] The agenda is a "user-friendly" version of the PPA and translates the latter into well-defined, short-, medium-, and long-term actions.[34] A total of 223 actions were defined, and their status is posted on the city government's website.

Agenda 2012 established a special Consultative Council to be associated with SEMPLA. This council has 17 members with 2-year pro bono terms. Five of these members are elected directly by the public to represent the 5 sectors of the city: North, South, East, West, and Inner City. Three members are nominated by civil society and professional associations.[35] One member is nominated by the City Council. The remaining 8 are nominated by the Mayor. They comprise all City Secretaries, 3 of whom are permanent members: the Secretaries of Planning, Government, and Participation and Partnership.

The Consultative Council has two responsibilities. The first is to advise the Mayor and the Planning Secretary on public policies related to the PPA. The council's second responsibility is to monitor the programmed actions to ensure that they do not overlap and that the PPA conforms to city and sector-specific policies.

Both the PPA and Agenda 2012 include 5 "structural axes" as their conceptual frameworks: (1) the city of rights, (2) the sustainable city, (3) the creative city, (4) the city of opportunities, and (5) the efficient city. A "cross-cutting axis" also is included: the inclusive city.

PPA investments are heavily concentrated in sustainability issues, followed by citizen service improvements (table 8). These types of investment are generally consistent with the needs of a city that suffers from regular floods and landslides in the rainy season and has a legacy of traffic gridlock and poor public services.

The ***Law for Budgetary Guidelines (LDO)*** connects *long-term planning (**PPA**)* and *short-term planning* (***LOA***, that is, the annual budget) by establishing budget guidelines, targets, and priorities. The ***LDO*** may change the level of taxes, and it defines fiscal targets, such as primary surplus or deficit levels and fiscal risks. Draft legislation must be submitted annually to the City Council by April 15, and the law must be passed by June 30–*after 2 public*

32 Essentially, forecasts of the GDP, interest rates, inflation indexes, and exchange rates, as well as city taxes (property and services), real estate market expansion and number of licensed vehicles.

33 Officially known as *Programa de Metas da Cidade de São Paulo*, the Target Program of the City of São Paulo.

34 Http://ww2.prefeitura.sp.gov.br/agenda2012/

35 *Instituto de Engenharia* (Engineering Institute), *Associação Comercial* (Commercial Association), and *Federação do Comércio* (Commerce Federation).

Table 8. Summary of 2009–12 Multi-Year Plan (PPA)

Reference	Total expenses (BRL mil)	Capital expenses total per item (BRL million)	Capital expenses (% per item)	Capital expenses (% per axis)
City of Rights				25.6
Access to quality health services		614.1	5.8	
Access to quality education		936.4	8.9	
Improving education quality		13.1	0.1	
Access to housing		668.4	6.3	
Strengthening social protection network		93.7	0.9	
Others		377.6	3.6	
Sustainable City				53.1
Environmental issues		3,700.2	35.0	
Urban mobility improvement		1,883.7	17.8	
Others		35.9	0.3	
Creative City		818.7	7.7	7.7
City of Opportunities		759.9	7.2	7.2
Efficient City		117.4	1.1	1.1
General				5.3
Total	133,804.8	10,575.2	100.0	100.0

Source: City of São Paulo, Planning Secretariat (SEMPLA). http://sempla.prefeitura.sp.gov.br/orc_homenew.php

hearings. The first semester of legislative work cannot be concluded without the passing of this law. Its development is shared with the Finance Secretariat, which provides income forecasts and details on city debt issues. The current version of the LDO (2010) is a short text with three appendixes:

- Appendix I. Establishes priorities and targets
- Appendix II. Technical note on fiscal risks
- Appendix III. Details fiscal targets.

Based on the LDO, SEMPLA, together with the Finance Secretariat, drafts the next year's budget, **LOA**, based on the individual budgets of all city administrative institutions (Secretariats, *Subprefeituras,* and City Companies). The draft budget sets out forecasted revenues and planned expenses according to the priorities and targets defined in the LDO. The draft budget must be presented annually to the City Council by September 30— after *at least two public hearings*.

During the City Council discussion and voting sessions, the Councilors present a number of *amendments*, which are discussed and voted on during a negotiation between the Executive and Legislative branches. The council must past the LOA by December 31. The 2011 LOA has four appendixes:

- Appendix I. Statement of incomes and expenses by economic category
- Appendix II. Statement of expenses by institution and economic category
- Appendix III. Statement of expenses by institution, special operation, project, activity, and economic category
- Appendix IV. Description of the expenditures. Table 9 presents the expenses scheduled for 2011.

Table 9 shows that capital investments constitute 18.3 percent of total expenses. What makes up the "Others" account is not completely clear, but approximately 50 percent of it is allocated to "payment to companies" and third-party labor.

Table 9. Budget Expense Breakdown, 2011

Reference	Amount (BRL million)	%
Running expenses		
Payroll and social costs	8	23.8
Debt - interests paid	3	8.3
Others	17	48.4
Subtotal 1	***28,664***	***80.5***
Capital expenses		
Investments	6,522	18.3
Financial investments	30	0.1
Debt - amortization	404	1.1
Contingency	1	0.0
Subtotal 2	***6,957***	***19.5***
Total	**35,621**	**100.0**

Source: City of São Paulo, Planning Secretariat (SEMPLA). http://sempla.prefeitura.sp.gov.br/orc_homenew.php

Table 10 presents a breakdown of the "Investments" account. Most investment is concentrated in public works and utilities, followed by third-party labor, consultants, and real estate acquisition.

Special Long-Term Projects and Public-Private Partnerships

In addition to ordinary budgetary investment allocations, São Paulo has a number of long-term projects, some funded by the "sale" of additional land development rights (such as additional building height and coverage or floor area ratio). This practice started in the late 1980s through "Interlinked Operations" *(Operações Interligadas*), in which developers built low-income housing in exchange for the right to add density on these sites. As the instrument evolved, payments from developers accumulated in the "City Special Housing Fund" (FMH). In the late 1990s, this instrument was ruled unconstitutional and its use terminated. However, by then, this practice had become incorporated in the city's urban and economic planning culture.

In the early 2000s, when the present Urban Master Plan was being designed, this concept of "Interlinked Operations" was integrated in the law through "chargeable granting" *(Outorga Onerosa)*. The funds obtained through this instrument are channeled into infrastructure works through the City Special Fund for Urban Development (FUNDURB), which can be applied in any part of the city, for planned expenses.

Another scheme for using sales of land development rights is run under "Urban Operations" (*Operações Urbanas).* The city has 5 active and 8 scheduled projects of this type. All are large (100–500 hectares) urban development projects, with completion terms of 15–20 years. In each project, important infrastructure works on the project territory are funded by sales of additional land development

Table 10. LOA Investment Breakdown, 2011

LOA 2011 investment account breakdown				
Subaccount	**Values (BRL million)**		**%**	
Transfers to States and Federal District		3.7		0.1
Transfers to nonprofit private institutions		76.6		1.2
Direct costs		6,442.3		98.8
Miscellaneous	18.1		0.3	
Third party handwork and consultancy	874.3		13.4	
Public works and utilities	4,241.6		65.0	
Permanent equipment and materials	248.6		3.8	
Real estate acquisition	695.3		10.7	
Lawsuits, liabilities, and indemnifications	347.9		5.3	
Social security investments	16.4		0.3	
Totals		6,522.6	98.8	100.0

Source: City of São Paulo, Planning Secretariat (SEMPLA). http://sempla.prefeitura.sp.gov.br/orc_homenew.php

rights. In the most recent of these projects (*Faria Lima* and *ÁguaEspraiada*), these additional rights are purchased through stock market tradable certificates called Certificates of Additional Potential Development (*Certificados de Potencial Adicional de Construção,* or CEPACS). These certificates are issued by the city and traded through an auction system.[36] This procedure enables revenue planning, which is helpful for financial planning and management of infrastructure development.

In addition, new public-private partnerships—"Urban Concessions" *(Concessão Urbanística)*—are being developed in which derelict parts of the city will be converted to "private operation" in exchange for the execution of an infrastructure plan. The concessionaires will recoup their investment and obtain profit from the redevelopment of expropriated properties during the concession period. The expropriation rules are still under development by the Housing Secretariat. It is envisioned that owners of properties will receive compensation according to predefined criteria, while sitting tenants may either be relocated to low income housing or obtain a rental grant. This business model will be tested in *Projeto Nova Luz,* which is designed to upgrade a decaying inner city neighborhood. The project is still being designed.

Finally, the newest and maybe most ambitious initiative is the establishment of regular public-private partnerships through a special municipally owned company, *Companhia São Paulo de Parcerias*. This company is procuring 10 year–15-year contracts with private companies to construct and operate 3 large healthcare compounds. During the contract period, the private investor-operator will receive repayment from the city for investment and annual costs. Another upcoming project is the development of a large exhibition compound in *Pirituba* (on the northern outskirts of the city) through a similar scheme. Many of the large projects needed in the city for the 2014 World Cup are expected to be delivered in this way.

Conclusion and Lessons for the Future

- Generally, the City of São Paulo City's long-term investment planning (PPA) is focused on the right issues: environmental concerns (such as water resource preservation and flood control) consume 35 percent of the allocation; transportation issues consume 17.8 percent; and improvement of services for citizens (health, education, and low income housing) make up 25.6 percent (table 8). Even so, due to the city's large deficits, there is always the impression that "little is done." Quantitative estimates of the total investment needs reportedly exist but are not accessible to the public, and the quality of estimates and how up to date they are vary across Secretariats.
- Despite a number of legal and formal planning instruments (and some quite ambitious targets), the level of investment is relatively low (18 percent of the total budget), compared to total operating expenses and payments to third parties.
- This situation is mitigated by the City Companies, which add considerable investment. In the 2011 LOA, these companies add BRL 3,003 million to the BRL 6,523 million allocated through the direct administration (tables 8 and 12).
- Investment decisions within the São Paulo model remain highly centralized in the executive branch. Even though it is legally and clearly defined, public participation—through City Council intervention, public hearings, and the participation of elected representatives in the Agenda 2012 Consultative Council—is limited Councilors usually do not have the technical capacity to present relevant projects, and the city has little tradition of voters putting pressure on their political representatives. Usually City Councilors are seen as negotiating on their own behalves. However, a new factor in the process is the growth of NGOs, ranging from environmental organizations to neighborhood "defender groups," who are becoming effective pressure groups.
- Transparency has been improving, and a great deal of information is publicized through web sites. However, accurate monitoring by the public is difficult due to the inherent complexity of understanding a sophisticated set of public accounts and indicators. It must be noted that in January 2011, 18 of the 223 targets of Agenda 2012 were reduced by the city.

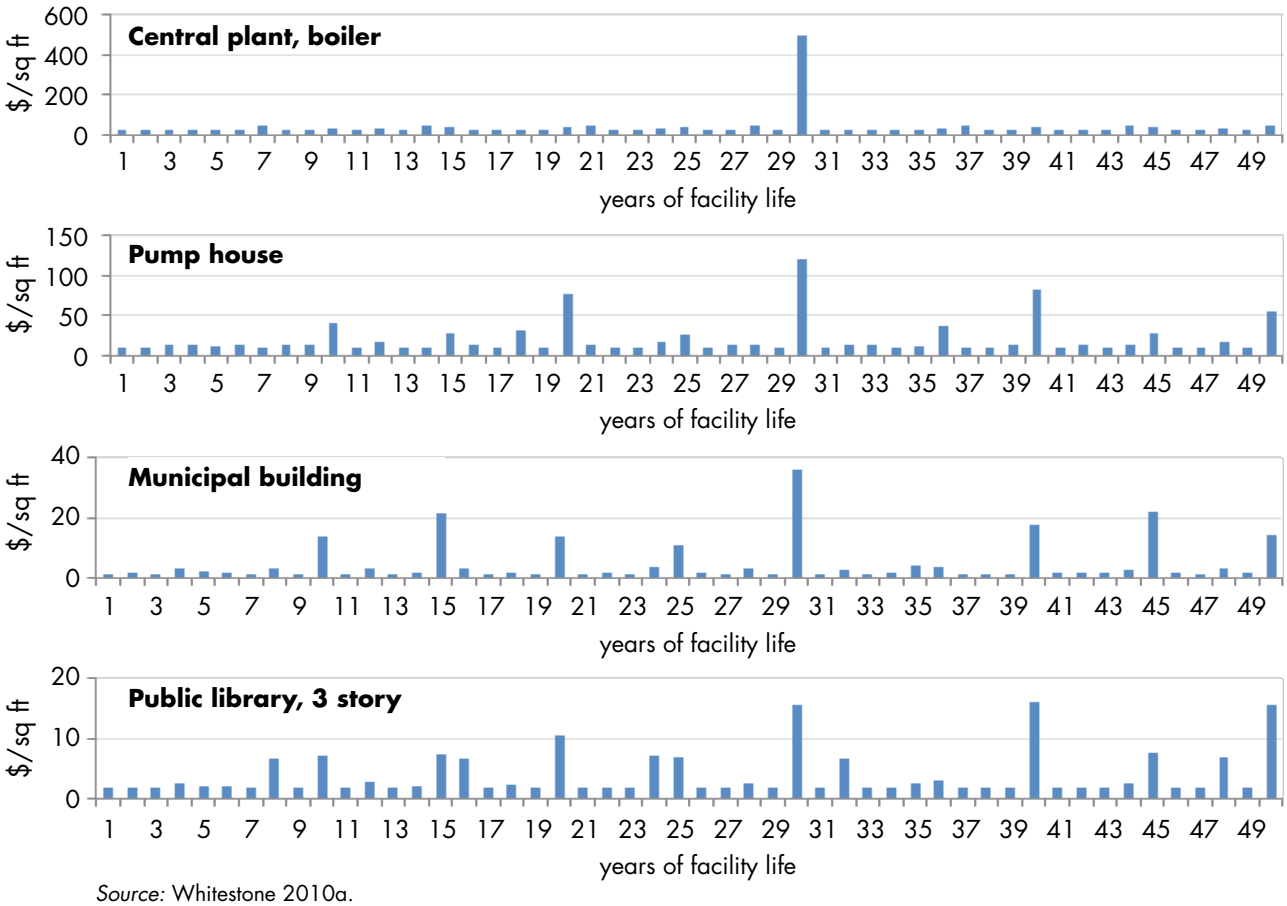
[36] Older operations have these rights valued through appraisal reports, analyzed case by case by city technical staff.

Appendixes

Appendix 1. Facts on Life Cycle Costing

1. Maintenance and repair costs of capital assets are distributed unevenly during an asset's life and depend on the type of asset (figure A1). As noted, these costs vary geographically as well. For example, within the sample of 234 locations in the United States and Canada, the M&R costs range roughly from 70 percent–130 percent of the Washington, DC level. For the sample outside North America, these costs range from 25 percent (Beijing) to 105 percent (Zurich) of the Washington, DC level. Finally, the M&R absolute amounts, even averaged over the life span, vary depending on the type of facility (figure A1).

Figure A1. Estimated M&R Costs for Different Facilities, Washington, DC (US)



Source: Whitestone 2010a.

2. Annual operations costs, compared with the replacement cost, also vary substantially by type of asset and constitute a noticeable amount (table A1). The M&R and operations costs together, taken over the asset life-time, are much larger than the initial (replacement) cost. Thus, for the sample of 4 types of public facilities in table A1, the 2 costs combined vary from approximately 340 percent to more than 1100 percent of the replacement costs.

Table A1. Estimated Components of the Life Cycle Costs for Different Facilities, Washington, DC (US)

Facility	Replacement cost		Annual M&R (average) and operations costs		Estimated annual R&M (average) costs	Sum of M&R and operations costs, assuming 50-year life cycle
	$/sq ft	%	M&R (% of replacement cost)	Operations (% of replacement cost)	(% of replacement cost)	(% of replacement cost)
Central plant, boiler	640	100	6.4	4.9	Min. 2.3	561
Pump house	640	100	3.0	19.4	2.3	1117
Municipal building	264	100	1.7	5.1	2.4	340
Public library	230	100	1.7	5.1	2.9	338

Source: Calculated from Whitestone Research 2010a and 2010b.

3. Even less certainty and agreement exist about annual restoration and modernization (R&M) costs, also called *re-capitalization* or *depreciation.* What should be included, to what amount, and how should these costs be distributed throughout the useful lives of assets or beyond?[37] Nevertheless, it is commonly recognized that sufficient resources should be budgeted and accumulated to fund restoration and modernization or to replace the asset after its useful life ends. Moreover, without proper R&M expenses, even if the M&R and operations costs are fully covered, it is impossible to maintain the productive capacity of public assets during their life spans. As a result, compared to planned repair and replacement, the overall life cycle costs for emergency repairs will be higher.

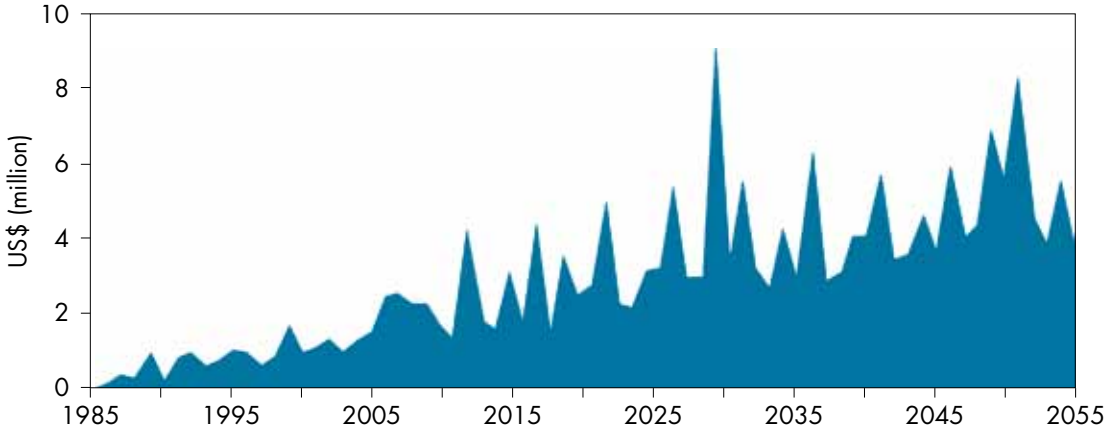
   Despite many methodological differences among the views of property and asset managers, engineers, and accountants, one consensus is that the simplest rough estimates of needed annual allocations can be derived as the linear depreciation, that is, by dividing the replacement cost of the asset by the assumed life of the asset. This amount may be insufficient, especially at certain periods of the life cycle or if the asset accumulated deferred investment. Nevertheless, if this amount is either allocated systematically and used for real R&M works, or is accumulated in a special earmarked fund, these paths would be much better than the typical systematic deferred investment that takes place in most LGs in the world. For asset life spans that range from 25 years to 50 years, the depreciation ranges, respectively, from 4 percent to 2 percent of the replacement cost as an annual R&M amount that should be budgeted. For the specific facility types shown in table 1, the table provides the annual R&M estimates based on this linear depreciation model.[38]

37 Detailed discussion and references can be found in Lufkin and others 2005.

38 They are based on the Whitestone Research assumptions about the service life of specific buildings and infrastructure (or similar facilities): pump house–43 years; central plant, boiler–not more than 43 years; municipal building–41 years (similar to office building), and public library–35 years. (Whitestone Research, 2010a, 299)

4. The total annual needs for capital investment in the entire LG portfolio fluctuate unavoidably because the annual life cycle needs of each asset fluctuate over its lifespan. For example, figure A2 shows the historic record of replacement expenses for 1985–2009 and the long-term forecast for 2010–55 for the general assets of the City of Shoreview (Minnesota, US). The general assets include residential streets, public safety buildings and equipment, city hall and community center remodeling, furnishings, mechanical systems, data processing systems, park buildings, and trails.

Figure A2. Historic and Projected Costs of Replacing General Municipal Assets, City of Shoreview (Minnesota, US), 1985–2005



Source: Shoreview 2010.

Appendix 2. Example of Comprehensive Infrastructure Replacement Policy, City of Shoreline, Minnesota, US (Population: 27,000)

OBJECTIVES	REQUIREMENTS APPLYING TO ALL REPLACEMENT FUNDS TS
• Create a permanent program to finance infrastructure replacements	• Investment interest remains in the fund
• Moderate changes in the tax levies and user fees caused by replacement costs	• Inter-fund loans are subject to Council approval and must be repaid with interest.
• Carefully plan for new debt	
• Avoid assessing property owners twice for improvements	

	General assets		Proprietary assets			
			Enterprise assets			Internal service assets
Description	Infrastructure reserve (street renewal)	General fixed asset revolving	Water	Sewer	Surface water	Central garage
Replacement projections	40 years	40 years	40 years	40 years	40 years	40 years
New improvement projections	Not applicable	Not applicable	10 years	10 years	10 years	10 years
Operating projections	40 years	40 years	20 years	20 years	20 years	20 years
Source of revenue	• Property taxes • Investment interest • Other future revenues	• Property taxes • Investment interest • Other future revenues	• User fees Investment interest • Area charges • All other revenues	• User fees Investment interest • Area charges • All other revenues	• User fees Investment interest • All other revenues	• Rental fees Investment interest • All other revenues
Eligible expenditures	• Street reconstruction • Street resurfacing • Seal coating • Crack filling	Public safety equipment; public safety buildings; street lights; city hall building; furnishings and mechanical systems; data processing system; park buildings, improvements, and trails	Water systems and other water fund assets	Sewer systems and other sewer fund assets	Surface water systems and other surface water fund assets	Central garage equipment, buildings, and other central garage fund assets

Description	General assets		Proprietary assets			
	Infrastructure reserve (street renewal)	General fixed asset revolving	Enterprise assets			Internal service assets
			Water	Sewer	Surface water	Central garage
Minimum fund or cash balance	US$2 million	None	US$1 million minimum cash balance. Desired cash balance over $2 million	$US1 million minimum cash balance. Desired cash balance over $2 million	None	50% of operating costs
Debt restrictions	Replacement monies declared as source of funding when bonds authorized and/or City Council approves transfers to debt fund		No restrictions	No restrictions	No restrictions	Equipment certificates allowed; current resources preferred
Procedure required to deviate from definition of eligible costs	4/5 vote of City Council or public notice and public hearing		Not applicable	Not applicable	Not applicable	Not applicable

Appendix 3. Sample Forms for Budget Analysis

DETAILED (ANALYTICAL) ESTIMATE OF OPERATING (RECURRING) REVENUES (Sheet #1)
(US$ thousands)

Revenues		Actual	Plan	Projection				
		Current year	Current year	Year +1	Year +2	Year +3	Year +4	Year +5
A	Inherited from previous year							
B	Local taxes							
1								
…								
k								
	Subtotal taxes							
C	Local fees							
1								
…								
n								
	Subtotal fee revenue							
D	Other local revenues							
1								
…								
m								
	Subtotal other local							
E	Grants (any transfers that can be used for operating or unrestricted purposes)							
	Total (A+…+E)							

ESTIMATING THE NET OPERATING SURPLUS/DEFICIT (SHEET #2)

(US$ thousands)

Description		Actual	Plan	Projection				
		Current year	Current year	Year +1	Year +2	Year +3	Year +4	Year +5
I	Total operating (recurrent) revenues, from Sheet # 1 (A+…+E)							
A	Inherited from previous year							
B	Local taxes							
C	Local fees							
D	Other local operating revenues							
E	Unrestricted grants							
II	Total operating (recurrent) expenses (A+…+F)							
A	Salaries and benefits							
B	Utility expenses							
C	Maintenance and repair expenses							
D	Other operating expenses							
E	Operating subsidies to municipal institutions and utility companies							
F	Reserve/depreciation funds							
G	Debt service (interest and principle) for existing loans							
III	Projection of net operating surplus/deficit before impact of new planned investment (I minus II)							
IV	Estimated M&R, depreciation, and operations expenses or savings from planned new investments							
V	Projection of net operating surplus or deficit after M&R, depreciation, and operations expenses of planned new investment (III less IV)							
VI	Net operating surplus or deficit as % of operating revenues (V/I)							

CAPITAL BUDGET PROJECTION (Sheet #3)

(US$ thousands)

	Description	Actual	Plan	Projection				
		Current year	Current year	Year+1	Year+2	Year+3	Year+4	Year+5
I	**Capital revenues** (1+…+8)							
1	Planned operating surplus (from Sheet # 2, above, Line V)							
2	Revenues from sale of assets							
3	Voluntary contributions (or special assessments)							
4	Federal/regional capital grants							
5	Donor capital grants							
6	Loan or bond proceeds							
8	Proceeds from capital reserves							
II	**Capital expenditures** (1+…+6)							
1	Capital repair*							
2	Replacement*							
3	New equipment acquisition*							
4	Construction (including design)*							
5	Land acquisition*							
6	Addition to capital reserve fund							
	NET (I-II)							

Note: This spreadsheet should be investigated in 2 versions: (1) with (*) items from the previous CIP, to see how much would be left after previously started capital projects are further funded; and (2) with additional projects from draft CIP budget. See chapter 3.

Appendix 4. Sample Debt Policy

1. The Municipality of_____ will try to avoid the use of short-term borrowing by establishing and maintaining adequate reserves. However, should short-term borrowing be needed for cash flow purposes, it must be repaid before the end of the fiscal year in which it was borrowed.
2. Total debt services will not exceed_____% of the LG's total operating revenue.
3. Outstanding long-term debt will not exceed $ _____ per capita.
4. Average maturity of loans and LG bonds will be maintained at or below ____years.
5. The LG will not use long-term debt for current expenses.
6. The LG will limit long-term borrowing to capital investments that cannot be financed from current revenues and capital grants.
7. The LG will use borrowing only for funding capital investment needed to perform its mandatory responsibilities and functions.
8. When the LG finances capital projects through debt, it will repay the debt within a period not to exceed the expected useful life of the project (asset).
9. When possible, the LG will use self-supporting debt (that is, repaid from project revenues) before using tax-supported debt (repaid from government's other revenues).
10. On all debt-financed projects, the LG will make a down payment of at least_____% of the total project cost from current revenues.
11. The LG will follow a policy of full disclosure on every financial report and debt statement.

Appendix 5. Sample Policy for Capital Investment Planning

1. *Period covered by the Capital Improvement Program.* A five-year Capital Investment Program will be prepared for the period _____ to _____ and updated annually, and the capital budget will be adopted annually by the City Council.

2. *Eligible types of investment.* Capital investments that can be considered for inclusion in the CIP are:

   - Rehabilitation and/or replacement of existing infrastructure, public-use facilities, and social-use and government-use properties under the mandate of the city government
   - Reconstruction of the above infrastructure, facilities, and properties
   - Construction of new infrastructure, facilities, and properties of the above type if financially and economically justified; and acquisition of land for such construction
   - Equipment and vehicles for public functions under the mandate of the city government.

The costs needed for adequate and timely maintenance, repair, restoration, and modernization of physical assets are eligible for inclusion in either operating expenses or capital costs.

Funding the replacement reserve for capital assets (infrastructure, facilities, properties, and equipment and vehicles) should be a part of the annual capital budget.

Future operations costs of all new capital investment projects should be included in project requests and planned for funding.

3. *Definition of capital investment project.* All capital investments that belong to the above-mentioned categories, exceed _____[unit of currency], and have useful lives of longer than three years can be included in the Capital Investment Program. Project costs can include feasibility studies, land, engineering, architectural design, and contract services needed to complete the project.

4. *Organizational responsibility for capital investment program preparation and submission.* The CIP Commission will lead the CIP preparation process, and provide needed guidance and instructions. The CIP Coordinator will coordinate all activities, and the technical support staff will draft the CIP based on the instructions from the Commission. The CIP Commission will select the projects for inclusion in the CIP based on the preapproved criteria and submit the draft CIP to the Mayor to present to the City Council for review and approval.

5. *Methods of financing capital projects*. The following funding options will be considered for capital projects:

   - Budget
   - Own sources of local enterprises
   - Central government programs
   - Commercial Loans
   - Soft loans
   - Donations
   - Private-public partnership (concessions).

In particular, one-time revenues, revenues from the sale of property, land development fees, land lease fees, and operating surpluses will be used for capital projects.

Budget revenues will be used to fund the projects that can be implemented without long-term borrowing.

Long-term debt will be used to fund capital projects that cannot be implemented from budget revenues, grants from central government agencies, and soft loans.

The total amount earmarked for capital investments cannot exceed _____% of budget revenues.

6. *Borrowing limits*. Capital projects financed through borrowing will be financed for a period not to exceed the useful life of the project. Long-term commercial debt can be incurred only if all technical specifications for the project, including permits and licenses, already have been obtained. The total amount of old and newly planned loans cannot exceed _____% of the budget operating revenues. Borrowing should comply with a separate Policy on Debt Management.

7. *Criteria for prioritizing projects, or who will establish them and how.* Criteria for determining priorities in the Capital Investment Plan will be developed by the CIP Commission.

7. *Methods and timing of public participation*. The CIP Committee will develop and implement public participation tools.

Appendix 6. Samples of Capital Investment Rating

Step # 1: **Define (6 to 10) evaluation criteria.** The following list is illustrative only:

Criterion A: The project was mandated by the central government (or other legal requirement).
Criterion B: The project was started in a previous year or included in a previous year's CIP.
Criterion C: The project provides an important health or safety benefit.
Criterion D: The project is a necessary repair or replacement of existing capital equipment or facility.
Criterion E: The project cost will be offset by operating cost savings or increased revenues. [Could specify a period, for example: "offset over a five-year period"]; and/or there is a good probability of donor funding for the project.
Criterion F: The project must have a life expectancy of over [X] years.
Criterion G: Any extra operating and maintenance cost for the project must be less than [X] in any 1 budget year and less than [Y] for a 5-year period.
Criterion H: The project must be used by or serve at least 50% of the local residents.
Criterion I: The project advances _____. [Note: Cite a specific planning objective that the municipal council has identified as a special priority, for example: improvement of living conditions in an illegally constructed neighborhood.]
Criterion J: The project would have positive economic development impacts and is supported by the business community as a priority.

Step # 2: **Choose and apply a method for using the criteria to select and prioritize projects. Here are two options.**

Option A. For each project request, judge how many of the established (6–10) evaluation criteria it satisfies. Then rank the projects in priority groups. For example:

First Priority Group: Projects that satisfy 5 or more criteria
Second Priority Group: Projects that satisfy 4 criteria
Third Priority Group: Projects that satisfy 3 criteria
Fourth Priority Group: Projects that satisfy 3 criteria.

Option B. Using common sense, select the most urgent projects using the following 1–3 criteria:

1. Mandatory project
2. Corrects extremely hazardous condition
3. Replaces or repairs essential equipment or facility at risk of having to be removed from service.

Then use Criteria A–J to rank the other projects.

Appendix 7. Sample CIP Budget Calendar

When	What	Who
February	CIP Committee, CIP Coordinator, and Technical Support Office Assigned	Mayor (or executive in charge of CIP); City Council, professional associations
March 15	Capital investment policies and calendar adopted	City Council and Mayor (or executive in charge of CIP)
March 30	Evaluation criteria, forms and instructions developed by CIP Committee	CIP Committee, CIP Coordinator
April 15	Package containing instructions and forms distributed to all departments and public enterprises	Technical Support Office and CIP Coordinator
April 15–May 15	Capital needs assessed through public hearings and focus groups	CIP Committee
April 15– May 31	Capital needs assessed through Strategic Plan, asset management data, laws and regulations, past capital investment requests Previous CIP reviewed	All departments and public enterprises CIP Committee
April and May	Financial capacity analyzed	Finance Department
May 1–June 1	Project requests developed and submitted	All departments and public enterprises
July	Project requests reviewed	Technical Support Office
August	Project proposals prioritized	CIP Committee
September	Funding options evaluated and projects matched to funding	Finance Department and CIP Committee
October	CIP Package prepared	Technical Support Office
November	Public hearing organized	Mayor (or executive in charge of CIP) and CIP Committee
December	CIP adopted	City Council, Mayor (or executive in charge of CIP)

Appendix 8. Sample Capital Investment Project Requests

Example A. CIP Project Request Form

Year _____

Request for investment project no. _____ Department_____

1. Project description

A. Project name: _____

B. Description: _____

C. Location: _____

D. Purpose: _____

E. A project request to cover this project was/was not submitted last year.

F. (Optional): Site location map ___and/or photograph of site or structure ___ are/is attached.

2. Need

A. Who will derive the greatest benefit from this facility?

❑ Citizens ❑ Businesses ❑ Industries

B. What will be the scope of services provided by this facility?

❑ Regional ❑ Municipal ❑ Neighborhood

C. Comment on the needs to be met by this project.

_____

_____

_____

Source: This appendix was adapted from Urban Institute 2006, prepared for LGs in Ethiopia under a World-Bank-sponsored project.

3. Costs (US$)

A. Approximate total investment cost	$	2. Land	
		a. Site already acquired	$
B. Cost already incurred	$	b. Site to be acquired	$
		c. Area required (hectares)	$
C. Balance	$	d. Estimated cost	$
D. Detailed cost estimates:		3. Construction	
		a. Estimated cost	$
1. Planning			
a. Engineering	$	4. Equipment and furnishings	
b. Architectural	$	a. Equipment	$
		b. Furnishings	$
Subtotal	$	c. Other	$
		Subtotal	$
		Total investment cost	**$**

3a. Estimated annual maintenance, repair, and operations costs $

4. Proposed expenditures by years (the possibilities for phasing, number of phases, and cost)

Prior year	$	4th	$
1st	$	5th	$
2nd	$	6th	$
3rd	$	Later	$

5. Construction and procurement method

6. Estimated effect of completed project on municipal budget

Revenue:	Operating expenses:
a. Increased	a. Increased
b. Decreased	b. Decreased

7. Relationship to other projects

— Project name

— How related

8. Priority

a. What priority number does your department/institution assign to this project among those being requested at this time? _____

b. What are your reasons for the priority you have assigned to this project? _____

9. Recommended financing (by amount in currency or by percentage. Can be more than one source)

_____ Own sources, general (unrestricted) revenues	_____ State transfer (categorical grant)
_____ Own sources, earmarked (restricted) revenues	_____ Bank loan or municipal bond
_____ Municipal reserve fund	_____ International donor grant
	_____ International donor loan

Comments (Please specify any local matching requirement for state or donor funds.)

_____

_____

_____

Appendix 9. Appendix 9. Sample Checklist for Project Request Review

_____	Have all required forms been completed?	_____	Does project conform to adopted capital policies and work programs?
_____	Is the information complete and accurate?	_____	Is project required by law, court action, or other levels of government?
_____	All are mathematical calculations accurate?	_____	What is the level of political, citizen, and interest group support or opposition?
_____	Have the projects been categorized as one of the following: carried forward-no change; modified as to nature or cost; changed as to scheduling; submitted in a prior year but not scheduled; first-time projects?	_____	How does project relate to results of citizen surveys?
_____	Have the summary forms been verified against individual project forms?	_____	Have alternative ways of meeting the need or solving the problem been evaluated?
_____	Do the projects meet the adopted eligibility definitions?	_____	What are any negative project impacts (environmental, natural disaster and climate risk, relocation, economic, nuisance)?
_____	Is project need identified and supported with appropriate data?	_____	Are location and land requirements adequate?
_____	Are the justification and priority sections well documented?	_____	What are the consequences of not undertaking project?
_____	Does the project have a positive or negative impact on other projects?		

Checklist for planning review		Checklist for financial review	
_____	Does project conform to development and other plans (Strategic, parks and recreation, transportation, solid waste, water, sewer)?	_____	Are the financing recommendations accurate and feasible?
_____	Is the demographic, land use, traffic, housing, economic base, and other information supporting the request accurate?	_____	What other funding options are available?
_____	What is project's impact on economic development and neighborhood preservation?	_____	Are the direct and indirect operating and maintenance cost projects accurate and realistic?
_____	What is project's environmental impact?	_____	Have all capital costs been identified?
_____	Is project exposed to natural disaster risks (flooding, earthquake, landslides)?	_____	How does project affect revenues?
		_____	Have estimated cost savings been verified?
		_____	Is project eligible for debt financing?
		_____	What is project's impact on the tax rate?
		_____	Is cash flow sufficient to finance project?
		_____	What are project's fiscal impacts on other projects?

Checklist for engineering and architectural review	
_____	Is project design adequate? Have design alternatives been considered?
_____	Have value engineering and life cycle costing been considered?
_____	What is the status of project (planning, design, engineering, and construction)?
_____	Are project's specifications adequate?
_____	Are project's cost estimates accurate and reasonable?
_____	Is project operationally feasible?
_____	Is project's proposed scheduling realistic?
_____	Which alternative project approaches been considered (repair, rehabilitate, and replace, abandon)?
_____	What could be the extent of project's potential service interruptions?

Appendix 10. What Project Lenders or Grantors Can Request

Illustrative Outline of a Loan or Grant Proposal

1. Introduction

2. General Information about the Project

2.1. Project description.
2.2. Background.
2.3. Justification of investment.
2.4. Project execution phases.
2.5. Institutions and municipal administration responsible for project.
2.6. Companies and consultants to be involved in project.
2.7. CIP. Does the LG have a development plan whereby the proposed project will be implemented? If so, give document name and planning schedule.
2.8. In case the city/municipality has no development plan, how were the needs, goals, and development priorities for the city/municipality defined?
2.9. What is the relationship between the city's/municipality's needs, goals, and development priorities and those of the county? Explain how the two sets of goals are linked.
2.10 Who were the interested parties who participated in defining the needs, goals, and development priorities?
2.11. List the 3–4 most important projects that the city/municipality currently is implementing and that are adjusted to the city's/municipality's defined needs, goals, and development priorities.

3. Project Technical Description

3.1 Proposed technical solution.
3.2 Description of works.

4. Project Impacts (Costs/Benefits)

4.1 What will be the proposed project's impacts (quantity and quality) on the LG's urban development (impacts on local neighboring community, municipality, or LG)?
4.2. What will be the project's impacts (quality and quantity) on the environment?
4.3 Does the project contain any innovative elements or apply any innovative methods? List them.
4.4 How does the project contribute to existing programs and projects being implemented by the LG? List the projects/programs and explain the links.
4.5 Does the project contribute to the goals (achievements) of other municipalities and cities in the applicant's neighborhoods? If so, explain the scope of the contribution.

5. Project Financial Description

5.1 Project capital costs. Provide a basic project financial description. For this section, the LG can use the Excel spreadsheets provided as an addendum to this guideline.
5.2 Project operations and maintenance costs.
5.3 Project cash flow and other financial analysis, including expected revenues, if any, and the suggested funding sources and financing, including the loan/grant requested.
5.4 Sensitivity analysis.
5.5 Does the financing of the completed project include the introduction of a usage fee increase?
5.6 Who (which entity) will manage the project after its completion?

6. Background Analysis (Municipal Overview)

6.1 Geographic and human resource data.
6.2 Background on local economy.
6.3 Municipal infrastructure.
6.4 Investment in infrastructure during past four years.
6.5 Investment priorities.

Appendixes

I. Conceptual design.
II. Long-term financial plan (creditworthiness report).
III. Municipal asset management plan (if any).
IV. Municipal representative body resolution.
V. Municipal balance sheet/municipal budget (for past 3–4 years).
VI. Additional documentation.
   A. Budget resolution for current year.
   B. Statement of loans and guarantees obtained.
   C. Preliminary design required for construction permit.
   D. Budget execution reports for past three years.
VII. Other documentation (location permit, building permit, electricity, water supply, gas, traffic permits, and agreements).
VIII. Environmental impact study and necessary permits.

Appendix 11. Property Maintenance Guidelines

Purpose of Property Maintenance

The objective of property maintenance is to contribute to the achievement of the property owner's goals through appropriate and timely repairs and improvements. Most owners seek to maintain and improve the value of their properties. However, government-use properties may seek an acceptable quality of accommodation at the minimum cost. In addition, the goals may differ depending on their design, location, and condition.

Examples:

- A building needed for long-term use by the owner may require very prompt attention to deterioration, damage, and system failures with repairs accomplished by using modern technology and materials.
- An historic building may require detailed attention to original construction materials and design to preserve its historic character.
- A building in poor condition, perhaps inappropriately located and designed, may be intended for future demolition. In the meantime, it may be leased for a short term to generate any possible income and "milked" until no significant value remains.

Because funds for repairs and maintenance are limited, priorities must be established. Expenditures for necessary maintenance and repairs must be made only to achieve the owner's goals and at the lowest possible cost, provided that the work is done promptly and correctly.

Responsibility for Maintenance

The occupancy of the property determines the party responsible for maintenance. If a governmental agency occupies the property for its own use, the agency should be directly responsible for maintaining the property.

For public-use property, such as a public museum, the agency in charge of the property should either assign responsibility for maintenance to its own staff members, have a contract with another agency, or outsource maintenance to a private company.

Whichever organization is responsible for operations and maintenance (O&M), it must assign the responsibility and the authority to maintain each asset to one Property Manager. This individual responsibility ensures accountability and results in more timely and efficient actions necessary to protect the property and meet occupants' requirements.

Of course, that one Property Manager must be subject to the necessary oversight and supervision accompanied by levels of approval for financial and certain other decisions. Minor expenses and those within a previously approved budget may be approved by the Property Manager. Higher levels of approvals should be required for successively larger expenses and other decisions. To minimize the risk of malfeasance (corruption), no individual should have complete and unsupervised authority over expenditures.

Occupants of the property must know the identity and contact information of the Property Manager so that when problems arise, the occupant(s) can easily communicate the nature of the problem to the Property Manager. For example, if a window is broken, the occupant(s) must be able to contact the Property Manager and describe the problem.

A Maintenance Supervisor may be assigned responsibility for overseeing repairs and preventive maintenance. This individual works under the supervision of the Property Manager. The Maintenance Supervisor should understand how a building is constructed and how mechanical systems (air conditioners, generators) work. This individual also should recognize the importance of preventive maintenance. The Maintenance Supervisor should be able to work without close supervision while traveling alone to different buildings. Integrity is vital, because opportunities for corruption are present.

Record of Needed Repairs and Completion

A Maintenance Supervisor must make a record of each needed repair. A sample form, commonly called a Work Order, is attached as Exhibit A (Appendix 11). At a minimum, this record should include a clear description of the problem; the date and time of the inspection or receipt of the occupant's complaint; and the action taken to correct the problem with date and time of completion. The form also should record the name of the person receiving notice of the defect, person or company responsible to complete the needed repairs, and cost of the repairs in money or hours of labor.

This sample form also provides for approval by the tenant if this party is obligated to reimburse the cost of the work. If the cost is to be shared, the form should record the breakdown between the amount to be charged to the tenant ("Billable") and the amount to be absorbed by the owner and not billed to the tenant. Experience with the Work Order form will produce ideas in the users to make it more relevant. The form should be modified to best meet the needs of those directly involved.

It can be very helpful to summarize the information on the Work Order form in a spreadsheet so that the manager can sort the data and identify recurring problems and related costs. Such collated information can be used to improve the operations of the property. For example, a generator or air conditioner that requires frequent repairs could be replaced with new equipment to reduce future costs.

This spreadsheet data also can be used to evaluate the efficiency and quality of the person, department, or company doing the work.

A sample format for such a spreadsheet appears in Exhibit B. Additional information can be included as desired.

Information collected should have a purpose and not be accumulated solely for the purpose of collecting it. If a form requests information that does not prove useful, the request for this particular information can be omitted in the future. Likewise, if additional information would be helpful, the form should be modified to include this information.

Various computer software programs are available to control work orders. Software enables more efficiently entering the information regarding the problem, monitoring the repair, and controlling and accounting for the cost and any related reimbursement. Three highly regarded systems are:

1. 360Facility (www.360facility.com)
2. Angus Anywhere (www.angus-group.com)
3. Workspeed Management LLC (www.workspeed.com).

Property Inspections

Need for repairs may be discovered through inspection or occupant complaints. It is preferable for the Maintenance Supervisor to find a problem and initiate repairs before the occupants are inconvenienced or endangered by the defect.

Inspections usually are conducted by the Maintenance Supervisor. Occasionally, the Property Manager also should inspect each property, preferably randomly and without advance notice. Such ad hoc inspections are an important aspect of his/her overseeing the work of the Maintenance Supervisor. Lease contracts always should be drafted to permit both regular and ad hoc inspections.

The frequency of inspections may be determined by the complexity of the property. A simple parking lot may require inspection only once per year. A more complex property with extensive mechanical equipment (generator, air conditioners) should be inspected more frequently, perhaps quarterly or even monthly. More limited inspections for problems such as uncleanliness and inadequacy of toilet supplies may be conducted as often as daily.

Regularly scheduled inspections often identify problems before they become more serious. Regular inspections also may reveal problems such as trespassing and dumping of trash, illegal occupancy (squatting), and environmental contamination.

The guardian of a property or the agency to which the responsibility is delegated, always should be aware of the occupancy of the property. Inspections are a valuable tool in obtaining this information. Inspections may reveal that the original tenant has subleased or assigned the space to another occupant (subtenant). Subleasing may occur if the governmental tenant has surplus space or if the market rent is higher than the actual rent being paid by the commercial tenant in the governmental property. The guardian of the property could gain revenue if it permitted a tenant to sublease or assign its surplus spaces , in exchange for sharing with the guardian the payment for the surplus space the tenant received from the subtenant (for example, 50 percent).

Photographs taken during inspections are useful to document problems that need repair or other attention and to create a record of the condition of the property over the course of time. These photographs should be identified to show at what location on the property and on what date they were taken. These photographs should be carefully filed for future reference.

It also is useful to use a checklist or form ("Inspection Report") to comment on the condition of various components of the property and the need, either immediately or in the foreseeable future, to make repairs. A sample Inspection Report form is attached as Exhibit C. This form is very thorough and is suitable for complex properties.

The Inspection Report form should be adapted to the property and its characteristics. Irrelevant items can be deleted from the form. Advanced property management practices involve a different Inspection Report form for each different type of property (office, parking lot, warehouse). Copies of the completed forms with photos should be provided to all individuals involved in maintaining the property. These may include the Maintenance Supervisor and occupants.

Defects discovered during the inspection should be given appropriate attention. A Work Order should be prepared and processed as described above so that the necessary repairs are completed promptly and efficiently.

Routine Maintenance

Mechanical equipment requires routine maintenance such as lubrication and filter replacement. The manufacturers of the equipment provide operating manuals that include recommended maintenance schedules.

To prolong the life of the equipment, assure optimum performance, reduce time out of service for more serious repairs, and minimize future repair costs, it is important to carefully follow the recommended schedules for that maintenance.

An individual should be assigned responsibility for ensuring that these schedules are followed, and a supervisor should be assigned the responsibility for confirming that the work was, in fact, performed.

Cost Controls

Repair costs can be minimized by requesting bids from qualified private-sector contractors for larger repairs. Examples include replacing a roof, reconstructing a car park, or replacing air conditioning equipment. Similarly, bids can be requested for recurring smaller repairs. For example, air conditioning equipment requires periodic lubrication and filter replacement as noted in *Routine Maintenance* above. Bids can be requested for completing this work for a certain period, perhaps one year.

It is important that the Maintenance Supervisor and Property Manager ensure that work is completed properly before payment is made. If the repair or other work is so extensive that it requires more than two months to complete, it is common to make interim progress payments. Commonly, the payment is proportionate to the work completed. If 50 percent of the work is complete, then 50 percent of the payment can be made.

However, it also is common to hold back or retain 10 percent or more of the payment to ensure that the contractor continues toward completion of the work. For instance, if 50 percent of the work is complete, 45 percent of the price will be paid. This amount equals 90 percent of half of the cost, with 5 percent of the total (10 percent of the half completed) held back for payment after completion of the work. The retained amount usually is paid 30 calendar days after completion. During these 30 days, inspections and tests are conducted to ensure that the work truly has been completed and to discover any additional work that was missed or needs to be redone.

The process of contracting for repairs and supplies is at risk for corruption. It is necessary to have procedures to limit this risk. Precautions can include sealed bidding by contractors, with the bids received until the last minute, when they are opened publicly so that all can see who offered the lowest price. Multiple approvals, audits, and other procedures can limit but not completely remove this risk.

A second way to control costs is to make repairs promptly before additional damage occurs. As a simple example, a roof leak may be inexpensive to repair. However, failure to make that repair can further damage the structure because water corrodes and rots rafters and other structural members. The result of delay is more extensive, and expensive, repairs.

Budgets

It is customary to prepare an annual operations budget for each property. Preparing a budget requires planning for activities that result in revenues and expenses.

These activities could involve revenue perhaps from leasing space to a private enterprise such as a food vendor. Related to this future revenue may be expenses such as refurbishing to ready the space for the new use.

Preparing the budget involves evaluating the necessity for upcoming repairs. Some defects occur as the year passes, such as an air conditioner failing midway through a budget year. Other expenses can be predicted from regularly inspecting the property and from studying the record of previous expenses. Because an old air conditioner has been failing frequently and requiring expensive repairs, the budget may include replacing the old air conditioner with a new and more efficient model.

Work Orders and Inspection Reports offers valuable information that supports the property maintenance and repair plan for the coming year as that plan is developed during the budgeting process.

Summary

A system to control and monitor the identification and correction of property defects is essential to the successful operation of buildings and other real estate. Work Orders and Inspection Reports are useful tools in this process. Because of the wide variety of assets, forms and schedules should be modified to most effectively meet the maintenance needs of each type or class of asset.

Exhibits

Exhibit A. Work Order

Work Order for [Building or property] Work Order no. [Numbered sequentially]

Part 1

Received:	[Date]	[Time]	Priority:	[High/Low]
Requested by:	Name: [Person reporting problem or needed work] Phone: Location:			
Job location:	[Location within property where work to be done]			
Entered by:	[Person preparing]	Assigned to:	[Department/Contractor]	
Type:	[For example, emergency repair call]	Subtype:	Type of work:	
Work:				

Part 2

Start date/Time:	[Date/Time]	Finish date/Time:	[Date/Time]
Comments:			

Part 3

Labor cost summary					
Employee	**Description**	**Account**	**Hours**	**Rate/Hr**	**Cost**
Carpenter	Fix shelves	208000	1.25	Yr …	Yr …

Total summary	
Total labor	Yr…
Total materials	Yr…
Total other costs	
Total	Yr…

Approved by:	[Tenant name if billable]	Date
Signature:		
Billable:	Nonbillable:	Total

Recommendations for use:

Part 1: To be completed by the individual receiving the repair request. The Work Order should be numbered sequentially, for instance, by using either a preprinted form or a rubber stamp designed to advance to the next number each time it is used. Part 1 describes the problem and identifies the party to whom the work is assigned. This party receives a copy of the Work Order and completes Part 2.

Part 2: To be completed by the individual doing the work. Dates and times the work was started and finished are noted, and comments about the work are added. These comments may include recommendations for additional work, predictions regarding future problems, methods to reduce future costs, and anything else the repairperson feels is important.

Part 3: To be completed by the person completing the repair, a supervisor, or another individual with the necessary information. The completed form is returned to the Property Manager for analysis and filing. Relevant information is entered in the Work Order Log (Exhibit B). Experience in using these Work Order and Work Order Log forms will lead to ideas for improving them to reflect local property management and maintenance circumstances.

Exhibit B. Work Order Log

WORK ORDER LOG								
Work Order no.	Date reported	Time reported	Location of problem	Type of problem	Date work completed	Time work completed	By whom	Cost/time period [currency]
Examples								
1001	25-Jan-11	15:30	(Address/ room)	Broken window	27-Jan-11	11:15	(Name)	…yr
1002	28-Jan-11	10:00	(Address)	Trash in parking lot	28-Jan-11	16:45	(Name)	1 hr

Exhibit C. Property Inspection Report

PROPERTY INSPECTION REPORT

Name: [Building/Property address or identifier] _____ Date: _____
Inspected by: [Name] _____

- All items that rate "Poor" must be accompanied by a narrative explaining the reason for the poor condition, a solution, and approximate [currency] amount for the repair.
- Attach a site plan of the building to each inspection form if necessary and highlight the areas that need repair.
- All are tenants in the property identified in the property records?
- Rate each item as follows:
  Satisfactory Poor Immediate Attention Required **N/A**–**N**ot **A**pplicable

Exterior

Location/Problem	Rating	Comments
Roof:		
Gravel stop		
Coping		
Flashings		
Roof membrane		
Stone ballast coverage		
Drains		
Debris/Litter		
Access hatch		
Air conditioning:		
Equipment curbs		
Power feeds		
Condensate drains		
Access panels		
Exhaust fans		
Other		
Building:		
Sidewalks		
Pavers		
Precast wall panels		
Caulking/Expansion joints		
Painted surfaces		
Storefronts/Glass/Caulk		
Hose bibs		
Grounds:		
Trash containers		
Handrails/Railings		
Steps/Ramps		
Perimeter fence		
Lighting/Electrical:		
Pole lights functionality		
Pole lights appearance		
Soffit/Under-canopy lights		
Wall units		
Ground lights		
Other		
Parking lot:		

Interior

Location/Problem	Rating	Comments
Life safety:		
Exit signs		
Exit doors		
Door panic hardware		
Fire extinguishers		
Fire hose drops		
Windows		
Guardrails-electric panels		
Safety rails-rails docks		
Fire suppression system:		
Alarm panel		
Pump controller		
Risers/Valves/Flow alarms		
Inspectors test drains		
Spare sprinkler heads		
Fire pump certification		
Room appearance		
Office/Room:		
Ceiling tile		
Walls		
Doors/door hardware		
Floor/carpet/tile		
Windows		
Washroom		
Ceiling		
Walls		
Door/Door hardware		
Floor tile		
Plumbing fixtures		
Light fixtures		

Appendix 12. References and Useful Resources

World Bank's Relevant Urban Programs and Instruments

Suzuki, Hiroaki, Arish Dastur, Sebastian Moffatt, Nanae Yabuki, and Hinako Maruyama. 2010. *Eco2 Cities: Ecological Cities as Economic Cities.* Washington, DC: World Bank. http://www.worldbank.org/eco2

World Bank. Disaster Risk Management Program (DRM). http://www.gfdrr.org/gfdrr/

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_____. World Bank Urban and Local Government Strategy http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/0,,contentMDK:20158153~menuPK:337184~pagePK:148956~piPK:216618~theSitePK:337178,00.html

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