Capital Improvement Planning Guide

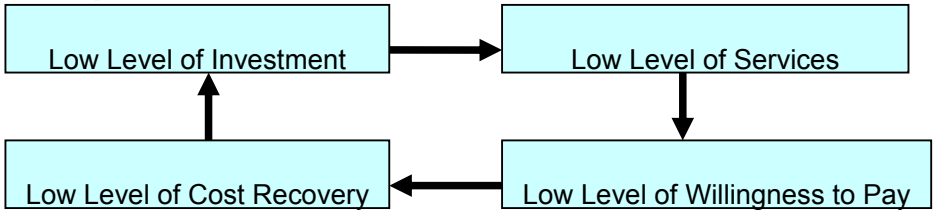
– Dipanjana De

1. The Context

During the last eight years Andhra Pradesh has undertaken series of strategic reforms with the objective of improving civic governance and effective provision of infrastructure and basic amenities to the people. The Andhra Pradesh Vision 2020 document envisages that "By 2020, Andhra Pradesh will have well-planned, economically productive, socially just, environmentally sustainable, culturally vibrant, friendly and safe cities and towns." This calls for effective management of urban growth so as to have clean, green, comfortable, safe, and livable cities. The state will focus on infrastructure development, environmental management, street lighting, housing, and public transport to all. Civic governments will be participatory, responsive, and people-oriented. This Urban Vision is to be achieved through an integrated approach that blends urban development and infrastructure planning with sound fiscal policy and systems to manage and deliver urban services effectively.

Local Governments are responsible for providing and maintaining basic infrastructure facilities. This important governmental function is not made easier given current demands and local officials' inherent responsibility to achieve the greatest possible benefit at the least possible cost to the taxpayer. All of the world's cities are underpinned by a vast infrastructure network of roads, water supply, sewerage, drainage, power supply, flood protection, recreational and other assets.

Improving the management of municipal infrastructure can bring major benefits by ensuring that scarce resources are used in the most cost effective manner, thereby enhancing economic growth, improving living standards and improving environmental sustainability. Many municipalities have traditionally tried to meet infrastructure needs through investment in infrastructure creation, without recognising the long-term life-cycle costs associated with the ongoing operations, maintenance, and renewal of infrastructure. This has led to below-cost tariffs and has undermined the financial position of municipalities, leading to 'Low Level Equilibrium Trap'



Breaking this trap requires securing private sector participation, accessing capital markets, enhancing financial viability through the development of a Capital Improvement Plan.

The **Capital Improvement Plan (CIP)** is a dynamic document that lists and prioritises needed improvements and expansions of the city's infrastructure system to maintain adequate service levels to the residents and to accommodate population growth and land development. The plan includes provision for planning and design, development of new facilities, rehabilitation or restoration of existing facilities, acquisition of land for specific development purposes, and the replacement of major facilities/services reflecting the needs and priorities of the city.

Need for Capital Improvement Planning

Capital Improvement Planning is an approach to develop a blueprint for capital expenditures to develop and maintain municipally owned infrastructure assets to:

(1) Ensure that scarce resources are used in an efficient manner rather than allow capital improvement decisions to be made on an ill-defined, haphazard basis, through prioritisation of the various projects, and providing for the funding and implementation strategy on an annual basis.
(2) Identify deficiencies in the existing network of roadways, water and sewer systems, and other essential public facilities.
(3) Determine infrastructure expansion needs to meet future residential and commercial development requirements.
(4) Select priority projects with input from elected officials, staff and the public.

The **Benefits of Capital Improvement Planning** includes:

(1) Reversing the historical trend toward declining public investment in important public facilities.
(2) Eliminating the duplication of project requests.
(3) Focussed attention on community goals and objectives.
(4) Allowing for proper programming and project design.
(5) Improved understanding of service level options and costs.
(6) Improved decision-making based on the benefits and costs of alternatives.
(7) Ability to demonstrate responsible investment in infrastructure/framework for the equitable distribution of public improvements.
(8) Improved knowledge of the timing and magnitude of future investments required to operate, maintain, and renew infrastructure.
(9) Assurance to tax payers that they will not suddenly be called upon to finance expensive public facility improvements.
(10) Long term expenditures can be averaged out so that major debt is not incurred all at once.
(11) Facilitating capital expenditure and revenue estimates and helping to avoid emergency financing methods.
(12) Improving a municipality's bond ratings and lower interest costs due to prudent fiscal management.
(13) Being a benchmark of the overall fiscal health of a local government.

In short, CIP helps in rationalised decision making, increased public support for expenditures, and improved management of infrastructure, strategic policy development, and increased market confidence.

1.1 The Capital Improvement Planning Process and the Capital Budget

The capital budget represents the first year of the Capital Improvement Plan. The capital budget is not only a tool for financial planning and control, it is also the most significant instrument to steer city development according to a vision. The primary difference between the capital budget and the CIP is that the former is a legal document which authorises expenditures for specific projects during the ensuing fiscal period. The CIP, on the other hand, includes first year projects as well as future projects, for which financing may not have been secured or legally authorised. The "out-years" of the CIP are not binding and are therefore subject to change.

1.2 Methodology for preparing the report

The methodology used in preparing the report includes:

(1) A literature search for relevant material which outlines the status of and methodologies used by municipalities;
(2) Identification of success factors and barriers to implementation of Capital Improvement Planning
(3) Incorporation of study findings / case studies into a model / methodology for Capital Improvement Planning in urban local bodies in Andhra Pradesh.

2. Evolution of Capital Improvement Planning

Although the conceptual framework of a capital improvement plan[2] had not undergone major change during the years, there are *six discernible stages* in which its various aspects had come to be reviewed as integral parts of the overall debate of the applicability of the system to governments.

The first stage is the depression years. The then prevailing public philosophy did not favour public borrowing for financing government outlays except during national emergencies such as wars. Sweden was the first country to introduce a capital budget which was to be funded by public borrowing to be used primarily to finance the creation of durable and self-financing assets that would also contribute to expanded net worth equivalent to the amount of borrowing. The capital improvement plan/capital investment plan so launched, found application, in the following years, in other Nordic countries.

The second stage reflects a background that provided an impetus for the application of capital budgets to government transactions. During the thirties, the colonial government of India introduced a capital budget, more to reduce a revenue deficit by shifting some items of expenditures from a current to a capital budget as it was believed that a burgeoning budget deficit did not reflect well on the creditworthiness of the government and the introduction of a dual budget-system would provide an approach that would reduce revenue or current account deficits while providing a rationale for borrowing.

The third stage refers to the growing importance attached to capital budgets as a vehicle of development plans. The countries that were becoming independent since the late forties recognised that the inherited budget system did not properly serve their needs of development. Influenced by the Soviet model of central planning, many developing countries formulated massive five-year plans and capital budgets/development budgets were conceived to be the primary vehicle of economic development.

The fourth stage reflects the growing influence of economists on the more efficient and rational allocation of resources in government and the use of quantitative appraisal techniques, which hitherto were applied to multipurpose river valley projects. During the sixties these techniques established a trend for a more rigorous application of investment appraisal and led to detailed financial planning.

During *the fifth stage, i.e.*, in the early seventies, Sweden found that excessive focus on capital budgets would need to be tempered by a recognition that the overall credibility and creditworthiness of government depended more on the macro-economic policy and less on the net worth of government. While the application of capital budgets for quasi-commercial transactions was necessary, it was not the main basis for the borrowing programme. By the

[2] It may be noted that most of the available literature, which any way is limited, excludes any discussion of capital plan implementation

late eighties, there was recognition that the management of government finances required radical approaches like the application of accrual accounting.

During this *sixth stage*, followed partly by the experience of Australia, New Zealand, and USA, there was a renewed plea for the introduction of accrual budgeting and accounting. For proper asset maintenance (which was as important as asset creation) there was need for division of outlays into current and capital as a part of day-to-day budget management.

3. Capital Improvement Planning Process

The key elements of effective Capital Improvement Plan are:

(i) Defined service levels and performance standards linked to strategic objectives;
(ii) Optimal investment; and
(iii) A long-term (life-cycle) approach.

Capital Planning activities typically include:

- Consultation with stakeholders and definition of strategic goals;
- Ongoing review of service levels and performance standards;
- Planning for future infrastructure requirements and reviewing the adequacy of current infrastructure, based on growth projections and service levels;
- Continually assessing and reviewing capital improvement options to ensure that optimal operations, maintenance, renewal, acquisition, and disposal decisions are made, taking into account both social and economic objectives;
- Accounting for capital investment in such a way that the true cost of services provided can be calculated, and future investment needs required to maintain the 'service potential' of infrastructures can be determined; and
- Auditing capital investment performance (the practices, procedures, and systems used to make asset management decisions) and continuously monitoring and improving these processes to ensure improvement.

Although capital improvement plans are prepared normally for five years, the size of the municipality's capital investment programme and the typical length of time required to complete investment projects may suggest a plan of seven to ten years. The process consists of **five distinct steps or stages**:

- Inventory of capital assets;
- Development of investment plan;
- Programming investment priorities over time;
- Development of the financing plan; and
- Development of the capital budget.

Step 1: Inventory of Capital Assets

The first step involved in preparation of a Capital Improvement Plan is Inventory of Capital Assets. Although responsibilities vary greatly throughout the world, the most important capital infrastructure assets for which municipalities are responsible are:

- Water and sewer lines and treatment plants;
- Urban road network;
- Storm drainage systems;
- Sanitary landfills or other solid-waste disposal sites;
- Public buildings, sports facilities, educational and social programme facilities, markets and so forth.

Several key characteristics of these facilities should guide the municipality's planning process in determining what types and levels of capital investments will be needed in future years. The first characteristic is the quantitative and qualitative aspects of the level of service; what level of service is provided by the existing infrastructure network, i.e., whether the water system provides direct, household connections to the urban population, whether the roads are kutcha or pucca or whether storm drainage systems may consists of several hundred kilometres of open canals or drainage ditches.

Without regard to the current age and need for reconstruction of some roads, for example, a municipality may consider a capital investment project in urban roads to reduce the number of kilometres of natural surface roads from 250 to 150 by asphalt or concrete paving of 25 kilometres and grading and gravelling of 75 kilometers. Without extending the existing road network, the municipality would be upgrading the quality of the current level of service with possible benefits of reduced fuel consumption, reduced travel time, and increased property values (residential and commercial) along the upgraded roads. In addition, this same municipality might consider, as part of the same capital project or as part of a future, extending the urban road network to recently developed formal or informal settlements which are served presently only by footpaths. Such capital project decisions focus on the current level of service provided by a network and the quality of the service.

Not all capital project decisions involve adding to the level of coverage. If a municipality not only has systematic records of the coverage provided by various infrastructure facilities but also has adequate records of their age (date of construction) and current condition, the capital planning process can also consider the need for replacement or major reconstruction of existing facilities. For example, the percentage cover by direct connection and standpipes illustrated above may not reflect the fact that several sections of the water systems are served by pipes that are more than 50 years old and that may be causing large quantities of water loss and absorbing most of the time for regular water system maintenance crews. Thus, to consider potential capital investments adequately, a municipality also needs to have information on the possible need for replacing existing facilities.

A systematic process for capital investment planning thus should be built around a base of relatively simple information that gives indications of the need for new or replacement infrastructure. Such an information base takes the form of an inventory of all existing infrastructure that specifies:

- Size or quantity (size of building, length of road, and so forth);
- Age (date of construction or last reconstruction);
- Coverage (number of market stalls, percentage of population, etc.); and
- Current condition (could be expert judgment such as "needs replacement within five years", based on good record keeping about the use of maintenance personnel, one could use the percentage of repair crew's annual time required by one section of a road, waterline, and so forth).

From this inventory, the municipality can then examine the areas of greatest need with respect to existing infrastructure programmes and add potential capital investments to those suggested by the need to provide new services for economic development or social reasons.

Most municipalities in India do not have adequate records of the date of construction, cost of construction, and current condition of existing infrastructure, nor do most municipalities have a programme for regularly examining the quality and the level of service provided by such facilities.

- Knowledge of machinery/equipment owned by the municipality if not readily available can be obtained from:
  Machinery and equipment listed on insurance policies, or in fixed asset inventory records, or from inventory listings prepared by a highway or public works department head. Additional information needed can be acquired from the appropriate department head.
- Knowledge about the remaining life of the asset:
  The operators, maintenance crew and department head of the machinery and equipment likely have a handle on how much longer the equipment will last and how much it will cost to maintain the equipment. Other sources to determine the remaining life of the equipment could be: the manufacturer's specifications; industry standards (where available); or neighboring municipalities may have some experience with the types of machinery and equipment the municipality uses.
- Cost to replace the machinery and equipment:
  This information can be easily obtained by soliciting a couple of estimates from vendors, contacting neighbouring municipalities or researching state and county contracts.
- Assembling the information in an easy to use format is not difficult. Mapping the information in a table can provide a clear picture of current obligations to meet future needs.

Step 2: Development of Investment Plan

Decisions to undertake capital investment are stimulated by six major considerations:

- The degree of urgency of the project, i.e., the need to reconstruct or replace existing facilities in order to maintain existing levels and quality of service;
- The need to upgrade or add to existing facilities in order to improve either the quality of service or coverage;
- The need to undertake new programmes or new services beyond the range of current municipal services, for economic and social reasons;
- Benefits derived form the project;
- Cost and financial impact of the project; and
- Acceptability to the local government

The first step in the development of the capital investment plan, therefore, is to establish goals for the level and quality of service, in terms of measures or indicators such as “extend water coverage to 100% of the urban population by 1995 with 80% direct connections and 20% standpipe or alternative community services.”

From the inventory of existing capital facilities, the planning process thus begins with a comparison of service goals and the extent to which those are presently met. The output of this stage is a list of capital projects required to meet service goals, with at least a rough priority listing of when those projects should be started and completed in order to achieve the specified goals.

Step 3: Programming Investment Priorities over Time

The third stage in the capital investment planning process is to programme the investments required to meet the priority schedule established in the previous stage. This stage requires additional detailed engineering and cost estimation activities, sufficient to establish the approximate costs, and the approximate feasible completion dates for the projects listed in the priority schedule.

While the output of the preceding stage is a list of capital projects, the projects would be more in the nature of broad investment programmes rather than specific projects. That is, for urban roads, the list of projects might include repaving numerous segments of commercial district streets, adding 50 kilometres of new roads to the urban road network over a five year period, and upgrading 75 kilometres of natural surface roads over a three-year period. These broad investment programmes then would have to be subdivided into actual projects that would be designed, financed, and managed as individual projects or as components of a single investment programme for which international financing could be sought.

The next step consists of carrying out studies to establish the technical feasibility of the project and to develop sufficient engineering information on which to base cost calculation. These studies are part of the normal process of defining the scope of an investment project, establishing preliminary engineering designs, and developing preliminary cost estimates. At this stage, fully detailed engineering designs and cost estimates are not useful, because it is not clear how many of the projects might feasibly be undertaken with the next five year planning horizon.

Based on the preliminary cost estimates and the time schedule established by the technical studies, the initial priority list must be revised to establish a preliminary five-year investment plan. This five-year plan establishes the time schedule and costs for all capital investment projects under consideration by the municipality for the next five year period, including an estimate of the annual costs in each of the five years for each of the projects. For those that will not be completed during the five-year planning period, the plan should also include the total additional costs to complete these projects beyond the five-years.

Step 4: Development of the Financing Plan

Although some general financial evaluation may have been made during the third stage so as to preclude the development of a five-year investment plan that is completely beyond the municipality's financial capacity, the fourth stage of the capital investment planning process consists of conducting a detailed financial analysis of the municipalities capacity to undertake the investment programme. Several financial alternatives are considered at this stage:

- Cost recovery elements for individual projects;
- Availability of cost sharing by central or regional levels of government;
- Possibilities for improving the revenue generated by existing, general municipal sources;
- Possibilities for new, general municipal revenue sources; and
- Availability of credit and the possible terms of credit.

Many capital infrastructure projects have the possibility of directly generating revenues to cover either all or part of the investment. For example, extensions to or improvements in the water systems may be recovered through the application of additional fees, or the fee structure may include already explicit provision for the generation of capital investment revenues. If the beneficiaries of the investments include property owners whose property values are enhanced, betterment revenues can be employed to capture some of that value to pay for the

investment. Since the total programme of investments identified as a priority in the five-year programme is likely to exceed any municipality's ability to pay these out of general revenues, every self-sustaining cost recovery option should be explored at this stage.

Under some circumstances partial funding by a regional or central government agency is possible. Urban road networks, for example, include roads that are the urban portion of a national highway or are the endpoints of major connectors between metropolitan areas and rural service centres. Partial funding may be economically justified and may be available from central government to pay for a portion of cost that is attributable to a national or regional economic development investment.

Both existing general municipal revenue sources and possibly new revenue sources also should be examined. Analysis of the collection of efficiency of existing revenues, the extent to which late payments are prosecuted, the adequacy of records system for keeping track of tax-payer obligations, all should be considered to determine the extent to which present revenue sources can be improved. In addition, if there is revenue sources permitted to the municipality which presently is unused, these should be considered for possible input to the financing plan.

Finally, the availability of the credit programmes from a variety of internal and external sources must also be taken into account. Only a very small set of investments can normally be carried out by paying for the full annual costs of the investments out of current revenue sources. To undertake any extensive programme of capital investments will require, under most circumstances, borrowing to spread the costs over a longer period of time. The output of this fourth stage of the capital investment planning process is a general financing plan that shows the programme of capital investments and the mechanisms for paying for these investments over the five year period. It is likely that some reconsideration of priorities will have to take place and a revised capital investment plan developed after considering the full financing implications and the availability of financial alternatives.

Step 5: Development of the Capital Budget

The fifth and final stage of the capital-investment planning process is the development of the actual capital budget. The capital budget can be divided into a three-part budget:

- The projects portion should show all annual construction costs, designs costs, interest costs, and any other costs attributed to each investment project, regardless of the actual financing mechanisms and the time in which payments will actually be made;
- A second part of the capital budget, the annual capital costs, should show only the actual financial outlay for direct payments for construction and/or principal repayment on credit financed projects; this would include all financial outlays from those projects that are part of previous planning cycles (even from those which the 5-year planning horizon has been passed); an alternative has to include only a summary line for the total amortization for previous credit-financed projects rather than a project-by-project statement.
- A third portion of the capital budget, *current account transfers*, should show separate statements of costs to be transferred to the current, operating budget; these would include: design costs, future operation, and maintenance costs, and interest and fees on credit.

The decisions to include interest and fees as a transfer to the current account or as a capital cost depend on the accounting approach followed. Some systems include both interest and principal as capital costs in a consolidated budget statement, whereas other systems consider interest a current cost, and principal a capital cost. Here preference is expressed for carrying interest into the current operating budget as a current, rather than a capital cost. The rationale

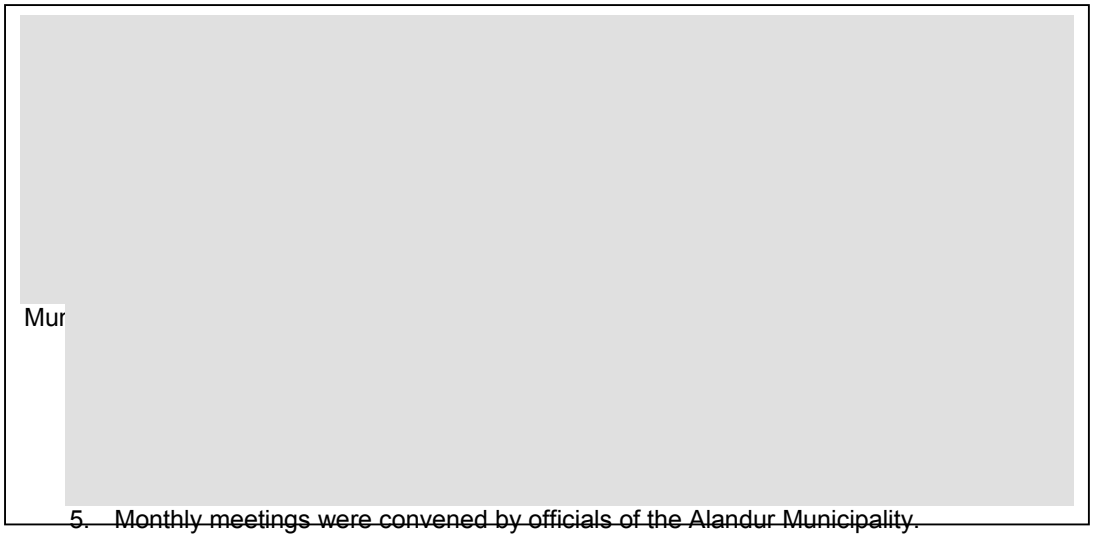
for this is that only the principle represents the actual investment cost whereas interest payments are the costs incurred for selecting a particular method of financing. In that sense, overall budget management strategies are treated as subject to annual review in which choices may be made to allocate more or less of the current budget to either direct payment of investment costs, hence incurring no interest cost, or to interest payments in order to increase the short-run availability of capital for investment.

With the three-part capital budget, one thus has the information necessary to understand the full cost implications of each project (projects), the annual (financial) value of the investment or capital being spent (annual capital costs), and the current budget of each implications of each project (current account transfers). The first provides a picture of the costs of the investment decisions taken through the planning process. The second provides a book statement of the purchase price of the investments that is also total to be depreciated if the municipal accounting system provides for the depreciation of capital assets. The third provides a picture of the impact of capital investments on present and current further budget operations.

Current Budget Implications

The *current account transfers* portion of the capital budget shows the amount to be transferred to appropriate line items or departmental accounts in the current budget. Thus, in the current budget and in the current portion of a consolidated current and capital budget, interest and fee payments would be reflected in a separate line item account which would contribute to total current expenditures. In addition, for each municipal department responsible for operation and maintenance of capital infrastructure, the necessity of additional current and future expenditures to operate and maintain new capital facilities would be identified so that decisions on whether to increase specific departmental budgets could be made. It is also likely, however, that some capital investments will actually reduce current budget requirements for operation and maintenance.

It must be reiterated that the public needs to participate actively in all stages.



4. CIP Linkages

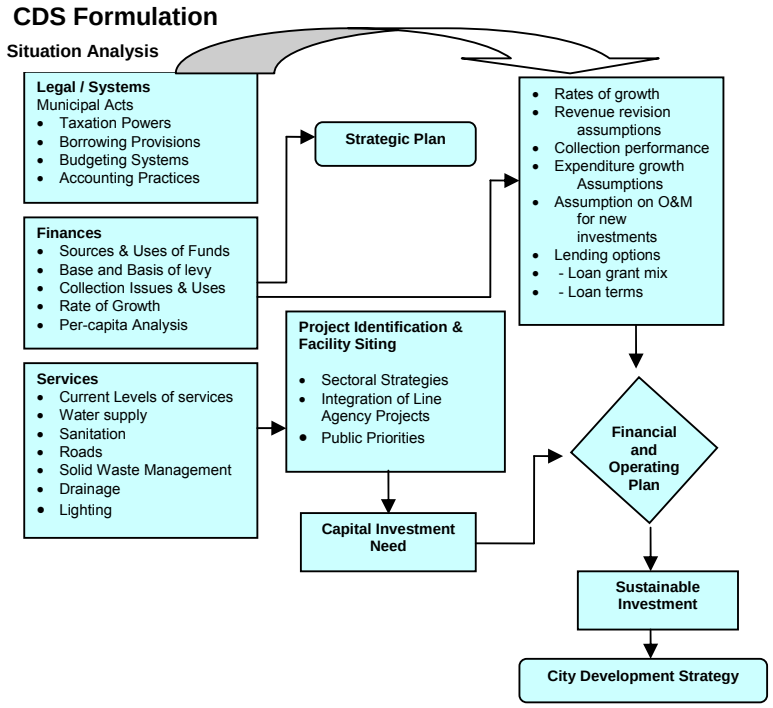
The Comprehensive Capital Project Planning process has three essential components:

- The Comprehensive Plan (Long-term Element – 20-25 years);
- The Capital Improvement Plan (Mid-term Element – 5-7 Years);
- The Capital Budget (Short-term Element – 1 year).

The Comprehensive Plan is a component of the planning process, or a generalised model of the future which expresses policy directions for a 20-25 year period. The CIP and the Comprehensive Plan are mutually supportive; the Plan identifies those areas suitable for development and the public investment they will require. The CIP translates these requirements into capital projects designed to support the goals and policies of the Comprehensive Plan. This ensures that necessary public facilities are planned in a concurrent time frame with private development. By providing a realistic schedule for the provision of facilities, orderly development in the best interest of the citizens can be achieved.

Many projects recommended for implementation in the Plan are not included in the five-year CIP period, but may be incorporated into the CIP as existing needs are met and additional growth occurs. The extent to which growth does or does not occur in a given area will influence both the timing and scope of capital projects. While it is a desired goal to minimise public facility deficiencies, it is equally desirable that only those projects with an identified need will be constructed.

The Annual Capital Budget serves to appropriate funds for specific facilities, equipment, and improvements. The first year included in the CIP reflects the approved annual capital budget funding levels. Projects slated for subsequent years in the programme are approved on a planning basis only and do not receive ultimate expenditure authority until they are eventually incorporated into the annual Capital Budget. The CIP is a "rolling" process and subsequent year items in the CIP are evaluated annually and advanced each fiscal year.



5. Funding Options

The following is a selected list of funding options for the CIP. Other funding options also exist. Not every funding option is utilised in a particular CIP.

Pay-as-you-go Financing

This method involves paying for projects with cash on hand. The money can be derived from specific tax levies dedicated to capital improvements, surplus revenues after operating and debt service requirements are met, grants, or unreserved fund balances. The advantage of this method is that there will be savings in interest and other issuance costs. This method of financing also protects the limited borrowing capacity of the Government and maintains the capacity to issue debt in future years. It also has the effect of enhancing the perception of credit quality amongst investors and rating agencies. Of course, if the project is large and requires more funds than are available from operating revenues, alternative funding sources must be considered. Reducing operating expenditures will provide for more pay-as-you-go funding for the capital programme. This type of funding is popular in developed countries like the United States.

Debt Financing

Long-term bonds are an important source of funding for the capital programme. After taking into account the amount of pay-as-you-go funding that is available and the amount of Central Grant funds that may be available, debt financing should be considered as the next source of financing. This source of financing should only be considered when the Government has brought the General Fund into structural balance. In some countries General Obligation Bonds are also issued. The Ahmedabad Municipal Corporation also issued Tax Free Bonds to mobilise Rs.108 crores in March 2002 (2^{nd} Issue).

Lease-Purchase Agreements

Another form of financing that the Government should consider for equipment and facilities are lease-purchase agreements. Municipalities commonly use lease-purchase agreements to procure capital equipment or facilities. Under this arrangement, the Government enters into an agreement with a vendor or financial institution to lease an asset over a certain number of years. At the end of the lease period, the Government has the option to purchase the asset.

Impact Fees

To fund capital improvements associated with a new development, the Government should consider negotiating fees to be paid by the developers. Impact fees would be assessed on a one-time basis to pay for infrastructure costs associated with new developments. The fees would be tied to a standard measure, such as square footage, number of bedrooms per unit, or some other measure. Municipal Corporation of Hyderabad has levied impact fees at Rs.25 per square foot to be utilised for CIP/Decongestion Plan.

Community Development Grants

Community Development Grants are also used very often to fund capital projects.

Privatisation

Privatisation option is a major thrust nowadays and depends on ‘packaging of projects’. The Delhi Jal Board (Delhi Water Board) has awarded the water treatment plant with 10 year O & M contract to the private sector in 2001.

6. Case Studies

This section outlines some examples of selected case studies of best practice both international and national that provides a useful basis for analysis and review.

6.1 Chesterfield County, Virginia

Chesterfield, in accordance with its County Charter, prepares a five year Capital Improvement Plan, which is revised annually. Preparation of the CIP is an interactive process that takes approximately six to eight months and includes projects in excess of $ 100,000. Additionally, the County continues to benefit, both economically and financially, from a credit rating of AAA (highest possible) from each of the three major bond ratings agencies.

Funding Options for the Recommended CIP

Reserve for Capital Projects	Funds reserved from County operating revenues for capital projects.
General Obligation Bonds	Payments from the proceeds of the sale of General Obligation Bonds must, in most cases, be approved by a general referendum of voters of the County, and they pledge the full faith and credit of the County for their repayment.
Revenue Fund	Payments from the proceeds of sale of revenue bonds.
State	Funds and payments received from the Commonwealth of Virginia.
Federal	Funds contributed by developers for infrastructure or construction of improvements.
Cash Proffers	Funds negotiated at the time of rezoning to help defray the capital costs associated with development.
Other Localities	Funds received from other localities to assist in project construction.
Community Development Grant	Federal funds provided to a locality to be spent on projects that benefit low and moderate income areas.

Financial Management Policies

The guidelines listed below are prudent financial management policies used to guide debt issuance and operations:

- The County does not intend to issue tax or revenue anticipation notes to fund governmental operations.
- The County does not intend to issue Bond Anticipation Notes (BANS) for a period of longer than two years.
- The County does not intend to establish a trend of using General Fund equity (Undesignated Fund Balance) to finance current operations. The County's General Fund equity balance has been built over the years to provide the County with sufficient working capital to enable it to finance unforeseen emergencies without borrowing.
- Each year the county will prepare and adopt a five-year CIP.
- In order to improve financial planning and decisions, the county will annually prepare a three-year projection of General Fund revenues and expenditures. The projections

will assume that the percentage of capital improvements financed with current revenues is maintained at the County's goal of approximately 20%.

- The County is committed to funding a significant portion of capital improvements with current revenues and now funds at least 20% of general government improvement projects and 10% of school projects with current revenue.

6.2 City of Scottsdale, Arizona

In Scottsdale, a five-year Capital Improvement Plan (CIP) is developed and updated annually, including anticipated funding sources. Capital budget appropriations lapse at the end of the fiscal year; however, they are re-budgeted until the project is complete and capitalised. As capital improvement projects are completed, the operation of these facilities is funded in the Operating Budget. The operating budget authorises and provides the basis for control of operating expenditures for both internal and citizen services, including operating and maintaining new capital facilities. Operating budget appropriations lapse at the end of the fiscal year.

The following guidelines determine what a CIP project is:

- Relatively high monetary value (at least $25,000);
- Long life (at least five years);
- Results in creation of a fixed asset, or the revitalisation of a fixed asset.

The City of Scottsdale uses a cross-departmental CIP Coordination Team that consists of approximately 20 individuals from all programmes and professional disciplines to review project submissions and ensure that

- Infrastructure components are coordinated (a waterline is installed at the same time as a roadway improvement at a specific location);
- Long-term operating impacts are included in estimates (staffing, utility and maintenance costs are considered);
- Timeframes for construction activity and cash flow requirements are realistic;
- Projects are coordinated geographically (i.e., not more than one north/south major thoroughfare is restricted at a time); and
- Project costs are reviewed to determine the adequacy of the budget and appropriate funding sources.

The Prioritisation Criteria used in Scottsdale is guided by the following:

- Capital Costs, i.e., the annual total costs, including future year capital costs, whether the proposed project will reduce future capital costs;
- Annual Costs, i.e., the expected change in operation and maintenance costs, changes in revenues that 0may be affected by a project;
- Health and Safety Effects, i.e., health related environmental impacts;
- Community and Citizen Benefits, i.e., economic impacts such as property values, the future tax base, added jobs, income to citizens, changes in business income, and the stabilisation (or revitalization) of neighbourhoods;
- Environmental, aesthetic, and social effects;
- Feasibility of implementation;
- Distributional Effects, i.e., estimates of the number and type of persons likely to be affected by the project and nature of the impact;
- Public perception of need of the project;
- Implication deferring the project;`
- Uncertainty of Information Supplied, i.e., the amount of uncertainty and risk;
- Effect on inter-jurisdictional relationships that could impair the proposal; and
- City Council Broad Goals.

Funding Sources

The Capital Improvement Plan uses funding from the 2000 voter-approved bonds, as well as any remaining funds from the 1989 and 1992 voter-approved bonds, and Preservation General Obligation Bonds. These General Obligation bonds, together with Municipal Property Corporation bonds, provide the bond-funded portion of the plan, which is approximately 48% of the CIP. Approximately 52% of Scottsdale's CIP is funded with pay-as-you-go revenues which include development fees, dedicated sales tax revenues and contributions from fund balance transfers.

6.3 Ahmedabad Municipal Corporation (AMC)

In the mid 1990s, AMC began instituting significant fiscal and management reforms, including improving tax collection, computerising the accounting system, strengthening AMC's work force and financial management, and developing a comprehensive capital improvement programme. These reforms laid the necessary groundwork for AMC to issue the first municipal bond issued in India without a state guarantee.

Before 1993, AMC was a loss-making urban local body with accumulated cash losses of Rs. 350 million (US $9.2 million). During a deteriorating financial situation in 1994, AMC launched a major effort to strengthen its capacity to develop commercially viable projects. As a result, AMC was able to turn around its financial position and achieve a closing cash surplus of Rs.2,142 million (US $50 million) in March 1999.

The main component for the financial turnaround of the Corporation and other development initiatives and administrative reforms was the restructuring of the Corporation and the upgradation of its workforce, and improving revenue collection, accounting and financial management systems and introduction of CIP.

In 1996, AMC prepared a five-year capital investment plan for investing Rs 5,973 million (US $150 million) for water supply, sewerage, roads, bridges and solid waste management projects and allocated Rs. 4,393 million ($US 110 million) for the water supply and sewerage component. It proposed to meet 30% of the total investment requirement from internal sources of financing while mobilizing the remaining amount through municipal bonds and loans from financial institutions. The project was structured within an urban financial framework that was predicated on receipt of significant transfers from general revenues such as octroi and property taxes.

6.4 Tirupur Municipality, Tamil Nadu

City of Tirupur ensures enhancing the standard of living of its urban poor by providing economic and employment generation activities through community development, improving the living conditions of 17554 households below the poverty line, continuous implementing and monitoring urban poverty alleviation programs. The scheduling or phasing of the plans is based on assessment of fiscal resources availability (for new investments and O&M), technical capacity for construction and O&M, and the choice of specific capital improvements planned for the future five years.

As part of the CIP, the Tirupur Municipality has

- Analysed the existing applicable norms and standards for
- Discussed, agreed the public priorities and expectations and recommended a reasonable / realistic options and

The municipality plans to raise resources through

- Funds devolved by the GoTN based on the recommendations of the State Finance Commission

- Revision of Annual Ratable Value at certain levels
- Revision of water and sewerage charges at specific intervals
- Transfer of water and sewerage tax to the respective account heads and

Underlying the major assumptions are growths in property tax assessments, growth in other taxes and miscellaneous income, as well as changes in the main expenditure heads have been made, including general administration, establishment, O&M, debt service, etc. The phasing and scheduling of investments have been carried out through an iterative process and the principles of phasing have taken into account:

- Priority needs with developed areas getting priority over future development areas
- Inter and Intra service linkages, like water supply investments shall be complemented by corresponding sewerage/ sanitation improvements
- Size and duration of the requirements, including preparation and implementation period,
- Project linked implications such as installing house connections where supply and distribution capacities have been increased.

The capital improvements program was phased into the following stages.

- Project Identification
- Project Screening & Prioritization
- Estimation of Capital Investments & Project Phasing
- Formulation of Operational Action Plan

Funding Sources

It is assumed that TNUIFSL will finance the loan component, hence the terms of financing are of TNUIFSL i.e., at a interest rate of 16 % per annum repayable in 15 years with a moratorium of one year. While generating the Financial Operating Plan it is assumed that the surplus available from the revenue account will be used for funding the own source commitment.

6.5 Municipal Corporation of Hyderabad:

A massive Capital Improvement Plan (CIP) – in the framework of 20 – Year Perspective Plan and 5-Year Development Plan was approved by the MCH. The Capital budget for 2001-2002 was Rs.237.50 lakhs – higher by Rs. 175.40 lakhs over the 2000-2001.
The CIP was formulated by linking capital budget to Hyderabad City Development Fund to ensure a sustained flow of funds for essential city building / development / redevelopment activities, which are essential to move the city forward.

The other major components are:

- Emphasis on cost recovery for services
- Preparation of a separate Urban Community Development & Services Budget linked to Hyderabad Urban Community Development & Services Fund.
- Expenditure rationalization and minimization
- Shift to Modified Accrual-based Accounting and upto date auditing of all backlog
- Creation of Salary Reserve and Pension Fund
- Significant measures for municipal personnel and management reforms, including regular training of senior officers through a Centre for City Management in collaboration with the City Managers' Association of Andhra Pradesh development of performance indicators at all levels and a performance monitoring system.

It is worth noting that the Municipal Corporation of Hyderabad has adopted a policy that aims at the following long range goal of distribution of budgetary resources: salaries and

employee benefits 20%, maintenance works 30% and capital projects 50% This has called for a need to separate the Revenue from Capital accounts.
It is hoped that this will be a watershed in the transition of Hyderabad to a model city and will build strong foundations in the direction of moving the city to achieve the goals set under Andhra Pradesh Vision 2020.

7. Principles of sound Capital Improvement Planning that can be adopted in Andhra Pradesh

7.1 Legal Basis

The Andhra Pradesh Municipalities (Preparation of Budget, Allotment and Transfer of Funds) Rules, 1967 *[G.O. Ms. No 619, Municipal Administration, dated 7th October, 1967]* in exercise of the powers conferred by Clause (i) of sub-section (2) of Section 326 of the A.P. Municipalities Act, 1965 (Act 6 of 1965), lays down rules relating to Budget allotment and transfer of funds by municipal councils, the same having been previously published at pages 380 to 388 of R.S. to Part I of the Andhra Pradesh Gazette, dated 18th August, 1966, as required under Clauses (a) and (b) of sub-section (1) of Sec. 527 of the said Act.

The Tamil Nadu Government have issued orders in G.O. MS. No.189, MA & WS Department, dated 06-08-1999 to prepare City Corporate Plan in four Corporations (except Chennai and Coimbatore where CCP has already been prepared) and 41 Special Grade (13) and Selection Grade (28) Municipalities except Tiruppur where CCP has already been prepared. The local bodies, which are preparing the city corporate plans, are: Madurai and Trichy Corporations, Kodaikanal, Dindigul, Thanjavur, Kumbakonam, Vellore, Villuppuram and Thiruvannamalai Municipalities.

7.2 The CIP Review Team

A CIP Review team should be responsible for annually reviewing capital project requests and providing recommendations to the Municipality. The team consists of the City Engineer, Town Planning Officer and Revenue Officer along with the Commissioner and the elected representatives - the Chairman and the Vice-Chairman This team should also conduct an in-depth analysis of the impact of the Capital Program on cash flow and bonding requirements, as well as the municipalities ability to finance, process, and design and ultimately maintain projects. The committee should meet regularly throughout the year.

7.3 Principles for CIP

The capital program and budget is the result of an ongoing infrastructure planning process. Infrastructure planning decisions must be made with regard to both existing and new facilities and equipment. The CIP is to be developed using the following Principles of Capital Improvement Planning:

(1)The goals and objectives of the Comprehensive Plan, specifically the Land Use Plan and the Policy Plan, are the basis for capital planning.
(2)The Planning Commission/ Local Government shall review and recommend annually the Capital Improvement Program based on the adopted Comprehensive Plan for the consideration of the governing body.
(3) Public participation
(4) Criteria consistent with the Comprehensive Plan and with the principles stated in the action plan shall be established to guide the selection and prioritization of CIP projects.
(5) The development of the CIP shall be guided by the principles of life cycle planning to ensure that long-term maintenance, renewal and replacement requirements are adequately addressed to protect the investment and maximize the useful life of facilities. The Urban Local Body shall allocate an appropriate amount of its general operating, special revenue,

enterprise, and other funds to finance ongoing infrastructure maintenance, renewal and replacement of facilities.
(6) The CIP shall include the fiscal impact of each project and identify unfunded capital requirements to adequately anticipate resource requirements and capacity to provide services beyond the planning period.
(7) The CIP shall support the County's efforts to promote economic vitality and high quality of life.
(8) The CIP should recognize the revenue generating and /or cost avoiding value of making public infrastructure improvements to spur private reinvestment and revitalization in support of County land use policy.
(9) The CIP shall be developed to provide facilities that are cost effective, consistent with appropriate best practice standards and expectations of useful life.
(10) The Municipality will endeavor to execute the projects as approved and scheduled in the CIP. Value engineering principles will continue to be applied to appropriate capital projects. Changes in project scope cost and scheduling will be subject to close scrutiny.
(11) The CIP shall be guided by Principles of Sound Financial Management.

Essential Facets of Effective Capital Improvements Plan:

1. Each department views it its facilities needs as top priority. Hard boiled decisions about relative needs are an administrative responsibility that should be shirked or passed on to people less able to evaluate them.
2. The need to prioritize between various works – the course of action to be taken may vary from the time the decision was taken to now when the work can actually be taken up.
3. Some capital projects are not properly designed, with the tax burden applied to a group larger or smaller than the beneficiaries .In some cases the traditional agency purveying a service may be unduly burdening a too-limited tax base, compared with the benefits derived
4. Assessing costs directly against the specific geographic areas benefited by sewers, streets, storm drains or parks may be fairer than whole community financing. If different areas benefit to varying degrees, cooperation between agencies may not equalize costs but also open new avenues of financing under joint agreements.
5. Projects subject to stage construction like treatment plants, are ideal for pay-as-you-go facilities

7.4 Criteria for Recommending Capital Projects
The following criteria shall be applied to future capital projects in order to establish a relative priority for beginning and completing projects. These criteria are intended to guide decision making and may be adjusted as necessary.

All capital projects must support the goals established by the adopted Comprehensive Plan and conform to specified standards mentioned in the Plan. Other County or best practice standards may be cited so long as they are not in conflict with the Comprehensive Plan or Board directives.

All capital projects will be categorized based on priority and recommended for appropriate funding sources (i.e., general funds, bonds, special revenue funds, and other funds) according to their criticality or other standards as recommended by the staff, Planning Commission or other advisory body.

All new projects recommended to be included in the Capital Improvement Plan will be categorised by priority using the criteria listed below. Actual project commencement and completion are subject to identification of resources and annual appropriation by the CIP Review Team.

Immediate: *Projects are in progress or expected to be started within a year.*
Examples of such projects may exhibit the following criteria:

· Eliminate an immediate threat to personal and public safety.
· Alleviate immediate threats to property or the environment.
· Respond to a court order or comply with approved federal or state legislation.

Near Term: *Projects are expected to start within the next 2–3 years.*
Examples of such projects may exhibit the following criteria:

· Have significant Federal or State commitment.
· Preserve existing resources or realize significant return on investment.
· Preserve previous capital investment or restore capital facilities to adequate operating condition.
· Respond to federal or state mandates in compliance with extended implementation schedules.
· Generate significant revenue, are self supporting or generate cost avoidance (return on investment and/or improved efficiency).
· Alleviate existing overcrowded conditions that directly contribute to the deterioration of quality public services.
· Generate private reinvestment and revitalization.

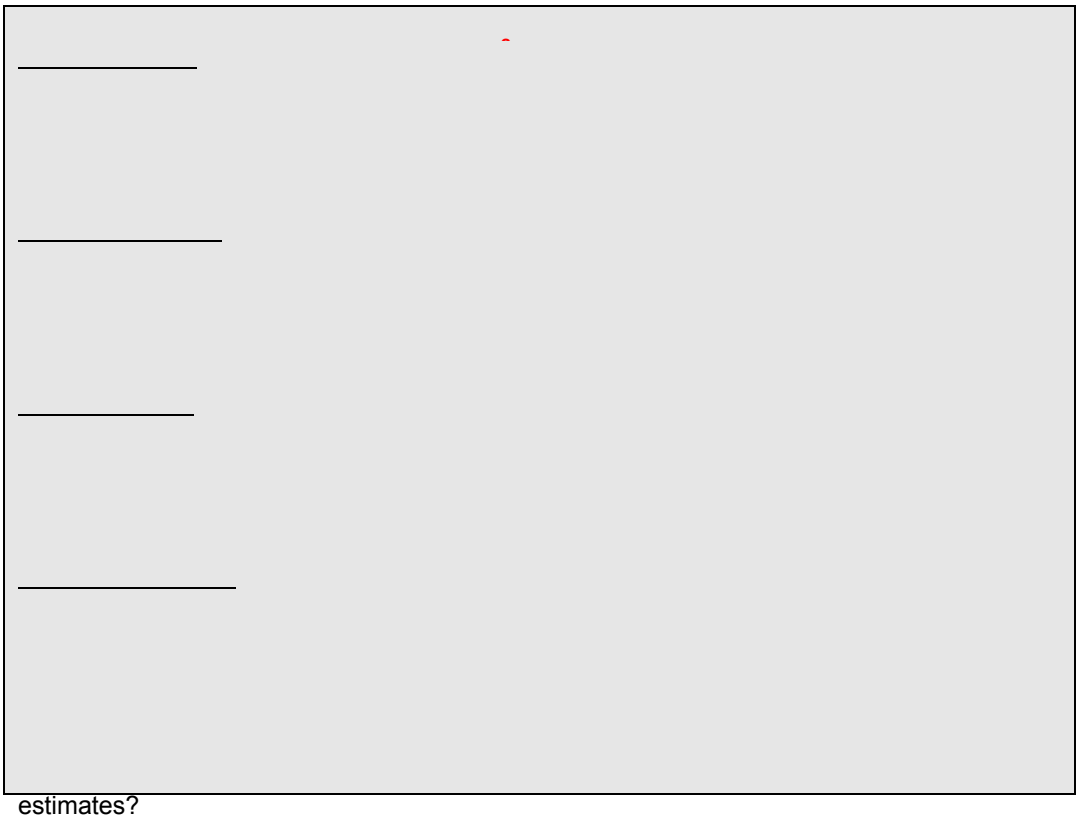
Long Term: *Projects are expected to begin within the next 4–5 years.*
Examples of such projects may exhibit the following criteria:

· Accommodate projected increases in demand for public services and facilities.
· Maintain support for public services identified by citizens or appointed Boards and Commissions as a priority in furtherance of the goals and objectives established by the Comprehensive Plan.
· Meet new program goals or respond to new technology.
· Fulfill long term plans to preserve capital investments.

Future Projects: *Projects that are anticipated, but not scheduled within the five-year planning period.*

In proposing a five year capital plan, the CIP Team considers the feasibility of all proposed capital projects, evaluating their necessity, priority, location, cost and method of financing, availability of federal and state aid and the necessary investment in the County's infrastructure.

A series of meetings are conducted with the CIP Review Team.



estimates?

As capital projects are identified, the above evaluation questions may be used as an assessment tool in concert with the **Criteria for Recommending Future Capital Projects** regarding the immediate, near term, long term or future timing of project implementation.

7.5 Organisation of the CIP

The Capital Improvement Program should have several summary and planning charts contained in the Fiscal Policies and Summary Charts section. In addition, the CIP should include a comprehensive listing of all projects as well as information by functional program area.

Fiscal Policies and Summary Charts

This section should provide a Summary of the Current Capital Program, a Debt Capacity Chart, a history chart depicting the last 20 years of bond referendum (if possible), and a Summary of the Current Program.

Project Lists

Normally, the CIP should include a comprehensive listing of all projects contained in the CIP period and beyond by priority ranking.

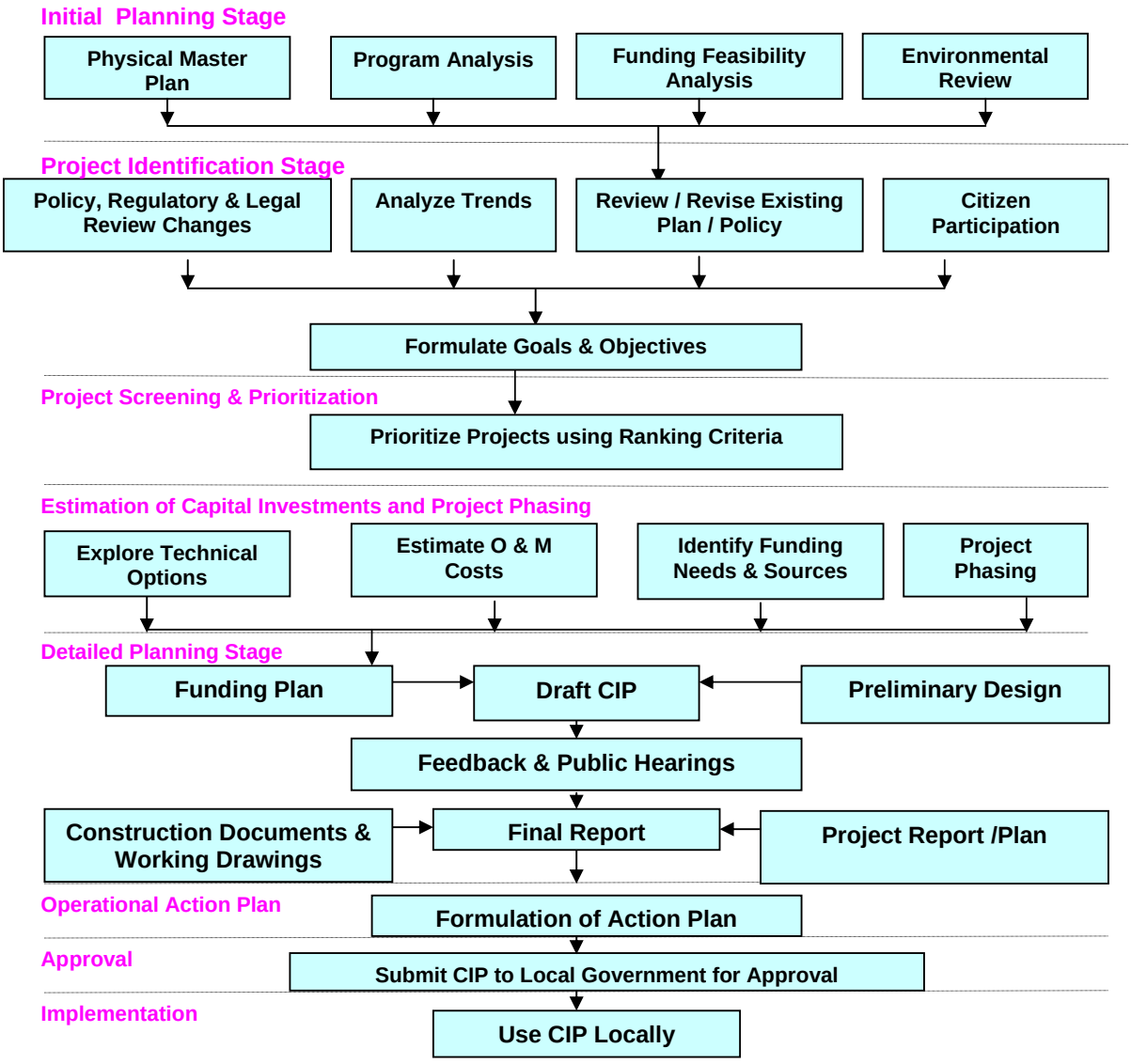
Functional Program Areas

Each functional area should contain an introduction including: Program Goals, a plan period funding summary of the program area and a graph depicting the sources of funding supporting the functional area. Within each functional area, separate sections to denote current initiatives and issues, links to the Comprehensive Plan, and specific project descriptions and justification statements.

[3] Adopted by Fairfax County, Virginia, United States of America

7.6 Suggested Stages for Implementation of CIP in Andhra Pradesh

A standardised process for the implementation of Capital Improvements Projects that can be applied to both major and minor projects involves the following steps:



For the successful implementation of CIP there is an urgent need to build the capacity of the middle and junior level staff of the urban local bodies in the area of budgeting and accounting. The recommendation of the Office of the Comptroller and Auditor General of India to have separate Capital Receipts and Revenue Receipts heads in Budget Format for all ULBs will lead towards implementation of the scheme. The program can be implemented at first in the corporations, selection grade municipalities and later on in the smaller municipalities.

The plan is a tool used to allocate scarce resources in an efficient manner. Rather than allow capital improvement decisions to be made on an ill-defined, haphazard basis, the **Capital Improvement Plan** and annual capital budget identifies the needs, the prioritization of the various projects, and provides for the funding and an implementation strategy on an annual basis.