Construction Industry Development Board

DEVELOPMENT THROUGH PARTNERSHIP

Inform Practice Note #22a

September 2010
(Version 2 - July 2011)

cidb Infrastructure Gateway System - an Overview

cidb's Inform Practice notes provide guidance and clarity in achieving client objectives in construction procurement and delivery. Practice notes inform clients and practitioners on how to embrace best practice and how to deal with issues that may arise. They are aligned with, but do not replace regulation.

Content

Inform practice note 22 – cidb Infrastructure Gateway System comprises three parts:
a) An overview
b) Stages
c) Reviews

Synopsis:

The cidb Infrastructure Gateway System provides a number of control points (gates) in the infrastructure life cycle where a decision is required before proceeding from one stage to another. This practice note outlines the case for and an overview of the gates and stages in the cidb Infrastructure Gateway System.

1. Introduction

All spheres of government are required to deliver social and economic infrastructure to the people that they serve. Organs of state (national and provincial departments, public entities, municipalities and municipal entities) are the vehicles for providing public infrastructure. Each organ of state is provided with the necessary mandate to provide and maintain specific infrastructure and the means to do so on a prioritised basis through annual budgetary processes. Infrastructure, which is delivered in line with programmes and priorities set out in a multi-year budget, needs to be planned, delivered, operated, maintained and managed throughout their lifetime.

Infrastructure (assets) needs to be planned, delivered, operated, maintained and managed throughout their lifetime. Failure to do so can lead to the deterioration of an asset to the extent that it needs to be rehabilitated (i.e. extensive work is required to bring such infrastructure back to acceptable functional conditions) or demolished.
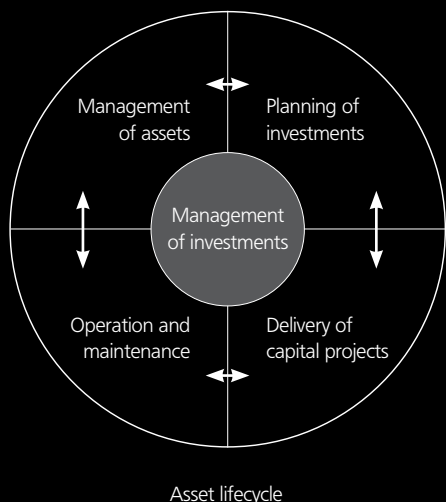
Infrastructure can be defined in a number of ways. It can be defined as a" fixed asset that is constructed or results from construction operations including buildings, structures, plant, facilities and water supply, sanitation, electricity supply transportation and stormwater drainage systems."

Infrastructure can also refer to moveable asset including plant and equipment required to operate building subsystems, facilities and water supply, sanitation, electricity supply, transportation and storm water drainage systems.

Mismanagement, corruption in planning, implementation:
- Creates estimated "losses" of 15-30%, directly and indirectly;
- Allows unnecessary, unsuitable, dangerous projects to go ahead;
- Undermines the rule of law and development of accountable institutions, needed economic growth and social justice;
- Undermines economic and social benefits from projects; and
- Can be a major obstacle to doing business.

Prof George Ofori
Deputy Chair of the Construction Sector Transparency Initiative (CoST)

2. Gates

A gate is a control point in the infrastructure life cycle where a decision is required before proceeding from one stage to another. Such decisions need to be based on information that is provided and is pertinent to the project. If correctly done, a gateway system may provide assurance that a project:
- Remains within agreed mandates;
- Aligns with the purpose for which it was conceived; and
- Can progress successfully from one stage to the next.

A gateway system designed around a set of gates (control points) that are strategically located within an infrastructure asset management cycle has the potential to:
- Enable projects to be more accurately scoped and costed at an earlier stage in the asset life cycle;
- Reduce time and cost overruns;
- Improve alignment of service delivery with available funds;
- Improve procurement discipline;
- Manage risks more effectively;
- Reinforce responsibility and accountability for decisions; and
- Enable projects to be better aligned with policies objectives.

Such gates also enable project risk to be contained within the confines of an organ of state's risk appetite.

The information upon which a decision is based at a gate and the decisions made can be audited to ensure that projects remain within an

organisation's mandate, are justifiable and realise value for money. The opportunity to audit the life cycle of projects also:

- Improves transparency which, in turn, reduces the opportunity for mismanagement and corruption in planning and implementation;

- Enables the procurement strategy adopted for a portfolio, programme or project to be reviewed and improved upon when delivering similar projects in the future;

- Enables post implementation reviews to take place to examine whether planned benefits are achieved and risks are being effectively managed; and

- Removes perverse incentives relating to the promotion of one project or a solution over another.

3. Project stages in the maintenance and delivery of infrastructure

The starting point in the development of any infrastructure gateway system is to identify the information which needs to be developed and accepted at a particular point to enable a project to be advanced. The stages in the delivery and maintenance of infrastructure can then be defined as the activities that need to take place between such points.

The gates and stages need to take account of the planning processes within government and to address the inherent problems within the current delivery system such as:

- Each project being automatically executed as a single contract, in the absence of a construction procurement strategy at a portfolio level (see cidb inform Practice Note #23);

- The maintenance backlog;

- The framing of project stages around tarrifs of fees for professionally registered persons, published by the various built environment councils, which are primarily aimed at the construction of new works using the traditional preplanned approach to the delivery of works;

- The reliance on a non-integrated approach to construction which requires contractors to price and construct infrastructure on the basis of designs prepared under the direction of organs of state or their agents; and

- The project approach whereby, for each and every project, consultants are appointed, briefed, directed and overseen by a gradually disappearing cadre of skilled public sector staff.

The starting point in the cidb Infrastructure Gateway system process is the development of an infrastructure plan which identifies long term needs and links prioritised needs to a forecasted budget over at least the medium term expenditure framework. The end point is a completed contract. (See cidb Practice Note #22b).

Gate keeper decisions:
- Proceed to next gate with original objectives.
- Proceed to next gate with revised objectives.
- Delay making a decision until more information is obtained.
- Terminate the project Stage gate failures.

Stage gate failures:
- Assigning gate keepers and not empowering them to make decisions.
- Assigning gate keepers who are afraid to terminate a project.
- Failure to provide the team with information critical to the gateway reviews.
- Allowing the team to focus more on the gates than the stages.

4. cidb Infrastructure gates and stages

An infrastructure gateway system should permit the undertaking of groups of activities in parallel or series and result at the end of each stage in:
- a predetermined deliverable (a tangible, verifiable work product)
- a structured decision point which enables decisions to be made to determine if the project should continue to its next stage with or without any adjustments between what was planned and what is to be delivered.

The cidb Infrastructure Gateway System is based on the information flow and stages (see cidb inform Practice Note #22b) as illustrated below:

Gate		Stage	
No	**Information provided for a decision to be made as a gate**	**No**	**Description**
1	Infrastructure plan	1	Infrastructure planning
2	Procurement strategy	2	Procurement planning
3	Strategic brief	3	Package planning
4	Concept report	4	Package definition
5	Design development report	5	Design development
6A	Production information	6	Design documentation
6B	Manufacture, fabrication and construction information		
6C	Logistics information		
7	Completed works	7	Works
8	Works handed over to user	8	Hand over
9A	Updated asset register	9	Close out
9B	Completed contract or package order		