

How developing economies can get more out of their infrastructure budgets

Governments in developing economies often lack the capacity to conduct thorough reviews of proposed capital projects. A streamlined approach can identify those ready for funding.

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In developed economies, policies and practices for balancing diverging interests in public infrastructure spending are well established. South Korea, for example, established the Public and Private Infrastructure Investment Management Center in 1999 to conduct feasibility studies on large public investments and expanded its mandate to include appraising and managing public-private infrastructure partnerships in 2005. Since then, the center has reduced project overruns by 82 percentage points. Similar units include the United Kingdom's Infrastructure and Projects Authority, Germany's Bundesrechnungshof, and Australia's Infrastructure Australia.

But in developing markets, many governments have yet to build a capacity for conducting extended project reviews and feasibility studies, because talent is scarce or internal priorities conflict. As a result, these governments often end up funding ill-prepared, poorly designed capital projects, whose scope often diverges from real demand. Overlaps between projects are not uncommon—and actual project costs often exceed forecasts. In fact, nearly 40 percent of the money devoted to global investments around the world is spent ineffectively as a result of bottlenecks, a failure to innovate, or market failures.¹ In developing economies, these ineffective expenditures amount to over \$1 trillion a year.

It may be too much to ask that every proposal get a full-scale, in-depth evaluation that takes months to complete. Even in developed markets, that's not always possible. But it is possible for finance ministries to conduct more streamlined financial assessments of the preparedness and design of projects in only days or weeks. Indeed, we have seen developing countries in the Middle East and Africa embark on such programs by adapting centralized control units and the required level of governance to their own circumstances.

The initial assessment of project preparedness

As a first step, a government must ensure that all projects have been thought through at a sufficient level of detail. This may sound obvious, but projects that fail to describe their rationale properly, don't evaluate alternative solutions, or lack detailed budget plans are hardly uncommon. What's more, implementing ministries often lack strong capabilities in project planning, and rely instead on the private-sector organizations that design and implement such projects to review their own work. The resulting incentive structures, far from optimizing costs, tend to inflate the scope and specifications of these projects.

When the finance ministry in one African country reviewed proposals to build new roads, for example, it found a number of them significantly exceeded benchmark costs—often coming from design firms that consistently produced designs with higher costs. When a more thorough evaluation isn't feasible, a streamlined one- or two-day review can help. Typically, an oversight body would pose a series of straightforward questions assessing how clearly a problem is defined, along with a capacity and demand analysis and a consideration of alternative solutions. This kind of evaluation would examine a proposal's financial aspects, like planned budgets and cash-flow requirements. It would also probe the operational elements: a realistic implementation plan, compliance with regulatory requirements, and interdependencies and overlaps with other projects. Knowing that it lacks this capability, the government of the country in the example is now setting up an in-house unit to oversee contracts with design companies and challenge their products.

The impact can be considerable. One government in another developing economy took this approach with more than 250 projects in its portfolio and found that only a quarter of them were adequately prepared. Most frequently, project owners failed

to quantify the capacity–demand analysis and alternative ways of meeting future demand. As a result, they were granted only enough of their requested budget to conduct studies to increase their preparedness.

A deeper review of project design

Once the initial assessment—often of hundreds of projects—narrows down the pool, finance ministries can conduct a more thorough review of each project’s overall design. That, too, can be streamlined. The finance ministry of the country in the example developed a way to conduct reviews that lasted just two weeks. In that time, it identified opportunities to reduce costs by an average of 20 to 40 percent, without reducing outputs. During the reviews, which will now be a standard part of the annual budgeting process, the cost-review unit of the finance ministry met with owners of projects and tested their design through a series of questions aligned with the initial assessment exercise above. These included the following:

- **Public priorities.** Does the scope of a project focus on services and features that people really want? Is there evidence that the project is truly needed and meets the country’s socioeconomic objectives?
- **Capacity and demand.** Does capacity match future demand? Are the expectations for demand realistic? Can alternative solutions reduce demand?
- **Costs.** Do unit costs reflect benchmark levels? Can costs be cut by adjusting a project’s time frame (to reduce the need for tight deadlines) or by calibrating the schedule to the availability of capital?
- **Productivity.** Could existing assets improve operations?

- **Funding.** Are the funding requirements realistic? Are there any opportunities for private-sector funding? Will the assets generate revenues that could fund the project? Can implementation be deferred or slowed down to stretch out the need for funding?

These project reviews can be significant: a two-week review of a public convention complex, for example, identified \$1.7 billion in potential savings (Exhibit 1). Elsewhere, one ministry of health’s \$300 million request for additional beds for intensive-care units (ICUs) was nearly halved after reviewers considered benchmark utilization data. They found that the proposal’s assumptions about the average length of stay per ICU bed were twice as high as the benchmark, mainly because facilities lacked intermediate beds and had nowhere to send discharged patients. As result, the ministry of health was advised to procure lower-cost intermediate beds and fewer ICU ones.

Or consider a proposal by another country’s housing ministry to develop affordable housing. In-depth reviews found that the proposed design included features—such as skylights, longer driveways, and larger bedrooms—that increased costs but would not necessarily be valued by residents. The optimized design featured more bathrooms, but (unlike the original proposal) with showers instead of tubs; more but smaller bedrooms; and shorter driveways with less internal parking. These homes were better aligned with the expectations of likely residents, but cost 15 percent less—so the ministry could build more homes on its \$4 billion total budget.

These two-week reviews are not the only way to improve a project’s value. Others include standardized project design and materials; value engineering, which aspires to make design specifications reflect the expected life span of

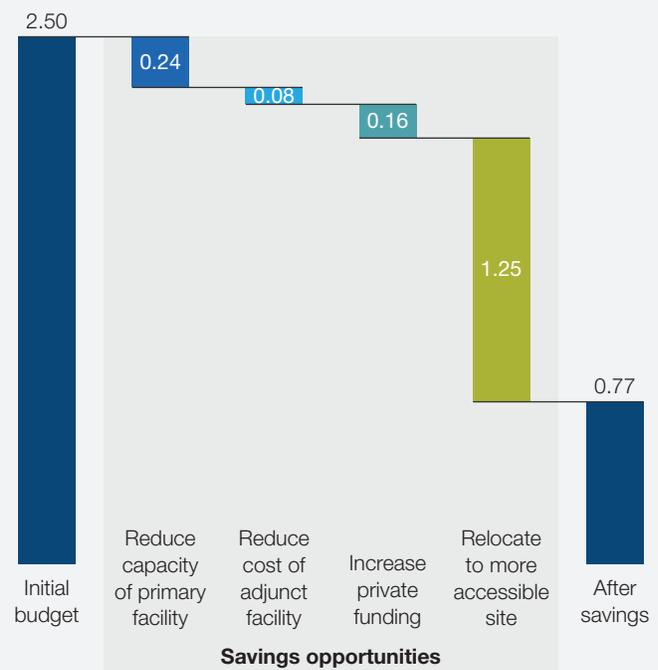
Exhibit 1

A two-week capital-expenditure review of a public convention complex identified \$1.7 billion in savings.

Capital-expenditure review

	Lever	Key question
Capacity-demand analysis	Aligning capacity with future demand	Do capacity estimates meet or exceed benchmarks?
	Reducing demand	Are there less expensive alternatives that would reduce demand?
	Utilizing current assets	Can some demand be met by or diverted to current assets?
	Optimizing scope	Is project unnecessarily complex?
Budget estimates	Optimizing costs	How do unit costs compare with regional and global averages?
Multiplicity of solutions	Considering alternative sources of funding	Can contributions from not for profits and private donors be solicited?
Implementation plan	Assessing timing and options value	Can some costs be deferred?
Other	Generating revenues	Can usage fees generate revenue to support construction?

Potential savings impact, \$ billion



projects; frame (or framework) agreements to procure frequently used materials over time; and stage gates to ensure project overviews. When there's enough time, a more targeted three-month review of project portfolios can also be powerful (Exhibit 2).

Lessons learned

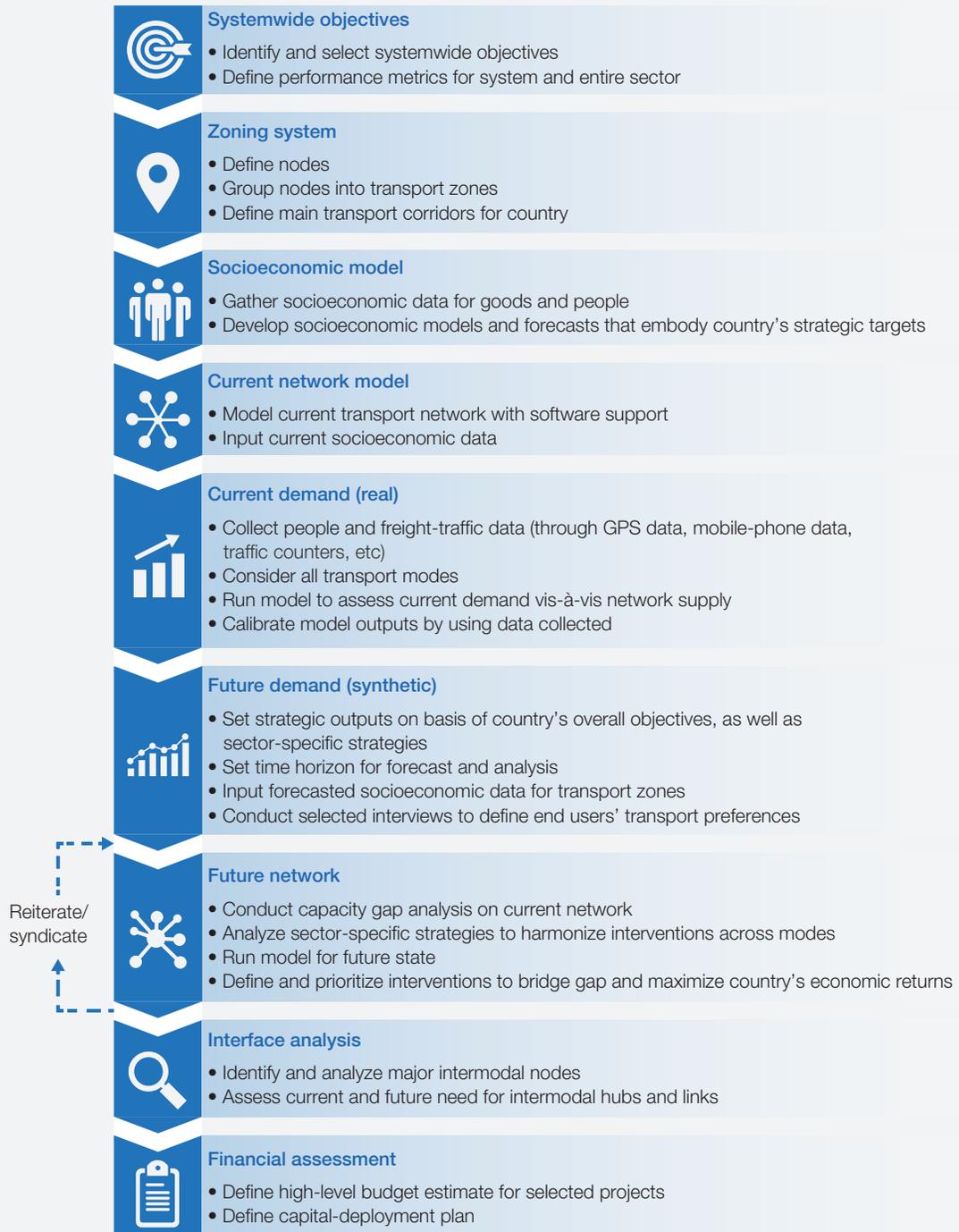
As with any project review, the time spent on assessments must be weighed against the resulting need to delay critical projects. In our experience, any such effort must necessarily be conducted transparently. The examination of the portfolio

should be informed by public priorities, a realistic assessment of demand and funding, and detailed cost modeling. In addition, any capital-planning process should take into consideration some simple and intuitive lessons.

- **Review projects as early as possible.** The sooner projects are reviewed, the greater the opportunity to influence their scope without incurring significant opportunity costs. Once groundwork begins, it will be too late for significant changes. Ideally, reviewers should be involved during a project's idea-generation

Exhibit 2 When time allows, a fuller review of capital-expenditure proposals can be invaluable.

Demand-to-capacity analysis over 3 months



phase and ought to undertake their first deeper assessments on the initial business plan and high-level design.

- **Proceed concurrently with no-regrets moves.** Even a two-week process can be time-consuming when many projects must be reviewed. To avoid significant delays in implementing projects, managers can conduct parallel, agile assessments in the early phases. No-regrets tasks, such as conducting pilot studies, can continue concurrently as projects await thorough assessments.
- **Give the reviewing entity a strong mandate.** Project owners need strong incentives to collaborate with the review process. The strongest one, in our observation, is to link reviews directly to funding decisions: no review, no funds.



Governments that don't have a dedicated function specifically intended to conduct full-scale reviews of capital projects can conduct more streamlined ones. That will help ensure that only well-prepared, well-designed proposals are funded and that they are aligned with public priorities. ■

¹ Jonathan Woetzel, Nicklas Garemo, Jan Mischke, Priyanka Kamra, and Robert Palter, *Bridging infrastructure gaps: Has the world made progress?*, McKinsey Global Institute, October 2017, McKinsey.com.

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