

What can failed megaprojects teach government?

Hasty decisions make waste.



The Boston Big Dig was one of the most complex tunnels built in the U.S. It boasts a few engineering firsts, and had to be constructed under an existing highway, rail lines, and around the city's subway system.

But it was rife with problems at the start, seeing design flaws, escalating costs and schedule overruns. The tunnel faced leaks after construction, killing a woman after a section collapsed.

This picture isn't unique. A study by Oxford University in 2014 found that nine out of ten megaprojects face cost overruns, commonly exceeding 50% of their original estimate in real terms.

GovInsider spoke to Lu Yujie – Assistant Professor from the School of Design and Environment, National University of Singapore – to find out what problems dog these megaprojects, and how officials can learn from them.

1. Poor planning

Megaprojects often fall into a “planning fallacy”, where authorities pass feasibility studies to greenlight a project, and after gaining approval, they will increase the budget and scope for it, explains Lu. This causes unrealistic cost outlines at the start of the project. At the planning phase, everything seems good, but more issues will emerge as they start work on the project, he explains.

Costs will balloon as decision processes gets pushed back. Minor mistakes in the planning stage will lead to higher costs to tweak plans at a later date, Lu says.

These large-scale projects, like dams and high speed rails, are rarely stopped once approved. Governments will not abandon them because it will be seen as an “administrative error”. “No matter how much you have already put in there, you just have to finish it”, Lu says, “You cannot stop”.

Projects are given the go-ahead with wrong budget estimations, which leads to hefty costs as changes are made, but with no choice but to be completed.

2. Delayed consensus

Megaprojects usually involve many stakeholders – from third party consultants and construction firms to public sector stakeholders. This causes delays and prolongs the decision-making process.

Major projects need leadership from the very top, and political backing to succeed, he continues. If a stakeholder is able to delay a project, it causes issues to snowball and costs rack up.

The 2014 Oxford study highlights that such projects are also led by people without in-depth experience, and are replaced throughout the project duration; overall, this commands a weak leadership.

Further, a paper by Bruzelius, Flyvbjerg and Rothengatter highlighted that governments may sometimes play conflicting roles in megaprojects. They have to promote the project, and act as a “guardian of public interest issues” in environmental protection and safety, and safeguard taxpayers against financial risks.

3. Lack of transparency

A lack of accountability leads to inaccurate project evaluations, poor decision-making and expensive mistakes. Numbers and reports need to be validated to keep project decisions transparent, says Lu.

In 2005, South Korea established a centre that conducts feasibility studies on government megaprojects. The Public and Private Infrastructure Investment Management Center (PIMAC) also funds in depth research to improve public investment, and conducts project evaluations once they are completed. According to McKinsey, PIMAC has rejected almost 50% of its reviewed projects, , which compares to a rejection of 3 percent before it was set up.

Singapore’s Land Transport Authority also relies on the true cost and benefit analyses of slated projects to decide which to embark on. Public transit accounts for 75 percent of journeys, McKinsey writes, so this vision guides how the agency selects its transport projects.

What can governments do about this?

The public sector needs to be agile in making decisions and carry out them out in phases. Even efforts like deep ocean oil explorations can be given set boundaries to work within first. Further investment decisions can be made later as the project runs, Lu says.

Governments should also compare potential projects to similar ones which have been completed, to prevent poor justifications. It forces decision makers to confront their confirmation biases, according to McKinsey. A city that wants to build a train system, for example, should turn to other regions for a better picture on costs and time constraints.

Such projects – taking years to complete – are often one-off efforts, Lu says. He calls on governments to set up an international database so that local authorities and developers can see the parallels across these projects, pick out the outstanding points and learn from the blunders made. “When you finish a project, what can be levied and used for a future project?”

Megaprojects are hard to pull off – they are commonly plagued by cost overruns, poor execution and flawed plans. But governments, for the public good, have the incentive to get it right.