

# All aboard

Large infrastructure projects are complex, not least because of the wide range of stakeholders involved. Managing diverse perceptions of risk is both tricky and vital

BY GARETH BYATT

**L**arge infrastructure projects are significant undertakings, with significant levels of risk and uncertainty in terms of both upside and downside risks. The nature of what infrastructure projects are designed to achieve means that they are challenging. The diverse stakeholder groups will hold different views about the value that the project represents, how the project should proceed and what constitutes success or failure. With life cycles often measured in decades, broad and challenging scopes, and complex finance and budgetary arrangements, infrastructure project teams can benefit greatly from good stakeholder risk management practices.

It takes time and resources to understand the different perceptions of risk that different groups of stakeholders have on infrastructure projects. Doing so, and carrying out actions with them in mind, can contribute towards project success.

One way to look at stakeholder groups for large infrastructure projects is to split them into three broad categories. First, there are groups that are directly involved in making the project happen, and managing the outputs delivered. This category includes the public sector, spanning national and local government and departments – such as transport, education and the environment. It also includes the private sector – from financiers and investors to builders (whether construction, IT or other), consultants



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and those who will maintain and operate the finished product.

Second, there are those people who are directly impacted by it. This second category of impacted stakeholders includes the local community, such as individuals and businesses based near the project and possibly users of the project's output, or users of existing infrastructure. Third, there are those that have an opinion about the project. This can include pressure groups, the media and non-governmental organisations, such as environmental campaigners.

### Perspectives

These stakeholder groups will have different "anchor perspectives" that influence their perception of risk. Understanding, responding to and trying to satisfy the different expectations of stakeholder groups throughout the project takes time and effort. One way to look at addressing these perspectives is to look at risk

and uncertainty in agreed levels of detail and in an interconnected manner which considers the perspectives and perceptions from the varied stakeholder groups. A holistic picture may emerge that can help guide appropriate project strategies to take over the long term.

One way to understand and respond to the broad perceptions of risk is to define a project risk profile that considers the perception of risk of all or multiple stakeholder groups, and how it may evolve over time. The overall project risk profile can be broken into several project elements, such as safety, finance, community, the environment and others. Each category can be broken down into granularity. A granular risk can factor in the priority and significance that each stakeholder group gives to it, the degree of control the project team believes it has over it and the controls required to manage it.

For example, managing financial risk on infrastructure



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projects is clearly a top priority (see *Managing infrastructure project financial risk*). Managing social, political and reputational risk is also critical to their success.

### Control

The degree of control the project team has to manage a risk, and the influence they have with stakeholders on it, is an important consideration. For example, a project engineering team on a large construction infrastructure project may want to improve their degree of control over certain risks that impact the local community where it is being built. Part of their efforts to maximise their level of control is to engage closely with the local community, in a thorough and considered way, to gain support from them about the work being planned and undertaken.

Infrastructure projects are, of course, subject to public scrutiny. Transparent reporting of the performance in managing risk can play an important role in ensuring stakeholder groups see how risks are being managed, and how their views are being taken into account. If the project has a risk appetite statement, the views of stakeholder groups can be checked against it. For more information about risk appetite and tolerance, refer to *Risk appetite and tolerance guidance paper – executive summary*, and the related guidance for practitioners, both of which can be found in the knowledge and resources section of IRM’s website.

### Complexities

The UK’s High Speed 2 (HS2) rail project is a good example illustrating the complexities of managing infrastructure project risk. HS2 is the planned high-speed

## MANAGING INFRASTRUCTURE PROJECT FINANCIAL RISK

Infrastructure projects are challenging to undertake. Project cost overruns often get reported in the media, and high-profile cases of those that go wrong tend to stick in people’s minds. Conversely, many infrastructure projects that perform well against their budgets do not make the headlines. There are some great examples of infrastructure projects that exceeded their original budgets but have been widely agreed to be hugely beneficial and successful over the long term.

Financing infrastructure projects, and managing their budgets and cost-benefit outcomes, is difficult given the many long-term variables and uncertainties to contend with. Their finance arrangements (debt financing, interest payments, etc.) are complex. Projects that are designed to be revenue generating will use a revenue model that considers a range of revenue outcomes. Over the long term this model can be greatly impacted by political and economic change.

The following points are worth bearing in mind for the management of infrastructure project finance and budget risk:

1. Avoid optimism bias in financial analysis and budget estimating: use risk management as a “what if?” sense check against uncertainties
2. Seek out a range of expert opinions as project finances are prepared and refined over the course of the project
3. Proactively engage project stakeholders – explain how financial risk is being managed and seek input for a holistic view
4. Articulate the financing of the project (finance raising, planned interest rate payments and expected revenues, etc.) in a straightforward manner
5. Consider developing a project financial risk profile and risk appetite framework (taking into account all stakeholder groups)
6. The more “firsts of a kind” you have, the larger your level of risk may be. Consider conducting a pre-mortem analysis to understand how financial outcomes could fall short of targets, or be met or exceeded, and agree a plan to proactively monitor trigger points for these
7. Manage the range of financial risk and uncertainty exposure for the project, based on known scope, design status, confirmation of cost estimates and income projections, and ensure good practices to manage project scope, design and schedule are in place
8. Agree and manage an appropriate financial contingency structure and amount, which is set out in the overall project financial structure and approved by independent experts
9. Provide clear and fair incentives for managing financial risk (to maximise opportunities and manage threats) while ensuring it is balanced against all other project objectives such as safety and community outcomes
10. Focus on innovation to optimise financial value, in concert with all other project objectives.

**For a detailed report on managing cost risk on infrastructure projects, please visit IRM’s Infrastructure Risk SIG page on its website <https://www.thiem.org/events/special-interest-groups/infrastructure-risk.aspx>**



## IRM INFRASTRUCTURE RISK SPECIAL INTEREST GROUP

IRM Infrastructure Risk Special Interest Group (SIG) is a knowledge-sharing community for individuals interested in all aspects of infrastructure risk, including safety, design, construction, operations, funding and finance, insurance, productivity, technological advances and resilience. The SIG organises knowledge-sharing events on a regular basis. For more information please visit IRM's website and look for special interest groups.

railway that aims to link London, Birmingham, the East Midlands, Leeds and Manchester. HS1 connects London to the Channel Tunnel.

The perception of risk for HS2 differs among the large number of stakeholder groups. The national government is providing details about the benefits of the project socially, economically and environmentally. Parliament is monitoring the project and is publishing its reviews online, including its view of project risks. Independent construction commissioners are providing their views through public channels, which include views on community engagement. Construction and engineering firms are managing risk, including the technical and commercial aspects.

The community that is directly affected by HS2 has differing opinions. For example, compulsory land and property purchases present immediate risks for those directly affected. The media have a major voice on HS2, with many national newspapers having dedicated sections on their websites focused on the project and coverage about HS2 regularly reported upon. Pressure groups are also expressing their views.

In such a large infrastructure project, is it possible to pull together all the perceptions of risk into a risk

profile? It is important that the project team regularly monitors the pulse of stakeholder perceptions of risk and provides stakeholder groups with proactive updates. Perhaps certain activities need to be considered at key project milestones or major events and announcements. The project team must remember that stakeholder perception of risk may, for various reasons, be higher than their own.

### Define responsibilities


The project organisation structure may benefit from including defined responsibilities in the team for holding discussions about risk and uncertainty with external stakeholder groups, perhaps through governance reviews. By investing in stakeholder risk management as a team activity and working to address stakeholder concerns, a project team can respond with actions to address their needs, as part of the management of risk.

Risk and performance curves can help risk managers represent stakeholder risk perceptions of different risks, perhaps by category, as I have already suggested, over time, including looking at a desired future state. This type of chart aims to provide a forward-looking tool that considers forthcoming milestones in the project life cycle to determine whether certain actions

can be taken proactively to manage risk and the perception of risk.

The risk and performance curve for an imaginary infrastructure project pictured here shows a project budget as prior, actual and target in the vertical bars. The horizontal lines track perceived levels of risk by different stakeholder groups – in this case, financial risk. In this example, external stakeholder perceptions of risk are increasing. The dotted lines show a target to reduce it over time, which should be backed up by SMART actions – ones that are specific, measurable, achievable, relevant and time-specific. Examples of such actions are shown in the box below the curve diagram.

A risk and performance curve is just one way of considering a wide range of views of diverse stakeholder groups on an infrastructure project. Whichever method you choose, the key is to invest the time to do it properly. Doing so can greatly contribute to the success of the project. ☺

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