



**An Roinn Caiteachais
Phoiblí agus Athchóirithe**
Department of Public
Expenditure and Reform

**Infrastructure investment in an era of
uncertainty**

**Conference on public investment governance,
reform and innovation**

Conference Précis

Contents

Introduction	3
Background and Rationale	3
Conference Objectives	3
Participation	3
Outcome and Results	3
Conference Opening	4
Morning Keynote: Professor Bent Flyvbjerg, University of Oxford	4
First Panel Session: Leading Practice in Investment Governance	6
Second Panel Session: Reforming Investment management in Ireland – Progress and Challenges	7
Afternoon Keynote: Mark Farmer	8
Third Panel Session: Modernising Construction	8
Reflections and Conference Close	9
Next steps	9
Appendix 1 Agenda	10
Appendix 2 Slides	11
Appendix 3 Selected Images	11

Introduction

This report summarises the experience of the high-level conference *Infrastructure investment in an era of uncertainty* convened by the Investment Projects and Programmes Office within the Department of Public Expenditure and Reform and held in the Central Bank of Ireland on Friday, 31 January, 2020.

Background and Rationale

Two years on from the IMF Public Investment Management Assessment and against a backdrop of growing investment as part of Project Ireland 2040, the conference was intended to:

- Assess recent reforms to investment governance in Ireland and consider the next phase of the reform programme
- Share experience from leading countries and international organisations.
- Discuss key themes in infrastructure investment such as capability, risk, governance and productivity in the construction sector.

Conference Objectives

- Provide a forum for national and international experts to critically examine public investment governance, reforms and innovation
- Engage with expert colleagues in other public sector and delivery bodies to share best practice, issues and solutions
- Create and develop the public investment network to continue and grow conversation nationally and in the medium-term

Participation

The conference brought together over 140 participants from more than 50 organisations.

Outcome and Results

This conference was the first of its kind to take place with a core focus on ensuring best practice in public investment within the framework of Project Ireland 2040. The ultimate objectives of the conference were to share experiences, build networks and take action on improving project delivery. The conference served as a platform for sharing experiences at different levels, from international organisations to local delivery agencies. The group will be reconvened at intervals throughout the year, as well as an annual conference focused on the most relevant sectoral issues.

Conference Opening

The conference was opened by John McCarthy, Secretary General of the Department of Housing, Planning and Local Government, who welcomed the participants and thanked the Central Bank of Ireland for accommodating the event. He went on to use his opening remarks to draw an explicit link between public infrastructural investment and place-making, noting that the National Planning Framework (NPF) anticipates an Ireland with 1 million more people by 2040. In meeting the need for homes and employment for this increased population, a top priority for the NPF is compact and sustainable growth; with Ireland's five cities targeted for 50% of overall growth by 2040. The NPF envisages that brownfield sites will deliver 40% of all new homes within the footprint of existing settlements, comprising at least 50% of all new homes in the five cities and 30% of new homes elsewhere. This means that settlements need to grow in a more compact form, reducing travel distances and improving proximity to employment and increasing urban density to ensure more viable public transport with a more sustainable modal share. This approach to spatial planning and urban structure is an important part of the suite of actions required to transition to a low carbon and climate resilient society.

Without that approach, he emphasised, we may realise physical development, but we won't achieve the sort of thriving socially, economically and environmentally sustainable communities that Project Ireland 2040 envisages, the places where people will really want to live, work, study and invest.

Morning Keynote: Professor Bent Flyvbjerg, University of Oxford

The morning keynote was delivered by Professor Bent Flyvbjerg of Oxford University, who is widely recognised as the leading expert in Major Programme Management. Professor Flyvbjerg delivered a presentation entitled "Challenges, Causes, Cures of Major Project Management".

Professor Flyvbjerg outlined what makes mega-projects irresistible to policy-makers as when done right such investment:

1. Contains a large share of domestic inputs relative to imports
2. Creates and sustains employment
3. Improves productivity and competitiveness by lowering producer costs
4. Benefit consumers through higher quality services
5. Improves the environment when infrastructures that are environmentally sound replace infrastructures that are not.

But, there is a big "if" here. Conventional megaproject delivery is highly problematic with a poor performance record in terms of actual costs and benefits.

Professor Flyvbjerg went on to outline the characteristics of mega-projects which are so often overlooked:

1. Megaprojects are inherently risky due to long planning horizons and complex interfaces
2. Often projects are led by planners and managers who lack relevant sectoral experience and who often move on during what are long project cycles
3. Multiple stakeholders with conflicting interests are involved in decision-making, planning and management
4. Project managers often view their project as "unique" due to the necessity to employ non-standard design and technology. This blocks learning from other projects
5. The project concept is often "locked-down" from the get-go, meaning that there is reluctance to moving away from the path as initially set out

6. A number of biases can have a material impact on project development – particularly optimism bias and political bias
7. The project scope or ambition level will typically change significantly over time
8. Delivery is high-risk with overexposure to so-called "black swans," i.e., extreme events with massively negative outcomes. Such unplanned eventualities are rarely accounted or budgeted for
9. This results in misinformation about costs, schedules, benefits, and risks throughout project development and decision-making leading to cost overruns, delays, and benefit shortfalls

Iron Law of Megaprojects

All of the above combines to form the "The Iron Law of Megaprojects": over budget, over time, over and over again.

Professor Flyvbjerg cited performance data for megaprojects revealing that nine out of ten such projects have cost overruns. Overruns of up to 50 percent in real terms are common, over 50 percent not uncommon. Overrun is a problem in private as well as public sector projects, and things are not improving; overruns have stayed high and constant for the 70-year period for which comparable data exists. Geography also does not seem to matter; all countries and continents for which data are available suffer from overrun. Similarly, benefit shortfalls of up to 50 percent are also common, and above 50 percent not uncommon, again with no signs of improvements over time and geography.

The "Break-Fix Model" of Megaproject Management

Generally, megaproject planners and managers – and their organisations – do not know how to deliver successful megaprojects and therefore such projects tend to "break" sooner or later. Projects are then often paused and reorganised – sometimes also refinanced – in an attempt to "fix" problems and deliver some version of the initially planned project with a semblance of success.

The "fix" often takes place at great and unexpected cost to those stakeholders who were not in the know of what was going on and were unable to or lacked the foresight to pull out before the break. The break-fix model is wasteful and leads to misallocation of resources, in both organisations and society, for the simple reason that, under this model, decisions to go ahead with projects are based on misinformation more than information.

The cure to the break-fix model is to get projects right from the outset so they don't break; through proper front-end management.

Reference Class Forecasting

He continued to give an overview of Reference Class Forecasting. Reference Class Forecasting (RCF) is a method to remove optimism bias and strategic misrepresentation in the forecasting of costs and timelines of projects and programmes.

RCF for a specific project involves the following three steps:

1. Identify a reference class of past, similar projects
2. Establish a probability distribution for the selected reference class for the parameter that is being forecast
3. Compare the specific project with the reference class distribution, in order to establish

However, Professor Flyvbjerg was keen to stress that while RCF can be part of the toolkit to deliver better outcomes, it is by no means a silver bullet.

In summary, Professor Flyvbjerg, proposed a three-prong approach to project success involving:

Improving **front-end** to get a realistic starting position using approaches including:

- Reference Class Forecasting
- Due diligence
- Benchmarking
- Black Swan prevention

Improving execution to deliver on time, on budget and to benefits:

- Project leadership development
- Project rescue
- Post-mortems and retrospections

Improve **governance** to make high-quality decisions:

- Incentive alignment
- Quality assurance
- Early-warning-sign detection
- Audits and reviews

Graham Doyle, Secretary General of the Department of Transport, Tourism and Sport then engaged Professor Flyvbjerg in conversation considering whether certain sectors are more challenging than others including dams, nuclear power and rail. In public projects, the Secretary General also pointed out that there is a tendency for “price tags” to be put against projects very early, in many cases without any real analysis behind it and questioned how we might balance the requirements of the political system and the public to know the cost of something against the need to avoid the anchoring effect. Members of the audience also engaged in the conversation.

First Panel Session: Leading Practice in Investment Governance

The first panel session focused on gleaned lessons from leading practice both domestically and internationally. Michael Nolan, Chief Executive, Transport Infrastructure Ireland, Jonas Toxvig Sørensen, Senior Advisor, Ministry of Finance, Norway, Ana-María Ruiz Rivadeneira, Infrastructure, Governance and PPP, OECD and Fiona Spencer, Director of Project Profession and Standards, Infrastructure and Projects Authority UK each outlined a number of measures that can help guard against time delays and cost overruns.

Mr. Nolan gave a detailed overview of how TII have significantly refined and improved cost performance management system, which has led to de-risking the roads programme. He again underlined the necessity the “Outside View”, and discussed recent work by TII to develop RCF tools.

Mr. Sørensen then introduced the Norwegian model originally begun in the year 2000 and involves the Ministry of Finance taking a strong role, external reviews by independent consultants and final decisions being made by cabinet. He took the audience through a detailed consideration of the Norwegian Quality Assurance system and highlighted where challenges arise during the process and how these are mitigated successfully.

Ms. Rivadeneira underscored the importance of strong governance in project delivery not only from the perspective of return on public investment but also in drawing in more private financing as investors require government to be a competent and reliable partner, promoting a stable business climate for investment as well as a bankable pipeline of projects. She then introduced the OECD’s

Framework for the Governance of Infrastructure: “Getting Infrastructure Right”. Based on a survey of 27 countries, this report provides an overview of current practices in infrastructure governance and presents practical tools to help policy makers better manage infrastructure.

Finally, Ms. Spencer spoke on the UK Government’s experience on “Building project delivery capability”. The strengthening of capacity had its roots in 2011’s Civil Service Reform Plan which required that the Major Project Leadership Academy (MPLA) would train the senior leaders responsible for major projects and that only project leaders who have successfully completed this intensive development programme will be able to lead a major government project. She also covered how the government has extended the offer, built the profession and sought to grow talent early through graduate schemes.

These interventions were followed by a panel discussion and audience participation chaired by Garrett Doocey of the Department of Transport, Tourism and Sport.

Second Panel Session: Reforming Investment management in Ireland – Progress and Challenges

The second panel session focused on Ireland and developed the points discussed earlier by looking at the progress and challenges in reforming public investment management.

Carolina Rentería, Chief of the Public Financial Management Division, Fionn Jenkinson, and Ciara Morgan both of the Investment Projects and Programmes Office, Department of Public Expenditure and Reform each provided a perspective on the actions explored the actions taken by DPER and the Investment Projects and Programmes Office since the publication of the IMF’s Public Investment Management Assessment (PIMA) Report in 2017.

Ms. Rentería provided a detailed presentation which encompassed not only the IMF’s PIMA of Ireland, but also considered how strengthening public investment management yields improved return on investment as well as how best to appropriately plan for sustainable levels of public investment.

Mr. Jenkinson detailed how the recommendations of the PIMA Report have been implemented to date in Ireland. The actions taken seek to increase coordination, improve oversight and improve guidance on project selection and appraisal. Actions examined included the creation of the Investment Projects and Programmes Office in 2018, the establishment of Project Ireland 2040 Delivery Board, the development of the Investment Projects and Programmes Tracker and the updating of the Public Spending Code.

Ms. Morgan set out what will be considered in the next phase of public investment management reform in Ireland. This centres on plans for the Public Spending Code including the alignment of sector specific guidance and provision of supporting technical guidance, a new process to strengthen governance of major capital projects, next steps in monitoring the investment pipeline, developing a common analytical framework for estimating demand pressures and infrastructure gaps, and further strengthening investment alignment with strategic national policy.

The session was followed by panel discussion chaired by Deirdre Mahony, Department of Culture Heritage and the Gaeltacht.

Afternoon Keynote: Mark Farmer, Independent UK Government Champion for Modern Methods of Construction (MMC)

‘Modernising Construction - Using Modern Methods of Construction as a Change Agent for a New Industrial Strategy: A UK Case Study’.

The Farmer Review of the UK Construction Labour Model challenged the industry to: ‘Modernise or Die’.

Mr Farmer began by outlining that the challenges facing the construction industry are not unique to the UK construction sector. Declining structural resilience due to a decreased level of construction employment as a percentage of overall employment; demographic, geopolitical and societal changes - including an aging construction workforce; dependency on foreign construction workers and lower entry levels to construction related third level education courses.

Mr. Farmer described how these factors all contribute to low productivity in the construction sector. This is amplified by traditional media and the general public on social media, who are becoming increasingly frustrated by poor quality builds that are over budget and over time.

He also stated how these factors have led to growing construction industry fragility and concerns from investors, something that has created unprecedented reputational and brand risk for developers and housing associations.

Mr. Farmer outlined how structural changes in other sectors could further accelerate external disruption in the construction sector, as manufacturing supply chain and technology diversifies into the sector for example Amazon diversifying into prefab smart home sector and Toyota building a module city in Japan.

The UK Government is focusing on promoting Modern Methods of Construction (MMC) in order to address the housing crisis with an MMC working group and formal frameworks established to identify opportunities in the sector. The UK Government is investing in research and development in MMC and aiming to build market confidence via their ‘Homes England’ policy.

As international firms enter and disrupt the market bringing with them new sources of capital and partnership opportunities, productivity levels are increasing rapidly. The strategic shift to integrated manufacturing is influenced by decision making factors in MMC including: better quality, accelerated delivery, increased productivity, labour/skills shortage, sustainability, increased control, design standardisation, reduction in operational cost and the accepted need to modernise.

He concluded by stating that a new age of homebuilding can be delivered in both the UK and Ireland, but it needs strong and long term leadership by policy makers and industry combined.

Third Panel Session: Modernising Construction

The third session, comprised Kathryn Meghen, CEO, Royal Institute of the Architects of Ireland, David O’Brien, Office of Government Procurement and Dr. Róisín Murphy, Senior Lecturer, Technological University Dublin, and was chaired by Ed Hearne, Investment Projects and Programmes Office, Department of Public Expenditure and Reform chaired the final panel discussion of the day.

For her part, Ms. Meghen reflected further on themes raised during the conference

opening remarks including the necessity for densification, brownfield site optimisation to deliver placemaking and played a [video](#).

Mr. O'Brien considered industry's perception of the public sector client and set out a number of steps to ameliorate what can be a challenging relationship including:

1. Better understanding of the process
2. Emphasis on risk management rather than simply transfer
3. Greater engagement in the day to day management of projects

Dr. Murphy discussed the optimal skills balance for a sustainable sector going forward.

Reflections and Conference Close

The conference was closed by Ronnie Downes, Assistant Secretary, Department of Public Expenditure and Reform, who emphasised that the conference provided an opportunity for high level debate and for key stakeholders to raise and discuss a wide range of issues.

Mr. Downes summarised the main enabling factors for effective key infrastructure delivery that were raised during the conference include: political will; enabling legislative and policy frameworks; sufficient budgeting; adequate professional capacity and professional development at national, regional and local levels.

Next steps

As a result of the work conducted at the conference, participants were invited to engage in further networking events, the first of which is scheduled for 21 April in Miesian Plaza, Dublin 2 (details to follow).

Appendix 1 Agenda

08.30 Registration and Refreshments

09.00 Conference Context

John McCarthy, Secretary General, Department of Housing Planning & Local Government

09.15 Morning Keynote

Professor Bent Flyvbjerg, University of Oxford

In conversation with Graham Doyle, Secretary General, Department of Transport, Tourism & Sport

10.15 Leading practice in Investment Governance

Michael Nolan, Chief Executive, Transport Infrastructure Ireland

Jonas Toxvig Sørensen, Senior Advisor, Ministry of Finance, Norway

Ana-María Ruiz Rivadeneira, Infrastructure, Governance & PPP, OECD

Fiona Spencer, Director of Project Profession & Standards, Infrastructure & Projects Authority UK

Followed by panel discussion chaired by Garret Doocey, Department of Transport, Tourism & Sport.

11.30 Networking and refreshments

12.00 Reforming Investment management in Ireland – progress and challenges

Carolina Rentería, Chief of the Public Financial Management Division, IMF

Fionn Jenkinson, Investment Projects & Programmes Office, Department of Public Expenditure & Reform

Ciara Morgan, Investment Projects & Programmes Office, Department of Public Expenditure & Reform

Followed by panel discussion chaired by Deirdre Mahony, Department of Culture Heritage & the Gaeltacht

13.00 Lunch

13.45 Modernising construction

Afternoon keynote: Mark Farmer, CEO Cast consultancy & UK Government Champion for Construction Modernisation

Kathryn Meghen, CEO, Royal Institute of the Architects of Ireland

David O'Brien, Office of Government Procurement

Dr. Róisín Murphy, Senior Lecturer, Technological University Dublin

Followed by panel discussion chaired by Ed Hearne, Investment Projects & Programmes Office, Department of Public Expenditure & Reform

15.00 Reflections and conference close

Ronnie Downes, Assistant Secretary, Department of Public Expenditure & Reform

Master of Ceremonies: Áine Griffin, Head of Communications, Project Ireland 2040

Appendix 2 Slides

Slides are included as a separate document.

Appendix 3 Selected Images



Dave Hanley, Department of Public Expenditure and Reform and Deirdre Mahony, Department of Culture Heritage and the Gaeltacht



John McCarthy, Secretary General, Department of Housing Planning and Local Government welcomes delegates



Professor Bent Flyvbjerg, Oxford University, delivers the morning keynote address.



The first panel discussion of the day featured from L-R: Jonas Toxvig Sørensen, Ana-María Ruiz Rivadeneira, Fiona Spencer and Michael Nolan



Ronnie Downes, Professor Bent Flyvbjerg and Graham Doyle reflect on the mornings session.



Carolina Rentería, Chief of the Public Financial Management Division in the IMF.



Delegates at PER Infra Conf 2020



Mark Farmer, CEO Cast consultancy and UK Government Champion for Construction Modernisation delivers the afternoon keynote address.



David O'Brien, Office of Government Procurement and Kathryn Meghen, CEO, Royal Institute of the Architects of Ireland take part in the final panel session of day



Participants in PER Infra Conf 2019