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Delivering Major Infrastructure Projects: Specialised project delivery bodies

1 Introduction

In order to remain competitive and ensure provide positive outcomes for citizens, governments have a duty to invest in infrastructure. However, the scale, importance and complexity of government infrastructure projects mean successful delivery is extremely challenging.¹ Failures in project design, management and delivery lead to a range of problems including cost overruns and delays² and ultimately deny citizens a necessary resource.

A recent Northern Ireland Audit Office (NIAO) report has reviewed the delivery of eleven major capital projects in Northern Ireland (NI) and identified a series of issues in terms of project delivery that have resulted in delays and cost overruns.³ This is not an

¹ National Audit Office, [Delivering major projects in government: a briefing for the Committee of Public Accounts Session 2015–16](#), January 2016

² McKinsey and Company, [A risk-management approach to a successful infrastructure project](#), November 2013

³ NI Audit Office, [Major Capital Projects](#), December 2019

issue unique to NI; there have been a number of similar reports highlighting the complexities of delivering major infrastructure schemes elsewhere in the UK.⁴

Within the context of these reports, this paper examines what governments are doing to improve project delivery and what current structures are in place within these jurisdictions to support the delivery of major capital projects.

2 Context

NI Audit Office report on capital projects

In December 2019 the NI Audit Office published its review of major infrastructure project delivery in Northern Ireland. The review focused on eleven ‘major capital projects’ with major defined as projects costing more than £25 million.⁵ Projects reviewed included the seven ‘flagship projects’ identified by the Executive as part of the 2016-17 budget⁶, as well as four additional major projects set out in table one.

The flagship projects were allocated just over £1 billion over a five year period 2016 -17 to 2021-22. The additional four projects had a combined budget of almost £600 million. The Audit Office review found each of the flagship projects and four additional projects experienced problems, including time delays and/or cost overruns when compared against original timescales and budgets as a result of one or more of the following:

- funding constraints;
- legal challenges;
- planning issues;
- limited interest from the construction industry; and
- issues with the quality of construction.

The review identified three projects that encountered significant problems:

- The A5 project: This scheme was brought to the point of construction on schedule in August 2012, but due to legal challenges and uncertainty over future funding has yet to begin construction. Originally planned as one scheme it has now been broken into three phases. The estimated cost has risen from £700m to over £1 billion.
- The Critical Care Centre which is now expected to be completed in 2021 (and fully occupied): This is nine years later than originally planned and £57 million over budget following various construction problems; and
- The Ulster University, Greater Belfast Development needs to attract substantial additional external finance to bridge the current, major funding gap. The European

⁴ National Audit Office, [Delivering major projects in government: a briefing for the Committee of Public Accounts Session 2015–16](#), January 2016

⁵ Ibid.

⁶ Department of Finance and Personnel, [Written Statement Finance and Personnel Ministerial](#), Budget 2016-17, 17 December 2015

Investment Bank (EIB) has withdrawn a £150m loan because of project delays. The cost of building is now expected to be £363.9m - more than £100m over budget.

Table one: Major capital projects reviewed by NI Audit Office

Flagship Projects	Estimated cost Business case (£million)	Expected cost (updated) (£million)	Cost overrun (£million)	Spent - As of 31 March 2019 (£million)	Planned vs. Expected delivery date	Delay (years)***
A6 (Road – Phase 1)	£184	£189	↑ £5	£119.8	2020 / 2021	↑ 1
A5	£799	£1100	↑ £301	£80.3	2018 / 2028	↑ 10
Belfast Transport Hub	£208.9	£227.2	↑ £18.3	£20.3	2025	Expected on-time
Belfast Rapid Transport	£87.9	£94.4	↑ £7	£93.6	2017 / 2018	↑ 1
Regional Maternity Hospital and Regional Children's Hospital	£57.2	£73.9	↑ £16.7	£29.3	2015 / 2021	↑ 6
	£223	£353.9	↑ £130.9	£39.4	2020 / 2025	↑ 5
Casement Park	£77.5	£110	↑ £32.5	£10.3	2016 / subject to planning	unknown
Desertcreat college	£44.8*	£44.8	↔ £0	£4.7m	2021 / 2023	↑ 2
Flagship Total	£1637.5	£2,193.4	£511.4	£393		
Other projects						
Critical care centre	£95	£151.7	↑ £56.7	£151.3	2012 / 2021	↑ 9
Primary community care centres	£80	-	-	-	2016 / 2021	↑ 5
Ulster University Belfast campus	£254	£363.9	↑ £109.9	£151.3	2018 / 2021	↑ 3
Strule Shared Education campus	£168.9	£213.7	↑ £44.8	£37.8	2020 / 2024	↑ 4
Total	£597.9	£729.3	↑ £211.4	£340.4		

Source: [NIAO \(2019\)](#)

*Original plans were for a Combined Public Services College at the Desertcreat NIFRS, PSNI and NIPS, estimated to cost £140 million. However, costs dictated each service developed its own facility.

The report set out the roles and responsibilities of various bodies (see figure one) in delivering major capital projects. The Procurement Board oversees policy, the CPD supports departments with procurement while the SIB provides expertise in project delivery. Ultimately individual departments are responsible for commissioning and funding major schemes. Within the Departments there are six independently accredited centres of procurement excellence (COPE) that comply with NI, UK and EU public procurement best practice. The Department for Infrastructure has three CoPEs: Roads and Rivers; Translink; and Northern Ireland Water.

Figure one: Bodies responsible for delivering major capital projects in NI



The NIAO report notes a review (undertaken by SIB) of the commissioning and delivery of major infrastructure projects in Northern Ireland, commissioned by the Procurement Board in 2012.⁷ The review, published in October 2013, found that,

*“despite there being areas of good practice and effective delivery within the commissioning and delivery system, and despite the best efforts of able and hardworking staff, the system as a whole is not fit for purpose and works against.... best endeavours to deliver”.*⁸

The report noted that the decentralised model in place in Northern Ireland ensures close working with the client, enabling knowledge and experience of ‘what works best’ in a particular area to be built up. However, it:

- reinforces departmental ‘silos’ and leads to fragmentation of both the government client base and of procurement expertise and resources;
- fosters greater competition in the planning and prioritisation of capital programmes and creates difficulties in achieving compliance with over-arching and cross-departmental procurement policies and processes;
- makes it more difficult to leverage the scale of government demand for construction works and services to drive better procurement deals; and
- leads to higher costs due to the large number of procurement operations across government, and the risk of ‘gold-plating’ assets as a result of over-specification and non-standard designs.

⁷ Strategic Investment Board, Strategic Review of the Commissioning and Delivery System for Major Infrastructure Projects in Northern Ireland, Procurement Board, 2012.

⁸ SIB cited in: NI Audit Office, [Major Capital Projects](#), December 2019, p 24

The SIB report recommended adoption of a centralised model to cut across departmental 'silos', concentrate procurement expertise and resources, create a stronger position for engaging the market and reducing overhead costs.

A collaborative procurement team was established in 2013 to undertake a programme of collaborative procurement on behalf of all bodies covered by NI Public Procurement Policy (NIPPP). The vision of the Collaborative Procurement Strategy is to:

Centralise the supply of an agreed range of common supplies and services for CPD's clients and to maximise opportunities for aggregation with other Centres of Procurement Expertise (CoPEs) to achieve best value for money in support of the delivery of better government services.⁹

In 2014 the Procurement Board, engaged the OECD to review the structures detailed above, in order to ascertain whether they are delivering the desired outcomes and what changes, if any, could further improve the effectiveness to the structure to maximise the return on public expenditure and ensure that NI is receiving the best value for money.¹⁰ The OECD commended the approach taken, finding that CPD has demonstrated the benefits of adopting a centralised procurement approach.

That said there appears to be more scope for collaboration among CoPEs. The 2019 NIAO report suggests there is:

"...significant merit in considering how alternative models, resourced with sufficient, highly skilled staff could improve future infrastructure delivery by supplementing public sector skills with those available in other sectors and streamlining processes. We recommend that the potential benefits of alternative models are fully explored as a matter of priority."¹¹

The remainder of this paper will look at what models are in place elsewhere. While this paper focuses on project delivery, [another RalSe briefing](#) published in February 2020, looks specifically at public procurement structures in NI, ROI and Scotland.¹²

⁹ Department of Finance, [Procurement Guidance Note PGN 05/14](#), August 2014.

¹⁰ OECD, [OECD Public Governance Reviews: The Governance of Public Procurement in Northern Ireland](#), June 2016.

¹¹ NI Audit Office, [Major Capital Projects](#), December 2019

¹² Colin Pidgeon, [Centralisation reforms of public procurement in the Republic of Ireland and Scotland](#), February 2020

3 Delivery structures for major infrastructure projects

3.1 Northern Ireland

The Strategic Investment Board (SIB) was established under the Investment & Regeneration of Sites (Northern Ireland) Order 2003. SIB is a company limited by guarantee and its sole shareholder is the Executive Office (TEO). Its main functions are to assist Government to:

- plan infrastructure
- deliver major projects, and
- manage assets.

The SIB prepares the Investment Strategy (ISNI) for the Executive. This is to provide a clear framework for future investment in major capital projects across the region in order to assist in their planning, financing, procurement and delivery. The ISNI covers seven key infrastructure areas:

- Networks (Roads, Public Transport, Ports/Airports, Energy, Telecoms);
- Skills (Schools, HE/FE colleges, Libraries);
- Health (Primary Care, Hospitals and Emergency Services);
- Social (Social & Affordable Housing, Culture, Sport, Arts & Leisure);
- Environment (Water & Waste Water, Waste Management, Flood Risk Management);
- Productive (Industry Support, Agriculture & Rural Industries, Government Administration, Tourism); and
- Justice (Police, Prisons, Youth Justice, Forensic Science, Courts).¹³

The committee may want to consider asking the SIB to provide a detailed appraisal of their interaction with DfI in the process of delivering major schemes. This information is not accessible and would be useful to the committee in its overall consideration of major project delivery in NI.

3.2 England

The Infrastructure and Projects Authority (IPA) is the UK Government's centre of expertise for infrastructure and major projects, created to support their successful delivery. The IPA is a joint Cabinet Office HM Treasury agency. However, it works across Government to support the successful delivery of all types of major projects, ranging from railways, schools, hospitals, housing, defence, IT and major transformation programmes (such as Universal Credit).¹⁴

¹³ NI Audit Office, [Major Capital Projects](#), December 2019

¹⁴ Infrastructure Projects Authority, [IPA Annual Report on Major Projects 2018-19](#), August 2019

The IPA was formed on 1 January 2016 when it brought together Infrastructure UK (IUK) and the Major Projects Authority (MPA). It combines the functions of project assurance and monitoring from the MPA and the focus on long-term financing from Infrastructure UK.¹⁵ It is now responsible for the overall project delivery system, including:

- supporting and de-risking the most complex and high risk projects;
- developing the skills and capability of the people who deliver projects; and
- overseeing the project life-cycle from policy, initiation and financing to independent assurance.

The IPA staff consists of experts in infrastructure, project delivery, law and project finance who work with government departments and industry.

Project assurance function

When compared to the SIB, the IPA has a much broader range of functions over major capital projects in England. As is the case in NI, individual Government Departments remain accountable for the initiation and delivery of their own projects. However, the IPA is involved throughout the process. For example, before projects are even appraised, they can undergo a Project Validation Review (PVR), where the IPA advises the project team on project development. As the business case is developed, it can go through further Gateway reviews. The IPA has also established an Early Development Pool to support the initiation of major projects and try to ensure they are “set up for success”.¹⁶

Later in the process the IPA provides an oversight function and has responsibility for assuring departments’ projects and reviewing and assisting with progress. On this basis, the projects overseen by the IPA are given Delivery Confidence Assessments (DCAs), colour ratings based on the perceived likelihood of their completion:

- within the timescales;
- within the cost envelope;
- to the quality requirements including the delivery of benefits, both financial and non-financial; and
- all as laid down in the most recent formally approved mandating document (e.g. Project Information Document (PID) or Business Case).¹⁷

The IPA’s reports are done in the RAG (red, amber, green) format:

- a green mark indicates a highly likelihood projects will be completed on time and on budget.

¹⁵ Chris Rhodes, [Infrastructure policies and investment](#), House of Commons Library, December 2018

¹⁶ House of Commons Public Administration and Constitutional Affairs Committee, *The Government’s Management of Major Projects: An Interim Report*, October 2019

¹⁷ *Ibid*, p 10

- a red mark indicated that projects appear unachievable in the given timescale and budget.

For example, in the IPA's most recent annual report, a green mark was awarded to the UK Research and Innovation implementation programme, which aims to create a single research and innovation funding body. A red mark was awarded to London's Crossrail project which is subject to significant delay and overspend.¹⁸

Effectiveness of the IPA

The National Audit Office has questioned the impact of the IPA in improving project delivery.¹⁹ In evidence submitted to the House of Commons Public Accounts Committee it pointed to a large proportion of major projects are unachievable with a third of projects (37 out of 106) rated as red or amber-red by the IPA. However, a review by the House of Commons Public Administration and Constitutional Affairs Committee, suggests it carries out its assurance role competently.

There has been criticism that the IPA is overly focused on delivery "...getting it on time, on cost, as defined at the beginning, and the actual benefits that the project is less of a priority".²⁰ The IPA's oversight of projects ends when the project is delivered and there is no centralised, systematic post hoc evaluation. Both the NAO and the Institute for Government have been critical of the insufficiently robust evaluation of whether projects actually deliver their anticipated benefits.²¹

¹⁸ Infrastructure Projects Authority, [IPA Annual Report on Major Projects 2018-19](#), August 2019

¹⁹ National Audit Office, [Delivering major projects in government: a briefing for the Committee of Public Accounts Session 2015–16](#), January 2016

²⁰ *ibid*

²¹ *ibid*

3.3 Scotland

The Scottish Government established the Scottish Futures Trust (SFT) in 2008 to improve the efficiency and effectiveness of infrastructure investment in Scotland by working collaboratively with public bodies and industry,²² the SFT has five key functions:²³

Centre of expertise	SFT brings together a range of public and private sector infrastructure specialists from the engineering, construction, legal and financial sectors to collaborate and to develop effective project/programme management methodologies.
Funding and financing	SFT looks for innovative approaches to funding, financing and delivery of schemes in order to maximise investment. SFT developed and delivered the Non-Profit Distributing model (NPD) and its replacement the Mutual Investment Model (MIM)
Delivery	SFT support delivery of selected individual projects and manage existing assets, estates and contracts.
Project assurance and validation	SFT provides validation and assurance services to the Scottish Government on selected projects, including the Forth Replacement Crossing and the Borders rail link. This is a method of monitoring project delivery performance, thereby improving the chances of successful project delivery and the realisation of expected outcomes. ²⁴

SFT does not deliver any outcomes on its own, it works in collaboration with other public and private sector organisations across Scotland. For example, SFT is currently working with Transport Scotland, to develop financing and delivery options for electric vehicle charging infrastructure across Scotland.

Governance

SFT is a company, classified as a non-departmental public body (NDPB), owned by the Scottish Government. As an Arm's Length Body, Scottish ministers set the SFT's priorities in line with wider strategic policy objectives, monitor its performance, and are ultimately accountable to the Scottish Parliament for the activities and performance of the SFT. The relationship between the Scottish Government and the SFT is formally defined within the Management Statement and Financial Memorandum signed in 2008.

Private Finance

While the SIB and IPA have a remit for identifying finance options the SFT is different in that it operates the Scottish Government's own private finance model.

The best known, and most widely used, model for privately financed and revenue-funded projects is the Private Finance Initiative (PFI), introduced by the UK Government in 1990. In 2005, the Scottish Government replaced PFI with the Non Profit Distributing Model (NPD). In addition, the Scottish Government set up five hub

²² Scottish Futures Trust, Corporate Plan 2019-2024,

²³ Audit Scotland, [Management of the Scottish Government's capital investment programme](#), January 2011

²⁴ Scottish Futures Trust, [Project Assurance](#), May 2013

companies between 2010 and 2012 to deliver community infrastructure projects using either traditional capital budgets or private finance contracts to pay for the assets procured through the hubs.²⁵

Since 2005, NPD and hub private financing have supported £3.3 billion of additional investment in infrastructure assets in Scotland. This is private finance which has to be repaid affecting budgets over many years. However, the Scottish Government has accepted these costs to enable additional investment to take place.²⁶

In May 2019, the Scottish Government announced that the Mutual Investment Model (MIM) would replace NPD and that it will no longer deliver new privately financed projects through the hub companies.²⁷

4 Republic of Ireland

Public procurement structures in Ireland have undergone a period of significant reform over the past decade or so. The first step in this reform was the establishment of National Procurement Service (NPS) in 2009. The NPS was mandated to negotiate framework agreements on behalf of the public sector, in order to deliver value for money savings through strategic joint purchasing.^{28 29}

Following a public service reform in 2013, the Irish Government introduced a centralised public procurement body – the Office of Government Procurement (OGP). The OGP is now the primary actor in the Irish procurement system, working primarily with Health, Education, Defence and local government bodies. The OGP is responsible for:

- the formulation of public procurement policy;
- dissemination of best practices;
- general guidance; and
- management of the Irish Government's e-procurement strategy and eTenders.gov.ie, the central procurement platform used by purchasers across the public sector.

The OGP aims to standardise the procurement process and achieve savings by implementing a systematic approach to public procurement.³⁰ However, individual

²⁵ Audit Scotland, [Privately financed infrastructure investment The Non-Profit Distributing \(NPD\) and hub models](#), January 2020.

²⁶ *ibid*

²⁷ *ibid*

²⁸ Anthony Flynn, Paul Davis, David McKeivitt3 and Emma McEvoy, [Mapping Public Procurement in Ireland](#), August 2012.

²⁹ Department of Public Expenditure and Reform, [Circular 16/13: Revision of arrangements concerning the use of Central Contracts put in place by the National Procurement Service](#), September 2013.

³⁰ Thomas Estermann and Veronika Kupriyanova, [A comparative analysis of public procurement frameworks and practices in universities in Portugal and selected EU member states](#), November 2018.

public bodies continue to be responsible for commissioning and funding projects as is the case in the UK.³¹

According to the European Commission, this move to a “single procurement entity has increased professionalisation of procurement work, reduced coordination costs, and facilitated efforts to streamline services and regulations”.³²

Project delivery

The Irish Government does not have one overarching advisory or oversight body like the IPA, SFT or SIB. Infrastructure projects are commissioned, delivered and managed by bodies similar to NI’s CoPEs. Transport Infrastructure Ireland (TII) is a non-commercial semi-state body sponsored by the Department of Transport, Tourism and Sport (DTTAS). TII has overall responsibility for the development and maintenance of the national road network and the light rail and metro networks has a range of competencies, found in both the SIB and RDS CoPE in terms of commercial, financial (including PPP) and technical expertise. TII has a number of functions:

- TII is responsible for the entire lifecycle of road and light rail projects, from conceptualization and planning; through the project-managed delivery of infrastructure; and the ongoing management of services.
- TII manages the Luas Operating Contract, governing the provision of Luas services and maintenance, under assignment from the National Transport Authority.
- TII has the power to enter into agreements to secure the provision of infrastructure by means of a concession, joint venture, PPP or other means.³³

4 Conclusion

Although infrastructure policy is devolved in the UK, the adopted models for capital project delivery are broadly similar, as they are with the Republic of Ireland (IE). In all regions major government infrastructure projects are most commonly commissioned, funded and overseen by a sponsoring Department of state (or Departments).³⁴

- They are commonly delivered through arms-length bodies (ALBs) of a range of forms (delivery organisations) and most commonly via executive agencies or public corporations.
- It is the delivery organisation’s job to take the requirements of the sponsoring department, turn them into specifications, contract for their delivery and secure the

³¹ OGP, [about etenders](#), accessed 23/10/2019

³² EC European Commission, [Public procurement – Study on administrative capacity in the EU: Ireland Country Profile](#), April 2016.

³³ Transport Infrastructure Ireland, Annual Report and Accounts, August 2017

³⁴ Department for Transport and Infrastructure Projects Authority, [Lessons from transport for the sponsorship of major projects](#), April 2019

intended outcomes to time, quality and cost through their private sector supply chain.

- These delivery organisations are normally owned and funded by the sponsoring Department.
 - There are examples of ‘Single Purpose ALBs’ set up to deliver larger projects, such as Crossrail and HS2 Ltd. or
 - Specialist organisations for specific infrastructures, such as NI Water, Network Rail and Highways England.
- Some major projects are delivered internally, as is the case in Rivers and Roads within DfI.³⁵

Each of the UK regions and IE also has an expert body or ‘centre of expertise’ which supports the delivery organisations, be they ALBs or Departments, to ensure infrastructure and major projects are delivered efficiently and effectively. A significant difference with the SFT and IPA, compared to the SIB is the project assurance function. These bodies provide independent oversight on project delivery, a function which is performed by the delivery organisation in NI.

This committee might want to further investigate the role of the SIB in the delivery of major capital projects including how it interacts with departments during the delivery of major projects. The committee may also explore any potential benefits from the SIB taking on an oversight function, similar to that of the SFT and IPA.

³⁵ Ibid