The Infrastructure Forum

The Thames Tideway Tunnel

A Template for Private Investment in Public Projects

April 2024

Synopsis

The £4.2Billion Thames Tideway Tunnel (TTT) was the world's first major infrastructure project implemented using a stand-alone Regulated Asset Base (RAB) structure (2015). The project is now (as at Q2 2024) close to completion of construction and is expected to enter full operation in 2025, both within its original timeline and below its original customer bill impact projections, after allowing for the disruption caused by Covid. This is a significant achievement for a complex and major tunnelling project, and especially one delivered across multiple construction sites within a constrained urban environment. The RAB model itself is a well-established feature of regulated utility sectors across the world.

The novelty of TTT lies in transforming a potentially high-risk construction project into a low-risk utility-type investment, thus increasing the attractiveness of the project to investors and reducing costs at every stage. This transformation was achieved by focusing on three key elements of the transaction structure and procurement process:

1. Use of the RAB model to structure the regulatory treatment and remuneration;
2. Tailoring the risk profile of the investment to target investors with a low cost of capital; and
3. Maximising private sector competition and involvement at each stage of the procurement process.

The TTT model has much wider applications than sewer tunnels and, in addition to its current use on the Sizewell C nuclear power station, could potentially help deploy private sector investment into areas such as: transport, carbon capture and storage, reservoirs and other major water infrastructure, power transmission and EV charging networks, social housing, tidal power, telecoms and energy storage.

To avoid the need for each new potential application to begin afresh with a "blank sheet of paper", some common building blocks can be identified which could help attract investors into future UK infrastructure opportunities and streamline the investment process.

Regulated Finance Based on a TTT Template

Key building blocks of the successful TTT model include:

1. **RAB model**
    a. A **regulated asset base model**, as distinct from contractual models like PFI.
    b. Using **RAB-based financing** to access deep pools of equity and debt capital which are familiar with this structure.
    c. The presence of an **independent regulator** tasked with safeguarding the consumer interest, while also **engaging with potential investors** on the terms of the licence to ensure financeability and suitability.
    d. Funding generated by **incremental customer charges** rather than public sector payment streams.
    e. A RAB model which allows for investors / lenders to receive **dividends / interest during construction**. Yield of this nature is important for many investors and its absence is a common impediment to financing projects with a long construction time.

2. **Tailored risk profile**
    a. A **Government Support Package (GSP)** to cover low-probability but high-impact risks which the private sector is unable to manage, mitigate, or price on terms representing value-for-money to consumers or the taxpayer.
    b. **Charging investors** for elements of this GSP on the basis that it is an insurance-like product, but not one available on the insurance markets due to size and specialized nature.
    c. **Sharing of risks** between contractors, investors, consumers and Government under an incentivised risk management framework, rather than based upon “risk transfer” per se.

3. **Maximising private sector competition and involvement**
    a. Objective of **maximizing competition** for each cost element including design, construction and financing.
    b. **Late stage tendering with a strong management team in place**, presenting stakeholders with a complete proposal at each stage of the tender, e.g. providing construction contract bidders with a complete and final design; and providing financing bidders with complete and final construction contracts.
    c. **Private sector governance, oversight and direction**, involving a board which comprises representatives of the shareholders whose investment is at risk, senior executive management and independent non-executive directors.

Background

1. Each generation faces the challenge of maintaining a steady flow of investment into infrastructure that supports aspirational levels of national prosperity, quality of life, and inter-generational legacy. This challenge necessitates aligning and mobilising the combined resources of the public and private sectors according to their complementary strengths.

2. All political parties, stakeholders, and commentators recognize the imperative for substantial investment in the UK's infrastructure. History has demonstrated that the most cost-effective outcomes are achieved when investment needs are addressed as comprehensive *programmes*. These programmes rely on effective delivery models; and the model discussed in this paper stands out for its innovation, proven track record, and potential adaptability across various infrastructure sectors.

3. This paper highlights the key features of the TTT model, few of which are specific to the water sector, and so provides an indication of the model's potential and especially how the habit of initiating every project as if starting afresh when it comes to designing finance and governance arrangements, can be avoided.

4. Key features include: (i) a pre-approved total cost and risk limit set by the regulator; (ii) regulatory revenues during the construction period to provide yield to equity investors and debt service during construction; (iii) RAB and revenue calculation methods which are clearly outlined in the project's regulatory licence; (iv) avoiding the difficulties experienced with past PFI models, such as poor flexibility and refinancing "windfall" gains; (v) a stable regulatory framework covering the project's lifespan to underpin long-term investor confidence; (vi) an opportunity for third-party investors, not directly connected to the project's sponsors; and (vii) construction risks shared between investors and contractors initially, then between investors and customers, and finally with the Government as a last resort – i.e. a tiered approach to risk management which can be tailored to the needs of each specific project.

5. The TTT model has demonstrated the availability of deep markets of international equity and debt capital, which are able to support major stand-alone regulated construction projects, if the structure is right.

Key Elements of the TTT Template

Government Support Package

6. An important success factor of the TTT model was introduction of the innovative GSP to address specific high-impact low-probability risks that exceed the private sector's capacity to manage, mitigate, or price. The GSP featured five components: (i) Supplementary Compensation Agreement – a form of insurer of last resort support; (ii) Market Disruption Facility Agreement – designed to deal with situations where the debt markets relevant to TTT are severely disrupted; (iii) Contingent Equity Support Agreement – under which support can be made available from the Government, if the costs of the project exceed a pre-agreed "threshold outturn" level; (iv) Discontinuation Agreement – covering the limited circumstances in which the Government can decide to discontinue the project and the compensation payable in this case; and (v) Special Administration Offer Agreement – which covers circumstances in which the regulated entity is placed into special administration. HM Treasury was paid a fee for providing the GSP.

7. The GSP is central to achieving a strong investment grade for TTT – consistent with a business-as-usual regulated utility – which opens-up access to deep pools of potential private capital, at rates offering overall good value for money to customers.

Private Sector Governance

8. A cornerstone of TTT's successful contract and risk management during construction has been a private sector governance model, including: remuneration, incentives, continuity, accountability and reporting practices. The board comprises representatives of the shareholders whose investment is at-risk, as well as senior executive management and independent non-executive directors. The board has proven itself able to give decisive, rapid and timely direction to the management team.

Independent Regulator

9. Another of the model's key success factors is the presence of an independent regulator tasked with safeguarding consumer interests, while also considering the needs of private sector investors. This regulatory oversight consolidates public sector resources within a specialised regulatory body and provides flexibility needed to respond to changing project needs and circumstances, which is much harder with a purely contract-based model such as PFI.

10. The licence issued by Ofwat to the regulated entity delivering TTT is materially aligned with the wider water industry and was itself subject to public consultation, prior to issue, in the usual way. Ofwat also issued Economic Guidance which described its approach to the economic regulation of TTT during construction and into its operating phase.

Flexible financing options

11. The TTT model decouples the period of regulatory asset amortisation from the accounting asset amortisation. This provides flexibility: a longer amortization period for example can reduce customer bill impact by elongating the period over which returns are earned; conversely shortening the amortization period reduces overall cost. In essence, the model acts as a bridge between current private sector capabilities and its future potential, by adapting to an evolving infrastructure financing environment.

12. There were two primary tenders carried out in the formation of TTT: the first, was for the construction works which was divided into three separate packages; and the second was for the ownership and financing of the project. In the latter, bidders tendered the Weighted Average Cost of Capital (WACC) and determined the most efficient capital structure. In contrast to PFI projects, where all the debt finance required to complete construction is arranged and committed at financial close, in the case of TTT (and typical for a regulated utility) the debt was arranged progressively, initially at and then following financial close. The optimal gearing level was determined from detailed credit rating analysis, supported by work conducted by credit rating agencies. This resulted in a lower level of gearing than is typical for PFI projects.

Customer charges

13. The scale of future potential investment in infrastructure, via a RAB-based model, that could be supported by incremental increases in customer charges (for example in the energy or water sectors) is of the order of £1 Billion for every one-million customers paying an additional £1.50 per week[1]. Funding so raised from customers could be allocated across a range of qualifying investments, for example to address the causes and effects of climate change.

Social legitimacy

14. If suitably implemented, the model has the ability to help address the issue of social legitimacy related to the private financing of infrastructure assets. The structure can enable a low cost of capital to be achieved, which means that the premium over the Government's own cost of finance is more likely to be seen as acceptable and good value for money with respect to the services delivered, risks managed, incentives applied and resources mobilized.

15. More generally, there are a number of significant benefits of private sector involvement in infrastructure investment including: (i) access to capability and capacity that are not available on sufficient scale within the public sector; (ii) reduced pressure on constrained public-sector finances; (iii) clear accountability for the reliable and value-for-money delivery of infrastructure; (iv) in circumstances where the supply chain lacks the necessary balance sheet strength, public

[1] *Estimated for a generic infrastructure project and not specific to the water or energy sectors; assuming constant prices, a 50-year amortisation period, no provision for operational and maintenance expenditure; an illustrative real vanilla WACC of 4.5%; and a BAU regulated utility risk profile.*

sector procuring authorities would otherwise be directly exposed to the associated infrastructure delivery risks, unless they mobilise an interposing tier of private sector risk capital between the public sector and the supply chain; and (v) contestability in the deployment of delivery organisations.

Future Applications

16. The TTT model has much wider applications than sewer tunnels and, in addition to its current use on the Sizewell C nuclear power station, could potentially help deploy private sector investment into areas such as: transport, carbon capture and storage, reservoirs and other major water infrastructure, power transmission and EV charging networks, social housing, tidal power, telecoms and energy storage.

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