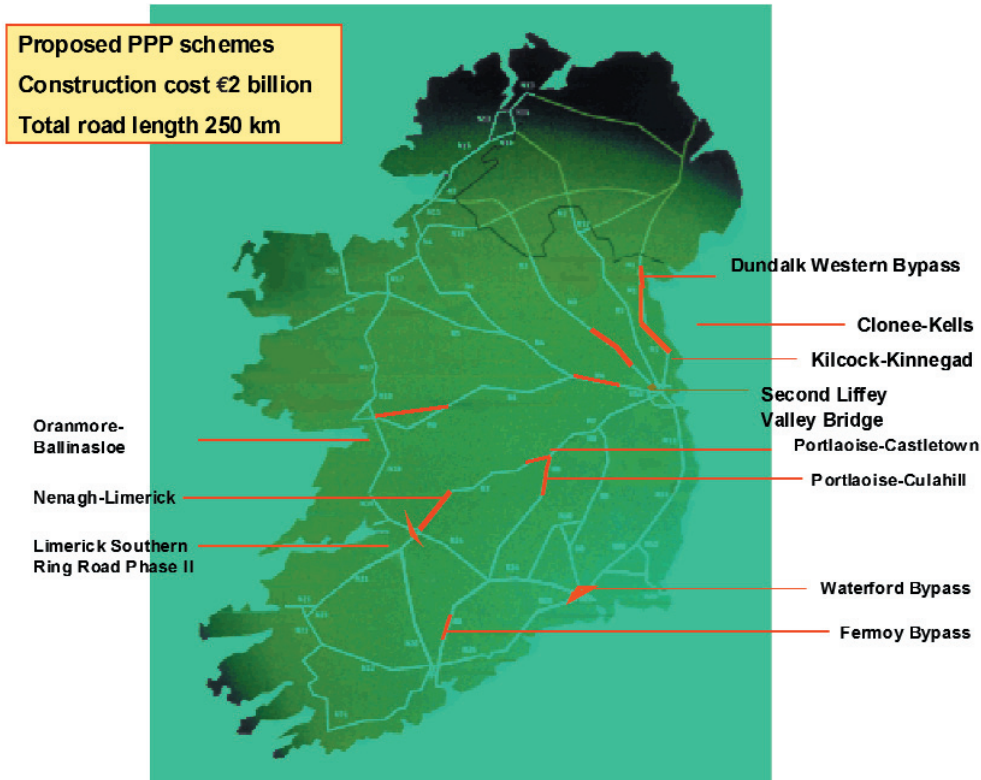


7. Public-private partnership (PPP) schemes

Gerry Murphy



National routes and proposed PPP schemes (National Roads Authority)

As the *National Development Plan 2000–2006* (NDP 2000) evolves, the traditional procurement mechanisms for large State-funded projects are giving way, in some instances, to a new arrangement for the procurement of infrastructure. This is known as the public-private partnership, or PPP. It most often takes the form of a consortium of private-sector investors coming together, in response to a tender competition organised by the State, to create a single, large, infrastructural asset. In the case of NRA projects, the asset will be a tolled national road.

The successful bidder, or PPP Company, may provide some or all of the funds for the scheme, but much more than funding is at issue. In the case of an NRA scheme the PPP Company becomes solely responsible for the design, construction and operation of the new road. As for any funds the PPP Company may receive for this from the NRA, the payments are directly related to performance. Thus, the public sector not only specifies the asset to be created, but also supplies quality control over the delivery of this asset by the PPP Company. And whatever other variations may occur in the terms of the contract, one constant for NRA schemes is that the road itself, on completion, will always remain in public ownership (although it may be operated by the private sector for a fixed period of time).

Benefits of PPP schemes

What are the benefits of a PPP scheme within the aims of the National Development Plan? The most immediate gain is a faster provision of national infrastructure. By harnessing the resources of private-sector investors the State is able to advance the current national road-building programme more vigorously than would have been possible within the confines of its own resources.

There are also benefits in terms of value for money. The PPP Company will be expected to assume the majority of the risks associated with the design, construction, operation and financing of the road. This does not mean any loss of quality. To the contrary, if the PPP Company is to maintain and operate a tolled road over a long period, then it is very much in its own interest to ensure quality of design and construction from the outset. Indeed, for this reason, innovation in design and construction, and optimisation of value over its whole life, are among the expected characteristics of a road built under the terms of a PPP contract.

In terms of value for money, the savings in prospect for the public purse in Ireland can be measured against recent experience elsewhere. The first PPP road schemes to be completed in the United Kingdom were reviewed by the UK Highways Agency in conjunction with the Private Finance Panel (Highways Agency 1997). The combined capital value of these projects was £560 million. If the same roads had been built using a traditional procurement system it is estimated that there would have been a 15% increase in costs.

Finally, the PPP brings both assured funding and long-term quality of operations to the development of a national road scheme. The necessary funding is assured because, from design to operation, it is agreed from the outset on a contractual basis. As to quality, both parties agree objectives and measurable criteria by which to judge the outcome of the contract as it unfolds, and appropriate funding and incentives are in place to ensure satisfactory operation and necessary life-cycle reinvestment.

PPP opportunities in the National Development Plan

In Ireland, a partial network of 324 km of dual carriageways and motorways was in place prior to the current national road building programme. The National Development Plan envisaged that a further 900 km of dual carriageways and motorways would be built by 2006. It is intended that at least 250 km of this will be realised via PPP schemes. To achieve this, eleven PPP schemes have been proposed to date, at an estimated cost of €2 billion.

The PPP contract

Under the terms of a PPP contract, the investors become responsible for all aspects of the design, construction, maintenance and operation of the development and will typically provide some or all of the funding too. The PPP Company's responsibilities under this contract can be considered in three stages.

PPP contract 1: design and maintenance

Obviously the design and construction of the road must be such that it is safe, durable and fit for its intended purpose. Beyond these purely practical requirements, the PPP Company is responsible for compliance with all statutory regulations governing the execution of the project, and must secure the corresponding certifications. During construction, the company is also responsible for all aspects of site management, including the health and safety of all personnel and visitors, and the mitigation of construction impacts on neighbouring communities and businesses, in accordance with the provisions of the Environmental Impact Statement. Any impact on construction arising from the actions of protestors is the liability of the company. Overall, management of the schedule and costs is entirely the PPP Company's responsibility and, critically, the company must adhere to an agreed completion date or penalties will ensue.

PPP contract 2: operation and maintenance

The PPP contract for an NRA road scheme will usually offer the investors a concession of approximately 30 years duration in which to operate the road and use the tolling revenues. (A period of 30 years is considered sufficiently long for the PPP Company to source an optimal funding package at the outset in terms of its own loan commitments. Reliance on State subventions is also reduced through increased private finance.) In this period the investors accept any risk arising from fluctuating traffic volume. They are obliged by their contract to keep the road open and to maintain it to agreed standards. Furthermore, at the end of this period, the 'handback' should supply the client with a road that has been maintained and refinished to ensure its satisfactory performance for a further ten years.

PPP contract 3: payment and monitoring

By definition a PPP scheme is intended to be profitable. Otherwise, it simply will not attract investors. The PPP Company will benefit from toll revenue, but may also have contracted with the client for injections of public funds during the construction and operation of the road, to the extent necessary to satisfy banking and equity return requirements.

The PPP Company's ability to earn excessive profits will be restricted by a mechanism for sharing of the toll revenues with the NRA. This ensures that the PPP Company will not earn 'super profits' at high traffic levels. The contract also provides that the NRA will receive 50% of any windfall gain arising from a refinancing of the scheme during the concession period. The NRA can also levy 'lane occupation charges' during the construction of the scheme to the extent that the PPP Company will, in effect, have enjoyed the use of existing public roads to facilitate the development of a private-sector venture.

The capacity of a PPP scheme to yield profit is carefully balanced against the need to operate the scheme in a safe and sustainable way. This is closely monitored by the NRA and rated according to an agreed set of criteria or 'performance indicators'. The allocation of 'performance points' is scaled, in turn, against these indicators. For enforcement, the NRA may levy penalties, issue warning notices, increase its monitoring operations, or exercise the right to directly remedy defects itself and levy the PPP Company subsequently.

Archaeology and the PPP contract

In many respects, the conduct of archaeological work for a PPP scheme is no different than for traditionally procured NRA schemes. The governing principles, as for other schemes, are set out in the *Code of Practice* (2000) that was agreed between the NRA and the Minister for Arts, Heritage, Gaeltacht and the Islands. As before, archaeological contributions to the Route Selection Report and Environmental Impact Statement are based, at a minimum, on desk-based research and a field-walking survey. NRA policy favours early archaeological testing and resolution and the opportunity for this is supplied by the longer procurement time required for a PPP contract. The NRA envisages that extensive testing and subsequent excavations will usually be completed at public expense, prior to the agreement of a contract with the PPP Company. In this scenario, archaeological risk to the PPP Company is reduced. Despite this, topsoil stripping at construction stage may reveal further, perhaps smaller archaeological sites, also requiring excavation. Because of this, some archaeological work may remain within the arena of responsibility of the PPP Company. How will this be managed in the context of a PPP scheme?

The Consultant Archaeologist

The roles of the main players, again, are as defined by the *Code of Practice*, but are also underpinned by contractual arrangements. The Project Archaeologist will act as a member of the client's team while the Consultant Archaeologist (holding relevant excavation licences) will be employed as a sub-contractor by the PPP Company. (An alternative scenario, in which the Consultant Archaeologist at construction stage would be employed directly by the client, and not by the PPP Company, was considered. This was rejected, however, due to lack of clarity in responsibility and effective risk management.)

Obviously, the Consultant Archaeologist should be of good professional standing (i.e. a member of the Institute of Archaeologists of Ireland or equivalent body and eligible to hold an excavation licence). The appointment of a Consultant Archaeologist, and the associated terms of engagement, will be subject to approval by the client. Furthermore, should it become necessary in the course of the scheme to recruit a replacement Consultant Archaeologist, this appointment also will be subject to approval by the client.

Even before the PPP contract is agreed, however, the Consultant Archaeologist should be capable of making a substantial contribution to the development of the PPP Company's tender documents. At a minimum, this contribution should include:

- a review of existing archaeological information
- an outline method statement for the conduct of further monitoring and excavation, including an outline programme of work, as appropriate
- proposals for liaison and reporting with the Project Archaeologist
- a statement of quality management procedures.

Undertakings by the PPP Company

The PPP Company and its agents are bound by the contract to comply with a number of general requirements for the conduct of archaeological work for the scheme and the principal requirements are listed here.

- The PPP Company will comply with all stated archaeological requirements, certification procedures and especially with the *Code of Practice*.
- In accordance with Schedule 3 of the contract ('Third Parties') the PPP Company will consult with and comply with all requirements of statutory consultees to the development, including Dúchas the Heritage Service, the National Museum of Ireland, the Heritage Council and An Bord Pleanála.
- The Project Archaeologist will be recognised as the client's representative in matters of archaeology and will be allowed unrestricted access to the scheme.
- No unreasonable instruction by Dúchas or the Project Archaeologist (i.e. any instruction which would normally comply with best practice in archaeology) will be regarded as a variation in the contract.
- Under Schedule 4 of the contract ('Construction Requirements') the PPP Company is obliged to exercise reasonable professional care and diligence with regard to the archaeological strategy, working methods, post-excavation design and reporting.
- Schedule 4 of the contract also prescribes certification procedures for archaeological work. Method statements and reports, for instance, may be recorded as 'acknowledged', 'acknowledged with comments' or 'rejected', and cannot be filed as completed unless 'acknowledged'. (Of course, under the archaeological licensing system, these documents are ultimately subject to approval by Dúchas, as well as by the Project Archaeologist.)
- No part of the scheme will be deemed 'free for construction works' until formal notification to this effect has been received by the PPP Company from the Project Archaeologist.
- Following completion of a licensed excavation, a post-excavation design and publication plan will be submitted to the Project Archaeologist within 100 days and a final report, fit for publication, within 104 weeks.

Risk allocation

As described above, the NRA intends to conduct early and extensive archaeological testing along all PPP scheme corridors at public expense. The effect of this will be to reduce the degree of archaeological risk for private investors bidding for PPP contracts. This is not the sole consideration in this strategy, however, as the client must also seek value for money in the deployment of public funds. A reasonable balance between the two aims is achieved when those risks that can be priced and managed are transferred to the PPP Company, while those risks that cannot be priced or managed are accepted as the liability of the client. Early and thorough assessment of a linear development would be regarded as good

archaeological practice in any case and here it is also the key to effective allocation of archaeological risk within the PPP contract. How is this balance achieved?

Following the review of desk-based research and the fieldwalking survey results, more advanced methods of assessment should be deployed. Typically, these would include test excavation on known or upstanding sites combined with appropriate geophysical surveys. In addition to the known archaeological sites, experience shows that on any large linear development numerous hitherto unknown sites may also occur. These can usually be identified by extensive testing via machine-cut trenches. For national road schemes the NRA considers it vital that this occurs at an early stage, and in the context of a programme of strategic testing along the scheme corridor, rather than at a later stage, when construction works are already underway.

Following the assessment stage — whether by testing known sites or more extensive strategic testing — it should be possible to develop a costed programme of resolution (i.e. full excavations of any sites threatened by the scheme). A key decision now is how and when to do this work. Should it all be completed at public expense, prior to the initiation of the PPP contract? Or may it overlap with the initiation of the PPP contract, with provision in the contract for ‘novation’ of the client’s archaeological contractors to the PPP Company, in order to complete their work? Or should all of this work be left entirely to the PPP Company? The decision will depend on the client’s assessment of the best means of achieving value for money, on the quality of available information from the various stages of archaeological assessment for the scheme and, arising from this, a reasonable allocation of risk to the PPP Company. The result should be a fixed price for the completion of the archaeological programme, within the overall PPP contract.

Conclusion

The introduction of the PPP mechanism for the delivery of national road projects will not affect the NRA’s commitment to appropriate archaeological testing and resolution. The objectives and requirements of the *Code of Practice* will be underpinned by strong and enforceable provisions in the PPP contract.

The Project Archaeologists, employed by the local authorities and working in the National Roads Design Offices, will be integrated into the client’s contract supervision team, and will implement the certification system that controls the construction operations. As the PPP process unfolds, the NRA will explore the most cost-effective means of allocating archaeological risk in the contracts.