Centrus

Modern Finance

Privately Financing Rail Infrastructure

White paper

A pipeline or a pipedream?

February 2019

Responses to the initial call for evidence for the Williams Rail Review are being submitted and the rail industry is awaiting the findings which are due to be published in Autumn 2019. The Rail Review is far-reaching and makes for a complex task for independent chair, Keith Williams, and his team if they are going to make recommendations for meaningful change.

As the industry awaits its conclusions, this paper considers a question that has been posed multiple times yet remains pertinent to all the principles set out in the Rail Review's terms of reference:

Can there be a role for private finance in the delivery of UK rail infrastructure and, if so, how can a pipeline of opportunity be created?

Private funding vs. private finance

Before considering the case for private finance, a reminder of the distinction between funding and financing is helpful.

Figure 1:
Funding vs. Financing

Funding	Financing
The money required to meet the cost of the scheme	The money required to meet the costs of the scheme until such time as the required funding is fully received
Benefits from scheme commensurate with funding required (ie. cost-benefit analysis)	Return payable on the financing commensurate with the level of risk to which the financier is exposed
Examples – *government grants, passenger rail fare receipts, incremental value of commercial station property, increase in tax receipts/rates*	*Typically provided as forms of equity and/ or debt*

Can there be a role for private finance in the delivery of UK rail infrastructure and, if so, how can a pipeline of opportunity be created?

The UK rail industry is, and will, at least for the immediate future, continue to be primarily funded through passenger fare receipts and from government grants. This reflects the benefits of railway services to both its direct users and to the wider public/economy – it is an example of a 'public good' under economic theory. There is, however, a growing enthusiasm on the part of government for the industry to look to new sources of funding that will allow continued investment in the railway, but without increasing the burden on passengers and taxpayers. Various industry initiatives were launched in 2018 with a view to identifying new sources of funding and this will also likely be a key consideration in the Rail Review.

Given the scale of investment required within Network Rail's Control Period 6 and the c.£50bn of existing Network Rail debt that, since 2014, has been on the government balance sheet, new sources of funding are desperately needed. Private finance could have a valuable part to play in meeting this challenge and there is increasing private sector appetite for rail investments.

History of private finance in UK rail

Since the classification of Network Rail as a public body in 2014 and the inclusion of its financial liabilities within government accounts, there has been limited use of private finance to help deliver rail infrastructure investment. Network Rail now invests using government grant proceeds and the privately-owned train operators have typically led infrastructure investment for only relatively small station and depot schemes. The structure of current passenger rail franchises and the availability of capital from passenger revenue receipts and government franchise subsidy payments (with support provided by the residual value mechanism under some recent Franchise Agreements) means that private sector finance is not generally required or encouraged for rail infrastructure projects.

One area where the use of private capital in UK rail has been prevalent is in the financing of new rolling stock. According to Office of Rail and Road (ORR) data, there has been c.£5.5bn of private investment in rolling stock over the past 10 years, which represents approximately 82% of all private investment made in rail fixed assets (excluding Network Rail). The industry Rolling Stock Strategy Steering Group noted in March 2018 that nearly 7,200 vehicles had been ordered since 2014, allowing operators to meet a significant growth in passenger demand and to replace ageing rolling stock.

Privately financed rolling stock deals have introduced many investors and lenders to the rail market – including commercial banks, private equity funds, institutional investors and pension funds. Collectively, they have significant amounts of capital available to deploy and a growing interest and understanding of the UK rail sector. However, the opportunities for deploying further capital in rolling stock are not endless. As we enter 2019, due to the large number of new major rolling stock procurements that have been completed in recent years, there will be limited opportunities to deploy significant amounts of further capital once current financing competitions related to ongoing franchise lettings are completed.

As the Rail Review considers new commercial models that prioritise the interests of passengers and taxpayers, it is highly relevant to consider how the vast amount of available capital can be used to help deliver rail infrastructure investment in a way that delivers value for money to rail users and government.

The challenge of live railway infrastructure

The highly separable nature of rolling stock as a rail asset has helped to facilitate private ownership – its value, associated risks and physical self are able to be identified and ring-fenced from the wider rail network. The same is true for some existing depots and stations, whose physically separable attributes have facilitated private financing.

Private financing of many other types of rail infrastructure will, however, need to contemplate different parties having an ownership interest in assets that may be integral or affixed to existing "live" rail network assets that are owned and controlled by Network Rail as the infrastructure manager. If separable infrastructure assets can be identified, they are still likely to have a significant interface with the existing live network, whether physically or in terms of risk (for example, causation of performance and reliability events on the existing/wider rail network).

To allow simultaneous ownership of infrastructure assets, private investors and Network Rail together will need to overcome any physical constraints, safety risks and legal barriers under the existing railway industry framework. Risks will need to be identified, quantified and allocated to the appropriate party, where possible, through robust legal agreements. Clear accountability between parties will also be required. Efficient appropriation of risk is the key requirement for realising the value offered by private finance. However, inefficient fragmentation of the industry will need to be avoided, particularly given the current government's imperative to encourage closer alignment and accountability within the industry.

Examples of infrastructure schemes/assets:

Figure 2:
Examples of infrastructure schemes/assets

On "live" network	Off "live" network
• Upgrade/renewal of existing track/ signalling/line-side assets and tunnels/ bridges • Track enhancements – eg. new junctions, flyovers, sidings • New/upgraded signalling equipment incl. ETCS • New stations, when including platform/ track interface • Depots, when including connections • Electrification assets – eg. catenary	• New/re-generated railway lines (excluding connections) • Depot buildings • Systems within rail operations centres – eg. TMS • Station development – eg. car park expansion, upgraded passenger facilities, new retail space, residential development • Passenger service systems – eg. CIS, CCTV, enhanced WiFi

Proving a "value for money" case

Professor Peter Hansford concluded in his June 2017 review[1] into unlocking rail investment, that it is possible to make a case for private sector financing of rail infrastructure if a significant risk transfer can be demonstrated. Proving that use of private finance represents value for money under the Treasury's Green Book principles is an imperative for any scheme that requires some form of government support. Such support may take the form of:

- Funding either directly or indirectly by central or local government and/or Network Rail
- Changes to existing, or new contracts to which government and/or Network Rail is a counterparty
- Granting of guarantees (for example, financial protections, exclusivity of use, residual value protection etc.)

Given the broad types of intervention that constitute government support, a large portion of potential rail infrastructure investment schemes will be captured by government's value for money assessment.

Demonstrating that the additional cost of private capital over direct public funding is a result of efficient pricing of risks transferred to investors is key to proving value for money. For this reason, in structuring any privately financed rail infrastructure scheme, risks must be allocated appropriately between the various parties according to who is best able to manage them. The party best able to manage a risk should also be best able to assess and price the risk.

With efficient allocation of risk between the parties involved, and clear accountability, privately financed investments can be delivered with strong incentives that ensure key risks are managed and mitigated – for example, costs remaining within budget, enhancements being delivered to time and ongoing performance and operational risks being continually managed. Many of these risks will be even greater where a scheme relies on new or innovative technology which the industry is keen to attract. Such incentives are all key to maintaining a reliable, value for money railway.

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[1] The Hanford Review 2017

Achieving efficient risk allocation is a complex exercise for rail infrastructure given the significant number of delivery and operational risks associated with the live railway network. It is further complicated by the large number of parties likely to be affected and involved.

Identification of the risks and structuring of an appropriate risk allocation will therefore be a key first step in the development of a privately financed infrastructure investment scheme.

Affordability and balance sheet treatment

Use of private finance can increase the immediate affordability of major enhancement schemes if structured in such a way as to achieve off-balance-sheet (or off-budget) treatment for government. Application of European System of National Accounts 2010 (ESA10) rules generally determines this treatment.

A consistent message from government is that balance sheet treatment alone is not the deciding factor for use of private finance, the main factor being value for money. However, history and anecdotal evidence point toward it being a very strong influencing factor in the decision. Indeed, it is explicitly referenced in the Department for Transport's ("DfT's") recent Market-led Proposal ("MLP") framework which states:

> "…government will favour [private sector led] proposals that would be structured to be "off balance sheet", all things else being equal".

In practice, this will be difficult to achieve for certain live rail infrastructure investments – especially those relating to the upgrade or enhancement of existing assets that are under the ownership and management of Network Rail. It would seem most achievable for schemes that:

- Relate to assets that are separable from the existing network (legally, physically and in terms of risk/reward)
- Are not controlled by Network Rail
- Generate their own revenue stream
- Do not rely on any form of government/ Network Rail support or guarantee

From the very early stages of developing a privately financed scheme, developers will require detailed technical advice in this area. Very careful structuring of the scheme will be needed to ensure that the relevant accounting tests are passed.

Where deals can be structured directly between private sector entities on a bilateral basis and without need for government and/or Network Rail involvement, the government's budgetary treatment hurdle may be avoided altogether. Such opportunities are, however, likely to be few and far between (if indeed they have not already been implemented).

Recent market developments

Network Rail has taken recent steps that facilitate the development of a pipeline of private financing opportunities. These include the appointment of a dedicated project finance team and its publication of the 'Open for Business[2]' pipeline of potential opportunities for third parties. The pipeline for schemes identified as "suitable for/ seeking Third Party Financing" is, at this time, short – only Implementation of ETCS and Traffic Management on the ECML South and Western Rail Link to Heathrow are identified.

Simultaneously, the DfT has taken a new approach to the approval and funding of Network Rail enhancement activities in response to the 2015 Bowe Review[3] and following a series of major cost overruns on recent Network Rail projects. According to the Secretary of State for Transport, the Rail Network Enhancements Pipeline[4] (RNEP) framework is to allow "more rigour in investment decisions", and the framework itself states that "government will consider opportunities for alternative sources of funding and private finance options at each stage of the pipeline".

Furthermore, DfT released in 2018 its MLP framework[5] which encourages and provides a development process for ideas for rail investment originated by the private sector. The MLP framework has been widely reviewed and commented on by the market. Whether this will lead to new private financing opportunities remains to be seen. Several proposals were submitted as part of the first-round call for ideas, however a detailed public response is yet to be issued. If nothing else, the MLP framework gives a point of contact, clarity and a more formal structure for potential scheme developers to follow. It provides a mechanism for the DfT to filter proposals put forward by the private sector and, probably most fundamentally, creates a more receptive

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[2] Network Rail Open for Business opportunities for third parties

[3] Bowe review into the planning of Network Rail's enhancements programme, 2014 to 2019 – Independent report

[4] Rail Network enhancements pipeline – Policy Paper

[5] Rail market-led proposal – Guidance

impression of the industry to developer-led innovative investment proposals. Private finance may have some part to play in delivering the types of proposal that the DfT is inviting, if indeed they are to minimise budgetary impact as desired.

Current pipeline of projects

Whilst the private sector is being asked to develop its own ideas, government is pursuing two large rail infrastructure schemes itself where use of private finance could potentially be a feature – East West Rail and Heathrow Western Access. These schemes relate to new infrastructure that could potentially be segregated from the existing network (as for the current privately-owned Heathrow spur). This may allow for an appropriate risk allocation structure to be developed with use of private finance that satisfies government's value for money requirements. With the abolition of PF2 (and only tentative support for other unspecified forms of Public Private Partnerships hinted at by Chancellor Philip Hammond in the Autumn Budget), the exact form that these projects will take remains to be seen. The decision over whether to use private finance will likely be determined by whether off-balance treatment can be achieved.

Separately, Heathrow Southern Access continues to be promoted by the DfT as an opportunity for the private sector to put forward its own ideas for how the project can be developed, funded and delivered entirely by the private sector. If it can be entirely privately funded (for example, through land value capture, ticketing revenues, contributions from businesses related to the airport etc.), then some of the value for money and budgetary treatment tests associated with any private financing could be passed. However, given the scale and size of the scheme, it is likely to require at least some form of government support in addition to planning permissions and consents (which the MLP framework does not consider in any detail).

Digital Rail continues to be promoted by DfT and Network Rail with identified benefits to the railway. in terms of capacity enhancement, performance, safety and a reduction in costs. Investigation into how private finance could be structured and used to deliver it are ongoing by DfT, Network Rail and developers alike.

Key considerations for developers:

- Identification of the beneficiaries of the scheme
- Identification of all relevant parties and stakeholders
- Development of a risk matrix (containing all potential direct and indirect risks associated with the scheme, including potential impacts on the wider rail network)
- Ability and method by which to monetise the benefits so as to generate a revenue stream from which to recover the investment
- Development of a contracting and ownership structure that appropriately allocates risks between parties
- Allocation of technical and delivery risks to the supply chain (eg. subcontracting of key partners)
- Identification and quantification of residual risks that lie with the scheme owner/investors.
- Identifying any requirements of the DfT or Network Rail (including any physical access arrangements to the network)
- Consideration of the rail regulatory framework and any need for ORR approval for any charging arrangements and access agreements
- Legal considerations around ownership, licensing, and access to the rail network and scheme assets
- Safety risks and standards

There are also many smaller and potentially more immediately deliverable ideas for infrastructure investments across the rail industry that the private sector should be capable of developing itself – and there is plenty of capital available to help deliver them if structured appropriately for an investor and if there is confidence that private finance will be encouraged.

Structuring an investible proposition

To develop an idea for a scheme into an investible proposition, early consideration needs to be given by developers to the specific characteristics and structure of

" Rail infrastructure is moving towards a more open and contestable market. "

the industry, its existing regulatory/legal framework and the risks associated with a live rail network.
With knowledge of the market for potential investors, a developer will then need to structure the scheme to meet the expected investment criteria of potential investors that have the willingness and capacity to invest.

Investors will need to be satisfied that their exposure to risk can be properly managed, which may require it being passed down to appropriate suppliers through sub-contracts. The capacity and willingness of the industry supply chain to accept risk must also, therefore, be considered by developers – particularly the market's capacity to accept significant cost, construction and maintenance risks following the collapse of Carillion.

Within the current industry structure, a key challenge will be in dealing with the residual value risk of an investment. The beneficiaries of infrastructure schemes are, in most cases, likely to be the train and freight operators (or the consumers of their services) and potentially also Network Rail. Passenger train operators are in most cases franchised under agreements with franchise terms of between 7 to 10 years whereas infrastructure assets typically have a useful life of 15 to 25 years or more. Recovering an investment over a period substantially less than its asset life significantly affects the affordability and value for money of a scheme and therefore investors may need to accept some residual value risk exposure for schemes where revenues accrue from operators.

Typical considerations of investors:

- Quantum and certainty over level of investment required
- Level of exposure to demand, performance and operational risks (including the extent to which they are underwritten by suppliers)
- Payback period for initial investment
- Rate of return on the investment and yield (measured at different points over the life of the scheme)
- Residual value risk
- Security over assets, revenue streams and insurability
- Impact of any future change in law/ regulatory environment
- Future opportunities for further investments/growth

Transferring residual value risk may well be a key driver of the value for money case in using private finance (as is the case with rolling stock financing). However, there will be limits as to the overall level of risk that an investor will take. The level of residual value risk will need to be manageable and this will be dependent upon the specific attributes of the scheme under consideration.
Existing industry mechanisms that were used to mitigate this risk for investors (such as Section 54 undertakings) are no longer forthcoming from government. Furthermore, although a residual value mechanism has been available under recent franchise agreements to incentivise longer term investment in small schemes by the operators, what is effectively a government guarantee of the residual value means that use of long-term private finance is unlikely to offer any economic benefit if such a mechanism is employed.

Franchise length and mechanisms to incentivise long term investment by operators are likely to be key considerations in the current Rail Review. However, unless there is a significant change to the current structure of the industry, recovering investments over a longer term than single franchises without creating too much unmanageable residual value risk will remain a key issue for developers and potential investors to find a solution for.

Developers will need to work through these issues early in the development of schemes. The schemes most likely to be deliverable will be those where there is no dependence on government interventions or changes to industry agreements. However, this may require a trade-off with the level of risk, particularly residual value risk, to which the private investors are exposed. Conversely however, the greater the level of risk assumed by private investors, the more likely it is that any government intervention to support private finance will prove to be value for money (subject to it remaining off government's balance sheet).

A prize worth working for?

Rail infrastructure is moving towards a more open and contestable market. Network Rail's enhancement programme still requires funding and government is pushing to find alternative sources that do not impact the public purse or passenger pockets. As potential new sources of private sector funding are identified and models are developed to bring that funding into rail infrastructure, the opportunities to

privately finance investments will rise. There is no shortage of capital available in the market for the "right" deals and traditional infrastructure investors are becoming more open to investing in non-core assets and to devoting resources to originate more novel investment opportunities for themselves. Nevertheless, there are several barriers to be overcome. Only by private sector developers and potential investors working together, building an understanding of rail infrastructure and applying their experience and knowledge of different financing and procurement models from other sectors, will these barriers be overcome. The private sector will not invest unless it believes that a pipeline of opportunity will emerge for this fledgling sector, otherwise it will be difficult to justify the early stage investment of resources required to get pathfinder deals closed.

Actions for potential scheme developers to take:

- Identifying opportunities for infrastructure enhancements by working in conjunction with operators, Network Rail and other key stakeholders
- Identifying new technologies and suppliers.
- Working with stakeholders to identify and quantify benefits of potential schemes
- Building an understanding of the potential investor and supplier landscape
- Developing the risk matrix and a contracting structure that shares those risks between the appropriate parties
- Working with potential investors to develop a financing strategy to deliver schemes
- Where required, liaising with Network Rail, DfT, and the regulator to gain the required support

Actions for potential investors to take:

- Building a greater understanding of the structure of the industry and risks associated with the operational railway environment
- Utilising experience from existing rolling stock, depot and real estate investments, to identify potential opportunities
- Building contacts across the industry – including operators, developers and technology suppliers, to identify opportunities already in development

What can the private sector be doing now?

In answer to the original question posed, there can indeed be a role for private finance in the delivery of UK rail infrastructure. But in order create a pipeline of opportunity, potential scheme developers and prospective investors will need to work together to develop structures that meet the requirements of investors, demonstrate a value for money case and show that such structures are deliverable within the constraints of the existing industry structure.

Where changes to industry structures can help facilitate greater use of private finance and unlock the huge potential that it offers, the industry should look to use the opportunity for change that the Rail Review offers.

How can Centrus assist?

Identifying opportunities – We work with a wide range of operators, financiers and suppliers to the rail industry. Our understanding of their requirements and knowledge of the market and key players allows us to broker partnerships that can transform ideas into tangible opportunities.

Early deal structuring – Our structuring and transacting experience across various financing models enables us to work with investors and developers to determine risks, develop contracting structures and turn opportunities into deliverable transactions.

Finance raising – Our understanding of the investor landscape and our trusted relationships with infrastructure debt and equity investors allows us to identify and structure financing opportunities that meet the requirements of investors.

Transacting – We have helped our clients raise and deliver over £30bn of investment in infrastructure assets across multiple sectors, including rail. We can use this experience to bring schemes right the way from inception through to final execution.

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We believe this can unlock significant value for our clients and their communities. Above all, we're working towards a more modern financial landscape. It is a simpler and more responsible way of doing business by delivering real money and tangible benefits to the real economy.

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