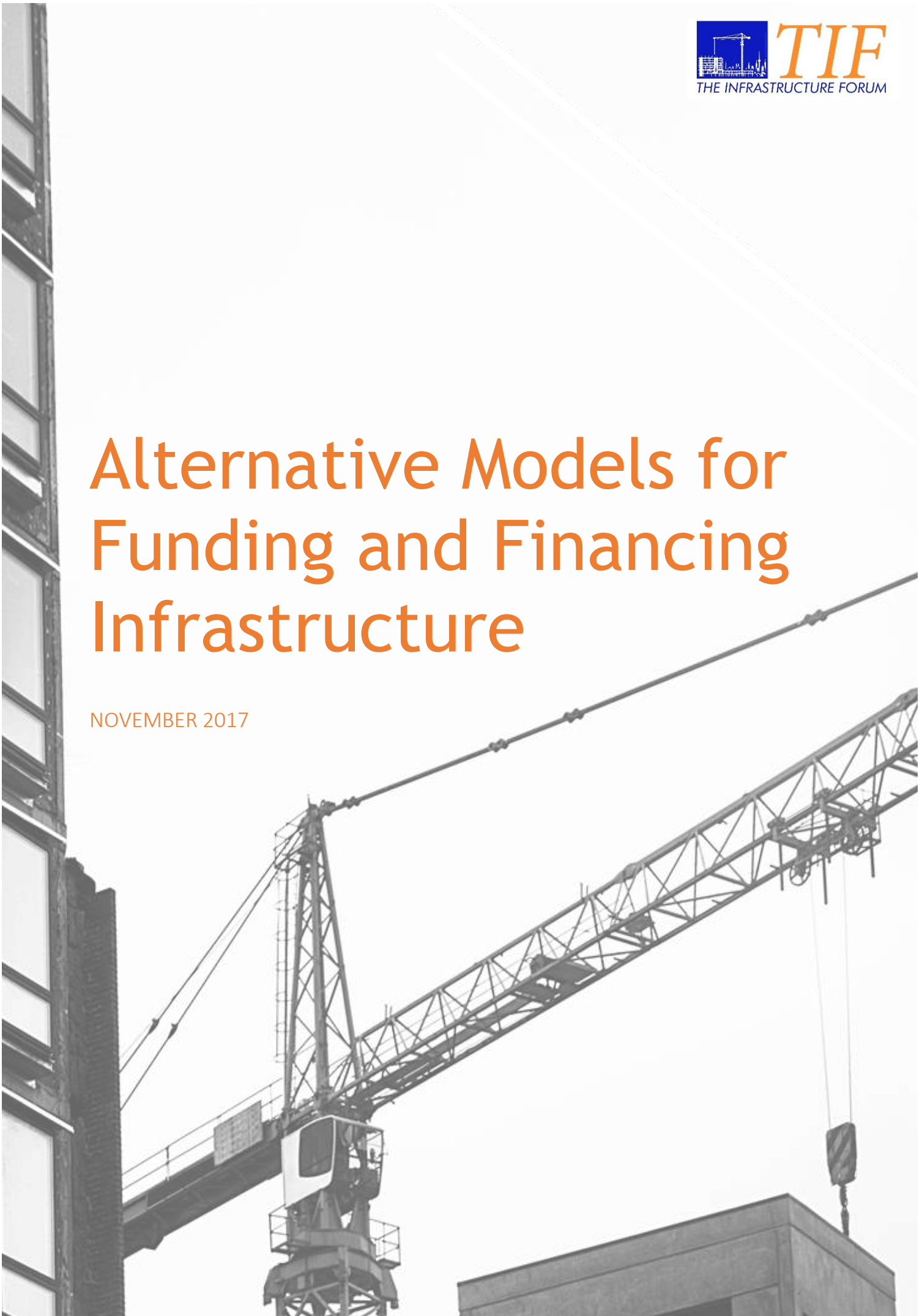


Alternative Models for Funding and Financing Infrastructure

NOVEMBER 2017



Summary

The following paper was written by a working group of The Infrastructure Forum.

It reviews the great progress that has been made in the UK in investing in infrastructure and developing Government's understanding, competence and commitment to the infrastructure sector.

But it also highlights a number of impediments and a lack of political trust of particular private sector models that together mean infrastructure investment is not as high as it should be, or that the wrong models for project implementation are being considered. These include too great a focus on getting deals off government's balance sheet, short term austerity measures, an ideological mistrust of private sector ownership, and a failure on private sector models to focus on outcomes and customer benefits.

The paper outlines the existing models – both public and private – and their respective benefits and challenges. In our view, there is no one right model for every project; indeed, the paper concludes that a mixed economy that has a number of delivery models is probably the best outcome, allowing the development of skills in both the public and private sectors and a degree of comparability between alternative models.

But it also highlights that there is a large amount of low-cost, long term pension fund money that is available to fund new and existing projects, that could bring many of the benefits of private sector ownership without too high a premium on the cost of finance. But projects will need higher levels of public and private sector support to ensure they are of a credit quality that can attract that finance; the paper highlights some key support from the public and private sector that could be used to attract that investment pool.

To overcome historic distrust of private ownership, the private sector will need new forms of governance to more closely align private sector ownership with a public sector ethos, so that private sector ownership can build trust and merit the levels of public sector support necessary to attract long-term, low-cost investment.

Executive Summary

Politicians of all denominations are strong supporters of modern, well-maintained infrastructure. But how that infrastructure should be delivered and maintained creates a clear ideological divide; in particular the level of belief in, and trust of, the private sector to deliver and finance infrastructure and services.

The Infrastructure Forum is a cross industry grouping of companies, government and regulators; both private and public. It held a series of workshops from which this short paper is derived, to review the arguments surrounding different approaches and consider the alternative models for funding and financing infrastructure. While the analysis focuses on the UK, the concepts have wider international relevance. The Infrastructure Forum concluded:

- While politicians frequently proclaim the value of infrastructure, in practice levels of investment in the UK are still lower than OECD recommendations. Lack of models that can attract long-term, low cost finance is a significant part of the problem.
- There is now a good level of understanding of infrastructure within the public sector; its role and generative impact and different finance and funding models. But the public sector does not have delivery capability; work is always carried out by private sector companies. So for every project, the public sector needs to determine not whether, but how best, to work with the private sector.
- The wider pressures of Government and a less than well-informed political debate can count against the optimal approach for delivering infrastructure; either reducing investment levels or using the wrong procurement approach. This paper summarises the key alternative models.
- On the one hand, a focus on balance sheet treatment (with government ensuring projects stay off their balance sheet) can lead to too much risk transfer to the private sector and worse value for money. On the other, there are opportunities for more off-balance sheet deals and selling operational assets, that can lessen government's budget constraints.

- When determining how best to procure infrastructure, whole life cost and value for money are key, not just finance costs. The preferred procurement route will depend on a balance of factors including cost of capital, ability to transfer price and performance risk, need for flexibility, and the public and private sectors' respective management competence and track record of delivery.
- It will probably never be possible to 'prove' one approach is better than another; but only to assess the qualitative factors to determine whether value is likely to be, or has been, delivered, often after a programme of projects procured under the same model. A mixed economy of delivery models; GovCos (Government owned companies) Public Private Partnerships, utilities, and long term private ownership is the best answer, ensuring better skills overall and a higher level of infrastructure investment in aggregate. New governance is needed that can increase the level of trust Government and citizens have in the benefits of private sector ownership and delivery of infrastructure.
- There are opportunities to accelerate investment on a number of projects, to the benefits of the wider economy, with a wider use of low-cost private ownership and finance. Finance models that involve direct long-term, low-cost pension and institutional funds could fund more infrastructure on a long-term sustainable basis. This will need both public and private sector support to achieve the credit rating levels necessary to attract prudently-invested, low cost pension fund money. A TrustCo model could address issues that have led to the distrust of private sector ownership.

By design, this paper is an overview of the key arguments. Its recommendations, particularly those in relation to possible new projects, the wider use of pension fund investments and the introduction of TrustCo governance would require significant development work to come to fruition. The Infrastructure Forum members would happily participate to help in their development.

Paul Davies

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The Infrastructure Forum

1. THE VALUE OF INFRASTRUCTURE INVESTMENT



While politicians frequently proclaim the value of infrastructure, in practice levels of investment are still lower than OECD recommendations. Lack of models that can attract long-term, low cost finance is a significant part of the problem.

- 1.1. There is undoubtedly a global political consensus that investing in infrastructure is a good thing.
- 1.2. The economic multiplier effect of infrastructure investment is far greater than for general current expenditure, because it impacts key measures that improve productivity as well as the benefit of the expenditure itself; improved journey times, better access to data and internet, better health, education and accommodation, and also because of its longevity; infrastructure assets continue benefitting the economy in the long term, normally long after the time period of their original business case.
- 1.3. But in practice, given national budget and debt constraints, the level of investment can fall short of the rhetoric. Sometimes the economic generative impact of infrastructure investment is not well understood, or more frequently is ignored because governments are having to implement wider austerity measures.
- 1.4. This may have short term benefit for meeting budget and balance sheet constraints, but to the detriment of longer term growth. A UK without the motorways, Severn Bridge, broadband and Jubilee Line would be unimaginable; soon we will say the same of Thameslink, Crossrail, Mersey Gateway, which will continue to deliver value long into the future. What are the next infrastructure projects that we will regret not having built? HS3, transport connections in the Midlands for instance?
- 1.5. The UK has a fantastic track record in infrastructure, leading the world in developing models to deliver infrastructure such as privatised utilities, GovCos and Public Private Partnerships (“PPPs”). But notwithstanding this, the UK's infrastructure expenditure is still about 1% below the OECD infrastructure investment average as a percentage of GDP, while our economy is ranked at 13th in global productivity. (These are perhaps not wholly unrelated figures). The OECD recommends 3.5% of GDP is invested in infrastructure, but even with the new round of projects recently announced (£500bn of projects are described in National Infrastructure and Construction Pipeline in December 2016), the UK level is still at about 2.8%.

- 1.6. The key point is that with infrastructure expenditure, the long term benefits to the economy far outweigh the immediate cost, so that while spending is unwelcome in times of austerity, over time infrastructure expenditure will actually improve our balance sheet and finances.
- 1.7. This fact is not lost on government nor credit raters and economists looking at the strength of the economy. Showing infrastructure expenditure separately in our national accounts would be a helpful step to help analysts recognise this class of expenditure for what it is.
- 1.8. And if some infrastructure can be 'financed' by the private sector and only 'funded' by government or the public at large in the long term, avoiding the immediate impact on the deficit, this can benefit long term growth without unduly damaging current budgetary outlook.¹

¹ For a description of the difference between 'funding' and 'financing', see: P. Davies, ['Funding or Financing – A Policy Confusion'](#), 27 July 2016.

2. COMPETENCE AND UNDERSTANDING OF INFRASTRUCTURE



There is now a good level of understanding of infrastructure within the public sector; its role and generative impact and different finance and funding models. But the public sector does not have delivery capability; work is always carried out by private sector companies. So the public sector needs to determine not whether, but how best to work with the private sector on each project

- 2.1. The introduction of the National Infrastructure Plan by the Infrastructure and Projects Authority within HM Treasury and the establishment of the National Infrastructure Commission as an independent planner and advocate of infrastructure have been hugely valuable developments; giving more focus on prioritising projects and a growing awareness of the need for, and impact of, infrastructure investment.
- 2.2. Across government, the public sector has built corporate finance and project expertise, importing many experienced individuals from the private sector with experience of the PFI, project, and corporate finance markets.
- 2.3. Government has recognised the power of creating independent GovCos, with clear remits, delegated authority and a degree of shielding from political intervention, for instance through its creation of Highways England and HS2, and the independence of Transport for London with its own borrowing powers.
- 2.4. The National Infrastructure Commission (an independent body set up by Government with a remit to determine the country's infrastructure needs) is developing a 30 year assessment of the UK's infrastructure need, with clear priorities which, working closely with the IPA, can help show a clear orderbook to which industry can respond; investing in the skills and capabilities to deliver that infrastructure.
- 2.5. But in most cases, government's capability is in procurement and strategy; it does not have actual delivery capability. Even the larger public sector entities; Network Rail, Highways England, HS2; are predominantly reliant on the private sector to actually build and maintain large parts of the network.
- 2.6. Which is why government's capability is correctly focused on procurement and strategy. The key question for them to answer is not whether we should use the private sector to deliver infrastructure, but how best to work with them. Which model of procurement is most suited to the particular project?

3. WIDER PRESSURES OF GOVERNMENT



The wider pressures of Government and a less than well-informed political debate can count against the optimal approach for buying infrastructure; either reducing investment levels or using the wrong procurement approach

3.1. Notwithstanding the high level of competence in infrastructure within government, when considering how best to procure infrastructure, departments are still constrained by external factors which can lead to the wrong outcome. Three in particular in the UK have always been a problem.

1. Confusion between private finance and private delivery

3.1.1. Private finance is more expensive than public finance. Fact.

3.1.2. This is because the private sector will price the explicit risks of the project they are financing; they only get a return if that project succeeds. Whereas the public sector prices its finance at its overall cost of finance – its national borrowing rate – not on the specific project.

3.1.3. Setting aside the question of whether the public sector is right to do so (would a bank lend to individual borrowers at its cost of finance? No, it assesses the risk of each borrower and prices accordingly), this difference has huge consequences.

3.1.4. The introduction of private finance, which ultimately need to earn a return, leads to the imposition of a detailed discipline in project procurement and due diligence, particularly prior to project commencement, that public procurement may lack. This includes detailed costing, fixing the detailed design and outputs at the outset, a contracting strategy that passes the risk to contractors and ensures projects are delivered on time and budget.

3.1.5. So, for instance, criticising the Private Finance Initiative because the finance is expensive completely misses the point. We all knew that at the outset. So too the criticism that PFI contracts are inflexible. They were designed that way precisely to stop political change during procurement; a large part of the cause of public sector cost overruns; and to give a detailed specification that can be fully priced.

3.1.6. The key question that actually should be asked is whether over the life of the project the overall cost was lower. Did the PFI competition lead to competitive capital and operating

costs and delivery to time and budget, outweighing the private sector's higher cost of finance, so that overall the cost is lower than public sector alternatives?

- 3.1.7. Actually, the title 'Private Finance Initiative' has been unhelpful in communicating the benefits of the PFI/PPP approach, leading to a focus on finance, where up-front we knew this is the area where the private sector is not competitive. Perhaps 'Private Delivery Initiative' would have been more appropriate; the key question then would be 'did the projects deliver as forecast?' In the vast majority of cases, the answer was yes.
- 3.1.8. To people in the industry, it is still surprising how the political consensus now seems to be that PFI did not deliver value. This is perhaps because the only visible returns made on PFIs was on the finance, whose financiers were experts at packaging and passing risks to contractors. But the real value was delivered through those underlying contracts; their original keen pricing and then delivering to time and budget.
- 3.1.9. In practice, a number of contractors have actually experienced difficulties delivering those underlying contracts because they were priced so keenly, and as a result have reduced their exposure or withdrawn from the PFI market. Ironically, notwithstanding the returns of financiers, history might show too much, not too little, risk was transferred to the private sector in aggregate on PFI deals.
- 3.1.10. The key point to consider is, therefore, that while private finance is more expensive, what skills come with it, and whether this means overall the costs of projects tend to be lower. Losing sight of this question and focusing principally on the cost of finance has led to a strong antipathy to private finance that can discourage the wider use of many different models of private ownership and finance, not just PFI, that could deliver better value for money.

2. Infrastructure is not current expenditure

Infrastructure has always been susceptible to budget cuts because the impact on budget is immediate but the dis-benefit to the economy is long term and hidden

3.1.11. Budget constraints impact infrastructure in two principle ways:

- not investing in projects

While in principle supportive of infrastructure, in practice governments can confuse general current expenditure with infrastructure investment; in the attempt to reduce the deficit it will cut or delay infrastructure investment from its budget, even though those investments will deliver returns, improve productivity and strengthen the economy longer term. In the UK, cancelling the Carbon Capture and Storage Programme and its commitment to the Green Deal Finance Company are two examples of this.

It will be critical that the NIC can strongly recommend generative projects, so that it is likely short term budget constraints do not prevent investing in infrastructure for our long term growth.

- under-maintaining existing infrastructure

Perhaps more worrying is how budget constraints can impact infrastructure maintenance expenditure in government-owned entities. Before the implementation of the PPP and then its transfer to TfL, London Underground was susceptible to budget cuts, where it was not funded at a sustainable level. The problem with short term cuts is that infrastructure problems do not subsequently manifest themselves straight away – they can take years to occur - but then require significant and far higher backlog expenditure to fix the problem.

This type of problem does not occur in the privatised utilities, because they have asset condition maintenance obligations, monitored by a regulator, and can borrow to invest on a long-term basis. In theory, it should also not happen with GovCos, although in practice the degree of separation from government control and budget cuts is far less than was intended, and they still feel exposed to 'annuality'; the detrimental effect that they cannot plan expenditure with any degree of commitment beyond the next budget year. Network Rail has experienced a far higher degree of intervention and control since it came on to the Government's balance sheet.

To mitigate this annuality problem, not shared by private sector models, the public sector should ask itself what structures could be put in place for public sector entities to ensure that they invest and maintain infrastructure and are not adversely impacted by volatile budgets and annual spending rounds.²

3.1.12. To be clear, this is not just a question of ring-fencing. It is also about getting the right governance, incentives, monitoring and regulation, and importing the right expertise. Privately owned models may offer the optimal solution for projects because of their greater ability to address each of these areas.

3. A focus on balance sheet treatment, not value for money

3.1.13. Government still consistently focuses on the balance sheet treatment of projects, often to the detriment of value for money. Government will often only contemplate investing in infrastructure deals if they can be delivered 'off balance sheet' to Government, with the assets and debt not appearing on Government accounts.

3.1.14. This bias is unwelcome, forcing procurement and structures down routes which may not be optimal. (It is also a tad disingenuous, given all infrastructure ultimately gets paid for by citizens, irrespective of whether financed in the public or private sector).

3.1.15. If projects can be off balance sheet, owned and operated by the private sector, then this is useful as it reduces government's deficit and frees up resources for elsewhere. But it should not be the prime objective. One should consider which model of procurement is likely to deliver best value for money, irrespective of balance sheet treatment:

- Network Rail last year announced a series of asset disposals, motivated by Government's desire to get assets off balance sheet rather than what structures would deliver long term best value to the industry. The disposals were cancelled once it was clear they would not be classified as off balance sheet.

² See: PwC, 'Flexing the ABs – Sustaining an affordable asset base for UK PLC', 2011, for a description of the disparity in approach between regulated utilities who are required to invest on a long term efficient basis, and public companies not protected by a similar asset-based approach.

- The National Audit Office's recent report on the Hinkley Point nuclear deal found Government seemed intent on full risk transfer and off balance sheet treatment for a project where more risk sharing, lower contingencies and lower cost of capital would have produced a better result, even if on balance sheet.

3.1.16. The NAO calculated that if the Department had funded project construction at its 2% cost of finance, costs could have overrun between 400-600%, before the overall cost became more expensive than the Hinkley deal.

3.1.17. As an alternative, could Hinkley have been procured by the public sector, but then sold to the private sector with low cost of capital, once the very large construction risk had been removed? Just because government found contractors willing to price and finance the risk, did this mean this was the best outcome? Would a public sector procurement really have incurred cost overruns in excess of 400-600%?

3.1.18. “The Department did not assess the potential value-for-money implications for bill-payers of using alternative financing models (which) would have exposed consumers and/or taxpayers to the risks of the project running over budget and increased the risk of the project needing to on the government's balance sheet. But our analysis suggests alternative approaches could have reduced the total project cost.”³

3.1.19. “The Department and other parts of government were concerned primarily with the strategic ramifications of not proceeding and the benefits of keeping the project off the government's balance sheet.”⁴

³ NAO, ‘Hinkley Point C’, Department for Business, Energy & Industrial Strategy, 23 June 2017, p.10.

⁴ Ibid., p.15.

4. OFF-BALANCE SHEET STATUS

On the one hand, a focus on balance sheet treatment can lead to too much risk transfer and worse value for money. On the other, there are opportunities for more off balance sheet deals and selling operational assets, that can lessen government's budget constraints.

- 4.1. While achieving off balance sheet classification should not be the prime motivation of deals, because it can lead to worse value for money, there is also no doubt that having a large part of the infrastructure sector within the private sector has benefits. Getting assets and debt off government's balance sheet does free it up for other expenditure and investment, and the private sector's management of assets introduces those specialist skills in cost management, project and service delivery.
- 4.2. But, in addition, the nature of infrastructure – investing for the future – more readily sits with the investment horizons of our pension funds. Infrastructure by its nature is long term, as are its benefits. It is therefore suited to long term investors. So institutional funding – in particular from pension funds – is the natural bedfellow to infrastructure, with similar time horizons, a focus on growth and a relatively low cost of finance. And while pension funds are 'private sector', they are the pensions of us all, private and public sector employees; we are investing in our own future.
- 4.3. So there are good reasons why a good part of our infrastructure both can and should be financed by the private sector.
- 4.4. In the UK, three principal models exist that can get infrastructure off balance sheet, which will be explained in the next section; namely Private Finance Initiative (Public Private Partnership) deals, regulated utilities, and now a new hybrid model used to procure Thames Tideway Tunnel (TTT).
- 4.5. The TTT deal has been privately financed at a weighted cost of capital of 2.497%, so that the incremental cost of private finance over government's cost of capital (gilts) is marginal. The deal has shown the depth of low-cost infrastructure finance available for well-structured deals.
- 4.6. It suggests there is an untapped ability to finance more assets off balance sheet; not only for newbuild projects but even for ones that are constructed in the public sector but could then be sold to private funds. Could this approach have been used for Hinkley and could it be a model for HS2, vertical franchises on Network Rail, magistrate court renewal, or the Lower Thames Crossing tunnel for instance?

5. ACHIEVING WHOLE LIFE VALUE



When determining how best to procure infrastructure, whole life cost and value for money are key, not just finance costs. The preferred procurement route will depend on a balance of factors including cost of capital, ability to transfer price and performance risk, need for flexibility, and the public and private sectors' respective management competence and track record of delivery. It will probably never be possible to 'prove' one approach is better than another; but only to assess the qualitative factors to determine whether value is likely to be, or has been, delivered, often after a programme of projects procured under the same model. A mixed economy of delivery models; GovCos (Government owned companies) Public Private Partnerships, utilities, and long term private ownership is the best answer, ensuring better skills overall and a higher level of infrastructure investment in aggregate. New governance is needed that can increase the level of trust Government and citizens have in the benefits of private sector ownership and delivery of infrastructure.

5.1. There is no one best approach for procuring any project; each approach has both benefits and challenges that need to be considered in the context of that project. A detailed analysis of the models would require a lengthy, detailed paper, but the benefits and challenges of each of the most commonly used models are, in summary:

TRADITIONAL PROCUREMENT

- **Benefits:** the public sector has the lowest cost of capital because it does not price project-specific risks. The approach is best used when the public sector has the necessary delivery expertise and where projects are difficult to specify up-front, where scale is too great to transfer risk, where public sector risks such as planning permission are large, where flexibility is desirable, and in particular where desirable outcomes are not easily measurable in financial terms (e.g. employment goals, needing a public sector ethos)
- **Challenges:** the public sector often does not have the necessary delivery expertise, delivering projects infrequently in particular departments. Because publicly procured projects do not have to meet financier due diligence upfront, projects can commence that are not properly costed, risks mitigated, or the project specification can change during procurement, so that flexibility comes at a cost. Both regulated utilities and the Private Finance Initiative were initiated precisely because government had a poor track record of delivery and cost control.



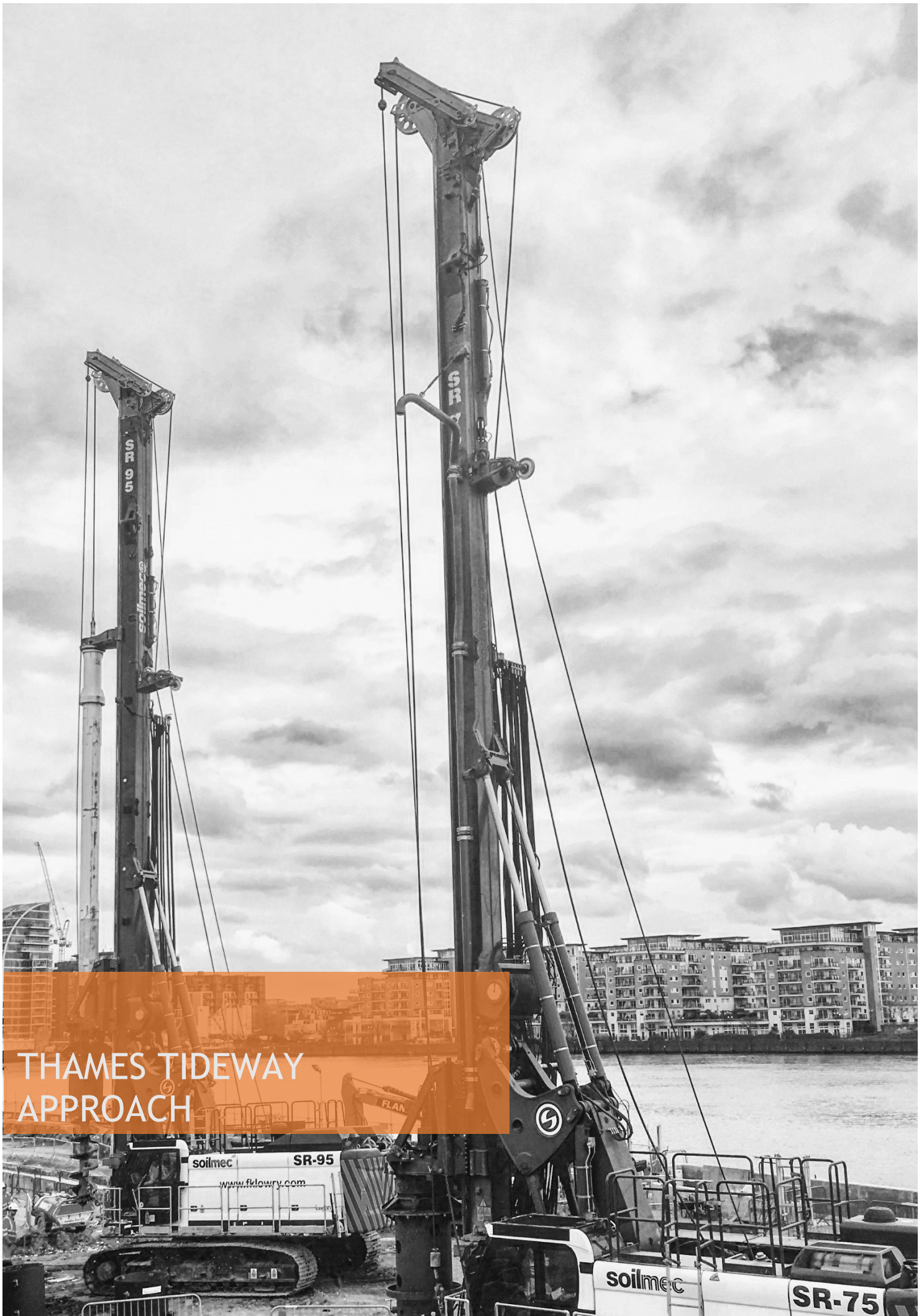
REGULATED UTILITES

- **Benefits:** The privatised utilities have a long track record of cost reduction within their sector. For instance, the Competition and Markets Authority estimate the use of competitive auctions in the energy sector has reduced the need for public sector support by 25%. Although utilities invest in major capital projects, this can be relatively infrequent, but they have a proven finance method for new projects, with a Regulated Asset Base to which new capital expenditure can be added and on which the regulator can allow a regulated rate of return. The utilities generally have high credit ratings and can raise long term relatively cheap finance from the bond markets. Their revenue is from the private sector (energy, telecom, water bills) and their investment is off the government's balance sheet.
- **Challenges:** Utilities only exist in certain sectors and would have to be established in other sectors to be viable. Project costs born by the utility are passed to the consumers through the RAB and therefore the incentive to keep costs to a minimum are arguably relatively weak. Average return on RAB is still relatively high compared to rates seen on investments like Thames Tideway. Many utilities have historically over-gearred, with debt burdens adversely impacting both their credit rating and flexibility to deal with business risks. As quasi monopolies geographically, strong regulation may be required to ensure consumer protection.



PRIVATE FINANCE
INITIATIVE/PPP

- **Benefits:** Under this method, construction and operating risks are transferred to the private sector for a set period only; typically 30 years. PFI companies sub-contract their obligations to contractors and finance themselves with relatively high levels of debt with contractually rigid financial structures. PFI has a long, significant track record of delivering projects to time and budget. And even when the underlying contractors make significant losses or endure difficulties delivering their contractual obligations, this has been at no additional cost to the public sector.
- **Challenges:** Because the level of risk transfer is high and project specific, cost of finance is high, because the equity needs to be able to absorb the project risk. While underlying contractors may absorb significant risks and cost overruns, the owners of the PFI companies frequently have made healthy, visible returns, having passed those risks further down the supply chain. PFIs are inflexible by design because of that financial and fixed commercial structure. While this gives benefits over the life cycle, once operating, detractors focus on that inflexibility and high cost of finance, not on the original project delivery and life cycle costs.



THAMES TIDEWAY
APPROACH

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- **Benefits:** The Thames Tideway tunnel project is for a new, 25km tunnel under the Thames to store excess storm water and sewage currently discharged into the Thames. The scale of the investment required (over £4bn) raised from institutional funds, was led by Thames Water, which created a special vehicle, TTT, for this project, underpinned by long term offtake agreements and a degree of government support on issues such as insurance and liquidity backstops. Construction contracts were put in place, but the company still bore construction risk, which is mitigated because the final outturn price will be passed through to consumers. This structure is off government's balance sheet, obtained a high credit rating and attracted a very low cost of capital.
- **Challenges:** The Tideway deal was relatively unique, in that it was possible because the project was clearly separable (i.e. not integrated with Thames Water's existing assets), the risk around the final outturn price could be passed to consumers, and the level of contingent government support required was not sufficient to bring it on to their balance sheet. While it demonstrated that well-structured deals can attract very competitive rates of finance, it is not a model that can be easily rolled out to other projects. Its approach does not give cost certainty in the way that PPPs can; hence the risk transfer to the company is lower, allowing that lower cost of capital.

- 5.2. So which model is best overall? The highly successful delivery of Crossrail and the Olympics show that well-resourced public sector projects can be successfully delivered. Similarly, utilities have been hugely successful in controlling costs and delivering large scale projects in contrast to the nationalised bodies they replaced. The long-term success of the PFI market in delivering vast swathes of infrastructure to time and budget show that model's ability to deliver, and Government's new PF2 model for future PPPs is designed to address many of the issues surrounding cost of capital and upside sharing that made earlier PFIs unpopular. Thames Tideway shows how well-structured deals can attract a large pool of long term competitive finance.
- 5.3. So the key point about these alternative models is that each of them has been used to deliver very successful projects, although every one also has some associated challenges. In determining which is the best model, one has to carry out a qualitative review of which model is likely to work best in the unique circumstances of that particular project.
- 5.4. In general, when cost control and delivery to time and budget is the prime concern, then the private sector undoubtedly has the greater experience, so that models that transfer control and ownership to them are the most likely (but never guaranteed) to deliver successfully. But when the outcomes that we want are not properly incentivised by profits or where the private sector obtains a near monopoly position either geographically or contractually, they may not deliver as intended, properly respond to customer requirements or provide the flexibility that public policy may require.
- 5.5. So where wider, non-profit issues are of great concern, such as diversity, security of employment, the need for consultation, or issues of public policy, then direct public procurement may be more advantageous. That is not to say the public sector cannot control cost nor deliver projects successfully; it has a good track record in so doing when it has resourced project adequately; but it has had a history of poor delivery and even less responsive customer service, often forgotten by critics of private sector delivery models.
- 5.6. That is why most procurement and infrastructure delivery over the last two decades has focused on private sector models, trying to ensure that they are well incentivised or regulated in areas of public policy to ensure satisfactory performance.

5.7. There are, however, some key observations pertinent to the choice of which model to use on each project:

- The quality of the people engaged is absolutely critical as to whether a particular model will deliver successfully. The project entity must be able to attract and empower those individuals to deliver. Public sector delivery, for instance, has been better when individuals can be recruited at market rates and the level of day-to-day political interference is relatively limited, so that they can bring their skills to bear. This is a strong argument for public procurement and management of infrastructure to be undertaken by GovCos, which are relatively independent from central government control, certainly on a day-to-day basis.
- A mixed economy of publicly and privately delivered and owned projects is the best outcome. There are some projects that are inherently public in nature due to size and scale – HS2 being an obvious example – and some where there is good precedent of private sector delivery – schools, hospitals, rolling stock. But a mixed economy means both sectors can benefit from the others, the expertise can move between them, best practice is shared, and benchmarking and contestability can ensure continuous improvement. The NIC's recent consultation paper iterated their belief in the benefits of private sector investment and expertise throughout projects' lives, efficient private finance for projects owned and funded in the private sector, and the public and private sectors working in partnership for projects owned and funded in the public sector. We agree with this mixed economy view.
- Better value is obtained where there is a known programme of projects. A longer programme of similar projects allows the private sector to invest in the skills necessary to deliver, and improve the cost of delivery over time.
 - The PFI market, for instance, saw a very material drop in pricing and cost of capital over time
 - A long-term commitment to purchase solar power from the UK and US governments has led to a huge fall in solar prices, making it eventually cost competitive with traditionally generated energy
 - The current work of the Infrastructure Client Group to develop closer collaboration between procurers and suppliers, to focus on value for money together over a programme, is welcome.
 - The recommendations of the Hansford Review that Network Rail clarify a future orderbook is similarly welcome; as it will allow the market to invest in new opportunities.

- It will never be possible to 'prove' one approach is better than another, because no two identical projects are ever delivered side by side by the public and private sectors and underlying profitability data in private sector models may not be available. A considered qualitative evaluation of the options is therefore always necessary combined with open-minded questioning of the options; will a particular approach create the disciplines, import the expertise, create the incentives and ongoing governance to deliver and continue to deliver over time? Is cost of capital, cost of delivery or flexibility the key?

5.8 Irrespective of the private sector ownership model under consideration, it needs to be acknowledged that there has been a decline in trust in private sector delivery; across the economy as a whole, but also in infrastructure, with both PPP and utility models having examples of poor performance or managing for short term gain, both of which are particularly unwelcome in the infrastructure sector, which of its nature is delivering public benefits and is long term in nature.

5.9 The long term cashflows that infrastructure assets offer also give opportunities for financial engineering; levels of debt that threaten the credit rating of the assets, and infrastructure can be under-maintained in the short term which increases short term gain but is not sustainable in the long term.

5.10 To build trust, future models need to adopt governance arrangements that build confidence that while privately owned, the company in question can be relied upon to deliver on its social objectives and invest on a long-term sustainable basis.

5.11 The TrustCo model is an example of such an approach, where at the outset the project vehicle is set up with the governance that enshrines the social purpose of the company and sets voluntary limits on its actions, such as a commitment to sustain certain credit ratings, a commitment to invest on a sustainable basis, voting rights that give greater power to long term investors, or representation of employees or customers on the board. While in theory it might be feared that investors would be uneasy imposing such constraints on project companies, in practice such goals are wholly consistent with the purpose of delivering long term infrastructure, and will result in long term stable cashflows, reducing the need for frequent regulatory intervention.

5.12 Details of the TrustCo model will be described in a future TIF paper and of course might differ for each project, matching the social objectives of the project in question. But the key point for this paper is that whichever private sector delivery model is used, greater thought needs to be given to its governance, purpose and constitution that aligns very clearly with the long-term nature of infrastructure assets, and gives the public sector and citizens greater confidence and trust that that ownership is in their interest.

6. ACHIEVING WHOLE LIFE VALUE



There are opportunities to accelerate investment on a number of projects, to the benefits of the wider economy, with a wider use of low-cost private ownership and finance. Finance models that involve direct long-term, low-cost pension funds could fund more infrastructure on a long-term sustainable basis. This will need both public and private sector support to achieve the credit rating levels necessary to attract prudently-invested, low cost pension fund money. A TrustCo model could address issues that have led to the distrust of private sector ownership.

- 6.1. The UK has historic lower levels of infra investment from pension funds compared to countries like Canada and Australia. But the recent Thames Tideway deal shows there is strong appetite at highly competitive rates for long term infrastructure assets, and shows the opportunity exists for more infrastructure to be financed by long term private sector pension and institutional funds, matching the long term need to deliver returns to pensioners with the requirement to build and improve assets that deliver long term benefits to the economy.
- 6.2. An approach that uses such private finance, can be classified as off balance sheet, can import a degree of private sector skills and cost disciplines, at a cost of finance not materially higher than government rates, does offer government substantial opportunities to consider more infrastructure investment in a way that austerity currently seems to inhibit.
- 6.3. This approach could be used for new builds, but also might be more appropriate for refinancing projects already built in the public sector, perhaps after they have been aggregated to increase their credit rating, freeing up government capital for other projects and investment.
- 6.4. We believe there is an opportunity to accelerate projects using more institutional funds. These projects may be currently delayed because of the under-valuation of their long term generative impact or a perceived lack of government funding.
- 6.5. Opportunities might include Crossrail 2, over £10 billion required for road expenditure on smart motorways, renewals and regional improvements, refinancing HS2 on completion, financing HS3 and other Northern or Midland 'Powerhouse' connections, the Lower Thames Tunnel (perhaps combined with Dartford as one entity to transfer to private ownership), the grid link from the new Hinkley Point nuclear power plant to the Grid, and the international electricity interconnector programme.

- 6.6. There have been recent initiatives to consolidate both public and private sector pension funds to increase their ability to finance new and existing projects, so there is a bank of low cost capital that could finance new and existing projects. Importantly, it needs to be understood this is not distant, profit maximising capital; it is our pension money, including the pensions of some 5 million public sector workers, that need long term low risk investments to prudently invest in. A more radical examination of the infrastructure project pipeline and existing assets, with the mindset of what could be accelerated or refinanced with such long-term capital, may well lead to both an acceleration of some projects that otherwise may stay on the back burner for too long and the freeing up of public capital to invest in other projects.
- 6.7. As the Thames Tideway project demonstrated, to attract large amounts of low cost capital means that the project must be able to be classified as Investment Grade; of a high credit quality where pension funds can prudently invest in the company. This will be more challenging for new, greenfield projects with construction risk, than for the refinancing of brownfield, operational projects, but may need a combination of public and private sector support mechanisms to ensure project performance, including:
- High levels of contractor support underpinning construction contracts
 - Well-capitalised project companies, with sufficient equity to take project risks, rather than over-g geared, inflexible structures
 - Structures that share outturn price risk with consumers, rather than passing them to the project company alone
 - Government guarantees for low probability, high impact risks (risks that are too large for the private sector to swallow or insure)
 - Government liquidity and finance backstop – an undertaking to provide liquidity or additional finance when the market is unable to do so
 - Government guarantees of some or all of the project debt, to reduce finance costs, focusing the risk transfer and delivery risk on the project equity
 - Risk sharing with government on outturn price, with incentives to deliver on cost, but some flexibility in long term government offtake if cost overruns do occur
 - Government grant contribution where projects are not wholly self-funding, for instance to complete the fibre network
 - Longer term regulatory certainty – where long term return commitments from regulators allow investors a sufficient period to earn anticipated returns and mitigate the impact of project cost overruns or unanticipated under-performance
- 6.8. These types of support mechanisms are necessary to ensure projects can attract low cost debt and equity investment into projects. An acceptance of the need for wider levels of joint

support, rather than a fixation on total risk transfer to the private sector, opens up the opportunity for £ billions more projects; both greenfield and brownfield, to be financed by the private sector.

- 6.9. There is, of course, the risk, particularly for greenfield projects, that the level of government direct and contingent support means that the asset does not immediately come off Government's balance sheet. This does not however mean that the project should not be financed by the private sector. Rather, the question becomes whether the increase in finance costs this implies is outweighed by the disciplines and management this capital can introduce, as well as whether, in the longer term, as government support can fall away, the assets can come off government's balance sheet.
- 6.10. For these greater levels of public sector support to be available for privately owned projects, it will require the private sector to review their governance arrangements, and introduce measures to build confidence and trust in performance and the motives of the investors. The TrustCo model, with a public sector ethos enshrined in company Articles or board structure, presents an opportunity to address some of the perceived shortcomings of private sector models.
- 6.11. To deliver new models and projects attractive to long term money will require development work to create structures and deals which are investor ready. The Infrastructure Forum would happily work with Government to help in their development.

Appendix:

The following individuals attended the workshops or reviewed the emerging drafts written in the development of this paper.

They gave personal insights into the paper, rather than any corporate view. While this paper represents the broad views of the participants, The Infrastructure Forum is not representing that every point of view of this paper is shared by every participant, nor that the individuals have obtained their respective corporate approval of the paper.

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