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At a crossroads: the future of the strategic road network

In July 2013, the UK Department for Transport published its command paper for the road network in England. The paper outlined a number of important reforms to the governance of the network and the role of the Highways Agency. What are these reforms, and what might they mean for the future structure of the industry? Is there the potential for introducing independent economic regulation in the roads sector, similar to that in the utilities sector?

The strategic road network (SRN) in England is, as the name suggests, one of the country's key strategic infrastructure assets. Comprising 4,300 miles of motorways and trunk roads (around 2–3% of all roads in England by length),[1] the SRN carries around one-third of all traffic and two-thirds of all heavy goods vehicle (HGV) traffic (in terms of distance travelled). It is the largest physical asset owned by central government, with a book value of approximately £106 billion.[2] The maintenance, operation and enhancement of the SRN have been the responsibility of the Highways Agency, an executive agency of the Department for Transport (DfT), since 1994. Under this arrangement, the Highways Agency has been run on a 'pay-as-you-go' basis with funding through annual budget allocations from the DfT. Responsibility for the maintenance of the remainder of the road network in England falls to local authorities.

Problems with the pay-as-you-go approach

In 'A fresh start for the Strategic Road Network', a 2011 report commissioned by the government, Alan Cook, Non-Executive Chairman of the Highways Agency, raised substantial concerns about the current governance arrangements and their impact on value for money, resource allocation and incentives to meet the needs of road users.[3]

In particular, the Cook report concluded that:

- the Highways Agency has faced insufficient external pressure to make efficiency savings. These potential efficiencies were estimated to be in the region of £200m per annum in addition to the commitment already made by the Highways Agency as part of the 2010 Spending Review to reduce total network expenditure by 20% by 2014/15;
- a lack of budget certainty (caused by stop–start funding decisions), combined with a lack of independence from central government, has limited the ability of the Highways Agency to adopt management principles focused on the whole life of assets and has made it more vulnerable to budget cuts in times of economic difficulties;
- the Highways Agency has had limited incentives to meet the needs of road users.

In combination, these issues have led to sub-optimal investment in the SRN and to poor value for money for taxpayers.[4] As a result of the underinvestment in the network, the UK is currently ranked 24th in the world for quality of roads.[5]

Recent reforms

The Cook report outlined recommended actions intended to overcome these challenges, as summarised in the box below.

Cook report: the main recommendations

- **The DfT should publish a long-term strategy for motorways and trunk roads.**
- **The DfT should specify outputs and a financial efficiency target for a forward-looking period of five years.**
- **The DfT should act as the champion of road users, challenging the network manager on an ongoing basis to ensure that its specification is consistently achieved.**
- **The DfT should, with the support of HM Treasury, agree a five-year funding package for the SRN.**
- **The DfT should examine the business case for any new roads to be built as private toll roads.**
- **The DfT should reshape the Highways Agency to have greater commercial freedom and independence.**
- **The revised Highways Agency board should lead a culture change within the organisation.**
- **The network manager should achieve greater coordination with local road networks.**

Source: Cook (2011).

Building on these recommendations, HM Treasury set out reforms for the roads sector as part of the Spending Round 2013, which have subsequently been formalised in the DfT's command paper, 'Action for the Roads'. The key reforms are that:[6]

- the Highways Agency is to be corporatised. It will continue to be entirely government-owned—and ultimately accountable to the Secretary of State—but will be closer to a private enterprise in terms of its organisational structure and operational independence from government;[7]
- from 2015, the Highways Agency will have long-term funding certainty, similar to the statement of funds available in the GB rail sector. The initial funding commitment will cover a six-year period to 2021;
- the Highways Agency will also be granted enhanced flexibility to transfer its budgetary allowance between years;
- the DfT will produce a roads investment strategy, setting out its long-term vision for the roads sector and establishing performance criteria for the Highways Agency.

Alongside these changes, the government has committed to spending between £30 billion and £50 billion on the national road network over a ten- to 15-year period, including £4 billion-worth of spending on the SRN by 2020/21. These reforms will be underpinned by new legislation to guarantee the government's commitment to the roads programme.

The reforms represent an important step towards enabling the Highways Agency to plan for the long term with greater independence from political decision-making. The DfT has outlined its expectation that the reforms will deliver capital efficiencies worth £600m by 2020/21 by cutting red tape and providing the certainty required for the Highways Agency to enter into cheaper and more innovative long-term contracts with suppliers.

Accountability—regulator or watchdog?

An important question raised (but not answered) by the command paper is how the Highways Agency will be held accountable for the outputs that the DfT is purchasing in return for providing funding. Indeed, the DfT notes that:

> As the institutional structure of the Highways Agency changes, preserving accountability will be essential. The new company needs to remain transparent, and needs to be able to justify both its costs and its working practices. It must be seen to be delivering on the performance specification agreed with government, and must be able to answer if it does not.[8]

The command paper outlines three potential options for ensuring accountability:

- continued oversight from within central government;
- establishing a small independent watchdog;
- establishing a full economic regulator in the mould of the utilities regulators (Ofwat—the economic regulator of the water industry in England and Wales; and Ofgem—the energy regulator for Great Britain).

Whichever option is chosen, the organisation responsible for holding the Highways Agency to account could look to do so through:

- strengthening non-financial (eg, reputational) incentives. For example, the organisation could publish key performance indicators that would allow the Highways Agency's management to be publicly held to account for poor performance;
- enhanced monitoring/benchmarking of performance. The organisation could play a role in monitoring performance and ensuring that it is consistent with the government's long-term strategy for the road network. Moreover, the Highways Agency's performance could be benchmarked to that of other infrastructure managers and international highways companies.

The roles of a watchdog and a full economic regulator could, however, be very different, particularly in terms of the extent of intervention in the market. A watchdog might, for example, publish and monitor performance information but actively look to intervene only where complaints were made about the Highways Agency's performance. By contrast, an economic regulator would play a more proactive role, undertaking detailed cost analysis (eg, bottom-up efficiency assessments) and setting explicit ex ante cost-efficiency targets that the Highways Agency would be expected to meet over the period of the funding settlement.

In the short run, the choice between the options outlined by the DfT is therefore likely to depend on the extent to which the institutional reform of the Highways Agency, and the enhanced monitoring provisions, are anticipated to generate the desired efficiencies without the need for an independent regulator.

The future—a RAB for the roads?

While a watchdog may be sufficient to hold the Highways Agency to account in the short run, the long-run financing and ownership structure of the roads infrastructure manager is likely to change. In calling for a feasibility study into alternative financing and ownership arrangements for the SRN, the UK Prime Minister, David Cameron, emphasised the need for private investment in the network:

> Why is it that other infrastructure—for example, water—is funded by private sector capital through privately owned, independently regulated utilities but roads in Britain call on the public finances for funding? We need to look urgently at the options for getting large-scale private investment into the national roads network—from sovereign wealth funds, pension funds and other investors.[9]

Private capital would, of itself, be expected to provide greater efficiency incentives than those faced by public sector organisations (like the Highways Agency), which are dampened by:

- the lack of capital market disciplines. For privately owned companies, existing stakeholders exert pressure on management to achieve efficiencies, while outside investors and managerial teams monitor the market for managerial control, and look to replace inefficient managers. The Highways Agency will not face these pressures;
- the absence of a hard budget constraint. An organisation is said to face a hard budget constraint so long as it does not receive support from any other organisation or political institution, but is instead obliged to exit the market if it is unable to cover its costs.[10] The Highways Agency will have weaker incentives to make cost reductions if it is perceived that the government will bank-roll any underperformance.

These issues could be mitigated through the implementation of regulatory incentives, but there may still be advantages to securing private investment in the SRN in the long term. If private capital were to be introduced, an independent economic regulator would be likely to have significant benefits. One option that has received support from industry commentators and lobbyists, including the Confederation of British Industry (CBI), is the implementation of a regulated asset base (RAB) model.[11] Under this approach, an independent regulator would set the revenue requirement of the infrastructure manager(s), on a forward-looking basis, at a level that incorporated:

- an allowance for the depreciation of the regulated assets over time, based on regulatory assumptions regarding the useful economic lives of the assets (ie, a return *of* capital invested);
- a return to investors based on the value of the RAB multiplied by a weighted average of the cost of equity and the cost of debt (ie, a return *on* capital invested);
- the forecast level of operating expenditure associated with the day-to-day operation of the network, which would be compensated on a pay-as-you-go basis.

Precedent from other regulated sectors suggests that a RAB model should make the roads sector more attractive to private investors—as long as it is combined with independent regulation and flexibility in decision-making (ie, the DfT's role would be refocused on setting medium-term (five-year) outputs and funding limits, and agreeing the strategic direction of the SRN). The RAB model effectively acts as a commitment device that provides assurance to investors that they will be remunerated for their infrastructure investments over the long term. The success of the regulated utilities model has been due largely to the fact that regulatory decision-making is transparent and the markets consider the regulators' commitment to the RAB to be credible. This credibility has stemmed from the duties placed on regulators to ensure that the regulated company is able to finance its functions (as long as it is run efficiently) and the potential for recourse to the Competition Commission (and, in future, the Competition and Markets Authority).

How could such a regime be designed and implemented, building on precedent from the regulation of utilities and rail infrastructure?

Changing gear: the design of a RAB model

In fact, the issue of ownership of the road network is separate from whether or not a RAB model is applied. Indeed, the RAB model has been used to regulate companies that do not have any equity ownership, such as Royal Mail, Welsh Water and Network Rail. The RAB model could therefore be applied to the Highways Agency as a publicly owned organisation, prior to any introduction of private capital in the sector.

In the short run, the RAB could be applied to the Highways Agency in its current form, covering the entire SRN. However, were private capital to be subsequently introduced into the SRN, consideration could be given to the most appropriate industry structure. For example, private investors could put their capital into individual roads; a regional network of roads; or the entire strategic road network.

The industry structure will influence the subsequent design of regulation. For example, splitting up the SRN into regional networks would allow for comparative competition, with the regional networks being benchmarked to one another. This approach was adopted at the privatisation of the England and Wales water sector, for example.

Once the industry structure has been determined, the next challenge will be to determine the initial RAB value(s). There are two commonly used approaches to valuing the initial RAB:

- the replacement cost of the assets—ie, the cost that would be incurred if the existing assets were to be replaced with modern assets capable of providing an equivalent level of service;

- the market value implied by the price paid by investors at (or around) the time of privatisation, plus the book value of net debt.

The first approach has the advantage of reflecting the economic cost of the assets involved in the business, but may lead to higher charges if the replacement cost is high. The second method, which was widely adopted for the UK utilities, relies on the value of assets implied by the privatisation values, based on the assumption that the level of retail prices is determined in the privatisation agreement and reflected in the valuation of the company. This approach provides investors with certainty that they will be remunerated for their initial capital investment. This should reduce investment risk and, as a result, the financing costs associated with investing in the sector. However, the use of a market value relies on a revenue stream (ie, a path of future 'charges') being predefined, which is not currently the case in the roads sector.

Avoiding rollovers—rolling forward the RAB

A decision is also required on the time period for which different categories of capital expenditure (CAPEX) should remain in the RAB. In the water and sewerage industry, for example, infrastructure CAPEX remains in the RAB in perpetuity, provided that the new infrastructure is maintained in a constant state. This is because infrastructure assets are long-lived and, as a result, annual charges are set to cover the expenditure needed to maintain the assets in a constant state over a long period of time. A decision will need to be taken as to whether it is appropriate to treat infrastructure enhancement to the SRN in a comparable way. In this context, it is important to consider whether future road users get the same benefit from the road network as today's users.

For whom the road tolls

The major barrier to the introduction of private capital into the roads sector is the source of the revenues with which to remunerate investors (or, rather, absence thereof). With the exception of the M6 Toll, and tolled bridges, roads are free at the point of access in England. In contrast to other regulated industries, the roads sector does not have a clearly delineated revenue stream in the form of direct user charges. However, private sector investors will not provide finance unless they will be compensated with a return on their investment. This requires the DfT to establish some form of dedicated revenue stream. Before private capital is introduced into the SRN, it is likely that the DfT will have to implement or allow either user charging (ie, road pricing) or some hypothecation of road taxes, which could be used to remunerate the road infrastructure manager on a 'shadow toll' basis.[12]

Given the resistance of motorists to user charging schemes, this issue is likely to be driven as much by political factors as it is by economic thinking. Arguably, the decision to rule out private capital at this stage is influenced by the need to start the reform process, without it being hampered in the short term by the need to resolve the matter of public opinion regarding user charging.

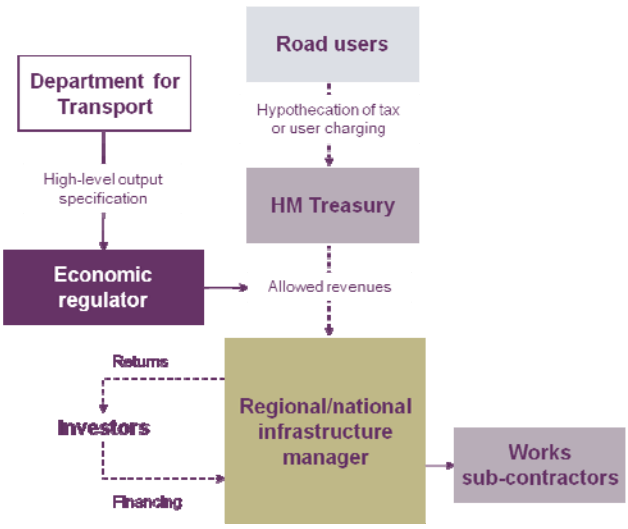
Next steps

The corporatisation of the Highways Agency can be seen as the first step in the process of privatising and regulating the SRN in England. The reforms could be accompanied by a range of accountability arrangements, but evidence from other network industries suggests that there are benefits to:

- setting up an economic regulator that is independent of government;
- allowing the infrastructure manager flexibility and commercial freedom in its decision-making processes (ie, focusing the role of government on strategic direction);
- defining clear rules up front and providing a credible commitment to maintain them over time.

The RAB model has provided a means for economic regulators to give such a commitment to investors, and could thus help to support the introduction of private capital in the roads sector in the long run (see Figure 1). Before such a model can be implemented, the main issue to be addressed is the means by which investors are remunerated. With user charging still politically unpalatable, a hypothecation of tax revenues might be necessary.

Figure 1 Model for regulating the roads sector



Source: Oxera.

[1] Highways Agency (2012), 'Highways Agency Annual Report and Accounts 2011/12', July 13th, p. 11.
[2] Ibid., p. 64.
[3] Cook, A. (2011), 'A Fresh Start for the Strategic Road Network: Managing our Roads Better to Drive Economic Growth, Boost Innovation and Give Road Users More for their Money', prepared for the Department for Transport, November.
[4] Department for Transport (2013), 'Action for Roads: A Network for the 21st Century', July.
[5] Schwab, K. and Sala-i-Martin, X. (2012), 'The Global Competitiveness Report 2012-2013', World Economic Forum: Insight Report – Full Data Edition, p. 413.
[6] Department for Transport (2013), op. cit.
[7] This means that the Highways Agency will no longer be run by civil servants and will be allowed commercial freedom in its decision-making.
[8] Department for Transport (2013), op. cit., p. 58.
[9] David Cameron, Institute of Civil Engineers, March 19th 2012.
[10] Kornai, J., Maskin, E. and Roland, G. (2003), 'Understanding the Soft Budget Constraint', *Journal of Economic Literature*, **61**:4, pp. 1095–136.
[11] Confederation of British Industry (2012), 'Bold Thinking: a Model to Fund our Future Roads', October.
[12] This issue was considered in greater detail in Oxera (2012), 'A Road to...Somewhere: Reforming England's Road Strategy', *Agenda*, May.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Leonardo Mautino: tel +44 (0) 1865 253 000 or email l_mautino@oxera.com

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