REVIEW OF FACTORS IMPACTING THE FORM AND/OR THE EFFECTIVENESS OF CHARGES AND INCENTIVES

RAIL DELIVERY GROUP

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FINAL

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CONTENTS

Disclaimer:

1. Background and Introduction

Summary

This report forms part of RDG's ongoing work on the charges and incentives regime for use of Network Rail's infrastructure. It follows the development of RDG's vision for the regime; its assessment of the current regime; and work on potential alternative states of the world.

The aim of this report is to describe the institutional, policy, economic and practical factors (factors) which impact the form and / or effectiveness of charges and incentives. The analysis is based on the present 'State of the World'[1] but we also consider the impact of the factors on potential alternative 'States of the World'.

This report is intended to be standalone but it will also inform RDG's assessment of options for the charges and incentives regime that will take place later in RDG's review.

1.1. Scope of this chapter

This introductory section:

- provides context for the rest of the report, in particular it sets out our understanding of the current State of the World;
- sets out the long list of factors considered and categorises them into "legal", "regulatory and policy" or "practical" factors; and
- describes how each factor is analysed in subsequent sections of the report.

1.2. Purpose

The purpose of this report is to describe the institutional, policy, economic and practical factors (factors) which impact the form and / or effectiveness of the charges and incentives regime for use of Network Rail's infrastructure. The analysis is based on the present 'State of the World' but we also consider the impact of the factors on potential alternative 'States of the World'.

This report is intended to be standalone but it will also inform RDG's assessment of options for the charges and incentives regime that will take place later in RDG's review.

[1] A state of the world is the environment that the charges and incentives regime operates within. It represents elements of the GB rail industry that are not part of the charges and incentives regime

1.3. Introduction

RDG's Contractual and Regulatory Reform workstream is carrying out a review of the charges and incentives regime. This project began in spring 2014 and is expected to be completed by the end of 2015.

Once completed, RDG's review should allow the industry constructively to inform the Office of Rail and Road's (ORR's) next periodic review process (the 2018 Periodic Review (PR18)), and future reviews, by presenting the industry's own views on the regime.

By setting out the industry's views before the start of PR18, RDG can provide ORR with information that can help inform ORR's decisions, and potentially allow it to prioritise work in certain areas.

RDG has commissioned Cambridge Economic Policy Associates (CEPA) to assist in Phase 3 of its review. This follows RDG's previous work in Phases 1 and 2 of the review,[2] which produced:

- RDG's vision for the charges and incentives regime in the long run ('RDG Vision');
- An assessment of the current charges and incentives regime; and
- A description of current and potential alternative states of the world.

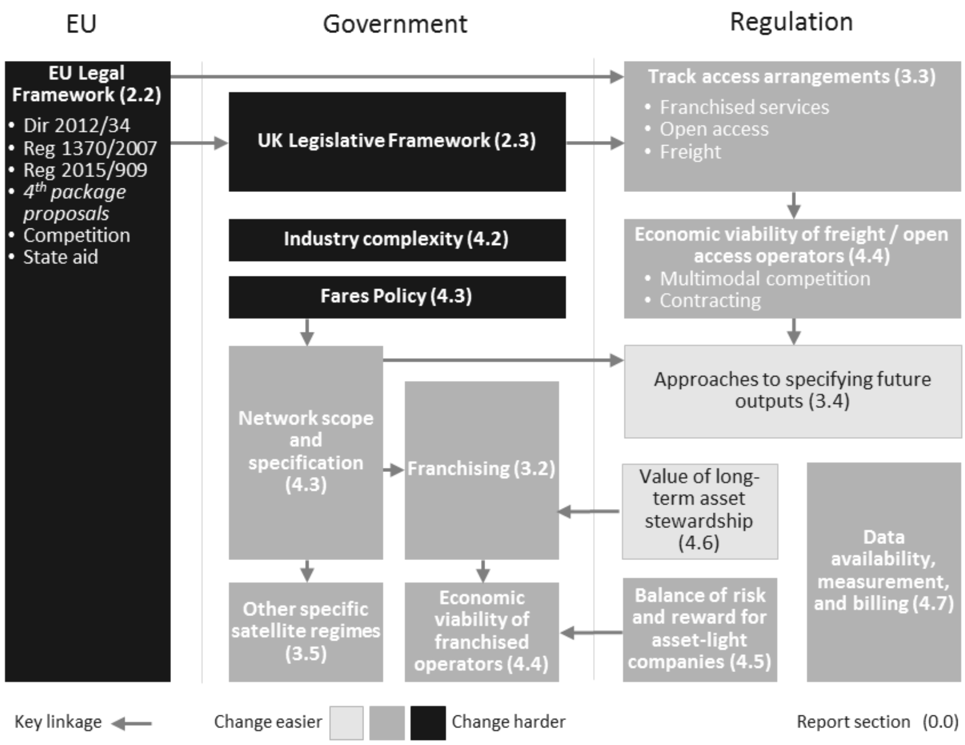
CEPA are working with RDG, in Phase 3, to develop and assess options for a new and/or updated charges and incentives regime. This report will be used to inform the assessment of potential options that are considered by RDG later in the review.

1.4. Summary of findings

Figure 1.1 below provides an overview of the findings of this report: the key areas where factors arise, the identity of the primary controlling party, the ease with which they can be changed and key relationships between them. Further detail on each factor can be found at the section number indicated in parentheses.

[2] The publications to date in RDG's Review of Charges are accessible via: http://www.raildeliverygroup.com/what-we-do/our-work-programme/contractual-regulatory-reform/review-of-charges.html.

Figure 1.1: Key factors categorised by primary controlling party



1.5. Context for the review

1.5.1. Industry structure

Our analysis in this report focuses on the current 'State of the World' as outlined by RDG's Phase 2A report.[3] The diagram below outlines the roles of the key parties in the GB rail industry, with each party being categorised according to its main role. There is some overlap in the categorisation, for example TfL and the PTEs also have a level of oversight over their local services, and the Welsh Government plays a role in infrastructure provision, but this simplified industry structure is used to inform our analysis.

[3] This report is available at: http://www.raildeliverygroup.com/files/Publications/2015-05_rdg_roc_states_of_the_world.pdf .

Figure 1.2: Current state of the world industry structure

Industry regulation and oversight	DfT / Transport Scotland	• Specifies outputs to be delivered by NR • Specifies funds available to NR (e.g. network grant) • Regulate passenger operator franchise agreements
	ORR	• Regulates safety and (with CMA) competition • Regulates Network Rail's track charges (level and structure) and reviews business plans • Determines track access applications
	Welsh Government	• Joint signatory with DfT on Welsh services • Develops /funds infrastructure enhancements
Infrastructure provision	Network Rail	• Maintains, renews, operates, and enhances rail network • Allocates capacity and implements access charges • Develops route plans for use of the network
	TfL	• Implement transport strategy and manage transport services across London, including maintenance and enhancement
	PTEs	• Manage, plan, and invest in local rail services and infrastructure
	ROSCOs	• Owners of the trains, leasing them to operators
Network users	Passenger operators	• Passenger train services under franchise agreements • Largely insulated from changes in access charges during franchise tenure
	Open access providers	• Passenger train services without franchise agreement • Exposed to changes in variable component of access charges
	Freight operators	• Commercial haulage services competing with road haulage services • Exposed to changes in variable access charges and freight-specific charges
	Charter operators	• Exposed to limited number of charges
End users	Passengers	• Pay fares (mix of regulated and unregulated fares)
	Industrial & Commercial	• Industrial and commercial entities using freight services

Source: CEPA

Figure 1.2 illustrates the complexity of the industry, and the large range of parties that are likely to have an interest in changes to the structure of charges and incentives, and who would potentially have conflicting interests.

The structure itself may have an impact on the appetite for change. In such a complex industry, there are risks of creating perverse incentives, because aligning incentives within a charges and incentives regime becomes more difficult the greater the number of parties affected, particularly given the variety in the nature of their interests.

1.5.2. Industry funding arrangements

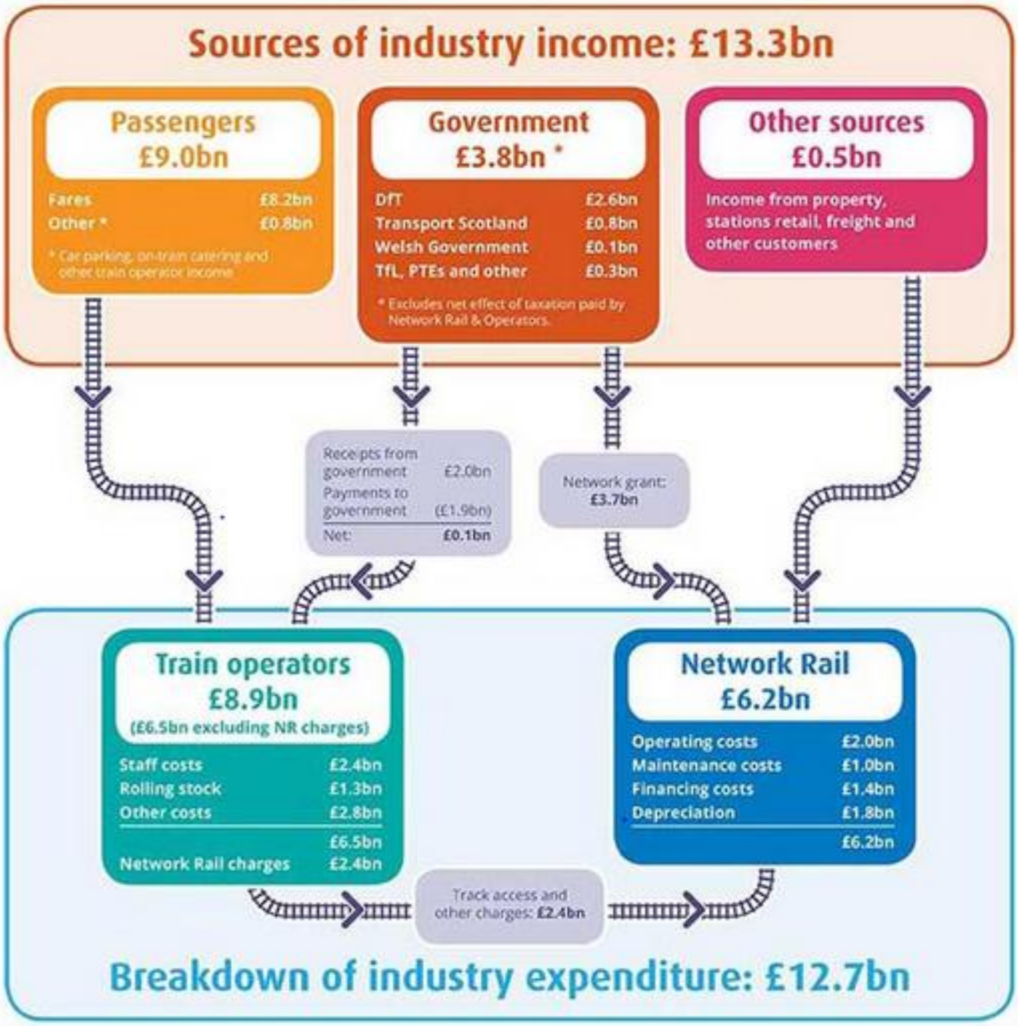
The flow of funds between railway industry participants is complex; comprising a web of charges and funding payments between public authorities, infrastructure providers, railway operators, and ultimately railway customers.

- Network Rail is funded via a mix of access charges levied on users of the network, grant from governments and other income from commercial exploitation of assets such as retail activities in stations. In 2013-14 access charges represented over a third of Network Rail's income.
- Franchised passenger operators rely on revenue from passengers and in some cases upon funding from public authorities to operate franchised passenger services, although in other cases franchised passenger operators pay a franchise premium to government. They pay access charges to Network Rail for use of its rail infrastructure. The operation of the franchise agreements provides franchised passenger operators with a degree of protection from changes to access charges and this limits the impact/incentive effects that they have on franchised passenger operators between franchise competitions.
- Freight operators operate in an open market for commercial rail freight, competing against each other and against other modes, e.g. roads, albeit that government does provide some grants to support removing freight from road to rail. At an operating level, freight operators are fully exposed both to the variations in income they can earn from their customers and changes in the access charges they must pay to Network Rail. But they do not pay all categories of track access charges. For example they do not pay the Fixed Track Access Charge (FTAC), which is paid by franchised passenger operators. Categories of rail freight that enjoy a competitive advantage over road freight pay a supplementary freight charge, which contributes to Network Rail's fixed costs. The rail freight industry has a significant interest in any proposed change, since the commercial viability of freight operators can be at risk when the structure or level of charges is changed, because of their direct exposure.
- Open access and charter operators of passenger services are exposed to charges in largely the same way as freight, but are sometimes subject to restrictions to ensure

their operations are not excessively abstractive from the income of franchised passenger operators.

Figure 1.3 below illustrates the complex funds flow, demonstrates the scale of revenues from various parties involved in funding the industry and the financial role of charges.

Figure 1.3: Industry income, expenditure and funding in 2013-14



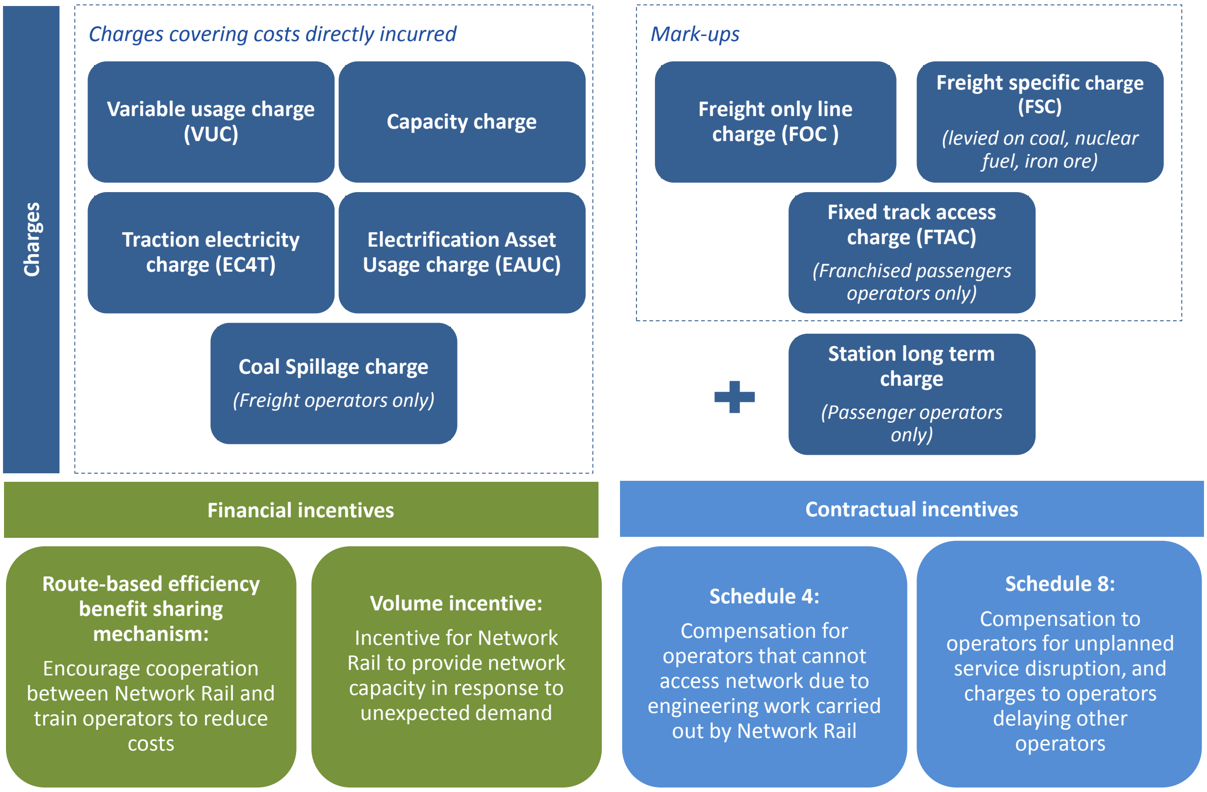
Source: ORR website

Current financial arrangements reflect both the complex industry structure and the current charges and incentive regime. Overall, charges are only weakly reflective of the overall costs of providing the infrastructure to track users, there are complex cross-subsidies, and a significant proportion of the industry's income comes from public funds. These complexities mean that there is a lack of transparency over funds flows and what they deliver.[4] This report takes the current funding structure as its starting point.

1.6. The current charging structure

ORR currently applies a range of regulatory mechanisms. These include Network Rail track access charges and financial and contractual incentives designed to address issues in the rail market associated with monopoly power and network externalities.[5] The current suite of charges is illustrated diagrammatically below.[6]

Figure 1.4: Charges and incentives package during CP5[7,8]



Source: CEPA

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[4] The government intends to change this. See paragraph 1.255 of the Summer Budget 2015, HC264, where government states it will “change the way it channels public money through the industry, directing it through the train operating companies”.

[5] The rail network is complex and individual companies’ use of it is likely to impose costs or benefits on other users and wider society

[6] RDG’s *Charges and Incentives User Guide* is a useful source of information on charges and incentives. This is available at: http://www.raildeliverygroup.com/what-we-do/publications.html?task=file.download&id=340.

[7] For further information on charges and incentives in CP5, see the RDG charges and incentives user guide at: http://www.raildeliverygroup.com/files/Publications/2014-07_charges_and_incentives_user_guide.pdf

[8] In categorising certain charges as “costs directly incurred” or “mark-up”, we do so on economic grounds, not as a statement of compliance with laws that mention these concepts.

Our analysis in this report focuses on factors which impact the form and effectiveness of this current charges and incentives regime.

1.7. Categorisation of factors

This report introduces a range of factors split into three main categories, based largely on the extent to which they can be changed, at least in the short-term:

- **Legal factors.** This category covers those factors which arise out of EU and UK legislation relevant to charges and incentives. These factors are considered to be largely fixed, in the short term at least, given the time it takes for new legislation to be implemented from the time at which a requirement for it is first conceived. Although fixed, legislation provides a framework for the setting of charges it does not mandate a specific approach.
- **Regulatory or policy factors.** Under this category we consider the development and implementation of policy that arises out of the interpretation of the legal framework. Policy is less fixed than legislation, although the complexities of the railway industry mean that a number of industry participants may have to agree a change in order for it to be effective. In addition to considering the impact of current policy on the effectiveness of charges and incentives, we look at the scope for policy change.
- **Practical considerations**. There are some practical and economic factors which impact the charges and incentives regime and what it can achieve. Two of the areas we consider in this category are the funding of the GB rail industry and political pressures on the industry. We also consider information constraints and the ability to gather information to support changes to charges and incentives.

Within these broad headings we have identified a range of specific factors that we consider in greater detail in the following sections of the report. This long list of factors is shown in Figure 1.5 below.

Figure 1.5: Long list of factors and categorisation

Legal factors	• EU Legal Framework • UK Legislative framework
Regulatory / policy factors	• Franchising • Track access arrangements • Approaches to specifying future outputs – HLOS / SoFA • Satellite and/or variant regimes e.g. for Crossrail / related regimes e.g. ROSCOs
Practical considerations	• Overall industry complexity • Fares policy • Network scope and specification • Economic viability of operators • Balance of risk and reward • Long term asset stewardship • Data availability and reliability

1.8. Factor Analysis

Sections 2-4 of this report provide an analysis of the impact that the factors have on the form and effectiveness of the current charges and incentives regime. In respect of each factor, this report considers the following questions:

- What effect do these factors have on the form and effectiveness of the regime?
- Who controls the factor?
- How likely is it that it can be changed, and within what range of circumstances? What flexibility is available within the present arrangements?

1.9. Report structure

Following this introductory section the report is structured as follows:

- Section 2: Legal factors;
- Section 3: Regulatory and policy factors;
- Section 4: Practical considerations;
- Section 5: The interrelationship of factors; and
- Section 6: The impact on factors of alternative States of the World.

2. Legal Factors

Summary

This chapter focuses on those factors that we consider to be largely fixed, noting that this may not necessarily be the case over the longer term. It focuses on the EU and UK legal framework.

Our key findings are that:

- *The EU framework is hardest to adjust. The EU legislative cycle is slow and requires consensus across member states. Over the timeframe of this report, i.e. to 2030, the existing legislation, and the scope of planned future legislation, is to all intents and purposes fixed,*
- *The UK Government can more easily adjust legislation, particularly if it can be convinced that doing so will better meet its objectives. Nevertheless the legislative cycle is fairly slow and significant change is unlikely except when government can be persuaded of sufficient materiality.*

Notwithstanding these points, current EU legislation presents a flexible range of possibilities and principles that are substantially aligned with the RDG's vision for charges and incentives. The UK legislation on charging and access mainly serves to implement the EU principles, giving duties to the bodies that administer and implement the legislation. UK legislation also sets out the funding structure of the railway industry.

2.1. Scope of this section

In this chapter we consider the EU and UK legal frameworks for track access, charging and incentives in the railway industry. We have grouped them here as factors that are likely to be harder to adjust to accommodate a new structure, if adjustment is considered necessary.

The main principles of charging and access are set out in EU legislation. This legislation presents a flexible range of possibilities and principles for charging that are substantially aligned with the RDG's vision for charges and incentives. The UK legislation on charging and access mainly serves to implement EU principles, giving duties to the bodies that administer that implementation. The UK legislation also sets out the funding structure of the railway industry.

In the following section, we show how EU legislation applies to:

- The institutional structure of the railway industry;
- The charging for, and administration of, track access; and
- Arrangements for subsidised passenger services.

We move on to show how UK legislation:

- Defines the powers and duties of key players;
- Provides for funding and specifying the services and outputs of the railway; and

- Implements the EC requirements for charging and administration of track access.

2.2. EU Legal Framework

EU legislation probably comprises the most difficult factor to change. The legislative cycle is slow, sometimes taking a decade from conception to completion.[9] Since European legislation is initiated by the European Commission (EC), subject to rejection or amendment by the European Parliament, and finally subject to agreement by the European Council, it tends to require considerable cross-European consensus to achieve it. It must also be focused on European objectives. But the general aims of the EU to complete the Single European Market give some impetus to liberalising legislation, even if it is in opposition to some interests.

A single directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 *establishing a single European railway area* consolidates about 20 years of legislation on access and charging.[10] We refer to that rather than the earlier legislation that originally brought it in. Commission Implementing Regulation 2015/909 adds some detail. In addition, Regulation 2007/1370 relates to Public Service Obligations in public transport in rail and some other modes, and is also broadly relevant.

A proposed Fourth Package of railway legislation was presented by the EC to the parliament in 2013. At this stage, new measures are unlikely to be considered within the Fourth Package, though the present draft could well be amended within its existing scope. The EC will make further Implementing Regulations under Directive 2012/34/EC, which will clarify its details.

In the rest of this section, we consider the relevant legal provisions under different categories.

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[9] For an official flowchart showing the complex EU decision-making process, and links to other related materials, see http://ec.europa.eu/codecision/stepbystep/diagram_en.htm.

[10] The single European railway area has had a gradual genesis. We set out here a brief history, mentioning only key economic terms. The legislation also covers technical harmonisation, passenger rights, and so forth. The so-called First Railway Directive, 91/440/EEC, set out initial principles by which independent railway operators should be given non-discriminatory access to the railway at standard charges, and also provided for managerial separation of infrastructure and operations, but it did not go so far as to require any railway markets to be opened to competition. The First Railway Package, made up of Directives 2001/12/EC, 2001/13/EC, and 2001/14/EC provided further clarity on track access charges, required accounting separation of infrastructure and operations, and granted open access to international freight traffic on a network of international routes. The Second Railway Package 2004/49/EC, 2004/50/EC and 2004/51/EC, extended open access to rail freight, both international and domestic, on all routes. The Third Railway Package 2007/58/EC and 2007/59/EC, sometimes taken also to include regulation 1370/2007 and 1371/2007, extended open access international passenger services, including the carriage of passengers not crossing a border on such services (“cabotage”). Directive 2012/34/EU is sometimes called the First Package Recast, which consolidates the economic legislation of all of these. It also includes some further provisions, such as for the making of implementing acts clarifying some parts of the legislation.

2.2.1. Separation of infrastructure and operations

One of the key features of Directive 2012/34 is that it requires separation of infrastructure and operations.[11] The required separation falls short of full institutional separation,[12] albeit that full separation has been implemented in Great Britain. Nevertheless, it is potentially relevant to aspirations some parties might have for more vertically integrated arrangements.[13] The key aspects are:

- Managerial independence between management of the railway infrastructure, and operators of rail transport services; and
- Separation of the accounts of railway infrastructure manager, and railway operators, including clear responsibility for incurred debts.

The main idea of this directive was that only through separation, and non-discrimination in charging for infrastructure access, could new entry railway operators act on a level playing field with other operators, in particular the legacy national operator in many countries. There are exemptions for railways such as city metro services that are largely segregated from any possibility of shared track use.

2.2.2. Access to track

Directive 2012/34 requires infrastructure managers to grant open and non-discriminatory access to track for rail freight operators and international passenger train services.[14] This access must be provided under "equitable, non-discriminatory and transparent conditions." The infrastructure manager who rules on track access must be fully independent of any rail operator. In other words, where the managerial and accounting separation of infrastructure and operations does not extend to full institutional separation, the track access function must reside in a separate independent body.

In summary, the key access requirements are:

- Capacity shall be allocated by a party who must be independent of any railway operator.[15]
- Freight services and international passenger services must be able to apply for access under "equitable, non-discriminatory and transparent conditions."[16] The

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[11] At Articles 4 to 7.
[12] But full separation is a proposal of the 4th Railway Package currently under discussion.
[13] For example, Merseyrail has in the past proposed taking over its local infrastructure.
[14] At Articles 10 to 13.
[15] Article 7.2.
[16] Article 10.1.

European Commission is required to make implementing acts[17] by the end of 2016 to set out further details of track access for international passenger services, in particular related to controls on the interactions between domestic and international passenger services.

- There must be an independent regulator who deals with appeals from parties not satisfied with the result of their access application.[18]
- When infrastructure is congested,[19] then, provided no scarcity charge is applied, the state may require that priority is given to socially desirable services, public service requirements, and freight, and may compensate the infrastructure provider for any consequent loss of income; capacity expansion should be considered.[20]
- Where there is a requirement for business continuity or to remunerate specific investments, access can be subject to framework agreements, typically of five years. Longer periods may be justified by the need to remunerate long-lived, costly, specific or specialised assets, up to 15 years.[21] The European Commission is empowered to make Implementing Regulations[22] to set out further details of this, but with no set date for doing so.

To the extent that charges and incentives seek to influence the usage of track, and thus by implication who has access to track, these legal factors on track access need to be taken into account. The charges and incentives regime is also implicitly part of a framework arrangement for access to track. It may turn out that the future implementing acts add further detail to this.

2.2.3. Charging for access to track

Directive 2012/34 sets out a number of principles on the way in which track access should be charged for, whether those track users are benefiting from open access or other forms of access.[23] It provides that:

- An infrastructure charge should be paid by railway operators.[24]
- The state must devise rules which apply to setting the infrastructure charges; the state may delegate that task to the infrastructure manager,[25] but if the infrastructure

[17] Under Articles 10 and 11.
[18] Article 56.
[19] And formally declared as such.
[20] Article 46, 49, 50 and 51.
[21] Article 42, but see also Article 38.
[22] Under Article 42.
[23] Articles 29 to 35.
[24] Article 31.1.

manager is not fully independent of any railway operator a separate independent charging body must take that role instead;[26] these rules must be uniform across the entire network.[27]

- Infrastructure charges must avoid discrimination between railway operators,[28] although it may take into account objective differences, such as distance travelled, stock type, etc.
- "[T]he charges for the minimum access package and for access to infrastructure connecting service facilities shall be set at the cost that is directly incurred as a result of operating the train service."[29] "[T]he Commission shall adopt[30] measures setting out the modalities for the calculation of the cost that is directly incurred as a result of operating the train."[31] We discuss this further at Section 2.2.5.
- "The infrastructure charges [for the minimum access package] may include a charge which reflects the scarcity of capacity of the identifiable segment of the infrastructure during periods of congestion."[32]
- The infrastructure charges [for the minimum access package] may be modified to take account of the cost of environmental effects caused by the operation of the train.[33]
- "In order to obtain full recovery of the costs incurred by the infrastructure manager a Member State may, if the market can bear this, levy mark-ups on the basis of efficient, transparent and non-discriminatory principles, while guaranteeing optimal competitiveness of rail market segments."[34]
- "The level of charges must not, however, exclude the use of infrastructure by market segments which can pay at least the cost that is directly incurred as a result of operating the railway service, plus a rate of return which the market can bear."[35]
- Reservation charges for capacity reserved, whether or not used, can be made, and may be devised to give incentives for efficient use of capacity.[36]

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[25] Article 29.1
[26] Article 7.2
[27] Article 29.2
[28] Article 29.3
[29] Article 31.3.
[30] Implemented as Commission Implementing Regulation (EU) 2015/909, discussed below.
[31] Article 31.3.
[32] Article 31.4. The "identifiable segments" are not necessarily the same as infrastructure designated as congested for purposes of track access, mentioned above.
[33] Article 31.5.
[34] Article 32.1.
[35] Article 32.1.

- Charges can be averaged across services and times to avoid disproportionate fluctuations.[37]
- Discounts may apply, e.g. for bulk, provided they are cost-related.[38]
- Time-limited discounts to encourage new services are permitted, provided they are available to all-comers on a non-discriminatory basis.[39]

The principles of EC legislation described above give Member States considerable flexibility in the way that they can design their charges and incentives regimes. A broad summary of the key factors in the basic track access charge would be:

- All must pay an infrastructure charge according to rules set out.
- The charge for the minimum access package must cover the costs directly incurred caused by the user, and may include charges reflecting scarcity and modifications for environmental costs caused.[40]
- To the extent that the above does not result in cost recovery, including a reasonable rate of return, for the infrastructure manager, there can be mark-ups, reflecting user's ability to pay, up to the point of achieving cost recovery.
- The level of charges should not exclude users who can afford to cover the costs directly incurred.
- All charges must be transparent, non-discriminatory, and consistent with effective competition.

Little detail is given in relation to the mark-ups aside from the points mentioned above. So some considerable freedom is available to devise the mark-ups to have useful incentive properties, or to reflect wider categories of cost, provided that the limited principles – which are in any case good practice – are respected.

In practice the EU charging principles do not strongly impact the ability to achieve a charges and incentives regime in line with RDG's vision for charges and incentives, because the EU legal principles are largely consistent with RDG's vision. This is because:

- most of the specific requirements made – i.e. transparent, non-discriminatory, and consistent with effective competition – are explicitly encompassed as part of RDG's own vision, albeit not necessarily using the same language; and

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[36] Article 36.
[37] Article 31.6.
[38] Article 33.
[39] Article 33.
[40] As clearly stated in Directive 2012/34 at Article 31. But see the comments at 2.2.5 below suggesting some possible legal inconsistency on this point here between the Directive and Implementing Regulation 2015/909.

- the approach to mark-ups and ability to pay, and explicit permission for a variety of methods encompassing key issues (scarcity, congestion, externalities) but without requiring their application, gives a broad range of freedom to develop an efficient system of charges and incentives.

The potential area of difficulty with RDG's vision lies around the requirement to charge for costs directly incurred. Whilst it might seem that most efficient charging systems would charge costs directly incurred, this may not be the case when there are wider economic effects that are not priced. For example, the economic benefits of freight being on rail as opposed to road are not explicitly priced in the current regime. ORR recognised in PR13 that increasing freight charges to the level that it had calculated might have the undesirable effect of pricing some kinds of freight off the railway.

2.2.4. Incentives

EC legislation mentions a number of specific incentives. We have already mentioned above the possibility of charges reflecting congestion, scarcity and capacity reservation charges, and various discounts. In addition:

- There can be a time-limited compensation scheme to compensate railway traffic for the unpriced environmental, accident and infrastructure cost savings it offers over other modes.[41]
- There shall be a performance scheme that can include penalties, compensation and bonuses.[42]
- Charges reflecting environmental effects such as noise are permitted.[43] The European Commission is empowered to make an implementing act to set out further details of charges for noise, but no set date is given for it.
- Incentives to train operators to adopt interoperable technology are permitted.[44]
- Any capacity reservation charge may be constructed to give incentives for efficient use of capacity.[45]
- "Infrastructure managers shall, with due regard to safety and to maintaining and improving the quality of the infrastructure service, be given incentives to reduce the costs of providing infrastructure and the level of access charges."[46] This can be

[41] Article 34.
[42] Article 35.
[43] Article 31.5, and implementing legislation providing further details is in draft.
[44] Article 32.4.
[45] Article 36.
[46] Article 30.1.

implemented through regulatory measures, “based on an analysis of the achievable cost reductions.”[47]

2.2.5. Minimum track access charges

As we noted above, Directive 2012/34 provides that “the charges for the minimum access package and for access to infrastructure connecting service facilities shall be set at the cost that is directly incurred as a result of operating the train service,”[48] and that an implementing regulation should set out modalities in relation to this. The Commission Implementing Regulation (EU) 2015/909 of 12 June 2015 *on the modalities for the calculation of the cost that is directly incurred as a result of operating the train service* sets out these modalities that must be respected in calculating this minimum track access charges. It is also relevant for the requirement that traffic which can pay this minimum amount should not be priced off the network, at least in relation to infrastructure which is not congested.

Whilst the regulation is new, and precedent remains to be established, the regulation appears to set out a minimal notion of “cost that is directly incurred”, using a very short run approach. In particular it makes clear that only those costs that are incurred directly as a result of providing the minimum access package are taken into account. This can include the advancement of maintenance, or the requirement of a more rigorous maintenance regime, as a result of the more intensive use of the railway, or additional operating labour from operating additional trains. Such costs may be assessed on a network wide basis with suitable averaging across classes of traffic. The regulation gives lists of various costs it considers fixed and which must be excluded from such a calculation. Although Directive 2012/34 states that scarcity and environmental charges may be included in the cost of the basic package,[49] the regulation does not mention this or provide any advice on their calculation, which leaves some legal uncertainty around the application of scarcity and congestion charging.

Subject to resolving the legal uncertainties mentioned, we consider that because EU requirements for the basic charge is defined in such a minimalist way it will, in practice, give regulators considerable flexibility to operate within the bounds of EU law and to devise suitable charging methods. The Regulation makes clear that many costs are excluded from the minimum charge, thus keeping the charge low. This leaves a large area of remaining cost that the regulator can then decide how to apportion among users, using the various other

[47] Article 30.4.
[48] Article 31.3.
[49] Articles 31.3, 31.4 and 31.5.

charges and principles the Directive mentions, while respecting the charging principles required.

2.2.6. Public Service Contracts

Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 *on public passenger transport services by rail and by road* is concerned, among other things, with the subsidised provision of transport services on the railway. Its key provision is that where a public transport service involves the granting of an exclusive right to provide it, or else financial compensation, for meeting a public service obligation (PSO), then it must be done in the context of an explicit public service contract (PSC), which transparently sets out the compensation for delivering the obligation. The duration of these contracts should not normally exceed 15 years. The government has sometimes thought it may be desirable to have contracts of a longer term than the regulation strictly allows, although there are possibilities of exceeding these limits in some cases.

Although there is a broad alignment, there are some grounds for debate at a detailed level as to the compliance of all British franchises with this regulation. The regulation explicitly mentions the possibility that PSCs can take the form of a service concession, as used in many British franchises. The regulation defines PSOs (paraphrasing) as a requirement for service which would not be provided commercially to the same extent or under the same conditions. Even for the most profitable franchises, it is likely that the extent and conditions of service required under the franchise are not what would be provided commercially. But some might argue that it is not proportionate to appeal to a relatively modest scope of non-commercial requirements, when a franchise has an extensive commercial core, in order to assert the whole bundle of services is a PSO.

The EU recognises that open access passenger railway services[50] can selectively abstract revenue from services provided under a public service contract. Selectively competing with the more profitable services of such a public service operator is a situation sometimes known as “cream-skimming”.[51] Such cream-skimming has the effect of increasing the amount of subsidy that authorities must provide to enable contracted operators to meet public service obligations.[52] Article 12 of Directive 2012/34 provides that a levy may be charged to open access passenger operators by contracting authorities to compensate them

[50] This includes all services which are not part of a public service obligation, even if operated by a franchised operator.
[51] An alternative term, recently used in EU literature, is “cherry-picking”.
[52] Some franchised operators pay premiums, but given the amount of public funding Network Rail receives, a reduction in their premium can amount to an increase in subsidy overall.

for this.[53] The Directive also empowers the commission to make an implementing act to set out further details of the levy, but no set date is given for its introduction. Such a levy is not a track access charge and is not currently applied in Britain.

2.2.7. Forthcoming EU legislation

The European Commission has presented a Fourth Railway Package, described in COM(2013) 25 "The Fourth Railway Package – Completing the Single European Railway Area to Foster European Competitiveness", to the European Parliament. The key points are:

- Extending open access to domestic passenger rail services, whilst retaining a mechanism to protect services provided under a Public Service Obligation, which typically require financial support in some way; and
- Requiring certain services subject to Public Service Contract to be put to competitive tender.

While the final form of this proposed legislation could be subject to change, the recommendations are similar to what already happens in Great Britain and so unlikely to require any significant changes in Britain.

We have noted in relevant sections above a number of implementing acts to Directive 2012/34 that the European Commission is empowered or required to enact, which will add further detail to that Directive. The implementing acts that may have some relevance to the charges and incentives regime are related to:

- Access for international passenger services, which are required by the end of 2016; and
- Track access framework agreements, and levies to protect against revenue abstraction from publicly funded services, which have no set date.

***Factor**: EU legislation presents a framework for track charging and access, while leaving wide scope for action within that framework. The most important principles are:*

- *Efficient, transparent and non-discriminatory principles facilitating effective competition*
- *Track charges to be at least the cost directly incurred*
- *Charges should not price off traffic which can cover its direct costs incurred*
- *Charges may be made for scarcity, reservation charges, protection and environmental*

[53] Such a levy would not be a track access charge. The possibility of making use of such a levy is currently being evaluated by the Competition and Markets Authority in its enquiry into competition in passenger rail services, see *Competition in passenger rail services in Great Britain, A discussion document for consultation*, Competition and Markets Authority, July 2015.

costs, and mark-ups are allowed for ability to pay, up to full cost recovery

- *A levy can be charged on open access passenger services to protect against revenue abstraction from publicly funded services*
- *Accounting and managerial separation of track and operations*
- *Open access for freight and international passenger services*
- *Subsidised passenger services must have public service contracts*
- *Competition law and State aid law have minor implications*

***Control**: Requires collective will of European Council, European Parliament and European Commission to change legislation.*

***Scope to change**: It is unlikely the present legislation can be changed within the time period relevant to this study. The European Commission is bringing further legislation forward, but whilst it will probably be altered, its direction is unlikely to change.*

2.2.8. State Aid

The avoidance of state aid which might distort competition is a founding principle of the European Union, with high level principles set out in Article 87 of the Treaty of Rome.[54] The EC has published guidelines on the application of this to the railway sector.[55] The EC recognises that railway infrastructure, like roads, are public infrastructure likely to be funded from the public purse. Its key statement on this is as follows.

> "Where infrastructure use is open to all potential users in a fair and non-discriminatory manner, and access to that infrastructure is charged for at a rate in accordance with Community legislation (Directive 2001/14/EC),[56] the Commission normally considers that public financing of the infrastructure does not constitute State aid to railway undertakings."[57]

In other words, European state aid rules do not restrict the public funding of railway infrastructure so long as European law on track access and charging is observed. The guidelines have more telling rules in relation to the provision of railway services, and more especially in relation to the provision of railway equipment, which are unlikely to be relevant for RDG's Review of Charges.

[54] As renumbered following amendments made by later treaties.
[55] 2008/C 184/07 Community guidelines on State aid for railway undertakings.
[56] This reference to Dir 2001/14 would now be taken to be a reference to Dir 2012/34.
[57] 2008/C 184/07, paragraph 24.

2.2.9. Competition law

Competition is another founding principle of the EU, with high level principles originally set out in the Treaty of Rome.[58] The Modernisation Regulation 1/2003 makes national competition authorities responsible for applying EC competition law locally. ORR acts as the competition regulator for the railway sector, albeit that since April 2014 these powers have been exercised concurrently with the Competition and Markets Authority.[59] Guidance ORR has published[60] sets out its view of the effect of European competition legislation. It draws attention to some particular issues.

- Industry-wide agreements: A number of agreed common practices exist to facilitate common approaches such as over ticketing and performance management. There are specific exemptions for such agreements, but only to the extent they are necessary and proportionate to achieve their purpose. Whilst this aspect of competition law does affect the railway industry, it is not usually relevant to charges and incentives.
- Vertical restrictions: being agreements, or ownership relationships, between separate stages of production. For example a track access agreement might entail vertical restrictions if it included terms of exclusivity which might serve to exclude potentially competing operators. The specific EC rules on track access already require that they provide for effective competition.
- Dominance: Infrastructure providers and franchised operators would probably be found to be dominant. There are particular exemptions for providers of general economic interest where a lack of a monopoly would obstruct their performance of those services. The arrangements of Network Rail's regulation and franchise competition would also be considered a reasonable protection against the abuse of dominance.

Competition law also acts to prevent charges and incentives which would distort competition between users of the railway, but it is unlikely that this is in practice any different in effect from the sector specific rules against undue discrimination.

In summary, in relation to track access allocation and charges and incentives, it seems unlikely that general competition law provide any further factors different from those which govern the railway sector specifically.

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[58] The relevant texts are now found as Articles 101 and 102 of the Treaty of Lisbon.

[59] Memorandum of Understanding between the Competition and Markets Authority and the Office of Rail Regulation: concurrent competition powers, Competition and Markets Authority, May 2014.

[60] ORR Competition Act Guideline: Application to Services Relating to Railways, August 2005.

2.3. UK Legislative Framework

2.3.1. Legislative foundation of track access arrangements and charging

Railway legislation has materially altered over the years as successive governments have tried to implement what they believe to be improvements to the institutional structure of the railway industry. In the following, we consider the key framework factors, referring them to the basic legislation.

The main items of primary UK legislation governing the railway industry in relation to charging and access are the Railways Act 1993 and the Railways Act 2005. Some secondary legislation is also relevant, in particular the Railways Infrastructure (Access and Management) Regulations 2005.

Primary legislation is controlled by the government of the day, and the legislative cycle – the time from conceiving of legislation to implementing it – typically lasts a few years. Although the legislative cycle can be speeded up when necessary, the government would generally not wish to rush through legislation necessary to adjust the access, charges and incentives structure without careful consideration, recognising that the proper organisation of the railway industry is a difficult issue that demands careful consideration and consultation.

The purpose of using secondary legislation is precisely that it is quicker and easier to change and more technical in its content. Nevertheless, parliamentary time must be found, and changes would generally only be brought forward after proper consideration. The scope of matters that can be included in secondary legislation must be first set out in primary legislation, which would need to written to give the Secretary of State to bring forward such secondary legislation. The Railways Infrastructure (Access and Management) Regulations 2005 were made and later amended under powers in the European Communities Act 1972, which empowers the Secretary of State to implement European legislation[61] by way of secondary legislation. Thus the scope of these regulations, or similar new regulations, is limited to those matters which are required for implementing European legislation. It is likely that the government will shortly enact an amendment to these regulations for the purpose of transposing EU Directive 2012/34 into law.

2.3.2. Overall Regulation of the Railway Industry

ORR is the economic regulator to the railway industry, in addition to acting as a safety regulator. As applies to all economic regulators, ORR has various powers, which we will

[61] EU Directives need to be explicitly implemented by Member States through transposition into Member States' own local legislation, whereas EU Regulations are automatically part of Member States' law without the need for transposition.

discuss later, but must use those powers in a manner which is consistent with its duties. We will first set out ORR's relevant duties.

ORR has general duties under the Railways Act 1993[62] to promote the use of and development of rail, protect the interests of users, and to promote efficiency, economy and effective competition. It has a duty to minimise the restrictions on those it regulates in order to achieve its purposes. It has a specific duty to act in a manner which it considers will not render it unduly difficult for the holders of network licences to finance any activities or proposed activities of theirs in relation to which ORR has functions. The specific requirements of EC law in relation to access and charges are also implemented in British law, often verbatim, by the 2005 Regulations, thus in effect requiring ORR to comply with those also.

The Secretary of State can give ORR general guidance it must follow, but must consult with the Welsh Government before issuing such guidance.[63] The Scottish Ministers can also give ORR general guidance in relation to railways wholly or partly in Scotland. ORR must also have regard to any notified strategies and policies of the Welsh Government in relation to railways. It must further have regard to the ability of the Welsh Government, the Mayor of London and the PTEs to carry out their functions.

Under the Railways Act 1993, ORR licences infrastructure managers by issuing them with a network licence, which has conditions attached, imposed in accordance with ORR's duties. ORR has the power to vary these conditions if required, but if the licensee does not consent, the Competition and Markets Authority can rule. Although this appears to be a typical economic regulatory structure, which in most other regulated industries would be the mechanism for regulating charges and incentives, this is not the case in railways, and in practice the network licence is of little relevance for charges and incentives.

A network licence provides a basic enabling power by which the other instruments, in particular the conditions scheduled to track access agreements, act as the instruments through which charges and incentives are specified. In particular, Network Rail's network licence achieves this by requiring the licensee not to grant access to its infrastructure except in compliance with ORR's requirements. ORR's requirements include the scheduling of conditions to those track access agreements which set out the charges and incentives. Thus it is track access agreements through which charges and incentives operate. The network licence also gives a general requirement not to discriminate unduly, nor to have any unfair cross-subsidy of unlicensed business.

[62] At section 4.
[63] At Section 4.

ORR, in theory, has the power to control passenger rail fares, other than for franchised services.[64] In practice only the fares of franchised services are controlled, the power to do so lying with the franchising authorities.

We discuss ORR's specific powers in relation to access and charging in the following sections, and move on to discuss the legislative background in relation to track access and charging.

2.3.3. Access to track

ORR, in effect, has full control both over the allocation of access to track and the conditions, including charges, under which that access is granted. It must exercise these powers in accordance with its duties noted above and other specific requirements.

Specifically:

- Under the Railways Act 1993, ORR is empowered[65] to direct the holder of a network licence to enter into an access agreement with an applicant with such conditions attached as ORR specifies, and also has powers in relating to extending the licence; and
- No holder of a network licence may enter voluntarily into an access agreement, or vary it, without obtaining approval of the terms of that agreement from ORR.[66]

The exercise of these powers is restricted by the Railways Infrastructure (Access and Management) Regulations 2005. In particular, a framework must be set by either ORR, or the Secretary of State as appropriate, for allocating capacity upon receipt of applications. The regulations largely repeat the language of EU law, and this is the mechanism by which EU law on track access is implemented in Britain.

If access to the GB rail network was to be mediated more directly through a particular market mechanism, e.g. auctions or charges, rather than the current administrative processes, then it would be necessary to assess whether the current legal framework for allocating track access allowed for this type of approach. Legal advice would be required to assess this.

However, even if current legislation did not allow track access allocation via a particular market mechanism, it is possible that the government may adjust legislation if it was persuaded of the value of market mechanisms for mediating track access.

[64] Railway Act 1993, S4(2)
[65] At Section 17.
[66] Railways Act 1993, Section 18.

2.3.4. Legal framework for track access charges and incentive schemes

Track access charges and incentive schemes are scheduled as conditions of track access agreements. As we note in the previous section, these are conditions that ORR has the power under the Railways Act 1993 to specify in the case that it imposes the agreement, or else requires the parties to submit for approval in the case that the parties seek to enter into an agreement voluntarily. ORR must ensure the conditions, which in particular set out the charging scheme and incentives, are consistent with EU requirements.[67]

ORR has the power under the Railways Act 1993 to prepare, publish, and vary model clauses for track access agreements.[68] Model clauses are standard clauses which are attached to all track access agreements of similar type. In particular, these model clauses set out the charges and incentives which are the subject of RDG's Review of Charges. Each train operator has its own track access agreement, which might in principle have had its own individual conditions. Therefore, it is through model clauses, which are similar in all track access agreements that a uniform method of charging, incentives and review is achieved.

The Railways Act 1993 sets out a process ORR must follow for reviewing track access charges,[69] which are implemented as ORR's price reviews. In practice, it is the model clauses that are subject to review. When ORR carries out such a review, it has to give prior notice to the Secretary of State and the Scottish Ministers, to give them the opportunity to instruct ORR as to the outputs they desire from the railway (high level output statement – HLOS) and the financial resources likely to be available (statement of funds available – SoFA). ORR must have regard to those instructions in its charges review and act in the manner most likely to secure them. In practice, the funds available may fall short of delivering all of the outputs desired.

2.3.5. Infrastructure managers' rights and duties

Network Rail is the main infrastructure manager in Great Britain where matters of access and charging arise, but there are increasingly others. HS1 and Eurotunnel are railways offering access, although there are international issues in the latter case. Transport for London's estate of railways currently includes only a few short sections that have potential for access, but the completion of the Crossrail central section will expose TfL to access and charging issues on a scale it has not previously experienced.

The Railways Infrastructure (Access and Management) Regulations 2005 outlines regulations around infrastructure management in the railways. The infrastructure manager is the body

[67] The Railways Infrastructure (Access and Management) Regulations 2005 repeat the language of EU legislation and make ORR responsible for achieving it, as we note in the previous section.
[68] Railways Act 1993, S21.
[69] Railways Act 1993, Schedule 4A.

responsible for establishing and maintaining railway infrastructure, and for ensuring the provision of network services on that network. Its legal responsibilities include ensuring efficient use and development of the assets. They have an obligation to publish conditions of access in Network Statements, and a responsibility in ensuring that the charging scheme is applied in compliance with the Regulation.

2.3.6. Legal framework in relation to funding the railway

The Railways Act 2005[70] empowers the Secretary of State and Scottish Ministers to give funds for railway services, including to infrastructure managers, freight services and through the funding of franchised passenger services. The Secretary of State is the franchising authority for all passenger railway services in Great Britain, except those which both start and end in Scotland. A franchise authority is empowered to designate certain passenger railway services as subject to franchising, and also to grant services exemption from the possibility of being subject to franchising. The franchise authority sets the terms and conditions of the franchise agreement and lets the tender, but regional bodies may have influence on them.[71] The conditions which can be applied to franchised services are quite broad, including fare control.

2.3.7. Devolved administrations

Scottish Ministers act as Franchising Director in relation to all services which both start and end in Scotland. They have similar funding powers for the railway industry in Scotland as has the Secretary of State more widely – in particular, as noted above, set their own HLOS and SoFA – and must be consulted in relation to services which have at least one stop in Scotland. Scottish Ministers can give guidance to ORR in relation to all railway lines in whole or part in Scotland, but ORR must consider how much weight to give to such guidance, taking into account the level of funding that the Scottish Ministers provide.

The Welsh Government, Transport for London (TfL) and Passenger Transport Executives (PTEs) [72] also have some funding powers, but these are more circumscribed, and vary in detail. They are permitted in some cases to specify and procure some franchises, with the approval of Secretary of State as Franchising Director. Their legal roles are set out in the Railways Act 2005:

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[70] At Section 6 and 8.

[71] Railways Act 1993 Sections 23 to 31.

[72] Greater Manchester (Transport for Greater Manchester), Merseyside (Merseytravel), South Yorkshire (SYPTE), Tyne and Wear (Nexus), West Midlands (Centro) and West Yorkshire (West Yorkshire Combined Authority).

- **Wales:**[73] The Secretary of State must include the Welsh Government as a party in any franchising agreement for 'Wales-only' services (those which both start and end in Wales), and consult the Welsh Government before issuing an invitation to tender (or before entering into an agreement if bypassing the tender process). The Secretary of State should consult the Welsh Government prior to making franchising decisions on services which have any scheduled stops in Wales, although the Welsh Government is not required as a party on the franchising agreement. The Welsh Government will specify and procure the next Wales franchise; the signing of the agreement requires the approval of the Secretary of State.
- **TfL and PTEs**: Arrangements for services in the areas of the PTEs and TfL[74] are similar to those for Welsh services outlined above. As a minimum, they have influence over services in their areas, and in some cases may be permitted to specify and procure franchises. PTEs and TfL may not enter into any agreement with a current or current proposed franchisee or franchise operator without the approval of the Secretary of State.

Factor*: UK legislation presents a framework for track access and access charging consistent with EU legislation, while creating particular power structures and funding frameworks.*

- *The Secretary of State and Scottish Ministers act as Franchising Director*
- *The Secretary of State and Scottish Ministers set out High Level Output Statement and Statement of Funds Available, and may fund the railway industry*
- *The Secretary of State may make directions to ORR.*
- *The Welsh Government, Transport for London and PTEs have varying powers to fund the railway industry, co-sign relevant franchises, and if given approval of Secretary of State, may procure railway services.*
- *ORR allocates track and sets charges in line with its duties, to deliver the directions given to it*
- *The legal framework for track access framework may currently preclude some market allocation methods*
- *Franchising Director and other administrations approved to procure railway services may specify those services and control their fares.*

Control*: UK legislation is controlled by the government of the day*

Scope to change*: Governments are willing to change legislation where a good purpose exists. The legislative cycle is somewhat slow, but changes can be achieved within the timeframe of this review.*

[73] Railways Act 2005 Section 10.
[74] Railways Act 2005 Sections 13 and 15 respectively.

3. Regulatory and Policy Factors

Summary

The current rail policy/regulatory framework has a number of features which impact the effectiveness of the charges and incentives regime, and/or produce resistance to change:

- *existing long-term franchise agreements which protect against change in the charges and incentives regime;*
- *industry consensus around the present allocation of track access charges and performance and possessions regimes; and*
- *political factors, arising from the government approach to the rail sector.*

These factors may restrict the range of available options, for charges and incentives, and potentially reduce the effectiveness of the regime.

Scope of this chapter

In this chapter, we consider factors relating mostly to current policy or established ways of doing things which can in principle be changed in the short- to medium-term but which may still impact the form and/or effectiveness of the charges and incentives regime. However, we also consider recent or expected relevant policy developments.

Key findings:

- ***Franchising** – The objectives of the franchising system and the charges and incentives regime are not aligned. Greater alignment could only be introduced gradually, given the current timetable for re-franchising.*
- ***Track access arrangements** – There is open access by different users that pay different charges. As this involves a cost allocation decision, changes are likely to be resisted by those who lose out under any change.*
- ***Approach to specifying future outputs** – Government plays a significant role in specifying sector outputs, which results in a central planning approach to investment decisions that may not be well matched with charging structures relying on market signals for network investment.*
- ***Other industry arrangements** – The complexity of the current charges and incentives regime is increased by the presence of additional interlinked satellite regimes, as well as multiple versions of the main regime. This reduces the ability of ORR to design a simple charges and incentives regime.*

***Scope to change**: The factors discussed in the chapter relate to current policy and approaches employed in the GB rail industry. These factors can potentially be modified but there are several hurdles to overcome including contractual (for existing franchise agreements), industry consensus (around allocation of network costs) and political issues (government approach to the rail sector).*

***Flexibility**: There is scope to implement new charges and incentives regimes within the current policy framework, although it would restrict the range of options available and potentially reduce the effectiveness of the regime (particularly as a result of franchising policies).*

3.1. Scope of this section

This section discusses the factors affecting the form and/or effectiveness of the charges and incentives regime that may be modified in the short- to medium-term. These factors relate mostly to current policy or established ways of doing things, which can in principle be changed.

The discussion is organised by factor. The factors discussed are:

- franchising;
- track access arrangements;
- approaches to specifying future outputs; and
- other industry arrangements.

3.2. Franchising

3.2.1. Approach to franchising

The majority of passenger rail services in Great Britain are operated under franchise agreements. The agreements allow franchised passenger operators to operate services on certain routes for a specified duration, typically seven years, and under certain specified conditions (level of service, performance, etc.). The agreements also include provisions for termination of the franchise in case the specified requirements are not met. The operator charges fares for these services and receives subsidy or pays a premium to the franchising authority. The franchisee is appointed following a competitive bidding process.

Franchise agreements have standard components but are individually negotiated contracts and therefore the terms of each franchise may differ. A common provision in recent franchise arrangements is the protection given to franchised passenger operators from changes in most track access charges over the duration of the franchise under Schedule 9 ("change mechanisms"). This schedule tends to place franchised passenger operators on risk for their bid assumptions but not for change to the level of charges. The only variation in charges to which franchised passenger operators are typically fully exposed relate to the electricity price. This protection limits the effectiveness of any price signals intended to be delivered via track access charges.

Franchised passenger operators are, however, more likely to consider charges as part of the franchise bidding process. As part of their bid, they specify both the expected revenue and the subsidy or premium they expect to receive or pay to the Government. In the context of access charges, franchised passenger operators consider these as part of the process of assessing the costs of services and the business case for any additional service that they will offer in their bids. Similarly charges are relevant to in-franchise decisions about changes to services.

Funders have to make the trade-off between putting franchised passenger operators on risk for the commercial consequences of their own actions and keeping these risks within operators' financial ability to accept risk. Franchised passenger operators have relatively little ability to sustain risk because they tend to own few assets, are thinly capitalised and achieve low margins on average.[75] Recognising these issues, current franchise agreements protect operators from most changes to the charges and incentives regime.

As demonstration of the limited ability franchisees have to accept risk, and the importance to funders that franchisees do not experience serious financial difficulties, funders often choose to include mechanisms that provide financial protection in franchise agreements against various risks, e.g. revenue risk, and require franchisees to put up financial bonds.

Most franchise agreements established before 2011 (or at least those involving DfT) included some form of revenue-sharing mechanism primarily designed to lower the downside risk of revenue forecasting faced by franchised passenger operators towards the end of the franchise period. This mechanism, together with the access charges protection included in franchise agreements, reduces the amount of risk to which a franchised passenger operator is exposed to. However, it also weakens the signals delivered by access charges by supporting franchised passenger operators if their forecasts prove to be materially incorrect. The reality of these issues is demonstrated by the high frequency of franchisees getting into financial distress for reasons beyond their control in the early years of franchising before modern risk protection mechanisms were employed.

The franchising regime also has implications for on-rail competition. The current franchise model means that in most cases there is only limited on-rail competition between franchised passenger operators outside the periodic franchise competitions (i.e. there is little overlap between franchise routes such that franchise train operators compete with each other for passengers to a limited extent only). There is competition between freight operators on the network (although ORR has looked into potential restrictions to rail freight competition such as control of rail freight sites).[76] This may provide more flexibility in designing access charges as the charges and incentives regime is not likely to distort competition between franchised passenger operators (although there may be effects on competition between freight operators).

3.2.2. Relevant developments in franchising

Given that franchised passenger operators are generally considered to have a limited ability to sustain risk, changes in the risk profile resulting from changes in franchising terms may

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[75] For more information on franchised passenger operator profit margins, see discussion in Chapter 4 of this report.
[76] ORR, "Access to rail freight sites market study", May 2015, available here.

have implications for the amount of risk that franchised passenger operators can be exposed to through the charges and incentive regime. DfT is implementing new kinds of risk-sharing mechanisms in some recent franchise replacements.

For example, DfT has recently implemented a revenue sharing/support mechanism based upon a measure of GDP or similar economic factors. The reason for this is that GDP is outside the franchised passenger operator's control and is likely, for that franchise, to affect revenue systematically. Thus, it is intended to improve protection for franchised passenger operators from random external factors, but expose them more powerfully to the effects of their own decisions. It is possible that other factors could also be used in risk-share mechanisms if they affect franchised passenger operator revenues, for example employment levels tend to be important to commuter franchised passenger operators.

DfT seeks to apply such arrangements to reduce the risk of franchise default. Default has been identified as an important factor in designing franchise replacement competitions, because different bids present different levels of default risk, which is difficult for government objectively to measure and take account of when selecting a franchisee.

Several discussions on potential ways of reforming the franchising regime have taken place in recent years. The Brown report published in January 2013 recommended a more cautious approach to franchise length where a franchise would be awarded for an initial period of between seven and 10 years with the possibility to extend based on pre-agreed criteria.[77] It also recommended further devolution of franchising powers to local and regional authorities and allowing more flexibility in setting output based specifications in franchise agreements.

The Brown report rejected the case for using concessions or management contract arrangements (which insulate the operator completely from demand risk) rather than franchises, except perhaps in situations where major disruption from infrastructure works is expected over a number of years. The Government has largely accepted the recommendations of the Brown report.

While future developments in franchise agreements are uncertain, it is useful to understand some of the potential changes that may take place as the future design of franchise agreements may have implications for the charges and incentive regime. For example, if there is more flexibility in franchise specifications in the future or more variation in franchise agreements due to devolution of franchising powers, the charges and incentive regime should be able to accommodate this.

[77] The Brown Review of the Rail Franchising Programme, January 2013, (available here).

3.2.3. Variants of the franchising regime

The franchising role is carried out largely by DfT although some franchises are specified and procured by devolved or regional authorities - for example, the Wales and Borders franchise is managed by the Welsh Government and the ScotRail franchise by Transport Scotland. Regional authorities with franchising responsibilities include TfL, Merseytravel and NEXUS (North East Combined Authority).

Devolved and regional authorities typically seek to work within particular budgets. Where there are changes to the charges and incentives regime, this can affect the costs to these authorities of the services they have procured, because of the funding arrangements they have with train operators, unless central government compensates them.

The way train services have been contracted by some of these devolved and regional authorities differs substantially from the standard franchising model, which may therefore affect their risk profile. Crossrail services, for example, have been awarded as a concession by TfL (similar to the concession for London Overground) over an initial eight year period (with a pre-priced option to extend for another two years). The contract involves fixed payments to the operator totalling £1.4bn over the eight year term, not including performance bonuses or penalties. The train operator does not face any fare box revenue risk as fare revenues are retained by TfL, and track access charges are a straight pass-through to TfL.[78] The only risk faced by the train operator relates to cost and operational performance. Where performance is better (worse) than target, there will be bonuses (deductions) to concession payments.[79]

The PTE for the Merseyside area, Merseytravel, has also concessioned the operation of train services on the Merseyrail network in a similar way. Although the network is operated by Network Rail, Merseyrail is exempted from the standard franchising legal requirements and train services are run under a 25-year concession awarded in 2003.[80]

In considering alignment between the charges and incentives regime and franchising it is important to consider the nuances of these additional regimes which add to the complexity of the rail industry structure. Under these different regimes, train operators may face different risk-sharing arrangements or different levels of exposure to track access charges, which may have the potential to inhibit the effectives of charges and incentives.

[78] See Crossrail Train Operating Concession, Schedule 11.1, July 2014, available here.
[79] TfL, "Crossrail Train Operating Concession", July 2014, available here.
[80] Merseytravel website, accessed here.

3.2.4. Franchise timing

Another important aspect of franchising is that the cycle is different for each franchise, i.e. the re-letting of franchises is staggered. This is largely to make the bidding process more manageable for the franchising authority. Therefore, the franchising cycle is disconnected from the regulatory cycle, i.e. five-year control periods. DfT has recently made use of short-term direct award franchises to manage the franchising cycle so it is also possible for the cycle to change unexpectedly.

Any change to charges and incentives, which require changes to the franchise agreement to be effective, will take a significant period of time to fully implement requiring renegotiation of agreements and/or changes to agreements as they are re-let.

3.2.5. ROSCOs

The rolling stock used to run train services are mostly owned by three Rolling Stock Companies (ROSCOs) which lease the trains to both franchised passenger operators and freight operators. Because franchised passenger operators lease the most valuable assets they use, they have very few assets, which tends to reduce their ability to accept risk. There are two reinforcing reasons for the general use of external lessors in the franchise sector:

- the Government is concerned that a franchised passenger operator which owns trains might have an advantage at franchise replacement time; and
- the franchised passenger operators may be concerned that they might be left holding unused trains at the end of the franchise (residual value risk).

The leasing regime therefore has a significant impact on the incentive effects delivered by the charging regime given the limited ability of franchised passenger operators to take risk.

Franchise specifications also set out the service requirements that need to be met by the franchisee including either implicitly or explicitly the requirements for the type of rolling stock to be used. The prospective bidders generally conclude conditional agreements for the lease of rolling stock from the ROSCOs during the bidding phase. The agreement is then finalised once the franchise contract has been awarded. Rolling stock leasing costs represent a significant share of the total costs of running a franchise.[81]

However the franchise requirements and limited leasing options mean that franchised passenger operators usually have little flexibility in deciding what type of rolling stock to use. So incentives directed for instance, at using rolling stock which limits wear and tear on the network would have limited effect at least in the short term. This is perhaps even more relevant to freight operators, which also lease rolling stock, and have limited ability to

[81] House of Commons Briefing Paper SN3146, June 2014, (available here).

control exposure to charges via choice of stock. Nevertheless there is some indication that in the longer run the charges regime tends to affect rolling stock design in the intended way.

A small amount of rolling stock is directly owned by passenger operators. Discussions reportedly began in 2013 between DfT and franchised passenger operators on allowing them more freedom to purchase trains directly rather than leasing them from ROSCOs.[82] The plans potentially involve DfT providing guarantees regarding the recovery of the "residual value" of the rolling stock at the end of the franchise. It is envisaged that this approach could encourage competition in the rolling stock supply market challenging the prices charged by ROSCOs.[83]

Rolling stock for some of the large rail schemes (InterCity Express Programme, Thameslink and Crossrail) has been procured by the Government directly from train manufacturers. These developments may make this an area where changes to the current charging arrangements are possible. However, the long life of the assets means that incentives in this area need to remain stable over a long time period in order to have any effect.

Freight operators are more likely to own their own rolling stock. As with passenger stock, new freight stock is generally procured by ROSCOs only with an agreed customer who will influence the specification of the stock. Track charges have had an influence on the specification of freight stock in recent years, to achieve lower track access charges.

Factor: *The objectives of the franchising system and the charges and incentives regime are not aligned.*

- *In general there is a pass-through of track access charges in franchise agreements, which weakens the price signals provided by the charges and incentive regime thus limiting its impact over the franchise period and reducing its effectiveness.*
- *Charges have more impact during a franchise bidding process as they form part of the costs considered by the bidders in creating their business case but some current protections weaken the impact of charge in this process.*
- *The current franchising schedule means there is a disconnect between the franchising and the regulatory cycles – implementing changes in franchising policy will likely be a lengthy process.*
- *Any change to the charges and incentive regime must also consider variations to the standard franchising regime that are currently in operation (for example, those managed by TfL or Merseytravel).*

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[82] Passenger Transport, "DfT plans for operators to fund rolling stock", June 2013, (available here).

[83] The prices charged by ROSCOs has been a matter of public concern. The rolling stock leasing market was investigated by the Competition Commission in 2007 to 2009. The Commission made an adverse finding and as a result undertakings were given by the ROSCOs. See https://www.gov.uk/cma-cases/rolling-stock-leasing-market-investigation-cc

Control: *Government controls the franchise regime – DfT manages most franchises although devolved and regional authorities are also involved in specifying and procuring regional franchises.*

Scope to change: *The franchising regime could potentially be modified. There have been discussions in recent years on reforming the franchising regime. However, contracts aligned with a new charges and incentives regime could only be introduced gradually, given the likely timetable for re-letting franchises.*

3.3. Mixed use network

As discussed in Section 2, the principles of open access and minimum charges are an important factor in the structure of charges. Access rights are established in access agreements that are approved by ORR. Track access agreements are based on model contracts developed by ORR.

There is a presumption of open access to the rail network, though there are a number of hurdles to clear before access will be granted. Open access passenger operators, for example, have to show sufficient additional benefit arising from their services in order to secure access. ORR considers a number of factors including performance and capacity, but the most important test is that the new service should be "not primarily abstractive" of franchised operators' revenues.[84] Where more than one operator wishes to use its rights of access, the principles of fair and reasonable access and even-handed treatment apply.

The GB rail network is used for both freight and passenger services. The operators of these services have differing objectives and as a result different business models. There are different types of passenger traffic operating on the network including franchised operators, open access operators and charter operators. There are also different types of freight services depending on the material transported and type of train used. As a result, the charges and incentives regimes for franchised passenger services, open access services and freight services differ.[85]

Franchised passenger train services make up the vast majority of traffic on the system with freight services representing a relatively small share (around 7%) of total rail traffic.[86] Freight paths allocated largely avoid taking up London commuter peak capacity, and

[84] The "Not Primarily Abstractive" test, under which acceptable open access applications require a ratio of at least 0.3 of generated to abstracted revenues, is a policy set out in the document "Moderation of competition: final conclusions", ORR, May 2004. Clearly the test requires a degree of judgment in its implementation.

[85] For more information on the current charging structure see RDG (2015), "Review of Charges Phase 2b: Assessment of the current charges and incentives regime – Draft", May.

[86] ORR "Rail freight: conclusion on the average variable usage charge and a freight specific charge", January 2013, (available here).

approximately 30% of freight traffic moves during the night.[87] There are currently fewer freight trains in operation at weekends (from Saturday afternoon to Monday morning).[88]

Cost allocation is made more complex in a mixed-use network, compared to a network that is designed for, and used by, only one type of operator, e.g. a freight-only line. Where charges are intended to reflect the costs incurred by different operators, changes to the attribution and allocation of costs may impact the share of cost recovered, through charges, from those different users. Therefore, any changes to cost allocation which are reflected in charges are likely to be met with strong opposition from potential losers.

Factor: *There are a number of different types of operators that use the GB rail network.*

- *Cost allocation is made more complex in a mixed use network.*
- *Changes to the charges and incentives regime could change the proportion in which freight and passenger users share the costs of the network.*
- *Changes are likely to be resisted by those who lose under any change.*
- *The charges and incentives regime needs to reflect the different needs of the network's users*

Control: *The mixed use nature of the regime is partly defined by the Government. The track access regime and track access contracts are overseen by ORR.*

Scope to change: *The mixed use nature of the sector is likely to remain.*

3.4. Approaches to specifying future outputs

Compared with other regulated sectors, the Government (through DfT in the case of England and Wales, and Transport Scotland in the case of Scotland) plays a more significant role in specifying the outputs to be delivered by the rail sector during a price control period. DfT and Transport Scotland also provide a significant part of the funding required to deliver these outputs.

Under the current regulatory model for the GB rail industry, the definition of outputs at a high level and the financial input from the Government is specified by DfT and Transport Scotland. ORR assesses Network Rail's plans (following consultation) as to how best to achieve the outputs and ensures that they are likely to be achieved at an efficient cost.

There are two main elements to the input provided by DfT and Transport Scotland:

[87] Rail Delivery Group, "Planning and Timing of Engineering Works on the GB Rail Network", May 2015 (available here).
[88] Rail Delivery Group, "Planning and Timing of Engineering Works on the GB Rail Network", May 2015.

- the High Level Output Specifications (HLOS), which describes what should be achieved by the rail industry during a specific control period. The HLOS includes specific industry targets (i.e. reliability improvements, delay reductions, capacity increases) that need to be achieved, but may also include specific projects to be carried out; and
- the Statement of Funds Available (SoFA), which outlines what public funds are available during the control period. Given that a large proportion of Network Rail's fixed costs are currently covered through a government grant, investment decisions depend on the resources available and specified in the SoFA.

This approach to specifying outputs and future investments results in a top-down planning approach to investment decisions, which may generate some conflicts for any charges and incentives regime that relies on market signals. For example, under a market based approach network investment projects would be determined by train operators signalling their long-term commitment to pay for network upgrades.

There are limited but important exceptions to these overall arrangements. Some major developments in the rail sector, including Crossrail and the Thameslink upgrade have been handled outside of the structure described above. This partly reflects more specific funding arrangements, e.g. Crossrail includes funding from business organisations in the City of London, and the Government's role in granting planning permission for the developments.

Government involvement in the GB rail industry is likely to remain high, given the reliance of the industry on public subsidies. The Governments' role in the industry more generally may also affect the ability to implement reforms to the charges and incentives regime. As the main funders of the GB rail sector, DfT and Transport Scotland have an important role to play in the industry and their objectives for the sector would need to be considered when deciding on any charges and incentives regime.

There is also substantial private investment in some facilities connected to the rail network, such as rail freight terminals and rail connections to ports and industrial sites. Potential investors have regard to the access charges that will apply to traffic operating from them, and their likely stability.

Factor*: Government plays a strong role in specifying sector outputs.*

- *The current central planning approach to investment may generate conflicts with charging structures based on market signals.*
- *More broadly, political intervention means that ORR's charges and incentives regime might be required to achieve objectives that go beyond standard regulatory objectives.*

Control*: The approach to specification of outputs and investment needs is controlled by the Government.*

Scope to change*: Government involvement in the rail sector is likely to remain high given the reliance of the sector on public funding.*

3.5. Other industry arrangements

In the case of franchising there are specific variant track access and access charging regimes in operation e.g. for HS1, Heathrow Connect access to Heathrow Airport, and Chiltern usage of Metropolitan line. These are more fully discussed earlier in this chapter. The existence of these satellite regimes means that changes to the structure of charges and incentives is more complex and carries more risk e.g. of inadvertently creating perverse incentives. By way of example we discuss below the alternative track access arrangements that will apply to the Crossrail concession and the issues that this raises.

3.5.1. Crossrail Track Access

The most prominent example of a variation to the standard track access arrangement is Crossrail. In 2008, the ORR approved a Crossrail Track Access Option (TAO) concluded between Network Rail and DfT, later novated to TfL, granting access rights to the national rail network for the operation of Crossrail services for a period of 30 years. The TAO set out high-level long-term access rights which then have to be incorporated into Track Access Agreements (TAA) to be concluded between the Crossrail operator and Network Rail. The future TAA(s) will contain specific details on the level of track access charges and the performance incentives that will apply. NR will also charge supplementary access charges to cover the cost of consequential enhancements to its network. All these access charges, however will be covered directly by TfL and will not be passed to the appointed operator.[89]

These satellite regimes and variations of standard regimes constrain the form and effectiveness of the charges and incentives regime by adding complexity to any possible reform. Having multiple additional interlinked satellite regimes, as well as multiple versions of the main regimes reduces the ability to design a simple charges and incentives regime that can be applied consistently across the network.

Factor: *Having multiple additional interlinked satellite regimes, as well as multiple versions of the main regime reduces the ability of ORR to design a simple charges and incentives regime that can be applied across the whole network.*

Control: *This factor is largely controlled by Government, and to certain extent by ORR, who could potentially decide to simplify the existing specific regimes.*

Scope to change: *The complexity created multiple and specific regimes is likely to remain and possibly even increase if further devolution of franchising powers results in other specific regimes being developed.*

[89] For more details see TfL (2014), "Crossrail Track Access", July. Available at: https://tfl.gov.uk/cdn/static/cms/documents/fpc-20140717-part-1-item06-crossrail-track-access.pdf.

4. FUNDING AND OTHER PRACTICAL CONSIDERATIONS

Summary

Funding in the GB rail industry is a practical factor which potentially limits the scope for, and effectiveness of, changes to the charges and incentives regime. This is because funding constraints can determine attitudes towards issues such as risk and reward.

Political pressures can also act as a significant factor affecting the form and/or effectiveness of the regime. For example, resistance to fare increases and service closures may limit the ability of train operators to react to price signals of the charges and incentives regime.

There are other relevant practicalities. For instance, one of ORR's policy objectives is to make track access charges increasingly cost reflective so that industry participants pay in proportion to the impact they have on the railway.

Scope of this chapter

In this chapter, we first consider the complexity of the industry and its financial and budgetary issues. We also look at the ability to raise additional funds via charges and the financial issues associated with changing the existing charges and incentives regime. We then consider whether industry participants could bear any such changes to the regime. Further, we discuss the practical issues of acquiring the information / data required to support changes to the regime.

***Key findings**:*

- ***Financial sustainability** – the scope for making changes to the charges and incentives regime, where this increases charges for some operators, is limited by train operators' ability to bear those increases. This is particularly relevant for freight and open access operators where their ability to bear higher costs is affected by the extent to which they can either pass-on higher costs to their customers or they can absorb higher costs, given their relatively low profit margins.*
- ***Political pressures** – the political sensitivity to higher fares and any reductions in service provision restricts operators' ability to respond to price signals provided by the charges and incentives regime.*
- ***Broader benefits** – passenger and freight operators provide societal benefits e.g. environmental benefits in the case of freight, that are not explicitly valued in the charges and incentives regime, which means that there may be a desire to ensure that changes in charges do not cause material reductions in the output of this sector.*
- ***Incentives** – the current franchising regime makes franchised passenger operators largely indifferent to charges between bidding processes and their asset light structures make it more difficult to create effective incentives. However, charges and incentives have some influence on franchise bids, and where franchised passenger operators may run services in addition to their public service requirement.*
- ***Asset stewardship** – Recent developments in franchising provide the opportunity for incentives on asset stewardship e.g. for stations infrastructure in Greater Anglia and Essex Thameside. However, where train operators play a greater role in the management of long-lived assets, such*

as stations, the need for the long term stewardship of such assets needs to be considered.

- ***Data, measurement and billing*** *– charges and incentives regimes are supported by data capture, measurement systems, models and billing systems. Changes to charges and incentives need to be done in a way that the required data, measurement and billing systems are feasible and proportionate, and provide sufficient time and funding for their implementation.*

Scope to change: *In most cases, the factors considered in this chapter are not determined directly by legislation and so there is scope for change, e.g. the alignment of the regulatory regime and the approach to franchising.*

Flexibility*: The current charges and incentives regime demonstrates that there is scope for financial flexibility. For example, freight and open access operators do not currently pay the Fixed Track Access Charge and only those freight sectors having a substantial competitive advantage over road pay the freight-only line and freight-specific charges.*

4.1. Scope of this section

In this chapter we consider:

- industry complexity;
- factors related to the level of funding raised by charges;
- economic viability of industry participants;
- balance of risk and reward for asset-light companies;
- the desirability of long term asset stewardship; and
- data availability, measurement and billing systems.

4.2. Industry complexity

Industry structure is described in the introduction of this report where we also comment that complexity potentially acts as a practical constraint on the ability and appetite for change. There are a wide range of industry participants, each operating within their own business model and exposed to charges to a greater or lesser degree. In addition, and as described in Section 3 of this report, there are also variants to the standard industry regimes. For example, HS1 has its own regulatory regime (including different charges and incentives); and some devolved authorities, most notably TfL, have their own infrastructure assets charged for under variants of the standard regime. Complexity may increase as new capacity is added e.g. via Crossrail and HS2.

The number of industry participants that have complex inter-relationships make it difficult to predict the way in which each participant will respond to changes to the charges and incentives regime. Each charge or incentive may have an effect on the alignment of incentives between industry participants. Therefore, with a large number of industry parties that interact with each other, it is complex to design charges and incentives that best align incentives between all relevant industry parties.

The GB rail industry already has some issues with the alignment of incentives between industry participants. For example, franchised passenger operators have limited financial interest in the cost to Network Rail of delivery of infrastructure works, and therefore in helping to reduce the cost of delivery of those works. These alignment issues, in part, arise from the complexity of the industry structure, e.g. the separation of rail infrastructure, rolling stock provision, passenger and freight operations and in part from the protections offered to franchise operators.

The industry structure is unlikely to change in the short term, given the scale of the issues that would need to be considered and addressed in any radical change. Additionally, practical issues such as the length of existing franchise contracts would take time to change. This means that industry complexity is likely to remain in all future States of the World.

Factor: *The complex structure of the GB rail industry makes it difficult to:*

- *predict the way in which participants will react to changes to the charges and incentives regime; and*
- *design a regime that aligns the incentives of all industry participants.*

Control: *Government controls potential sector reform/simplification but complexity looks set to increase not decrease.*

Scope to change: *Sector simplification seems unlikely and this perhaps inhibits the pace of change, given the need to consider options carefully and avoid creating perverse incentives.*

4.3. Factors related to the level of funding raised by charges

The practical factors listed below affect the ability to redistribute charges across operators. Factors affecting the level of charges can be relevant for the structure of charges. For example, it might be desirable to base charges on long run costs so as to provide direct funding for capacity increases. But this would result in movement from the current fixed charge and network grant arrangements, and would likely result in an increased level of charges to operators. Operators might then need to be recompensed for this by increased franchise subsidies.

- **Fares policy:** Increases to the level of charges are impacted by wider factors such as the government's fares policy. In another sector, a company faced with a rise in charges would have two choices, to raise prices to customers, or reduce its own margins, or some combination of the two. We have already addressed the difficulty franchised passenger operators have in absorbing cost increases themselves. But it is also difficult for them to pass on increased costs to customers.

In the context of rising demand and the need for additional network capacity, it might be argued that users of the network i.e. passengers, should make a more significant contribution to railway costs than tax payers, and that this should facilitate the imposition of higher charges. But fares increases are both politically sensitive and regulated.

Around 45% of fare-box income comes from fares which are currently regulated, with the current cap on increases set at RPI, and also with fare rebalancing restrictions. Other fares are unregulated, with franchised passenger operators setting them on a commercial basis, working within a framework defined by ticketing rules.[90] But the fact that these fares are unregulated, and have been for an extended period, might itself suggest that they are already at profit maximising level and income cannot be materially increased through them, since demand would reduce more than to offset the price increase. Therefore, franchised passenger operators rely primarily on growing passenger numbers to increase their revenue.

***Factor**: Any requirement for additional funding from fares to facilitate higher or reallocated charges is likely to be politically difficult given recent history*

***Control**: Government controls rail fares policy*

***Scope to change:** Limited given recent political history but there may be some scope via changes to the balance of regulated and unregulated fares.*

- **Network scope and specification**: In another sector, a company faced with increased costs and an inability to increase income might seek to reduce costs by reducing the scope of what it provides. Network Rail is impeded from closing parts of its network by long established closure procedures[91] whose political difficulty is such that they are rarely used. In the past British Rail used to save costs by reducing the capacity of parts of its network,[92] where reduced service levels permitted that. This left few opportunities for further such adjustments by the time of privatisation, given the level of service provided. Since then, it has been unusual for the specification of franchises to facilitate the kind of significant service reduction that might facilitate a cheaper local network. Rather, public service requirements specified in franchises

[90] House of Commons library note SN01904.
[91] Originating in much earlier legislation but now set out in the Railways Act 2005.
[92] For example, sections of the Chiltern Line which have recently been widened from single to double track already lay on a formation wide enough for double track, because they were earlier narrowed to single track by British Rail. This was done both to save maintenance costs on the reduced line, but also to save costs by reusing the lifted track elsewhere. A similar history can be observed in several locations, e.g. on the Redditch-Lichfield line.

are substantially set on the basis that the current level of service is close to the minimum acceptable.

Factor: *Current franchise processes constrain the ability of TOCs to put forward overall beneficial service reductions and this restricts the ability to reduce the level of charges. Any requirement to de-scope may not be politically acceptable*

Control: *DfT and government more generally*

Scope to change: *Change is possible but there is likely to be significant political resistance.*

4.4. Economic viability of industry participants

4.4.1. Freight and open access passenger operators

Although small in volume terms, freight and open access operators are considered to be a valuable part of the GB railway industry.[93] Changes that tended to exclude or substantially reduce these operators would likely be resisted. Non-discrimination rules make it difficult to treat these operators as 'special cases' because placing limits, or caps, on the level of charges for some operators may have impacts on other operators whose charges are not capped.

The freight sector argues[94] that its profit margins are small and particularly susceptible to changes to the structure of charges and incentives regime and/or the introduction of new charges. This issue is common both to freight and to open access passenger operators. It affects the operator's ability to pay increased charges and its ability to withstand any structural changes which redistribute the incidence of charges and incentives. The freight and open access sector also takes on other market and investment risks that franchised operators may be protected from. For example, unlike franchised operators they do not have market exclusivities, they finance assets without the benefit of such exclusivities, such as rolling stock, freight terminals and freight connections.

Analysis by RDG suggests that the average combined profit after tax within the rail freight sector falls below £30 million per annum for the ten years to 2012/13 (£27m in 2012/13),

[93] KPMG, in a report commissioned by RDG, estimated that in 2012/13 the rail freight sector was worth £1.5bn to the UK economy in productivity, congestion and environmental benefits. See *Keeping the Lights on and the Traffic Moving: Sustaining the benefits of rail freight for the UK economy*, RDG, 2014. The open access sector is valued for the competition it provides.

[94] For example the Rail Freight Group made this argument at para 16 of its submission to ORR *Periodic Review 2013: Consultation on the variable usage charge and on a freight specific charge* http://orr.gov.uk/__data/assets/pdf_file/0018/1737/usage-charges-rfg.pdf

with a ten-year rolling average domestic profit margin of 3.5%.[95] This suggests that the returns to rail freight businesses are similar to those in other logistics businesses.

Most categories of freight compete closely with road freight, so that a change in the level of their access charges could result in market share being lost to road. Some categories of freight (mainly coal, steel and spent nuclear fuel) have a competitive advantage over road, and their main competitors are other freight operators. Since these will all experience similar changes in costs from a change in track access charges, one might expect that they could all simply pass on the cost increase to their customers. These categories of freight already pay an access premium recognising their increased ability to pay, because of the competitive advantage rail has over road in these sectors, and which may already substantially absorb the ability of these freight operators to pay more.

Further, in the short term it can be difficult to pass through cost changes to customers, even in markets where rail has a competitive advantage over road, because price may be determined more by the demand and supply balance. Such effects are commonly seen in marine shipping, where the price (e.g. as indicated by the Baltic Dry Index of shipping prices) is notably volatile, because demand and capacity conditions dominate costs in the short run, a factor which also applies to rail freight. Freight customers typically also demand long term haulage contracts with firm prices, particularly if they are to make their own large investments enabling them to make use of rail freight, e.g. in rail freight terminals and port facilities.

Open access operators also have limited ability to pass on increased levels of track charges to their customers. Open access operators compete closely with franchised TOCs, and thus have limited ability to raise revenue though ticket price changes. This is a diverse sector, but we understand that their returns are generally not high.

Overall, it appears that increases in the level of charges in the freight and open access sector would affect the profitability of those operators. Given the modest returns being earned, it suggests that capital would move away from the sector if returns were materially reduced by increases in the level of charges.

This issue is significant, even in relation to changes which might at first seem relatively benign. For example, in PR13 ORR undertook a review of some existing charges to update the data used in the underlying calculations. ORR's findings caused a number of issues for freight, most notably in response to changes to the Variable Usage Charge (VUC) and Capacity Charge. In relation to the VUC, a review by Serco of the contribution of freight to

[95] As outlined in Figure 3.2 "Ongoing domestic profit before tax and profit margin", RDG (2013) Keeping the lights on and the traffic moving: Sustaining the benefits of rail freight for the UK economy. GB rail freight companies are often subsidiaries of larger international freight businesses, which may have some accounting discretion as to how they allocate profits between the UK and other parts of their businesses.

track wear and tear resulted in a reallocation of 39% of variable cost to freight (away from passenger services) increasing the VUC significantly for some operators.[96] This was sufficiently challenging that it was not implemented in that form.

What the PR13 experience illustrates is the difficulty of creating a charges and incentives regime that is effective for all participants, given the range of business models operating in the GB rail industry. In the case of PR13, what were initially expected to be relatively minor changes to the structure of charges resulted in impacts that would have significantly impacted the rail freight industry and open access passenger operators. This serves to underline that even seemingly minor change to the structure of charges and incentives may not be straightforward.

4.4.2. Impact of policy differences on freight and open access passenger operators

An important issue that applies specifically to freight is that government policy seeks to encourage freight on rail rather than road. It is, therefore, not politically acceptable to price freight off rail given the social benefits of reducing road traffic and its contribution to achieving the UK's emissions targets. The application of the government's appraisal methods, taking account of environmental factors, can show a case for targeted investments to increase freight on rail, and such investments have been made, on the assumption that the usage of such facilities is commercially feasible.[97]

As noted above, freight trains tend on average to have a greater impact on asset condition of Network Rail's infrastructure, in terms of wear and tear, than passenger trains. However, in PR13, ORR did not fully reflect new information about the wear and tears costs associated with freight traffic in the VUC for CP5, on the basis that the full increase could not be borne by freight operators.[98]

In an environment where ORR is seeking to improve the cost reflectivity of the charges and incentives regime, the requirement not to price rail freight off the network has an impact on how cost-reflective freight charges can be.

Open access passenger operators also potentially provide wider social benefits than is reflected in their ability to pay track charges, because of the benefits that result from their

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[96] http://orr.gov.uk/consultations/policy-consultations/pr13-consultations/capacity-charge-for-franchise-and-open-access-passenger-for-cp5 and http://orr.gov.uk/consultations/policy-consultations/pr13-consultations/capacity-charge-for-franchise-and-open-access-passenger-for-cp5.

[97] Such appraisals typically take current levels of track charges as given, but volatility risk in track charges is one element undermining the commercial case for using rail. Specific charges borne by road freight, such as vehicle excise duty and fuel duty, also affect the commercial case, and are politically determined.

[98] See ORR, Periodic Review 2013, Rail freight: conclusion on the average freight variable usage charge and a freight specific charge, January 2013.

competition with other operators. Again there is a risk they might be priced off even when they provide net benefits to society.

4.4.3. Timing issues for freight

For freight operators, there are also timing issues relating to its ability to pass increases through to customers with whom it has already signed contracts. Freight business is underpinned by commercial haulage contracts. Commercial partners seek firm and fixed prices wherever possible so the ability to reopen these contracts to impose changes to charges is limited. In some other sectors, hedging instruments exist to help suppliers handle such mismatches, and inputs that are variable factors can be rebalanced. But it seems unlikely that an operator can hedge its access charges risk.

When implementing significant changes to the structure of charges and incentives, the industry would require sufficient notice to allow operators to prepare for change. For example, in PR13, freight operators argued that it was essential that ORR provided early indication of proposed changes to enable the industry to plan. In response to this request, ORR determined the newly introduced freight specific charge in advance of the PR13 Final Determination.

Practical factors: *Impacts of charges on freight operators and open access passenger operators are direct and significant:*

- ***Freight and open access passenger operators achieve modest margins:*** *These operators have limited ability to pass cost increases on to their customers and non-discrimination rules limit special treatment. It is desirable that these operators are not excluded and so this creates restrictions on the overall level of charges, (however distributed) that can be borne by them.*
- ***Freight and open access operators provide wider benefits to the GB economy****: Government policy seeks to encourage freight on rail rather than road. It is, therefore, not politically acceptable to price freight off rail given the environmental benefits of reducing road traffic and its contribution to achieving the UK's emissions target. Similarly, open access provides benefits as a result of competition with other operators.*
- ***Freight contracts do not necessarily align with control periods****: Contracts between freight users and freight operators are not automatically updated after a periodic review. Therefore, changes to the charges and incentives regime should allow time for renegotiation and/or notice of intent. Substantial change to the structure of charges may need to be phased in to provide sufficient time to adapt.*

Control*: ORR controls the structure and level of the charges and incentives regime. However, government policies, for example, role of GB rail freight, do impact on the form of the charges and incentives regime.*

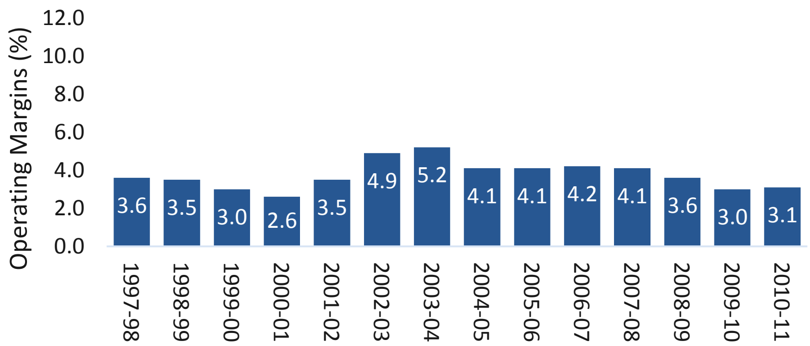
Scope to change*: Limited, given government policy on rail freight*

Flexibility*: the current charges and incentives regime demonstrates that there is some scope for* *financial flexibility. For instance, freight operators and open access operators do not pay the fixed track access charge and only those operators that can bear it pay freight mark-ups.*

4.4.4. Franchised passenger operators

As is the case for freight and open access passenger operators, franchised passenger operators also tend to have relatively low margins despite their large revenue stream. In 2011-12, they collected approximately £7.7bn (excluding non-fares revenue and before subsidy). In the same year franchised passenger operators' costs were £6.3bn and they returned almost £2bn to government. Across franchises, there is significant variation in whether franchised passenger operators return a premium payment or require a subsidy. In 2011-12, Northern Rail drew most subsidy at £303 million, while South West Trains paid the highest premium (£243 million). Taking these premium and subsidy payments into account, analysis prepared by KPMG[99] shows margins in the range 2.6%-5.2% over the period 1997-98 and 2010-11.

Figure 4.1: Average franchised passenger operator Operating Margins



Source: ATOC/KPMG (2013), Growth and prosperity: How franchising helped transform the railway into a British success story.

Despite low margins, the franchised passenger operators are not susceptible to changes to charges to the extent that freight operators and open access passenger operators are. This is because they benefit from a significant degree of protection through their franchise agreements, as noted earlier in the report. They are generally held harmless from increases to charges during a franchise period.[100] As a result franchised passenger operators are largely indifferent to the charges and incentives regime. However, there are two circumstances, where franchised passenger operators consider charges and incentives:

- When bidding a revenue stream as part of a franchising process.

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[99] ATOC/KPMG (2013), Growth and prosperity: How franchising helped transform the railway into a British success story

[100] Separately, where their profit margins fall, as a result of their revenue forecast being different to outturn, they have historically received revenue protection after four years of franchise operation.

- When considering whether to run additional services, during the franchise, above the base level of service agreed in their franchise contract

Charges are potentially more influential in the franchise bidding process when they affect a franchised passenger operator's willingness to offer additional services. We discuss this point further below.

Practical Factor: limited effect of the current charges and incentives regime on franchised passenger operators

Franchising protections: *The protections offered by current franchising requirements mean that franchised passenger operators are largely indifferent to charges between bidding competitions. Charges are however considered in franchise competitions and when franchised passenger operators consider the business case for additional services above the base level of services specified in their franchise contract.*

Control*: DfT and Transport Scotland controls the franchising regime and reviews of the approach are taking place*

Scope to change*: Because of franchised passenger operators' limited scope to accept further risk, it will be challenging to revise the franchising regime to make franchised passenger operators have a large exposure to changes in track access charges or incentives.*

Flexibility*: Since changes in track access charges are currently picked up by funders rather than franchised passenger operators, this does not inhibit changes except to the extent it causes difficulties for those funders.*

4.5. Balance of risk and reward for asset-light companies

As is common in other regulated industries, the GB rail industry's charges and incentives regime includes incentives which offer the opportunity to gain rewards for outperformance but carry the risk of penalty for underperformance. Incentive mechanisms tend to be most effective when the participants have a sufficient capital asset base to be able to withstand a degree of volatility in their performance against the incentive. Franchised passenger operators, however, tend to be asset light which, when combined with low margins, results in limited ability to take risk. Incentives which offer both up and downside risk potential are therefore likely to be relatively unattractive to them, since the costs to them of default on the financial terms in their franchise agreements can be large.

The present franchising regime means that it is difficult to structure franchised passenger operators that are not asset light given the limited length of franchises. Most railway assets are long-lived, and typically have large residual value at the end of a franchise, even if the franchise itself had a relatively long term. Franchised passenger operators cannot be permitted to take true long-term ownership of such assets, because these assets are generally scarce, specific and time-consuming to replace. They must therefore be ring-fenced so that they can be transferred to future franchisees. Therefore, any arrangement could not really give the franchised passenger operator a significant asset exposure.

***Practical factor**: within the current structure incentives, especially those which offer both up and downside risk, are unlikely to be attractive.*

***Incentives:** Asset light industry participants have little ability to absorb risk. This constrains the effective use of incentives particularly those which impose a downside*

***Control**: Incentives are set by ORR as part of the structure of charges*

***Scope to change**: Limited imperative to change. Low margins and asset light structures reflect low risk taken by franchised passenger operators.*

***Flexibility**: Under the current arrangements incentives which offer upside only are likely to be more acceptable but would need to be carefully considered given the wider protections that franchised passenger operators currently receive; material upside payments are unlikely to be politically acceptable where franchised passenger operators are in receipt of subsidy for instance.*

Some franchised passenger operators have however been willing to take greater responsibility for asset stewardship and recent franchise agreements incorporate incentives to reduce costs and improve performance. There may be scope for further development noting that such arrangements require careful consideration.

4.6. The desirability of long term asset stewardship

Asset stewardship refers to the management of long lived assets to minimise the cost of keeping them in good condition for long term requirements. Railway assets are maintained mainly in order to provide publicly specified services. There is a social interest in ensuring their maintenance and preservation that can exceed the private interest of service providers, especially since it can be much cheaper to look after an asset properly in the short run than to have to restore it following neglect.

The quality of asset stewardship is an issue that has had major impact on government's policy decisions. The deterioration of long-lived assets was a significant issue in Railtrack's collapse.[101] It also led to the recognition of the social need for a far greater degree of scrutiny of asset condition than was previously the case. In relation to some long-lived assets such as stations, where train operators can play an active role in the asset management, it is relevant to the charges and incentives regime. But in relation to other assets, such as the track itself, this is an issue which is more related to monitoring of Network Rail than charges and incentives.

Recently, there have been developments in franchising which seek to place greater responsibility for asset condition on the franchised passenger operators e.g. for stations assets in the Essex Thameside and Greater Anglia franchise areas. There have also been a number of alliancing arrangements which rely on close co-operation between Network Rail

[101] For example, recognition of the failings leading to the Hatfield crash led to the realisation that a much more rigorous maintenance regime was required to keep the network in usable condition.

and franchised passenger operators and which involve some degree of risk sharing. These mechanisms rely on incentives to make cost savings and/or improve performance and in the case of stations result in franchised passenger operators that are somewhat more financially robust.

It is important that such arrangements do indeed provide for the desired long-term asset stewardship, since it is possible that the short term cost savings exceed the costs that might be incurred in rectifying any weak stewardship. The government has recently announced a desire to give franchised passenger operators more of a role in station operation.

Practical factor: The societal value of asset stewardship is an important factor in the design of charges and incentives, when an operator has influence over long-lived assets.

Incentives: *Parties may not have incentives aligned to societal value of good asset stewardship*

Control*: Incentives are set by ORR as part of the structure of charges, but also by franchising authorities through the franchising regime*

Scope to change*: Government desires to make changes.*

Flexibility*: There would appear to be considerable flexibility to make changes. But it needs to retain provision for sufficient asset stewardship.*

4.7. Data availability, measurement and billing systems

The charges and incentives regime should be underpinned by robust data and measurement mechanisms and billing systems that support reliable and consistent calculation of the charges, both the unit rates and the quantities to be charged. However, data can be costly to collect and data management systems, models and billing systems can be costly to implement.

Existing systems for the current charges and incentives regime are fully established, operational and fit for purpose. For example, the performance and possession regimes are supported by detailed delay attribution mechanisms; VUC is supported both by calibrated models to calculate rates for many kinds of stock, and measurements of distances travelled. In the absence of electricity metering on many trains, EC4T charges are calculated in large part by complex attribution models.

A move to more a more granular charging system, or some other significant changes, could result in changes both in data to set rates, and measurement and billing systems to implement them. This can be a limiting factor in implementing a particular charges and incentives regime. New data streams and measurement systems take time to develop and where there are multiple participants it is important to ensure that the data being collected and measurement of consumption is both robust and comparable. Some charges systems might require a level of detail in data or measurement that would be disproportionately onerous to collect.

Allocating costs, and potentially charging, at a more granular level may deliver insight into local costs but it also raises some practical issues e.g. in relation to simplicity. For those organisations that run over several routes, e.g. Cross Country franchise and freight operators, it will be necessary to assess whether it creates a system of disproportionate complexity for them.

***Constraints**: The charges and incentives regime relies on data, measurement, models and billing systems to set charges, measure consumption and charge the operators. Changes need to be proportionate and feasible, and may be time consuming both to establish and to embed.*

***Control**: ORR/Network Rail*

***Scope to change**: There is significant scope to change but sufficient time must be allowed for this.*

5. ANALYSIS

5.1. Introduction

This chapter seeks to set out some of the key themes from the previous three chapters. We consider that the following six themes are the most significant. These are, in no particular order:

- The ability of franchised passenger train operators to accept and respond to additional risk and changes in the level of charges;
- Legal factors;
- Data, measurement and billing;
- Funding flows for the GB rail industry;
- Industry complexity and alignment of incentives; and
- The ability of freight and open access operators to accept changes in the level of charges.

We attempt to show the way that these factors affect the type of charges and incentives regime, consistent with RDG's vision, that it might be possible to implement. A clear understanding of these key factors will be important to generating realistic and practical options for charges and incentives that we will evaluate in the next stages of the work. A clear understanding of these factors is required so that potential options can be narrowed down to those that might best achieve RDG's vision.

5.2. Ability of franchised train operators to accept and respond to additional risk and a change in level of charges

In their current form, train operators, i.e. franchised passenger, freight and open access operators, have limited ability to accept significant additional financial risk through the charges and incentives regime.

Franchised passenger operators are lightly capitalised, because the present franchising system makes extensive use of short term leasing for major assets such as rolling stock, depots and stations rather than investments by the franchisee. Since franchised passenger operators' operating costs are mostly fixed, relatively small changes in revenues and costs can put them into a loss-making condition, given their financial structure. As noted at sections 3.2 and 3.3, funders use contractual devices to reduce the level of revenue risk franchisees face, including revenue sharing, index-based adjustment mechanisms, and require financial bonding from franchisees. But nevertheless franchisees can fail for reasons outside their control.

Whilst DfT is exploring possibilities for franchised passenger operators to own more assets, both stations and rolling stock, this may not materially improve their ability to bear more financial risk.

Franchised passenger operators can effectively pass through most of the effect of a change in the level and structure of charges to their funding bodies (see section 4.4), both when bidding for and during franchises. It is public sector funding bodies that will feel most of the effect of changes in the level and incidence of charges on franchised passenger operators, and may therefore resist changes unless their own sources of funding are adjusted in compensation.

5.3. Legal factors

We find that the legal factors are largely benign, in the sense that most legal requirements require things that are in any case desirable in RDG's vision. For example, the EU requirement referring to "efficient, transparent and non-discriminatory principles, while guaranteeing optimal competitiveness of rail market segments" may not be written in precisely the same words as RDG's vision, but communicates a concept which is embraced by RDG's vision.

- The existing EU legal environment is to all intents fixed. But its general approach is well aligned with RDG's vision and the current structure of the industry. It offers considerable flexibility – the minimum charge is low, for most purposes, and there is broad scope for various kinds of additional charges up to full cost recovery, where the market can bear them. Nevertheless, as all track users must pay their costs directly incurred, this does reduce the scope for changes in relation to freight and other non-franchised operators, which might have weak ability to pay.
- The UK legal environment may require some adjustments for some more radical kinds of charging systems. But we do not consider this to be an important limitation, because if it could be shown that this was a worthwhile change, we believe the government would likely be persuaded to adjust the legal framework to accommodate it. But at the very highest level – i.e. the general notion of franchised passenger operators, competition for those franchises, and funding their public service obligations – the broad structure of the industry is unlikely to change.

5.4. Data, measurement and billing

A charges and incentives regime requires a train operator to pay a bill in which each item on that bill is computed, in the simplest case, as a price multiplied by a quantity of consumption or usage. Therefore, the implementation of a charges and incentives regime requires:

- data to calculate the prices in the charging system;

- measurement systems to measure the quantities of usage of the various priced items, ensuring attribution to the correct payee; and
- data handling and billing systems, sometimes including complex models, to compute and administer the charges.

Therefore, the charges and incentives regime must be practical to implement and the costs to implement and operate the required systems should be proportionate, i.e. any new costs incurred should deliver benefits over the existing system, which is fit for purpose. Sufficient lead time needs to be given to implement it effectively.

5.5. Funding flows for the GB rail industry

The public sector is a net funder of the GB rail industry but there are numerous funding bodies (e.g. DfT, devolved administrations) and funding routes (e.g. payments to franchised passenger operators, network grant, funding mechanisms for specific infrastructure items).

As noted at section 3.2, since devolved and regional funding bodies typically work to defined budgets, they are likely to resist changes in the charges and incentives regime that may place increased requirements on their budgets unless they are compensated by central government for such changes.

There is considerable political resistance to changing the scope of services that are currently provided, both the extent of the network and the level of service provided on it. Thus funders are likely to continue funding services currently provided, regardless of the variation in funding levels required. Where services do require a high level of funding, funders are likely to find it necessary to use detailed specifications to ensure that operators do provide them.

5.6. Industry complexity and alignment of incentives

The GB rail industry structure is complex with many interfaces between industry participants. The large number of interfaces, with their multiple contractual arrangements, present a risk that a charges and incentives regime will create a misalignment of incentives at those interfaces (see section 4.2). This complexity also makes it difficult to predict the effects of changes. Therefore, the complexity of the industry limits the number of options for the charges and incentives regime that are consistent with RDG's vision, given the difficulty of minimising misalignment of incentives at the numerous interfaces.

5.7. Ability of open access and freight operators to accept additional risk and changes in the level of charges

In general, the nature of financial incentives increases the financial risk exposure for open access and freight train operators. To the extent that such operators are thinly capitalised and have modest profit margins, this presents a limitation on the extent to which financial incentives can be placed upon train operators. Unlike franchised passenger operators, freight operators and open access operators are already exposed to changes in the charges and incentives regime and are fully exposed to revenue risk, albeit that they do not pay the Fixed Track Access Charge. This gives these operators limited ability to accept significant additional risks.[102]

As noted in section 4.4, freight and open access operators can also have limited ability to accept changes in the level of charges. Even those varieties of freight which have a competitive advantage over road have a limited ability to accept changes in the level of charges.

[102] This is a point that ORR accepted in PR13. When ORR's analysis of the variable usage charge appeared to suggest that the freight sector should accept a substantial increase, ORR found ways to mitigate that.

6. States of the World

Summary

This chapter considers how the factors that impact the form and/or effectiveness of the charges and incentives regime are affected by changes to the current State of the World.

Our analysis is based on the set of potential alternatives states of the world that were developed in Phase 2 of RDG's Review of Charges.

We find that some of the alternatives States of the World have relatively minor effects on the factors for the charges and incentives regime. However, some alternative States of the World depend upon potentially major changes to 'industry arrangements'[103] and so have greater effects on the factors.

Knowing exactly how such changes in arrangements would affect the factors would come only from more detailed understanding of the specific changes that might be made to achieve that State of the World; here we can only indicate broad directions.

6.1. Scope of this chapter

This chapter considers how the factors that impact the form and/or effectiveness of the charges and incentives regime are affected by changes to the current State of the World. Our analysis is based on the set of potential alternatives states of the world that were developed in Phase 2 of RDG's Review of Charges.[104]

We consider each of the seven alternative States of the World developed by RDG in the rest of this chapter.

6.2. Introduction

The first part of Phase 2 of RDG's Review of Charges produced a number of potential alternative States of the World (or scenarios) for development in the industry, under which the charges and incentive regime could operate in future. It represents elements of the GB rail industry that are not part of the charges and incentives regime. For example, it could reflect the degree of competition between passenger services or the extent of regional decision making

The States of the World are not mutually exclusive scenarios; the future rail industry may involve a combination of two or more states. Indeed, some of the defined States of the World have overlaps. The changes envisaged in one State of the World might only apply to

[103] Industry arrangements refer broadly to any of the rules, regulations, contracts, licences, organisations etc. that govern the GB railway industry, which might require changes to achieve each State of the World.

[104] Rail Delivery Group, Current and Potential Alternative States of the World:
http://www.raildeliverygroup.com/files/Publications/2015-05_rdg_roc_states_of_the_world.pdf.

some sections of the network (e.g. intercity services) whilst another state could apply to local services. Similarly, changes to passenger franchises contained in one State of the World may occur at the same time as changes affecting the freight industry described in another state.

The alternative States of the World reflect several major changes to the rail industry which might occur in the next 15 years and which are likely to have an impact on how the industry functions, and consequently how the charges and incentive regime achieves its objectives.

6.3. Overview of alternative States of the World

Figure 6.1 provides an overview of the seven alternative States of the World that RDG has identified.

Figure 6.1: Overview of RDG's seven States of the World.

Feature	Summary of current state	How will the current feature change?	Alternative states of the world						
			1. A more dynamic railway	2. On-rail comp. via flexible franchising	3. More highly specified franchises	4. Freight protection / subsidy	5. Beneficiary pays for capability	6. Change in approach to capacity allocation	7. More regional decision making
On-rail competition	Limited competition in the market for passenger rail services	Increase in on-rail competition	✓	✓					
Franchise protection	Significant protection from changes to access charges	More / less protection	✓ (less)		✓ (more)				
Franchise flexibility	Limited flexibility due to highly specified franchise requirements	More / less flexibility	✓ (more)	✓ (more)	✓ (less)				
Freight protection	Limited protection from changes in access charges but indirect subsidies	More protection and / or direct subsidy				✓			
Availability of network capacity	Some capacity issues across network but surplus capacity elsewhere	Increase in network capacity (HS2 or technology driven)						[✓]	
Approach to infrastructure funding	Funded by track access charges, 'lump sum' grants from governments and Network Rail's commercial income	Beneficiary pays for new network capability	✓				✓		✓
Approach to allocating network capacity	Administrative approach, reflecting historic rights, rather than overall benefits of use	More analytical approach to allocation, e.g. responsive to changes in demand	✓					✓	
Regional decision-making	Two main funders / specifiers (DfT and Transport Scotland), one infrastructure and safety regulator (ORR)	Greater regional decision making							✓

Note: the symbol [✓] reflects that we will consider Alternative State of the World 6 with, and without, increased network capacity

Source: RDG Current and Potential alternative States of the World

In the remainder of this chapter, we briefly discuss each State of the World and consider how they may affect the factors that are discussed in the rest of this report.

However, knowing exactly how such changes in industry arrangements would affect the factors would come only from more detailed understanding of the specific changes that might be made to achieve that State of the World; here we can only indicate broad directions.

6.4. A more dynamic railway

RDG's description of 'A more dynamic railway'

- *More on-rail competition between passenger operators, i.e. increased provision of passenger services by open access operators.*
- *Low franchise protection from changes in access charges, i.e. franchisees are on risk for changes to a wider range of Network Rail's access charges.*
- *Increased franchise flexibility as a result of less highly specified franchise agreements, i.e. franchisees have more freedom to adjust service provision, e.g. in reaction to changes in patterns of demand.*
- *Beneficiary pays approach to fixed costs, i.e. government no longer provides funding of infrastructure via a 'lump sum' direct network grant and instead directs funding to specific projects or to cover specific industry costs.*
- *Decisions on allocation of network capacity are no longer based largely around the rights reflected in the existing timetable. Instead, allocation may reflect other factors, such as the overall benefits of use.*

6.4.1. Factors that may change in this State of the World

This is a complex State of the World involving major changes from the present railway industry structure. It seems likely that such major changes would be implemented largely on main intercity routes, and that the commuter and regional routes would not have such major changes, and we consider it on that basis. There are many ways in which it could be implemented. We can only outline in very broad terms how the factors might change.

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	Maybe	There may be legislative changes required to make all of these changes
3. Track access arrangements	Maybe localised	Although it does not seem to be an essential part of the definition of this State of the World, it is hard to envisage it without some change on the affected routes, e.g. new approach to capacity allocation better to handle multiple competing applications
4. Industry complexity	Yes	It seems inevitable that complexity would increase as a result of increasing operator numbers and greater diversity of business arrangements
5. Fares policy	No	Does not seem to be a necessary part of this State of the World, although it may permit later deregulation, if competition suffices to keep fare levels at acceptable levels

Factor	Change	Comment
6. Network scope and specification	No	
7. Franchising	Yes	Essential part of this State of the World is to change franchising, but may be mainly on intercity
8. Satellite regimes	Maybe	If local funders take over parts of the network there may be more variants of the model track access agreements
9. Economic viability of franchised operators	Yes	In the parts of the network that this SoW extends to, operators will need to have greater financial resilience to cope with the increased risks, but less change in commuter/regional railway
10. Economic viability of freight and OA operators	OA	In the affected parts of the network, changes will be material for OA
11. Approaches to specifying future outputs	Maybe	
12. Long term asset stewardship	No	
13. Balance of risk and reward	Yes	In the parts of the network that this SoW extends to, operators will not have risks protected as in present franchises, and thus will need to be in condition to accept that, but less change in commuter/regional railway
14. Data availability, measurement and billing	No	

6.4.2. Impact on the charges and incentives regime

These complex changes would have to be designed in a way that made them financially feasible for the participants in the industry, in those parts of the railway where changes are made. The State of the World includes low franchisee protection from changes in access charges. This tends to suggest that it has been made financially feasible for industry participants to accept such changes, and thus the changes in factors are positive for the charges and incentives regime, in the sense that the factors becomes less of a limitation on the form and effectiveness of the regime.

But it seems likely that these positive changes in factors would apply mainly to intercity services, and less so to commuter, regional and freight services.

Most relevant factor(s): *Major changes in industry arrangements would be required to achieve this state but are likely to apply mainly to the intercity railway. Those changes need to be achieved in a financially feasible way. It is likely there would be fewer changes in factors for commuter, regional and freight services.*

6.5. On-rail competition via flexible franchising

RDG's description of 'On-rail competition via flexible franchising'

- More on-rail competition between franchised passenger operators or from more open access as a result of fewer services being franchised on certain parts of the network.
- Increased franchise flexibility as a result of less highly specified franchise agreements, i.e. franchisees have more freedom to adjust service provision, e.g. in reaction to changes in patterns of demand.

6.5.1. Factors that may change in this State of the World

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	No	This can be implemented within current legislation
3. Track access arrangements	No	It is not necessary to change this but there may be a need for new approach to capacity allocation better to handle multiple competing applications
4. Industry complexity	Yes	With more competition, there would be more complex interactions between parties
5. Fares policy	No	It is not necessary to change this
6. Network scope and specification	No	
7. Franchising	Yes	One of the assumptions of this state of the world is a change in this factor
8. Satellite regimes	No	
9. Economic viability of franchised operators	Yes	Arrangements for franchisees exposed to competition need to enable them to withstand it
10. Economic viability of freight and OA operators	Maybe OA	The competitive environment and hence financial outcomes for OA operators may change depending upon how this State of the World is implemented
11. Approaches to specifying future outputs	No	
12. Long term asset stewardship	No	

Factor	Change	Comment
13. Balance of risk and reward	Yes	Arrangements for franchisees exposed to competition need to enable them to stand it
14. Data availability, measurement and billing	No	

6.5.2. Impact on the charges and incentives regime

Franchising terms would change both to deliver the State of the World, and make it financially feasible for industry participants. It is possible that other changes to factors might be beneficial, but in most cases they do not seem necessary to deliver this State of the World. We have therefore assumed that such further changes to factors are not part of this State of the World, but rather are further options, that we have excluded from consideration here.

The change in franchising terms could mean that franchising becomes less of a limitation on the effectiveness of the charges and incentives regime. To achieve a situation of less highly specified franchises and more competition, it would require franchise agreements to enable franchised passenger operators to be in a financial position that would enable them to absorb the impact of more uncertainty in their income and costs. This could in principle give franchised passenger operators greater financial ability to accommodate wider changes.

Given the greater opportunities for open access passenger operators to provide a wider range of services, these operators may be able to bear a greater proportion of Network Rail's costs. These changes would have limited effects on freight operators.

Most relevant factor(s): *Changed franchise terms and related industry arrangements to achieve it might make franchised passenger operators more financially resilient and create greater scope for changes to the charges and incentives regime.*

6.6. More highly specified franchises

RDG's description of 'More highly specified franchises'

- Greater franchise protection from changes in the charges and incentives regime, i.e. franchisees are protected from the financial effects of more elements of Network Rail's charges and incentives regime, e.g. the Possessions Regime, Performance Regime and Electric Current for Traction charge.
- Reduced franchise flexibility as a result of more highly specified franchise agreements, such as a management contract, i.e. franchisees have very little freedom to adjust service provision, e.g. in reaction to changes in patterns of demand.

6.6.1. Factors that may change in this State of the World

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	No	
3. Track access arrangements	No	
4. Industry complexity	No	
5. Fares policy	No	
6. Network scope and specification	No	
7. Franchising	Yes	Key change for this State of the World
8. Satellite regimes	No	
9. Economic viability of franchised operators	Yes	Although more protected from some risks, franchisees may also have less flexibility to react to other risks, so the effect on this factor is mixed.
10. Economic viability of freight and OA operators	No	
11. Approaches to specifying future outputs	No	
12. Long term asset stewardship	No	
13. Balance of risk and reward	For franchisees	Although more protected from some risks, franchisees may also have less flexibility to react to other risks, so the effect on this factor is mixed.
14. Data availability, measurement and billing	No	

6.6.2. Impact on the charges and incentives regime

In this state of the world, the main factors that change relate to franchising. The consequences of these changes are likely to be mixed. Franchisees would have more protection from changes in charges and incentives but less operational freedom to respond to other risks. There would be a knock-on effect on funding bodies, as changes in the charges and incentives regime would have larger incidence effects on them than currently. But this would likely be modest.

The factors relating to freight operators and open-access operators would likely be unaffected.

Most relevant factor(s): *with franchised passenger operators made more indifferent and unresponsive to charges and incentives, the changes one could make would be less restricted, but the effect of the changes would be reduced.*

6.7. Freight protection/subsidy

RDG's description of 'Freight protection/subsidy'

- More financial protection or a direct subsidy for freight operators provided by governments.
- This could either be:
  a) Protection from changes to Network Rail's access charges; and/or
  b) Direct subsidy from government to freight operators to reflect the positive externalities / societal benefits of freight.

6.7.1. Factors that may change in this State of the World

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	Maybe	Possible that there may be legislative support for this change
3. Track access arrangements	No	
4. Industry complexity	No	
5. Fares policy	No	
6. Network scope and specification	No	
7. Franchising	No	
8. Satellite regimes	No	
9. Economic viability of franchised operators	No	
10. Economic viability of freight and OA operators	Yes	A change in this factors is key to this State of the World
11. Approaches to specifying future outputs	No	
12. Long term asset stewardship	No	
13. Balance of risk and reward	Freight only	Likely to alter financial risks in the freight market

Factor	Change	Comment
14. Data availability, measurement and billing	No	

6.7.2. Impact on the charges and incentives regime

In this State of the World, freight operators would be made more resilient to the effects of changes in the charging and incentives regime. Therefore, the freight 'economic viability' factor would be less limiting in terms of the changes that could be made to the charges and incentives regime. However, as freight operators will be less exposed to the changes the effect of those changes is likely to be reduced.

As this State of the World only applies to freight, the factors affecting passenger operators are unlikely to be affected.

Most relevant factor(s): *The freight 'economic viability' factor would reduce the limitations of changes to freight charges and incentives. However, the effect of changes is likely to be reduced.*

6.8. Beneficiary funding of infrastructure

RDG's description of '*Beneficiary funding of infrastructure*'

- *Governments no longer provide a lump sum Network Grant directly to Network Rail to fund a mix of new and existing network capability.*
- *Instead, funding is directed to specific projects, potentially via the users that benefit most from those schemes (e.g. franchised operators or regional funders). Alternatively, funding is provided directly to Network Rail but for specific elements of existing capability, e.g. governments explicitly fund historic financing costs, or the societal benefits of enhancements to the rail network.*

6.8.1. Factors that may change in this State of the World

The government announced in the 2015 summer budget[105] that in future funding for Network Rail will be channelled through train operators. So something of approximately the nature of at least the first part of this State of the World is likely to come into existence. The precise manner in which funds will be directed instead to Network Rail is unclear.

We summarise the factors that may change in this state of the world in the following table.

[105] See paragraph 1.255 of the Summer Budget 2015, HC264, where government states it will "change the way it channels public money through the industry, directing it through the train operating companies".

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	Unlikely	
3. Track access arrangements	No	
4. Industry complexity	Maybe	Depending upon the new funding arrangements, there could be greater complexity and more financial interfaces
5. Fares policy	No	
6. Network scope and specification	No	
7. Franchising	No	
8. Satellite regimes	No	
9. Economic viability of franchised operators	Unlikely	Assuming that franchise agreements have been developed in a way that is consistent with this State of the World, it seems likely that this factor would remain largely unchanged.
10. Economic viability of freight and OA operators	Unlikely	On the basis that it seems likely that arrangements consistent with the continuation of this sector would be made, this factor would likely remain similar to currently.
11. Approaches to specifying future outputs	Maybe	With different funding routes, this might also change, e.g. more local decisions about infrastructure improvements.
12. Long term asset stewardship	No	
13. Balance of risk and reward	No	
14. Data availability, measurement and billing	No	

6.8.2. Impact on the charges and incentives regime

If the government changed the funding routes for infrastructure, then this may lead to new parties providing funding to Network Rail. A significant proportion of that funding is likely to come through various funding bodies to franchised passenger train operators, who must therefore obtain larger subsidy payments. Thus it is likely that changes in the charges and incentives regime would have larger incidence effects on the various funding bodies than currently. The groups that have an interest in changes to the charges and incentives regime may well be different in this State of the World, compared to today. Whilst this State of the World may result in some changes to funding flows it does not necessarily change many of the existing factors in the current State of the World.

Most relevant factor(s): *There may be different parties that provide funding directly to Network Rail. As a result, these parties may be affected by changes to charges and incentives.*

6.9. Change in approach to capacity allocation

RDG's description of 'Change in approach to capacity allocation'

- Decisions on allocation of network capacity are no longer based largely around the rights reflected in the existing timetable. Instead, allocation may reflect other factors, such as the overall benefits (both railway revenues and societal benefits) generated by a particular use of a train path, e.g. intercity, commuter, freight, possession for maintenance. Or, capacity allocation may respond more quickly to changes in patterns of demand.
- In practice, a more analytical approach would be taken to allocating train paths, compared to the current state of the world.
- A change in approach to allocating network capacity should be considered in two states of the world:
  - a) Current capacity / capability remains; and
  - b) A significant increase in capacity, resulting from the outputs of the 'Digital Railway' and/or a major enhancement project such as High Speed 2.

6.9.1. Factors that may change in this State of the World

It is likely that changes to the way network capacity is allocated to train operators would be selectively applied to parts of the network, most likely intercity routes. Therefore, this State of the World may have limited impact on regional and commuter services. And so the changes in factors noted below might apply mainly to intercity services.

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	Maybe	It is possible that the government may find it necessary to bring new legislation forward to implement this
3. Track access arrangements	Yes	Changing this factor is the focus of this State of the World, but it may be applied mainly to certain parts of the network only
4. Industry complexity	Maybe	Industrial arrangements may become more complex depending upon other structural adjustments needed to deliver new network capacity allocation methods
5. Fares policy	No	Not necessary, but may facilitate changes
6. Network scope and specification	Localised	Maybe some greater flexibility of specification on some parts of the network, but unlikely to extend to regional and commuter services.

Factor	Change	Comment
7. Franchising	Localised	It is likely that some franchising practices would have to change in areas of the network subject to this change.
8. Satellite regimes	No	
9. Economic viability of franchised operators	Localised	May change where these practices are brought in, but unlikely to have much effect on franchises delivering mainly regional and commuter services.
10. Economic viability of freight and OA operators	Maybe for OA	The situation of OA operators is likely to change, if OA becomes more important as a component in some sectors of the GB railway.
11. Approaches to specifying future outputs	Maybe but localised	There may be some changes in relation to those areas of the network where changes are made
12. Long term asset stewardship	No	
13. Balance of risk and reward	Localised	It seems likely that a more flexible approach to the railway will require more flexible railway companies to be able to operate, but unlikely to have much effect on franchises delivering mainly regional and commuter services.
14. Data availability, measurement and billing	No	

6.9.2. Impact on the charges and incentives regime

This State of the World specifies a new, more flexible, approach to allocating network capacity. It could be a market method of assignment of that capacity, or it could be something achieved through revised administrative methods, or some mix. It is unlikely to be extended to commuter and regional services.

Although we cannot prejudge how this would be achieved, or to what degree, the factors in this State of the World must become more flexible than the present industry arrangements. This is because the industry must be arranged so that industry participants have greater financial flexibility. The charges and incentives regime would need to be consistent with the new more flexible capacity allocation methods. With greater financial flexibility, this is likely to present an opportunity to use a wider range of charges and incentives.

A change in approach to allocating network capacity may affect freight operators, if their access rights changes as a result. However, other factors for freight are likely to be unchanged.

__Most relevant factor(s):__ It is likely that these changes would mainly affect intercity routes. Commuter and regional routes are less likely to be affected. It is likely that many factors must change to facilitate this State of the World. It seems likely that this State of the World would provide greater flexibility for making changes to the charges and incentives regime in the affected parts of the GB rail network.

6.10. More regional decision-making

RDG's description of 'More regional decision-making'

- *More responsibility for decision making (funding, policy, operational) at a regional level. For example, with the provision of local passenger service being procured and funded by regional bodies, e.g. Passenger Transport Executives*
- *Governments no longer provide lump sum grants directly to Network Rail to fund a mix of new and existing capability. Instead, funding is directed to specific projects, potentially via the users that benefit most from those schemes (e.g. franchised operators or regional funders), or funding is provided directly to Network Rail but for specific elements of existing capability*

6.10.1. Factors that may change in this State of the World

We summarise the factors that may change in this state of the world in the following table.

Factor	Change	Comment
1. EU legislation	No	
2. UK legislative framework	Maybe	Some small changes may be necessary
3. Track access arrangements	No	
4. Industry complexity	Maybe	With regional bodies more active, may be more interface issues
5. Fares policy	Maybe	Regional bodies may pursue distinctive fares policies
6. Network scope and specification	No	
7. Franchising	Maybe	Regional bodies may be pursue distinctive franchising methods
8. Satellite regimes	Maybe	If regional bodies take responsibility for infrastructure then there could be more satellite regimes
9. Economic viability of franchised operators	No	
10. Economic viability of freight and OA operators	No	
11. Approaches to specifying	No	

Factor	Change	Comment
future outputs		
12. Long term asset stewardship	No	
13. Balance of risk and reward	No	
14. Data availability, measurement and billing	No	

6.10.2. Impact on the charges and incentives regime

In this State of the World, more funding decisions would be made by devolved funding bodies, which presumably would have greater funds made available for them to disburse. Devolved funding bodies would potentially become more exposed to changes in the charges and incentives regime and any changes to charges and incentives may lead to changes in the net cost of funding to these bodies.

This State of the World also incorporates the changes in the "Beneficiary funding of infrastructure" State of the World above. If the government funded specific projects through other routes, rather than through lump sum grants, then a revised charges and incentives regime would need to be consistent with those flows.

Most relevant factor(s): *The distribution of funding sources to the railway industry would be different. The charges and incentives regime would need to be consistent with the new funding routes for infrastructure projects.*

ANNEX A SYNTHESIS OF FACTORS IMPACTING ON REFORM

#	Factor	Who controls factor?	Ease of change	Impact of the form and/ or effectiveness of the charges and incentives regime	Report section
1	EU Legal Framework	EU	Low	• Efficient, transparent and non-discriminatory principles facilitating competition • Track charges to be at least the cost directly incurred, but not price off traffic which can cover its direct costs incurred. • Additional charges are allowed for scarcity, reservation charges, protection and environmental costs, and mark-ups are allowed for ability to pay, up to full cost recovery • A levy can be charged on open access passenger services to protect against revenue abstraction from publicly funded services • Accounting and managerial separation of track and operations • Open access for freight and international passenger services • Subsidised passenger services must have public service contracts	2.2
2	UK Legislative Framework	Govt	Low	• The Secretary of State (SoS) and Scottish Ministers act as Franchising Director, set out HLOS and SoFA, and may fund the railway industry. SoS may make directions to ORR. • Welsh Government, TfL and PTEs have varying powers to fund the railway industry, may co-sign relevant franchises, and if given approval of SoS may procure railway services. • ORR allocates track and sets charges in line with its duties, to deliver the directions given to it • Track access's administrative framework may currently preclude some market allocation methods • Franchising Director and other administrations approved to procure railway services may specify those services and control their fares.	2.3
3	Franchising	Govt	Medium	• Franchisees are protected from changes in track access charges weakening the price signals from the charging and incentives regime over the franchise period, reducing its effectiveness. • Charges have more impact during a franchise bidding process. • The franchising schedule does not match the regulatory cycles, delaying effects of new charges. • Any change to the charges and incentives regime must also consider the franchises that differ from the standard franchising regimes, such as those managed by TfL and Merseytravel.	3.2
4	Track access arrangements	ORR	Medium	• Changes to the charges and incentives regime could change the proportion in which freight and passenger users share the costs of the network.	3.3

#	Factor	Who controls factor?	Ease of change	Impact of the form and/ or effectiveness of the charges and incentives regime	Report section
				• Changes are likely to be resisted by those who lose under any change. • The charges and incentives regime needs to reflect the different needs of the network's users.	
5	Approaches to specifying future outputs	ORR	High	• The current central planning approach to investment would be incompatible with charging structures based on market signals. • More broadly, political intervention means that ORR's charging/incentive regime might be required to achieve objectives that go beyond standard regulatory objectives.	3.4
6	Other specific satellite regimes	Govt	Medium	• Having multiple additional interlinked satellite regimes, as well as multiple versions of the main regimes reduces the ability of ORR to design a simple charges/incentives regime that can be applied across the whole network.	3.5
7	Industry complexity	Govt	Low	• Complex industry structure makes potential modifications difficult to achieve, and more difficult to align incentives through a charging regime	4.2
8	Fares Policy	Govt	Low	• Any requirement for additional funding from fares to facilitate higher or reallocated charges is likely to be politically difficult given recent history	4.3
9	Network scope and specification	Govt	Medium	• Current franchise processes constrain the ability of franchised passenger operators to put forward overall beneficial service reductions and this restricts the ability to reduce the level of charges. Any requirement to de-scope may not be politically acceptable	4.3
10	Economic viability of freight/ open access operators	ORR / Govt	Medium	• Freight and open access operators achieve modest margins, have limited ability to pass costs to customers, restricting overall charges on them given that it is desirable not to exclude them • ORR's charging policy currently aiming to achieve cost-reflective charging (which places a higher burden on freight), in conflict with Government environmental objectives/ policy. • Freight contracts are somewhat inflexible; changing the charging regime should allow time for renegotiation and/or notice of intent. May need to phase in any substantial changes.	4.4
11	Economic viability of franchised operators	Govt	Medium	• The protections offered by current franchising requirements mean that franchised passenger operators are largely indifferent to charges between bidding competitions. Charges are however considered in franchise competitions and when franchised passenger operators consider the business case for additional services above the base level of services specified in their franchise contract.	4.4
12	Balance of risk and reward for	ORR	Medium	• Incentives within the current structure, especially those which offer both up and downside risk, are unlikely to be attractive.	4.5

#	Factor	Who controls factor?	Ease of change	Impact of the form and/ or effectiveness of the charges and incentives regime	Report section
	asset light companies			• Asset-light industry participants have little ability to absorb risk. This constrains the effective use of incentives particularly those which impose a downside	
13	Value of long-term asset stewardship	Govt	High	• The societal value of asset stewardship is an important factor in the design of charges and incentives, when an operator has influence over the long-lived assets	4.6
14	Data availability, measurement, and billing	ORR / Network Rail	Medium	• The charging and incentives regime relies on data, measurement, models and billing systems to set charges, measure consumption and charge the operators. Changes need to be proportionate and feasible, and may be time consuming both to establish and to embed.	4.7