

# Rail Delivery Group

## Charges and Incentives User Guide

June 2014

# Introduction

## Purpose of this document

The purpose of this 'Charges and Incentives User Guide' is to provide an overview of the regulatory charges and incentives mechanisms that are in place in the GB rail industry in CP5. The Guide is intended to:

- help inform and support discussion, particularly at the senior level, around the RDG Review of Charges; and
- provide a useful reference for industry colleagues and provide a sign-post for further detail and contacts.

The Guide answers the following 'standard' questions in respect of each of the charges and incentives mechanisms:

- What is the purpose of the charge/incentive?
- Who is subject to the charge/incentive?
- How does the charge/incentive work?
- What evidence underpins the 'level' of the charge/incentive?
- Why does the charge/incentive work the way it works?
- What are the main changes to the charge/incentive between CP4 and CP5?
- How is the charge/incentive related to other mechanisms?
- What is the evidence on the effectiveness of the charge/incentive in delivery its purpose?

For each of the charges and incentive mechanisms, the Guide also provides answers to 'Frequently Asked Questions (FAQs)' that are pertinent in context of that specific instrument.

The Guide covers the following charges and incentive mechanisms:

- Capacity Charge;
- Coal Spillage Charge;
- Electrification Asset Usage Charge;
- Electricity for Traction Charge;
- Fixed Track Access Charge;
- Freight Only Line Charge;
- Freight Specific Charge;
- Route-based Efficiency Benefit Sharing Mechanism;
- Schedule 4 possessions regime;
- Schedule 8 performance regime;
- Station Long Term Charge;
- Variable Usage Charge; and
- Volume Incentive.

## The periodic review process

Within the context of the Network Licence, ORR carries out a Periodic Review (sometimes referred to as an 'access charges review') for a 5-year control period, where it determines:

- the outputs that Network Rail must deliver;
- the level of income that Network Rail can recover to fund its activities and how that income is made up through charges and other sources; and
- the range of incentive mechanisms to encourage Network Rail to deliver and outperform its determination on outputs and funding, and provide incentives to other industry parties.

In October 2013, ORR concluded its Periodic Review 2013 (PR13) on Network Rail's outputs and funding for Control Period 5 (CP5), which runs from 1 April 2014 until 31 March 2019. ORR's decisions are set out in its [Final Determination for CP5](#).

## Network Rail's 'net revenue requirement' and regulated income

As part of the periodic review process, ORR determines Network Rail's '**net revenue requirement**'. The net revenue requirement is the amount of funds ORR assumes that Network Rail needs to spend during the control period, after taking account of the commercial income it expects Network Rail to receive (e.g. property income).

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Network Rail is then permitted to recover its net revenue requirement through its 'regulated income'. This regulated income consists of:

- **Track access charges** - this represents the income that ORR assumes Network Rail will receive from operators in return for access to the rail infrastructure. A significant proportion of track access charge income is does not vary according to the level of traffic, although there are a number of access charges which vary by the level of traffic;
- **Station access charges** - this represents the money that ORR assumes Network Rail requires to maintain, renew and repair both the franchised and managed stations that it owns;
- **Network grant** - this represents the grant that is paid by Governments to Network Rail in lieu of the Fixed Track Access Charge paid by franchised passenger operators; and
- **Other income** - this represents the money that ORR assumes Network Rail will recover through other revenue streams, such as 'depot charges'.

The Periodic Review sets out the overall income needed to fund the efficient expenditure that ORR assumes is sufficient for Network Rail to deliver its output targets. It is then through the business plan process that Network Rail determines how best to maintain and renew the network and therefore how budgets should be allocated accordingly. Network Rail has flexibility, however, through the business plan process to decide how best to manage the network in accordance with its regulated outputs and spend money as it sees fit. **ORR only determines the company's income level – not its spend.**

### Track and station access charges and incentive mechanisms

[Access charges](#) are set at levels which ORR determines are sufficient to fund the expenditure that it believes Network Rail needs to operate, maintain and renew the network and meet a set of prescribed output targets. ORR approves charges for the whole of the control period as part of the periodic review, and there is limited scope to change charges within-control period.

The current structure of charges for CP5 consists of fixed and variable elements. The table, below, lists the regulated track and station access charges that Network Rail currently levies and the amount of income that each charge is forecast to recover over CP5 in total<sup>1</sup>.

| Charge                                    | Forecast income recovered during CP5 (2012/13 prices) |
|---|---|
| Capacity Charge                           | £1,999m   |
| Coal Spillage Charge                      | £15m  |
| Electrification Asset Usage charge (EAUC) | £77m  |
| Fixed Track Access Charge (FTAC)          | £2,379m   |
| Franchised Station Long Term Charge       | £597m   |
| Freight Only Line Charge (FOL)            | £20m  |
| Freight Specific Charge (FSC)             | £14m  |
| Managed Station Long Term Charge          | £159m   |
| Electricity for Traction Charge (EC4T)    | £1,744m   |
| Variable Usage Charge (VUC)               | £1,137m   |

<sup>1</sup> It is worth noting that, whilst Schedule 9 provides for annual caps on liability to industry parties (it applies to a failure to perform an obligation under the Network Code) it does not limit any liability under Schedules 4, 7 and 8.

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Network Rail receives the Network Grant directly from government in lieu of some fixed track access charges. The total Network Grant for CP5 is £19.6bn.

According to ORR's PR13 Final Determination, charges provide:

- Cost recovery: A mechanism for Network Rail to recover the efficient costs it incurs in providing track and station infrastructure used by train operators;
- Signals for efficiency of use: Users make better use of services, including capacity, by responding to signals sent through prices based on cost. Charges provide signals to train operators, their suppliers and funders for the efficient use and development of vehicles and the infrastructure;
- Signals for cost efficiency and allocation: Charges allow costs to be allocated. Where charges allocate costs to those who have caused them to be incurred they provide an incentive to reduce those costs; and
- (d) Signals for efficient provision of goods and services: Charges send signals to providers as to the goods and services they should provide. In this case, charges could provide an incentive to Network Rail to respond to signals sent by users through prices and their consumption decisions about what they are willing to pay for and what Network Rail should therefore provide (as long as those charges cover the cost of provision).

Separately, ORR describes its objectives for charging as follows:

- to promote the objectives of our duties under section 4 of the Railways Act 1993 and be consistent with the wider objectives of funders;
- to incentivise Network Rail, train operators, train manufacturers, rolling stock companies (RoSCOs) and funders to ensure the efficient utilisation and development of the network and the optimisation of whole industry costs;
- to not unduly discriminate between users of the network;
- to be practical, cost effective, comprehensible and objective in operation;
- to be consistent with relevant legislation, including the EU Directive 2001/14/EC;
- to reflect the efficient costs caused by use of the infrastructure (both to Network Rail or otherwise); and
- to ensure that track access charges enable Network Rail to recover, but not to over recover, its allowed revenue requirement.

The penultimate and final objectives imply a fundamental feature of the approach to charging for access to Network Rail infrastructure: all Network Rail charges are **cost-based**. The charges reflect Network Rail's efficient costs only, and do not take account of the 'demand side' by, for example, reflecting the 'value' of access rights. This approach is motivated by economic theory, which suggests that the 'efficient' way to 'price' an offering such as railway infrastructure access is to charge (short-run) marginal costs to variable traffic (e.g. VUC, Capacity Charge, EC4T), with efficient fixed costs being recovered by means of lump-sum payments (e.g. FTAC and the Station LTC). Similarly, European legislation (and its transposition into UK law) provides clear guidance in respect of this cost-based approach to charging, although it does also allow charges which reflect the 'value' of paths.

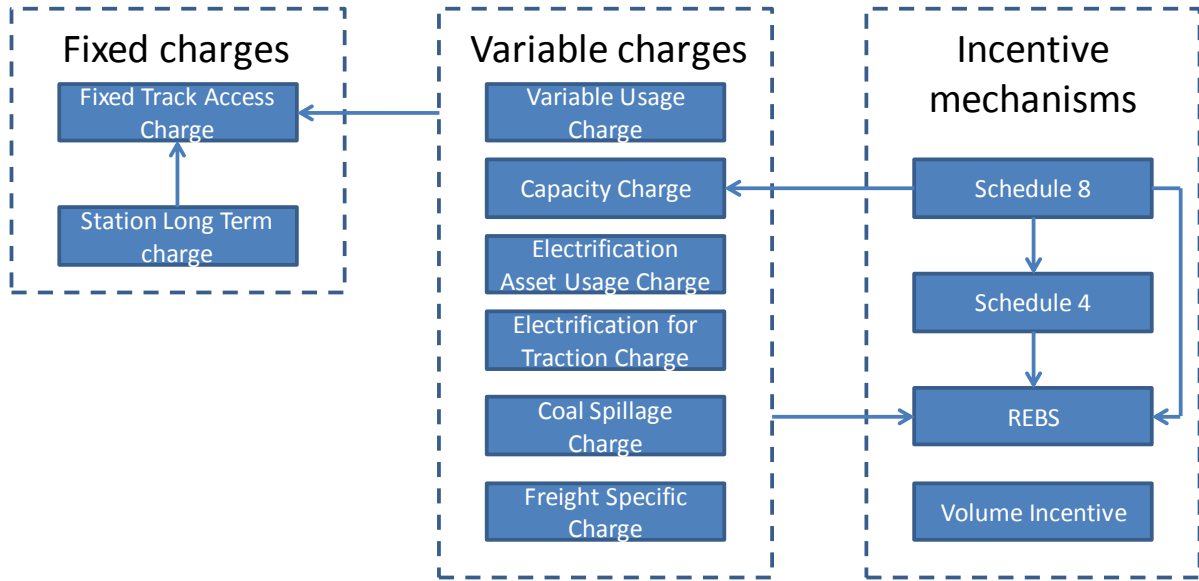
A number of financial incentive mechanisms also exist that are intended to promote various 'desirable' outcomes. These include the Schedule 4 and 8 possessions and performance regimes, the Volume Incentive and the Route-based Efficiency Benefit Sharing (REBS) mechanism.

The various charges and incentives are related to each other in a number of ways. The diagram, below, describes the relationships between the different mechanisms. Full details of the interactions are described in the sections on each charge, but can be summarised as follows:

- The Fixed Track Access Charge is affected by all other charges because it is set so as to recover Network Rail's net revenue requirement once all other projected income (for example from variable track access charges, stations charges and the network grant) has been taken into account;
- Since the Capacity Charge recovers Network Rail's additional Schedule 8 liability from growing traffic, its level is fundamentally determined by the financial flows in the Schedule 8 regime;
- Schedule 4 (the possessions regime which provides compensation in respect of planned disruption) builds directly on the Schedule 8 regime, but recognises the notion that the 'warning' provided to consumers means that impact on operator revenue of 'planned' disruption is typically less than 'unplanned' disruption; and

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- The Route-based Efficiency Benefit Sharing mechanism (which shares Network Rail routes' financial out- or under-performance with train operators) includes Schedules 4 and 8 and a number of variable charges.



The remainder of this Guide provides an overview of the various charges and incentives mechanisms.

**Useful contacts**

| Charge             | Job title           | Organisation        | Areas of responsibility                              | Contact details   |
|--------------------|---------------------|---------------------|--|---|
| Jonathan Chatfield | Manager, Regulation | Rail Delivery Group | General regulatory matters and RDG Review of Charges | 020 78418007,<br><a href="mailto:jonathan.chatfield@raildeliverygroup.com">jonathan.chatfield@raildeliverygroup.com</a> |

# Capacity Charge

## What is the purpose of the charge/incentive?

The Capacity Charge is designed to neutralise the increased Schedule 8 liability to Network Rail of accommodating additional traffic. This is to avoid Network Rail being disincentivised from growing traffic on the network. It does this on a 'liquidated sums' basis (i.e. avoids 'case-by-case' negotiations), so as to avoid transaction costs. A secondary objective of the charge is to provide appropriate incentives and price signals to train operators and funders to make efficient use of network capacity. ORR has previously noted that the Capacity Charge – although regarded by ORR as a 'cost directly incurred' – has characteristics similar to that of a congestion charge (see ORR's PR13 Consultation on Incentives, available [here](#)).

## Who is subject to the charge/incentive?

The Capacity Charge is paid by franchised passenger, open access, charter and freight operators, and applies to all traffic (including Empty Coaching Stock movements).

The table, below, shows Network Rail's forecast income from the charge by operator-type for the first year of CP5.

| Operator             | Forecast income for 2014/15<br>(2012/13 prices) |
|----------------------|---|
| Franchised Passenger | £385m   |
| Open Access          | £1.2m   |
| Freight              | £4.2m   |
| Charter              | £0.07k  |

## How does the charge/incentive work?

The Capacity Charge is charged on the basis of train-miles. For open access and franchised passenger operators, the Capacity Charge varies according to Service Code. This reflects the differences in capacity usage in different areas of the network and differing Schedule 8 'payment rates' across the network. For freight and charter operators, the charge is constant across the network. For all traffic, there is a 'weekend discount' reflecting lower levels of network capacity use on weekends.

## What evidence underpins the 'level' of the charge/incentive?

The Capacity Charge is underpinned by a body of statistical analysis around the relationship between capacity use and delay. For CP5, the evidence was updated by a consortium led by

Arup, and the work was reviewed by FTI Consulting. This analysis is used to estimate the impact on delay of adding an extra train-mile. This impact on delay is then 'monetised' by using the payment rates from the Schedule 8 performance regime.

## Why does the charge/incentive work the way it works?

The Capacity Charge is levied per train-mile since this metric is thought to best represent capacity restrictions, and is levied at Service Code level to capture differences in capacity utilisation at different network locations.

## What are the main changes to the charge/incentive between CP4 and CP5?

On average, Capacity Charge tariffs have more than doubled between CP4 and CP5. This is due to higher Schedule 8 payment rates and higher capacity utilisation across the network on average.

In addition, annual year-end 'wash-up' arrangements for open access, charter and freight operators have been established. Such arrangements are intended to protect these operators – which are not protected from increases in charges through franchise agreements – from the large increases described above. The wash-ups are designed such that these operators effectively pay the (typically lower) CP4 tariffs on 'existing' traffic, but the (typically higher) CP5 tariffs on any traffic growth within CP5.

The following changes have also taken place for CP5:

- The Capacity Charge will be levied at Service Code rather than Service Group level. This represents much more granularity than the previous arrangements and is expected to permit services to run that would previously have not been viable; and
- The weekend discount has been increased from 25% to 33% for franchised operators in light of analysis undertaken by Arup.

## How is the charge/incentive related to other mechanisms?

The Capacity Charge is closely related to the Schedule 8 performance regime. It recovers the estimated additional Schedule 8 costs from increasing traffic on the network, and hence the Schedule 8 payment rates feature centrally in the calculation of the Capacity Charge – higher Schedule 8 payment rates manifest themselves directly in the Capacity Charge tariffs.

## FREQUENTLY ASKED QUESTIONS

### The Capacity Charge is designed to neutralise the increased Schedule 8 liability of accommodating *additional* traffic. Why, therefore, is it levied on *all* (existing and additional) traffic?

This issue has been extensively debated since the inception of the Capacity Charge, and opinions on this approach continue to differ. The following reasons are usually cited for the charge being levied on all traffic:

- Applying the charge only to new traffic would result in undue discrimination between existing and new operations;
- Network Rail does not benefit financially from applying the Capacity Charge in respect of all traffic since every additional pound it expects to receive through the Capacity Charge results in a reduction of FTAC income by a pound; and
- Franchised operators are held neutral to Capacity Charge payments through their franchise agreements.

The wash-up arrangements introduced in CP5 allow, in effect, for a degree of differentiated charging between 'old' and 'new' charges.



# Coal Spillage Charge (CSC)

## What is the purpose of the charge/incentive?

The purpose of the Coal Spillage Charge (CSC) is to recover the costs associated with coal spillage on the network (e.g. clean-up costs and reduced asset lives) from those operators who transport coal and cause the cost to be incurred. The charge helps to ensure that the cost impact of coal spillage is not 'jam spread' across all operators, including those who do not transport coal.

## Who is subject to the charge/incentive?

The CSC is only paid by freight operators transporting coal.

The table, below, shows Network Rail's forecast income from the charge for the first year of CP5.

| Operator | Forecast income for 2014/15<br>(2012/13 prices) |
|----------|---|
| Freight  | £3m   |

## How does the charge/incentive work?

The CSC payable by an operator for a particular journey is calculated by multiplying the CSC rate by the distance travelled in 1000 gross tonne miles (kgtm). For example, if the CSC rate is £1 per kgtm and the total kgtm of the journey was 100, the charge payable would be £100 (£100 = £1 x 100 kgtm). The gross tonne mileage of a journey is calculated by multiplying the weight of the train by distance travelled in miles (i.e. if a train weighed 1,000 tonnes and travelled 100 miles this would equate to 100,000 gross tonne miles or 100 kgtm).

## What evidence underpins the 'level' of the charge/incentive?

The level of the charge is based on Network Rail's analysis of the cost impact of coal spillage on the network. This estimate was reviewed and refined by the independent reporter, Arup, as part of PR13.

## Why does the charge/incentive work the way it works?

Arguably the charge could be levied based on tonnes lifted (the weight of the coal being transported) rather than tonne miles (which reflects the mileage travelled as well as the weight of the coal) because coal spillage tends to occur very close to loading / unloading points and thus the total distance of the journey is less relevant. However, for CP5 it was considered appropriate to retain the existing approach of levying the charge on a £/kgm basis. A key

consideration in this respect was not introducing undue cost and complexity into the billing process.

## What are the main changes to the charge/incentive between CP4 and CP5?

The main difference between the charge in CP5 and CP4 is that in CP5 the level of the charge will no longer be reviewed on annual basis. In CP4, the level of the CSC increased/decreased each year depending on the number of coal-related points failures. A key reason for removing this adjustment was that it imposed a disproportionate administrative burden on the industry.

## How is the charge/incentive related to other mechanisms?

The CSC is not directly related to other charges. However, it is similar to other variable charges in the sense that it seeks to recover costs incurred by Network Rail that vary depending on traffic levels.

## Electrification Asset Usage Charge

### What is the purpose of the charge/incentive?

The EAUC (Electrification Asset Usage Charge) recovers costs that vary with traffic of maintaining and renewing the electrification assets.

### Who is subject to the charge/incentive?

All operators which run electrified train services (and hence which draw power from the electrified network) pay the EAUC. This includes passenger, freight and a small number of charter services.

The table, below, shows Network Rail's forecast income from the charge by operator-type for the first year of CP5.

| Operator             | Forecast income for 2014/15<br>(2012/13 prices) |
|----------------------|---|
| Franchised Passenger | £13.4m  |
| Open Access          | £0.0m   |
| Freight              | £0.7m   |

### How does the charge/incentive work?

The EAUC is levied on a pence per electrified vehicle mile basis (or £ per electrified thousand gross tonne mile (kgtm) for freight services).

### What evidence underpins the 'level' of the charge/incentive?

The cost estimate was based on long-run (35 year) annual average costs, taken from Network Rail's infrastructure cost model (ICM). Engineering judgement (on the level at which maintenance and renewals costs associated with the electrification assets vary with traffic) was used to quantify the percentage variability for each relevant cost category.

### Why does the charge/incentive work the way it works?

The EAUC is levied on a pence per electrified vehicle mile basis (or £ per electrified kgtm for freight) rather than a mark-up on the traction electricity charge (as was the case in CP3), reflecting the fact that these costs are more closely related to mileage than electricity consumption.

### What are the main changes to the charge/incentive between CP4 and CP5?

The main changes to the charge between CP4 and CP5 are:

- A more detailed approach to assessing each cost category was carried out; and
- Cost estimates were based on long-run (35 year) annual average costs (in CP4, the average was taken over five years).

### How is the charge/incentive related to other mechanisms?

The EAUC is not directly related to any other mechanisms.

## Electricity for Traction Charge

### What is the purpose of the charge/incentive?

The Electricity for Traction Charge recovers the costs of traction electricity supplied by Network Rail to train operators to power train operators' electric train services.

All traction electricity costs are directly passed through to operators, therefore any energy savings made by operators would result in a lower Electricity for Traction Charge. However, in the presence of the volume 'wash-up' (see FAQs, below), these savings are shared with other operators which run electrified services in the same area. Those operators which opt-in to use on-train metering, directly benefit from any energy savings, since they do not participate in the volume wash-up.

### Who is subject to the charge/incentive?

All operators who run electrified train services (and hence which draw power from the electrified network) pay an Electricity for Traction Charge. This includes passenger, freight and a small number of charter services.

The table, below, shows Network Rail's forecast income from the charge by operator-type for the first year of CP5.

| Operator             | Forecast income for 2014/15<br>(2012/13 prices) |
|----------------------|---|
| Franchised Passenger | £229m   |
| Open Access          | £3.7m   |
| Freight              | £6.2m   |
| Charter              | £0.03m  |

### How does the charge/incentive work?

The charge works by levying a Electricity for Traction Charge based on each operator's consumption, multiplied by the relevant pence per kWh tariff.

### What evidence underpins the 'level' of the charge/incentive?

The level of the charge is underpinned by the cost incurred by Network Rail i.e. all relevant costs are passed through to electric train operators via the Electricity for Traction Charge and the volume and cost wash-ups.

Most electric train operators are charged using [Modelled Traction Electricity Consumption Rates](#), which are multiplied by electrified mileage (or electrified kgm) and the relevant pence per kWh tariff to calculate a modelled Electricity for Traction Charge.

Some electric train operators are charged on the basis of metered consumption multiplied by the relevant pence per kWh tariff to calculate a metered Traction Electricity Charge. In addition, an allowance is made for transmission losses on Network Rail's infrastructure. This is a fixed percentage uplift on metered consumption determined by ORR, and varies by geography.

At the end of each financial year, two wash-ups are carried out. These are explained in more detail below.

### Why does the charge/incentive work the way it works?

The structure of the charge works this way as it is considered to be the most cost reflective approach to recovering traction electricity costs.

### What are the main changes to the charge/incentive between CP4 and CP5?

The main changes to the charge between CP4 and CP5 are:

- Freight operators will be charged based on actual pence per kWh tariffs, instead of an indexed tariff;
- Network Rail will take a share of the volume and cost wash-ups (to reflect its ability to manage transmission losses), instead of passing through all traction electricity costs to operators; and
- Transmission losses % uplifts will be disaggregated by electricity supply tariff area (ESTA), instead of just two uplifts for the AC and DC networks.

### How is the charge/incentive related to other mechanisms?

The Traction Electricity Charge is not directly related to any other mechanisms.

## FREQUENTLY ASKED QUESTIONS

### What is the volume wash-up?

The volume wash-up reconciles modelled kWh consumption and actual kWh consumption in each ESTA, and results in an increase or decrease in the allocation of kWh consumption to operators resulting in a payment to or from the train operator to Network Rail.

Only 'modelled' operators participate in the volume wash-up. Metered operators do not participate in the volume wash-up because there is no uncertainty in their usage of traction power, apart from their share of transmission losses.

**What is the cost wash-up?**

The cost wash-up reconciles the difference in the pence per kWh tariffs charged in each period, and the actual pence per kWh tariffs which Network Rail paid for that electricity, and results in a payment to or from the train operator to Network Rail.

Both metered and modelled train operators participate in the cost wash-up.

**What is the difference between the AC and DC network?**

The AC (alternating current) network uses overhead lines to power trains. The DC (direct current) network uses a third rail to power electric trains. The majority of the Sussex, Wessex and Kent use the third rail (DC) to power their train services. There are considerably higher transmission losses on the DC network, owing to the lower voltage.

# Fixed Track Access Charge

## What is the purpose of the charge/incentive?

The Fixed Track Access Charge (FTAC) recovers Network Rail's net revenue requirement after accounting for the income it receives from: variable track access charges; station charges; other single till income; and network grants.

When it was introduced, the regulator emphasised that a key purpose of FTAC was to promote accountability by ensuring that the infrastructure manager concentrated on serving its customers (the train operators).

## Who is subject to the charge/incentive?

The FTAC is payable by franchised passenger operators only.

The table, below, shows Network Rail's forecast income from the charge for the first year of CP5.

| Operator             | Forecast income for 2014/15<br>(2012/13 prices) |
|----------------------|---|
| Franchised Passenger | £406m   |

## How does the charge/incentive work?

The FTAC is levied per franchised operator, and is fixed for the entire control period. Since governments pay the Network Rail directly the Network Grant in lieu of FTAC, the overall level of FTAC income received by Network Rail (and amount payable by operators) is determined in large part by the exogenous decision of governments.

## What evidence underpins the 'level' of the charge/incentive?

The total FTAC for England & Wales and Scotland is determined by ORR in its [Final Determination of Network Rail's outputs and funding for 2014-19](#). In particular, the network grant largely determines the level of the charge.

To calculate the FTACs, Network Rail allocated all CP5 costs and income to franchised operators on the basis of agreed traffic metrics (e.g. train miles, vehicle miles, tonne miles, electrified train miles). RAB costs (i.e. financing costs) were allocated using Network Rail's long-run renewals forecasts. After this, the network grant (as determined by ORR for England & Wales and Scotland) was deducted from the total FTAC.

To make the FTACs more cost reflective, Network Rail deducted operator-specific income (i.e. station long term charges and facility charges) at the end of the allocation process from the specific operators to which they relate.

## Why does the charge/incentive work the way it works?

The FTAC is a way to recover the costs of running Network Rail from its customers. This charge structure is deemed to be the most pragmatic way to do this.

## What are the main changes to the charge/incentive between CP4 and CP5?

The main change to the charge between CP4 and CP5 was that Network Rail included an extra step in the methodology which split the FTAC by route before allocating to relevant franchised passenger operators. This was in response to ORR's expectations as set out in its May 2012 document.

## How is the charge/incentive related to other mechanisms?

The FTAC is related to all other cost and income forecasts for CP5. In particular, variable charges are subtracted from the net revenue requirement (along with the Network Grant and other income) to determine its overall level.

## FREQUENTLY ASKED QUESTIONS

### What happens when franchises are remapped?

When franchises are remapped, the FTACs paid by affected parties would be adjusted to reflect the change in network usage e.g. forecast vehicle km, tonne km or train km, of the remapped services.

This would be subject to agreement between the parties and ORR approval.

### How is the FTAC calculated for cross-border services?

Scottish specified franchised operators do not pay FTACs for their usage of the English network and DfT specified franchised operators do not pay FTACs for their usage of the Scottish network.

The total FTAC for Scottish specified franchised operators is equivalent to the net revenue requirement (net of grant and other income) for Scotland. The total FTAC for all DfT specified franchised operators is equivalent to the net revenue requirement (net of grant and other income) for England & Wales.

# Freight Only Line (FOL) Charge

## What is the purpose of the charge/incentive?

The purpose of the Freight Only Line (FOL) Charge is to recover some of the fixed costs associated with lines used solely by freight operators (e.g. branch lines to ports and power stations). In particular, the FOL Charge recovers track, civils and signalling costs on these parts of the network that do not vary with traffic. The charge helps to ensure that costs are recovered from those operators which cause them to be incurred and every £1 received by Network Rail in the FOL Charge represents £1 less subsidy to Network Rail from government(s).

## Who is subject to the charge/incentive?

The FOL Charge is only paid by freight operators. Furthermore, because the charge recovers fixed rather than variable costs it is only paid by those segments of the freight market deemed by ORR as capable of paying higher charges (relevant legislation means that Network Rail can only charge what the market can bear in relation to the recovery of fixed costs). In CP5 the FOL Charge will be levied on the following freight commodities:

- Coal for the electricity supply industry;
- Spent nuclear fuel; and
- Iron ore.

ORR’s analysis indicated that levying higher charges on these market segments was unlikely to result in significant switching from rail to road.

The table, below, shows Network Rail’s forecast income from the charge for the first year of CP5.

| Operator | Forecast income for 2014/15 (2012/13 prices) |
|----------|--|
| Freight  | £3.8m  |

## How does the charge/incentive work?

The FOL Charge payable by an operator for a particular journey is calculated by multiplying the FOL Charge rate for the relevant commodity by the distance travelled in 1000 gross tonne miles (kgtm). For example, if the FOL Charge for the commodity was £1per kgtm and the total kgtm of the journey was 100 the charge payable would be £100 (£100 = £1 x 100 kgtm). The gross tonne mileage of a journey is calculated by multiplying the weight of the train by distance

travelled in miles (i.e. if a train weighed 1,000 tonnes and travelled 100 miles this would equate to 100,000 gross tonne miles or 100 kgtm).

There is a different charge rate for each of the relevant commodities, reflecting the different levels of cost and traffic.

It should be emphasised that charges are levied on network-wide traffic, rather than just traffic on freight only lines, but calibrated such that this approach does not over-recover costs.

## What evidence underpins the ‘level’ of the charge/incentive?

The cost associated with each of the freight only lines was calculated using Network Rail’s Infrastructure Cost Model (a model used by Network Rail for business planning purposes). The cost of each line was then apportioned between the relevant commodity groups based on each commodities share of traffic on each line.

## Why does the charge/incentive work the way it works?

Arguably, because the FOL Charge seeks to recover fixed costs (i.e. costs that do not vary with traffic), the charge could be levied on freight operators as a fixed amount each period, like passenger Fixed Track Access Charges. However, this was considered to be inappropriate because of the competitive nature of the freight market – if freight operators win or lose contracts during CP5 the primary user of each of the freight only lines would change and, theoretically, this would have to be reflected in charges. Therefore, rather than continuously make such adjustments to charges, it was considered more appropriate to levy the charge based on the gross tonne mileage travelled by each operator.

## What are the main changes to the charge/incentive between CP4 and CP5?

The main change in relation to the FOL Charge between CP4 and CP5 is that it was extended to cover iron ore traffic (in CP4 the charge was only levied on coal used in the electricity supply industry and spent nuclear fuel).

## How is the charge/incentive related to other mechanisms?

The FOL Charge is not directly related to any other charges. However, it is similar to the Freight Specific Charge (FSC) that also aims to recover some of the fixed costs attributable to freight traffic.

# Freight Specific Charge (FSC)

## What is the purpose of the charge/incentive?

The purpose of the Freight Specific Charge (FSC) is to recover some of the network-wide fixed and variable costs that are not recovered by other charges and would be avoided by Network Rail in the absence of freight traffic (e.g. freight enhancement schemes). The charge helps to ensure that costs are recovered from those operators which cause them to be incurred and every £1 received by Network Rail through the FSC represents £1 less subsidy to Network Rail from government(s).

## Who is subject to the charge/incentive?

The FSC is only paid by freight operators. Furthermore, because the charge recovers fixed rather than variable costs it is only paid by those segments of the freight market deemed by ORR as capable of paying higher charges (relevant legislation means that Network Rail can only charge what the market can bear in relation to the recovery of fixed costs). In CP5 the FSC will be levied on the following freight commodities:

- Coal for the electricity supply industry;
- Spent nuclear fuel; and
- Iron ore.

ORR’s analysis indicated that levying higher charges on these market segments is unlikely to result in significant switching from rail to road.

The table, below, shows Network Rail’s forecast income from the charge for each year of CP5.

| Operator | Forecast income (2012/13 prices) |         |         |         |         |
|----------|----------------------------------|---------|---------|---------|---------|
|          | 2014/15                          | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| Freight  | £0m                              | £0m     | £1.5m   | £4.6m   | £7.6m   |

## How does the charge/incentive work?

The FSC payable by an operator for a particular journey is calculated by multiplying the FSC rate for the relevant commodity by the distance travelled in 1000 gross tonne miles (kgtm). For example, if the FSC rate for the commodity was £1per kgtm and the total kgtm of the journey was 100, the charge payable would be £100 (£100 = £1 x 100 kgtm). The gross tonne mileage of a journey is calculated by multiplying the weight of the train by distance travelled in miles (i.e. if a train weighed 1,000 tonnes and travelled 100 miles this would equate to 100,000 gross tonne miles or 100 kgtm).

There is a different charge rate for each of the relevant commodities, reflecting the different levels of cost and traffic associated with each of them.

## What evidence underpins the ‘level’ of the charge/incentive?

An estimate of the total cost that would be avoided by Network Rail in the absence of freight traffic was developed by the consultancy L.E.K. as part of PR13. The total avoidable costs were apportioned between the different commodities using appropriate metrics (e.g. gross tonne miles). The cost estimate developed by L.E.K. was used to inform the level of the FSC in CP5. However, ultimately, the level of the FSC was set significantly below the L.E.K. cost estimate in recognition of the fact that passing on the full cost would result in a very large increase in charges for freight operators.

## Why does the charge/incentive work the way it works?

Arguably, because the FSC seeks to recover fixed costs (i.e. costs that do not vary with traffic) and variable costs not recovered through other charges the charge could be levied on freight operators as a fixed amount each period, like passenger Fixed Track Access Charges. However, this was considered to be inappropriate because of the competitive nature of the freight market – the commodities that each freight operator transports will change if one operator ‘wins’ business from another and, theoretically, this would have to be reflected in each operator’s charge. Therefore, rather than continuously make such adjustments to charges, it was considered more appropriate to levy the charge based on the gross tonne mileage travelled by each operator.

## What are the main changes to the charge/incentive between CP4 and CP5?

The FSC is new for CP5 (it did not exist in CP4).

## How is the charge/incentive related to other mechanisms?

The FSC is not directly related to other charges. However, it is similar to the Freight Only Line (FOL) Charge, which also recovers fixed costs attributable to freight traffic. The difference between the two charges is that the FSC recovers network-wide fixed costs and not just the fixed costs associated with branch lines used solely by freight operators.

# Route-level Efficiency Benefit Sharing (REBS)

## What is the purpose of the incentive?

REBS is a mechanism that has been introduced to the regulatory framework for CP5. Its purpose is to strengthen the alignment of incentives between Network Rail and train operators and to encourage them to work together to reduce infrastructure costs at the route-level.

REBS encourages train operators to help Network Rail reduce its costs. The mechanism allows efficiency gains and losses in Network Rail's costs to be shared between Network Rail and train operators on an annual basis. Participating train operators would receive a share of outperformance but would also make a contribution towards underperformance compared to the REBS baseline for each route.

## Who is subject to the incentive?

All franchised passenger, open access and freight operators can choose whether to participate in REBS. They will need to make a decision on whether to opt-out of the mechanism for the duration of CP5 on or before 30 June 2014. If an operator does not serve an opt-out notice by this date (in accordance with the provisions set out in the Schedule 7 of the track access contract), there will be very limited circumstances in which it could then opt-out of REBS during CP5.

## How does the incentive work?

REBS is based on the difference between a fixed baseline and the actual level of income and expenditure for each route.

### REBS baselines

The baselines have been set by Network Rail for each route and year of the control period, for the following expenditure and income lines:

- Support costs;
- Operations costs;
- Maintenance costs;
- Renewals costs except information management renewals expenditure;
- Industry costs (RSSB and BTP only);
- Schedule 4 & 8 costs;
- Property income except income linked to telecoms and income generated by the spend-to-save investment framework; and
- Variable usage, capacity and electrification asset usage charge income.

The total of the individual route-level REBS baselines must equal ORR's Final Determination for each category and each year for England & Wales and Scotland. This means that Network Rail can transfer income and costs between the 9 routes in England & Wales but cannot change the totals. Complying with this requirement means that there are differences between the final CP5 REBS baselines and Network Rail's route business plans for CP5.

The final CP5 REBS baselines published by Network Rail can be accessed [here](#). Network Rail cannot make any adjustments to these baselines.

### Calculation of REBS performance

As set out in ORR's recently published "Guide to REBS in CP5" (which can be accessed [here](#)), for each year of CP5 ORR will calculate REBS performance on the following basis:

- Identify the subset of Network Rail's income and expenditure that is included within REBS;
- Calculate the variance between Network Rail's actual cumulative income and expenditure and the cumulative REBS baselines for that subset of Network Rail's income and expenditure (calculated net of any alliance payments);
- Adjust REBS performance to reflect the impact of any deferral or acceleration in Network Rail's renewals programme, where appropriate, and for any significant changes to Network Rail's route cost allocations;
- Adjust the renewals element of REBS performance to be consistent with the RAB roll forward policy<sup>2</sup>; and
- Assess whether Network Rail has delivered its regulatory output requirements and if it has not, make adjustments to REBS performance as appropriate (and in accordance with the process set out in ORR's CP5 Regulatory Accounting Guidelines).

### Sharing rules

If there is outperformance against the baseline, 25 per cent of the outperformance will be paid to train operators. If there is underperformance, 10 per cent of the underperformance will be paid by train operators to Network Rail.

The total amount eligible for any sharing under REBS is capped at 10 per cent of the REBS baseline. This applies each year and to each route. The sharing rules are then applied to this amount, resulting in the upside and downside payment caps. These are set out in the final CP5 REBS baselines document, as referenced above.

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<sup>2</sup> The RAB roll forward policy is the process for updating the value of (or rolling forward) Network Rail's regulatory asset base in each year of the control period. Under the RAB roll forward pain / gain sharing mechanism, Network Rail is able to retain 25% of an efficient underspend on renewals (and enhancements) expenditure. Where an efficient overspend is eligible for a RAB addition, Network Rail will generally bear 25% of the overspend. The assessment of the renewals element of REBS performance will be consistent with these arrangements.



*Allocating payments between participating operators*

As there are multiple operators on each route, the route's total outperformance or underperformance will be allocated in proportion to each train operator's annual share of variable usage charge income on that route. Because REBS is optional, only train operators that have elected to participate in the mechanism will receive or make REBS payments.

**What evidence underpins the 'level' of the charge/incentive?**

Ultimately, REBS is based on ORR's efficient expenditure and income assumptions for England & Wales and Scotland. For the 9 England & Wales routes, Network Rail was able to flex ORR's assumptions to reflect its business planning activity to a certain extent (in particular to reflect its plans to achieve the required CP5 efficiencies in a more targeted way by route, spend type and year). However, derivation of the final CP5 REBS baselines necessarily involved the application of 'adjustment factors', in order to comply with the requirement that in aggregate, the 9 England & Wales baselines must match ORR's PR13 Final Determination assumptions by line and year.

The simple example below illustrates how REBS will work in the first year of CP5 for a particular route. It provides 4 different scenarios of REBS performance to demonstrate the situations in which the upside / downside caps would 'bite'.

To understand the impact of a cumulative approach to measuring REBS performance over the control period, Annex B of ORR's Guide to the REBS mechanism in CP5 (accessed [here](#)), provides a number of worked examples.

| £m   | 2014/15 REBS baseline | Actual performance (out-performance) | Actual performance (under-performance) | Actual performance (out-performance capped) | Actual performance (under-performance capped) |
|--|-----------------------|--------------------------------------|--|---|---|
| REBS baseline (expenditure – income)                                 | 400                   | 380                                  | 420                                    | 340   | 460   |
| Upside cap (REBS baseline x10% x 25%)                                | 10                    |                                      |  |   |   |
| Downside cap (REBS baseline x10% x10%)                               | -4                    |                                      |  |   |   |
| REBS out (under) performance   |                       | 20                                   | -20                                    | 60  | -60   |
| Share of REBS out (under) performance (before the effect of capping) |                       | 5                                    | -2                                     | 15  | -6  |
| Payment to (from) operator   |                       | 5                                    | -2                                     | 10  | -4  |

\*For illustration assume train operator contributes 100% of variable usage charge. In practice calculation will be factored by the proportion of VUC operator pays to the route.

**Why does the charge/incentive work the way it works?**

The design of the REBS mechanism reflects a consultative process led by ORR over the course of PR13. In its Final Determination, ORR stated that it is keen to see the relationships between Network Rail and train operators on a more 'commercial footing', in which operators are exposed to changes in Network Rail's costs (through the charging framework) and therefore have an incentive to help the company reduce them. Currently, however, train operators are only fully exposed to a small proportion of Network Rail's cost base.

On this basis, REBS has been designed with the intention of providing train operators with the opportunity to receive short-term financial benefits in return for helping Network Rail to deliver long-term industry cost reductions. ORR has described it as a default mechanism for those operators who do not want to enter into direct commercial agreements with Network Rail, as well as being a 'stepping stone' to the development of more commercial relationships within the industry.

**What are the main changes to the charge/incentive between CP4 and CP5?**

REBS is a new mechanism that has been introduced to the regulatory framework for CP5. It replaces the national Efficiency Benefit Sharing Mechanism that was in place in CP4.

**How is the charge/incentive related to other mechanisms?**

ORR's annual assessment of REBS performance will be consistent with its assessment (for the relevant categories of expenditure and income) of Network Rail's total financial performance. In addition, the assessment of REBS renewals performance will reflect the incentives that Network Rail faces in relation to its renewals expenditure under the RAB roll forward policy.

**FREQUENTLY ASKED QUESTIONS****How does REBS work in the context of alliances?**

In the presence of an alliance on a route, REBS payments will take into account efficiencies achieved in the alliance. This is intended to support industry cost reductions as it provides incentives on Network Rail, the alliance partner, and third-party operators to support route-level cost savings, both inside and outside of alliance arrangements.

## Schedule 4 possessions regime

### What is the purpose of the charge/incentive?

The primary role of Schedule 4 is to compensate train operators for the financial impact of planned service disruption, or possessions, where operators are given restricted access to the network, principally as a result of Network Rail undertaking engineering work. The regime also places incentives on Network Rail to manage possessions efficiently.

### Who is subject to the charge/incentive?

Franchised passenger, open access and freight operators all have a Schedule 4 regime. Charter operators do not have a Schedule 4 regime, not least because engineering possession plans are typically agreed before the majority of charter services are planned.

### How does the charge/incentive work?

Compensation payments are paid by Network Rail to franchised passenger operators reflecting: the impact of possessions on fare revenue; the costs incurred from running replacement buses; and the costs/cost savings from a change in train mileage. The compensation payment is reduced depending on the amount of notice which Network Rail provides to operators for the possession. The level of the discount is determined by a 'notification discount factor'. Payments are typically determined automatically by reference to formulae in the track access contract, but bespoke payments can be made in respect of large possessions. In exchange for this protection, franchised passenger operators pay a pre-determined Access Charge Supplement (ACS) to cover the estimated efficient cost to Network Rail of providing compensation through Schedule 4. The ACS can be thought of as an 'insurance premium' payable in exchange for Schedule 4 protection for planned disruption.

Open access passenger operators only receive formulaic Schedule 4 compensation, consistent with that available for franchised passenger operators, if they opt to pay an ACS. Otherwise, they only receive compensation for very long-lasting possessions.

The freight Schedule 4 regime is structured so that there are three levels of compensation depending on the degree of disruption (with the possibility of compensation for actual losses for severe disruption). As with the passenger regime, higher payments are made for late notice possessions. Freight operators do not pay an ACS to cover the expected costs of Schedule 4 compensation.

### What evidence underpins the 'level' of the charge/incentive?

The compensation for the effect of possessions on fare revenue is calculated from the Marginal Revenue Effect (MRE) in the Schedule 8 regime, discounted to capture the idea that passengers may be more 'forgiving' in their purchasing decisions when disruption is 'planned' (meaning that revenues may be less sensitive to performance) compared to when it is

'unplanned'. Bus cost compensation and train mileage rates are estimated using data provided by train operators.

The level of compensation payable to freight operators has been set so as to provide a similar level of reparations as previously available under compensation arrangements set out in the Network Code in CP3.

### Why does the charge/incentive work the way it works?

Operators receive compensation for possessions which are relatively short in length on a 'liquidated sums' basis. Whilst this may not accurately reflect operators' lost revenue for individual incidents, the level of compensation should be correct on average. This reduces transaction costs for the industry. Longer lasting possessions tend to be compensated on a claims basis. This reflects the fact that these occur less frequently than shorter possessions, and generally have a greater and more variable impact on operator revenue.

As in Schedule 8, the level of compensation for passenger operators differs at service group level. This level of disaggregation can capture differences in fare revenue in different markets. The freight compensation payment rates are the same across all operators and network locations. This removes the potential for freight operators to have a competitive advantage in the Schedule 4 regime.

### What are the main changes to the charge/incentive between CP4 and CP5?

The principal change in Schedule 4 is the significant increase in Schedule 4 revenue loss compensation payment rates which in turn is underpinned by revenue growth and changes in the evidence around the impact of performance on revenue. Bus cost compensation and notification discount parameters have been updated to reflect the latest available data.

One structural change to the franchised passenger regime has taken place. Franchised passenger operators may now claim cost compensation for late cancellations or amendments to Type 1 possessions, where costs have already been committed or incurred.

### How is the charge/incentive related to other mechanisms?

The Schedule 4 passenger regime has strong links to the Schedule 8 passenger regime, both basing the payment rates on forecast changes in passenger revenue as a result of service disruption. It is for this reason that the Schedule 8 payment rates are used to calculate the liquidated sums element of Schedule 4 compensation.

## Schedule 8 performance regime

### What is the purpose of the charge/incentive?

The primary role of the Schedule 8 performance regime is to compensate train operators for the long term financial impact of unplanned service disruption attributable to Network Rail or other train operators. This reduces the level of risk faced by train operators, and therefore helps reduce franchise risks.

The regime also helps align financial incentives between Network Rail and train operators, such that the impact of service disruption on revenue and/or costs is incurred by the organisation that 'causes' the disruption, rather than the party which faces the disruption. It also provides signals to Network Rail in respect of the impact of service disruption on train revenues to help drive decision making, for example in relation to investment.

### Who is subject to the charge/incentive?

European legislation requires that all operators are subject to a performance regime. Franchised operators and the largest open access operators are subject to 'model' or 'standard' regimes set out in Schedule 8 of their Track Access Agreements, and smaller passenger operators typically possess a simplified 'bespoke' regime. All freight operators are subject to the same national regime, and a separate regime is in place for charter operators.

### How does the charge/incentive work?

Schedule 8 is a 'benchmarked' regime. This means that when Network Rail or operators' performance deteriorates below pre-defined baseline levels, they make payments to the affected parties. Conversely, they receive 'bonus' payments for outperforming benchmarks.

It is a 'liquidated sums' regime, meaning that payments are determined by formulae specified in the contract, rather than being decided on a 'claims' or 'negotiated' basis (although provisions for additional payments exist under certain circumstances).

In the franchised passenger and open access regimes, the benchmarks and financial 'gearing' of the regime are very localised – each Service Group has its own benchmark level of performance and payment rate. In contrast, the freight (and charter) regime are the same for all operators and for all areas of the network in order to provide a level-playing-field.

In the freight and charter regimes, operators are able to 'cap' their liabilities from any particular disruptive incident caused by them in exchange for paying an 'Access Charge Supplement' – effectively an insurance premium – to Network Rail. Reciprocal annual liability caps can also be established between operators and Network Rail.

### What evidence underpins the 'level' of the charge/incentive?

The payment rates which establish the 'gearing' of the passenger Schedule 8 regime are based on the passenger demand forecasting handbook (PDFH) which provides estimates of

the response of operator fare revenue to changes in performance. The PDFH was updated in 2013 to reflect the most up-to-date evidence on the impact of performance on passenger demand (and hence revenue). The analysis suggested that, typically, disruption had a greater impact on operator revenue than previously estimated.

The benchmarks in the Schedule 8 regime are based on historic average performance of both the operator and Network Rail. The Network Rail benchmarks (but not the operators benchmarks) are adjusted for performance outputs contained in ORR's PR13 Final Determination.

### Why does the charge/incentive work the way it works?

In the franchised passenger and open access Schedule 8 regimes, the payment rates and benchmarks vary by Service Group. This level reasonably reflects differences in fare revenue and also captures performance differences.

In the freight regime, payment rates and benchmarks are standard across all network locations and all operators. This removes any competitive advantage to particular operators, for example through having a different payment rate for similar services. This is the same for the charter regime.

### What are the main changes to the charge/incentive between CP4 and CP5?

The structure of the passenger regime is largely unchanged between CP4 and CP5. However, the benchmarks and payment rates have changed significantly, and in particular, the 'gearing' of Schedule 8 has increased by approximately two-thirds on average. The increased gearing reflects a combination of passenger revenue growth and updated evidence on the relationship between disruption and passenger revenue.

ORR determined that payments made for disruption to freight operators in CP5 would remain at CP4 levels in real terms. Significant changes have been made to the charter operator Schedule 8 regime, which has been brought into line with the freight operator regime.

### How is the charge/incentive related to other mechanisms?

The Network Rail Schedule 8 payment rates are also used as the basis to calculate compensation for 'planned' disruption under the Schedule 4 regime. In particular, the Schedule 4 regime provides for a number of 'discounts' on the payments made by Network Rail to operators compared to Schedule 8 payment levels. This is in recognition of the idea that passengers may be more 'forgiving' in their purchasing decisions when disruption is 'planned' (meaning that revenues may be less sensitive to performance) compared to when it is 'unplanned'.

Network Rail's increased Schedule 8 liability of accommodating additional traffic on the network is recovered through the Capacity Charge. The Capacity Charge reflects the Schedule 8 Network Rail payment rates, which are key inputs into the calculation of the charge.

# Station Long Term Charge

## What is the purpose of the charge/incentive?

The purpose of the Station Long Term Charge (LTC) is to recover Network Rail's efficient maintenance, renewal and repair (MRR) costs for each of the stations that it owns. The charge is applicable to both franchised and managed stations.

## Who is subject to the charge/incentive?

A Station Facility Owner (SFO) is a (generally franchised) operator that enters into a station lease agreement with Network Rail to manage each of the stations within its portfolio on a day-to-day basis. Network Rail will generally be responsible for the buildings and Station Information and Security Systems (SISS) MRR activities undertaken at each of these stations.

Franchised station LTC is payable to Network Rail by the relevant Station Facility Owner (SFO) for each of the stations within its portfolio. Where other users call at a station (referred to as 'beneficiaries'), the SFO will recover a proportion of the total LTC for that station in accordance with the number of vehicle departures for each beneficiary.

Where a SFO has full repairing station lease arrangements in place across its portfolio (which among other things means that the SFO is responsible for carrying out MRR activities at each station), franchised station LTCs paid to Network Rail do not apply. Currently, only the Greater Anglia franchise has such arrangements in place, although it is anticipated these arrangements will become more commonplace during CP5 as a result of the refranchising programme.

Managed Station LTC is payable by operators that use any one of Network Rail's managed stations. Network Rail recovers the charge directly from all beneficiaries, in proportion to the number of vehicle departures at each managed station.

The table, below, shows Network Rail's forecast income from the charge for the first year of CP5.

| Operator            | Forecast income for 2014/15<br>(2012/13 prices) |
|---------------------|---|
| Franchised stations | £119.4m   |
| Managed stations    | £31.8m  |

## How does the charge/incentive work?

Franchised and managed station LTCs are levied on a constant annual basis, uplifted every year for RPI. They are regulated charges and the overall income that can be recovered from

franchised and managed station LTCs (at an England & Wales and Scotland level) is determined by ORR for the control period, at each periodic review.

While franchised station LTCs are charged for each station, they are effectively set at the SFO portfolio level and based on ORR's efficient MRR expenditure assumptions for each SFO over the control period. Individual franchised station LTCs are based on each station's forecast share of long-term MRR expenditure (as a proportion of the total SFO portfolio value) and will not, therefore, be fully reflective of the specific spend at each station within the control period.

## What evidence underpins the 'level' of the charge/incentive?

Franchised station LTCs are calculated based on ORR's assumptions on total efficient MRR expenditure for the control period, at the SFO level. Charges are then allocated to individual franchised stations based on each station's share of long-term (35 years) MRR expenditure across the SFO's portfolio.

For the buildings element in CP5, the 35 year MRR expenditure forecasts are based on a combination of 'bottom up' forecasts (for CP5) and 'top down' modelled forecasts for CP6-CP11. The SISS component is based entirely on 'top down' forecasts from CP5 to CP11.

The managed station LTC is calculated separately for each managed station. The buildings element is based on the annual average of long run efficient MRR expenditure forecast over 100 years for each station, in order to even out the extremes of expenditure found at these very large facilities. Such volatility is more 'noticeable' at managed stations due to the small number of stations and high renewals costs. The SISS element of each managed station's LTC is based on forecast annual average MRR expenditure over 35 years.

As part of its 2013 Strategic Business Plan (SBP) submission, Network Rail developed 'bottom up' and 'top down' forecasts of efficient MRR expenditure for CP5 and CP6-11 respectively. ORR then undertook a detailed review of these forecasts. In its PR13 Final Determination, ORR determined the level of income that can be recovered from franchised station LTCs in CP5, such that it is consistent with its view of efficient CP5 franchised stations MRR expenditure on buildings and SISS assets.

Network Rail also developed a 100 year charging model for managed stations as part of its SBP submission, in accordance with its asset management policies on maintenance, renewal and repair of station building assets. Following a review of this model, ORR determined the overall level of income that Network Rail can recover from managed station LTCs.

## Why does the charge/incentive work the way it works?

While the franchised station LTC is effectively set at the SFO portfolio level, following consultation during PR13, it was concluded that the LTC would continue to be recovered at the individual station level. It is set so as to provide a reasonable expectation, based on ORR's assumptions, of efficient buildings and SISS MRR expenditure for a SFO's portfolio over the

control period and allocated to individual stations based on their share of long-term (35 year) MRR expenditure.<sup>3</sup>

As above, the buildings element of managed station LTCs is based on MRR expenditure averaged out over a long time horizon to avoid peaks in charges that are associated with large peaks in expenditure at individual stations

#### **What are the main changes to the charge/incentive between CP4 and CP5?**

The main change in relation to both the franchised and managed station LTC is that the charge now includes SISS MRR costs, which have been previously recovered through the Fixed Track Access Charge (FTAC). This change is intended to provide greater transparency with regards to the level of SISS MRR costs recovered from SFOs.

In addition, for franchised stations, the methodology for allocating the MRR buildings and SISS costs to individual stations within a SFO's portfolio has changed from being based on station size and importance to being based on each station's share of long-term modelled MRR buildings and SISS costs

#### **How is the charge/incentive related to other mechanisms?**

In the calculation of FTAC, any train operator specific income – which includes franchised station long term charges (since they are set by SFO) – is deducted from the specific operator's FTAC to which it relates.

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<sup>3</sup> It is important to note, however, that for CP5, the actual spend by Network Rail on the portfolio of stations used by each SFO could vary quite significantly from the portfolio-level LTCs recovered from each SFO. This is because Network Rail's expenditure on its full portfolio of franchised stations will be managed in a way that represents best value for money, consistent with its regulatory asset condition outputs, in particular the Stations Stewardship Measure. This is no different from other asset categories where Network Rail has the flexibility to manage expenditure in a way that is consistent with its regulated asset condition outputs.

# Variable Usage Charge (VUC)

## What is the purpose of the charge/incentive?

The purpose of the Variable Usage Charge (VUC) is to recover the track, civils and signalling 'wear and tear' costs that Network Rail incurs when it accommodates an 'additional train' on the network. The charge should mean that Network Rail is held neutral to the increase in 'wear and tear' costs that would result from an operator running more services. Hence, from a 'wear and tear' perspective, Network Rail should be content to accommodate additional traffic on the network.

## Who is subject to the charge/incentive?

The VUC is payable by all operators.

The table, below, shows Network Rail's forecast income from the charge by operator-type for the first year of CP5.

| Operator             | Forecast income for 2014/15<br>(2012/13 prices) |
|----------------------|---|
| Franchised Passenger | £158.8m   |
| Open Access          | £2.1m   |
| Freight              | £55.2m  |
| Charter              | £0.48m  |

## How does the charge/incentive work?

The VUC payable by an operator for a particular journey is calculated by multiplying the rate for the relevant vehicle type(s) by the distance travelled. For example, if the rate for a particular locomotive was £1 per mile and the locomotive travelled 100 miles, the total VUC payment due would be £100 (£100 = £1 per mile x 100 miles).

VUC rates vary by vehicle type and are calculated on a national average basis. Thus, the charge payable is the same irrespective of where a vehicle operates on the network.

The VUC is designed to be cost reflective. Therefore, charges for 'track friendly' vehicles are lower than charges for 'track unfriendly' vehicles.

For passenger services VUC rates vary by vehicle type, reflecting the fact that the level of 'wear and tear' imposed on the network varies depending on the characteristics of each vehicle

type (e.g. weight and speed). For freight services, in addition to VUC rates varying by vehicle type, they vary depending on the commodity being transported and whether the vehicle is loaded or empty. This reflects the fact that these factors will have a material influence on the weight and speed of the freight vehicle and thus the 'wear and tear' imposed on the network.

## What evidence underpins the 'level' of the charge/incentive?

The significant majority of 'wear and tear' costs recovered through the VUC relate to track maintenance and renewals. The increase in track maintenance and renewal costs as a result of an 'additional train' on the network was estimated using the Vehicle Track Interaction Strategic Model (VTISM). VTISM was also used to establish the relationship between vehicle characteristics (weight, speed and unsprung mass) and track 'wear and tear'. VTISM was developed following a significant research programme managed by the Rail Safety Standards Board (RSSB) and is widely considered to be the best track model available.

## Why does the charge/incentive work the way it works?

A VUC rate is calculated for each vehicle type and levied based on the distance each vehicle type travels because this approach should result in a reasonable estimate of the 'wear and tear' costs imposed on the network. The charge is designed to be cost reflective so that costs are recovered in a fair way from those operators who cause them to be incurred. Cost reflective charges also mean that if an operator modifies a vehicle to be more 'track friendly', reducing infrastructure costs, the operator will benefit in the form of lower track access charges. Although introducing route based VUC rates has been considered as part of previous periodic reviews this change has never been implemented. A key issue has always been the trade off between more cost reflective VUC rates and additional complexity / administration costs.

## What are the main changes to the charge/incentive between CP4 and CP5?

The main change in relation to the VUC between CP4 and CP5 was that, following research using VTISM, it was found that heavy vehicles cause more 'wear and tear' than was previously thought and high speed vehicles cause less 'wear and tear' than we previously thought. Reflecting this new research, generally, resulted in higher freight VUC rates and lower passenger VUC rates. The full increase in freight VUC rates will not be passed on to freight operators in CP5. ORR considered it appropriate to cap the increase in the average freight VUC rate at 10% and this increase will be phased in over the control period, with no increase in the first two years.

## How is the charge/incentive related to other mechanisms?

The VUC is not directly related to other access charges / incentive mechanisms. However, it is similar to the Electrification Asset Usage Charge which recovers the 'wear and tear' costs associated with an 'additional train' using the overhead line and/or the third rail.

# Volume Incentive

## What is the purpose of the charge/incentive?

The purpose of the volume incentive is to encourage Network Rail to grow passenger and freight traffic over the control period. If Network Rail outperforms the targets that ORR sets for the control period, it receives additional money in the following control period. However, if traffic levels are lower than expected over the control period, it will receive less money in the following control period.

## Who is subject to the charge/incentive?

Only Network Rail and funders make or receive payments under the volume incentive. While it is calculated and reported on annually, any payments due are based on the position at the end of the control period.

## How does the charge/incentive work?

As part of its 2013 Periodic Review (PR13), ORR concluded on traffic and revenue growth targets (referred to as volume incentive baselines) for Control Period 5 (CP5). As with previous control periods, ORR has determined the following four volume incentive baselines, all of which are defined at the network-level:

- Passenger train miles;
- Passenger farebox revenue;
- Freight train miles; and
- Freight 1,000 gross tonne miles.

Network Rail's performance against each of them will then determine the payment that it will receive or make in the following control period.

The CP5 total growth rates, at the network level, are set out in the table, below.

| Network-level baseline          | CP5 total baseline growth rates (2018/19 vs 2013/14) |
|---------------------------------|--|
| Passenger train miles           | 6.6%   |
| Passenger farebox revenue       | 17.4% (real)   |
| Freight train miles             | 15.7%  |
| Freight 1,000 gross tonne miles | 21.5%  |

Note that the passenger farebox revenue baseline for the network is based on forecasts of passenger operator revenue from a model owned by DfT. ORR has made a small change to

the baseline since its PR13 Final Determination, to reflect a change in government passenger fares policy for 2014 (that fares will increase in line with RPI and not RPI +1% as previously planned).

ORR's PR13 Final Determination required Network Rail to disaggregate the CP5 total network-level volume incentive baselines into annual route-level baselines (for Network Rail's ten operating routes<sup>4</sup>), before the start of CP5. The purpose of disaggregating the baselines is to improve effectiveness of the incentive in CP5, in particular to make it more 'real' and visible to decision-makers at the route-level, such that it influences behaviours 'on the ground'.

On 31 March 2014, Network Rail published [provisional route-level baselines](#) for each year of CP5. The baselines will be finalised once actual passenger and freight traffic and passenger farebox revenue have been confirmed for 2013/14 (since this is the 'base year' to which the CP5 baselines must be applied). Network Rail expects to publish the final route-level CP5 baselines in Summer 2014.

## What evidence underpins the 'level' of the charge/incentive?

The traffic-related volume incentive baselines in ORR's PR13 Final Determination are based on Network Rail's traffic forecasts. These reflected the most up-to-date view of passenger and freight growth for CP5 before the Final Determination was published. These forecasts include assumptions on growth over the control period resulting from the delivery of infrastructure enhancements, new service patterns and naturally occurring growth for rail services.

The modelling used to set the network-level passenger train miles and farebox revenue baselines also includes some specific downwards adjustments to the forecasts, to take account of factors relating to the timely delivery of specific network enhancements that are considered beyond Network Rail's control. For example, adjustments have been made to reflect the risks of delay associated with rolling stock procurement, agreements between operators and funders and the external delivery of enhancements (such as Crossrail). A number of adjustments were also made in respect of projected freight mileage.

The incentive rates that are used to calculate any volume incentive payments are based on a value-based approach, intended to reflect a share of the value of increases in volume (as opposed to being based on the costs associated with accommodating additional volume, for example). As set out in ORR's PR13 Final Determination, incentive rates for passenger traffic are based on an estimate of the additional social and private (i.e. farebox) value of increased passenger volumes. For freight traffic, the incentive rates are intended to reflect the social value (for example, reduced congestion, accidents, pollution etc) of increased freight traffic as a result of the shift from road to rail.

<sup>4</sup> This is based on the route structure that underpinned Network Rail's Strategic Business Plan and the PR13 Final Determination.

### Why does the charge/incentive work the way it works?

The volume incentive should encourage Network Rail to think more commercially about allowing new services onto the network. Network Rail's current structure of access charges is designed to recover the costs associated with operating on its network. Any additional income it receives from the operation of new services on the network will simply cover the additional costs from operating those services. The volume incentive helps to address this issue by providing a financial 'reward' – that goes beyond simple cost recovery – to encourage additional traffic onto the network.

### What are the main changes to the charge/incentive between CP4 and CP5?

The main changes in relation to the volume incentive between CP4 and CP5 are:

- Network Rail has committed to a range of measures (such as including expected volume incentive payments in its measure of total financial performance) to strengthen the effectiveness of the incentive;
- disaggregation of the network-level baselines to route-level;
- the inclusion of a 'downside' in CP5, with symmetric payment rates;
- the introduction of a limit to volume incentive payments (in either direction) of £300m; and
- increased incentive rates compared with CP4.

### How is the charge/incentive related to other mechanisms?

The volume incentive is not directly related to other access charges / incentive mechanisms.

## FREQUENTLY ASKED QUESTIONS

### How is the incentive payment calculated?

In order to calculate whether a volume incentive payment is due for CP5, actual 2018/19 traffic and passenger farebox values will be compared to each of the volume incentive baseline for 2018/19. Where actual growth has exceeded any of the baselines, a payment to Network Rail is calculated based on a defined payment rate for the relevant measure (sometimes referred to as 'incentive rates'), which ORR determined as part of its PR13 Final Determination. Where actual growth is below any of the baselines, a payment from Network Rail will be due and will be calculated using the same incentive rates. If Network Rail meets the baselines, no payment will be due in either direction.

Therefore, while annual performance in years 1-4 of CP5 will be a useful indication of the likely size of any volume incentive payment at the end of the control period, the payment itself is calculated by reference to the variance to the baselines in 2018/19. So that Network Rail is able to benefit from growth for a period of five years, the resulting payment for 2018/19 will be

multiplied by five for each of the targets. The sum of performance against each of the four targets will determine the overall volume incentive payment.

The total network-level payment (in either direction) will be capped at £300m, and split between England & Wales; and Scotland. This means that if total network-level growth is higher or lower than the volume incentive baselines set out in the table, above, Network Rail will receive up to £300m more or less funding in CP6.

Performance against each of the disaggregated volume incentive baselines will be measured and reported annually at a route-level and published in Network Rail's Regulatory Accounts. Although the payment does not 'bind' until the end of CP5 and is calculated at the network-level, 'debits and credits' will be calculated and reported annually for each route. Forecast volume incentive payments will also be included in each route's total financial performance calculation, and will thus be reflected in the incentive plan arrangements of senior staff on that route (or where senior staff are working in central roles, they would be impacted by the sum of routes' performance).