



# PR18: Infrastructure cost charges – Draft impact assessment on approach for levying infrastructure cost charges on franchised passenger operators

September 2017

This document has been published alongside [‘PR18 consultation on charges recovering fixed network costs’](#).

Policy	Charges - Infrastructure cost charges
Policy area	Infrastructure cost charges for franchised passenger operators
<b>Background</b>	<p>In our <a href="#">June 2017 conclusions letter</a>, we explained we will continue to work towards levying charges to recover fixed network costs from all operators, through what we call ‘infrastructure cost charges’. We are now considering how such charges will be levied on franchised passenger operators.</p> <p>Network Rail currently recovers fixed costs from franchised passenger operators through the Fixed Track Access Charge (FTAC). FTAC is calculated using forecasts of each operators’ traffic and is paid on a fixed lump-sum basis, meaning it is fixed for the control period. This means that any additional services (i.e. not forecast) that franchised passenger operators choose to run during a control period do not pay any additional contribution towards the fixed costs of running the network. This impact assessment considers options for levying infrastructure cost charges on franchised passenger operators in a way that reflects changes in the level of franchised services these operators run within a control period.</p>
<b>PR18 outcomes and objectives to assess each option against</b>	<p>➤ <b>Outcome:</b> The network is efficient <i>(The network is being operated, maintained and renewed at the lowest cost, given the level of use and performance)</i></p>

	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li>• Ensure Network Rail can recover its total costs</li> </ul> <p>➤ <b>Outcome:</b> The network is better used  <i>(Network Rail and operators find ways to improve network use and accommodate new services)</i></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Provide effective incentives for Network Rail to add traffic to the network</li> <li>• Ensure operators take costs of service into account when using the network</li> <li>• Ensure capacity is allocated on the basis of the cost of provision and value of use</li> </ul>
<p><b>Problem under consideration with the current charge/incentive</b></p>	
<p>The fixed track access charge (FTAC) is levied on franchised passenger operators as a fixed lump-sum that does not vary in response to the number of services run by franchised passenger operators over the control period. This means that, all other things being equal, Network Rail faces weaker incentives to accommodate additional services and franchised operators face weaker incentives to ensure the network is effectively used as their charges do not change as their use of the network increases.</p> <p>In particular, within a control period, Network Rail only recovers short-run marginal costs when an additional franchised passenger service is added to the network. This weakens Network Rail's incentive to approve a franchise operator's proposal to add additional services to the network during a control period. In CP5, the capacity charge aimed to hold Network Rail neutral to additional Schedule 8 costs it faces when it adds traffic to the network. However, there were concerns about the effectiveness of the capacity charge, in terms of its accuracy and whether operators sufficiently understood it to respond to it. ORR decided that the capacity charge should be removed from the start of CP6.</p> <p>In light of this, Network Rail's incentive to add traffic to the network is a particularly important consideration for the design of the infrastructure cost charges. Removing the capacity charge will remove one part of the financial incentives operators currently face when adding services. It also reduces the revenue generated for Network Rail from these services (recognising that there is currently a weak correlation between the capacity charge rates and the level of utilisation of the infrastructure).</p> <p>Currently, when franchised passenger operators run additional services during a control period, they are not incentivised to consider the long-run fixed costs the additional traffic imposes on the network. The long-run fixed costs associated with the additional services is not reflected in the operator's FTAC until the next control period.</p>	

## Options to be considered

### Option 0: 'Do nothing'

Continue with the current FTAC approach in which franchised operators pay a lump-sum charge that is fixed for the control period. Under this option each franchised operators' infrastructure cost charges would not vary in response to any changes in the level of services they run within the control period.

All other options have been assessed relative to this 'do nothing' option.

### Option 1: Rate per unit of traffic on all services run by franchised passenger operators

Under this option infrastructure cost charges would be levied on franchised operators as a rate per unit of traffic for each service they run.

At the end of each four week railway period, franchised operators would be billed for the actual services run during that period, multiplied by an infrastructure cost charge unit rate (to be set through the periodic review process).

To calculate the unit rate for each franchised operator (or franchised service/group of services) fixed costs would be allocated to each operator, potentially using the updated fixed cost allocation methodology Network Rail is developing. The costs allocated would be net of all other income and any network grant (as is currently the case with the lump-sum approach). This means that under this option the level of the network grant in CP6 could potentially have a material impact on the infrastructure cost charges franchised passenger operators pay and Network Rail's income. Our working assumption is that there will be a network grant in CP6 and that it will account for the majority of Network Rail's income. We will reconsider the impacts of this option if this assumption proves to be incorrect.

We would need to decide which unit of traffic would be used to levy the charge as a rate per unit of traffic. In a separate assessment (available [here](#)) we compared the costs and benefits of levying an infrastructure cost charge on OAOs as a rate per train mile, vehicle mile and passenger kilometre. We recommended levying an infrastructure cost charge on OAOs as a rate per train mile. The arguments for each unit of traffic are very similar for OAOs and franchised passenger operators. Therefore, we adopt a rate per train mile as the assumed basis for charging under this option. If this option is taken forward we will consider in more detail the costs and benefits specific to franchised operators with using a rate per train mile.

We would also have to consider the level of disaggregation of the charge for billing purposes – e.g. whether each franchised operator would have one average unit charge or whether we would set a unit charge for each service code.

**Assessment of Option 1:** Rate per unit of traffic on all services run by franchised passenger operators

**Outcome:** The network is efficient

**Objective:** Ensure Network Rail can recover its total costs

Franchised passenger operators have a contract with a franchising authority specifying the level of service they must run. Within franchised passenger operators' contracts there can be opportunities to run services above the minimum level of services. This means that under this option, Network Rail would not be expecting to experience a significant reduction in income due to a lower level of services run by franchised passenger operators (noting that the chosen traffic metric is not affected by passenger numbers).

This means that Network Rail can still recover its costs with a reasonable degree of predictability. Therefore, while a higher proportion of Network Rail's income would vary with traffic under this option, it is less likely that this would result in a funding shortfall than that Network Rail would experience a funding increase (due to more services running than forecast). Overall, this would appear to match more closely the likely nature of costs facing Network Rail, as many costs are fixed and/or sunk but additional services beyond the forecast level are likely to bring additional costs. This suggests that this option would not introduce a significant additional financial risk to Network Rail and could, in fact, better match revenue and costs.

The volatility of Network Rail's income under this option would also depend on the accuracy of the traffic forecasts for each year of the control period. The rate per unit of traffic would likely be calculated based on forecasts, and the level of income recovered by Network Rail during the control period would depend on how accurate the forecasts were.

**Outcome:** The network is better used

**Objective:** Provide effective incentives for Network Rail to add traffic to the network

Compared with the counterfactual, this option would provide Network Rail with a more effective incentive to add traffic to the network. Network Rail would recover both short-run marginal costs and income from the infrastructure costs charge when new franchised services are added to the network during a control period. Under the current fixed lump-sum FTAC approach Network Rail only recovers short-run marginal costs in relation to additional services run by franchised passenger operators (i.e. unexpected demand not included in the forecast used to calculate the FTAC).

In response to our [December 2016 charges and incentives consultation](#) Network Rail agreed that recovering fixed costs as a rate per unit of traffic would improve their financial incentives to add traffic to the network. Network Rail's response is available [here](#).

**Outcome:** The network is better used

**Objective:** Ensure operators take costs of service into account when using the network

As franchised passenger operators do not currently pay FTAC for services they add during a control period, they do not have an incentive to consider the long-run fixed costs these services impose on the network. Levying a charge per unit of traffic for all franchised passenger services, including those added during a control period, would provide franchised passenger operators with an incentive to consider these costs.

However, the effectiveness of this incentive on franchised operators would be dampened by two factors. Firstly, although there would be an infrastructure cost charge on each service, franchised operators may be held neutral to some extent to changes in their infrastructure cost charges through their franchise agreements. Secondly, if a proportion of the network grant were netted off from the costs allocated to each franchised operator (which would be that basis of a unit rate) operators would not be taking into account the full fixed costs allocated to additional services.

There may be unintended incentive effects of basing the infrastructure charge on outturn train miles. In particular, a franchise operator could reduce their charges by cancelling services, even though the act of cancelling individual services has no impact on the costs of the network. Indeed, decisions to cancel services should reflect the value of operating such a service and the costs involved in doing so. The latter would only include short-run variable costs.

**Outcome:** The network is better used

**Objective:** Ensure capacity is allocated on the basis of the cost of provision and value of use

If charges are set on the basis of reasonably accurate information on the fixed costs associated with each service, this would improve Network Rail's ability to allocate capacity on the basis of the long-run cost of provision.

This benefit relies on the extent to which Network Rail's new fixed cost allocation methodology improves the information on the long-run costs caused by each (type of) service.

In addition, this option would introduce a degree of consistency between the charging arrangements for additional open-access and franchise services, which supports the objective of ensuring that capacity is used by the operator who is best placed to make valuable use of it (rather than this being unduly influenced by differences in the charging arrangements).

## **General objectives**

### ***Information requirements***

If franchised passenger operators' infrastructure cost charges were levied as a rate per train mile the additional information requirements for implementing this option would be relatively low. Network Rail already records operators' train miles for actual services run in its TABS database. Train miles are also already used to bill operators for other charges, such as the capacity charge.

### ***Transitional costs and implementation difficulties for Network Rail***

This option would be a significant change from the status quo of levying FTAC on franchised passenger operators as a lump-sum charge. Therefore this option would impose some transitional costs on Network Rail to make changes to their billing system. Network Rail highlighted this in their response to our December 2016 charges and incentives consultation.

### ***Transitional costs on franchised authorities***

Franchise authorities could face transitional costs in changing their approach to how they hold franchised passenger operators neutral to changes in charges intended to recover fixed costs.

Under the current lump-sum FTAC approach, franchise authorities can hold operators neutral to changes in FTAC by paying the difference between the level of FTAC at the beginning of the franchise period, and the level of FTAC determined by the ORR in subsequent periodic reviews. If infrastructure cost charges were levied as a rate per unit of traffic on all franchised services, this approach would need to be modified (and potentially existing models and tools adjusted to accommodate the change – this could result in costs to franchising authorities). However, it is possible that franchise authorities could replicate the approach they use to hold franchised passenger operators neutral to changes in short-run marginal cost charges.

## **Option 2: Annually adjust franchised operators' infrastructure cost charges to reflect changes in actual traffic**

Under this option, each franchised passenger operator would pay a lump-sum infrastructure cost charge (similar to the current FTAC). This would be set ex-ante as part of the periodic review process based on their traffic forecasts for each year of the control period. Unlike the current FTAC approach, franchised passenger operators' infrastructure cost charges for each year would be re-calculated to account for differences between the number of services forecast to run and the number actually run.

Network Rail advised that TABS would be the most suitable source for determining the actual level of services franchised operators run each year.

If a franchised operator's actual traffic exceeds the level they had been forecast to run, their total infrastructure cost charge for the following year would increase, calculated by multiplying a rate per unit of traffic by the number of additional services they had run. Conversely, if an operator runs fewer services in a year than they had been forecast to run, their total infrastructure cost charge for the following year would be reduced, calculated by multiplying the same rate per unit of traffic by the number of services they ran below their forecast.

The level of fixed costs allocated to franchised passenger operators could be based on the updated cost allocation methodology Network Rail is developing.

As with option 1, our current recommendation is that the lump-sum charge should vary annually based on a unit rate per train mile.

There are three possible approaches to set the rate per unit of traffic used to annually adjust franchised passenger operators' infrastructure cost charges. Firstly, it could be based on the full amount of fixed costs allocated to each franchised service (either through the new cost allocation methodology or through the existing FTAC approach which uses traffic metrics). Secondly, it could be based on the full allocation for each franchised service minus a proportion of the network grant. Thirdly, the unit rate paid by franchised services could be the rate set for each market segment as informed by the market-can-bear test (MCB test), i.e. the same rate OAOs would pay in each market segment. The MCB test supports the legislative requirements (in UK and EU law) that track access charges do not exclude any market segments from the network that can afford at the least the costs they directly cause on the network, i.e. the short-run marginal costs of using the network. More information on the MCB test is available in the consultation document published alongside this impact assessment (available [here](#)).

Within this option there is also a choice on the level of disaggregation of the charge. The rate per unit of traffic could be charged at an individual franchised operator level or at the service code level.

In this impact assessment we will not assess the unit of traffic to use, the approaches to setting the rate per unit of traffic or the level of aggregation of the charge. These aspects of this option will be considered in more detail if we conclude that this option should be implemented.



**Assessment of Option 2:** Annually adjust franchised operators' infrastructure cost charges for changes in actual traffic

The main difference between annually adjusting franchised passenger operators' infrastructure cost charges for changes in actual traffic (option 2), and levying franchised passenger operators' infrastructure cost charges as a rate per unit of traffic on all services (option 1), is the timings of when Network Rail would receive the charge from franchised passenger operators.

This means that relative to the 'do nothing' option the costs and benefits of option 1, described above, also apply to option 2. **Therefore, to avoid repetition, our assessment of option 2 below only records the costs and benefits that are specific to option 2.** If a cost or benefit is included in the assessment of option 1, but not below for option 2, it can be assumed it also applies to option 2.

**Outcome:** The network is efficient

**Objective:** Ensure Network Rail can recover its total costs

There is a risk that unforeseen circumstances outside of Network Rail or franchised operators' control may force operators to cancel a significant number services, for example due to severe weather or unplanned maintenance work. In such a scenario, the annual adjustment would significantly lower franchised passenger operators' infrastructure cost charges leaving Network Rail with a revenue shortfall. However it should be noted that Network Rail already faces this risk in relation to other charges that are levied as a rate per unit of traffic, such as the variable usage charge (VUC).

In addition, an inaccurate forecast of the baseline traffic that franchised passenger operators' actual traffic is compared against could also lead to a shortfall in Network Rail's income.

These risks could be mitigated to some extent by capping the number of additional services franchised passenger operators pay for when they run more services than forecast, and capping the number of services they receive a rebate for when they run fewer services than forecast. We will consider the impact of capping in more detail if we conclude franchised passenger operators' infrastructure cost charges should be adjusted annually to reflect changes in actual traffic.

**Outcome:** The network is better used

**Objective:** Provide effective incentives for Network Rail to add traffic to the network

Relative to the 'do nothing' option, this option would provide Network Rail with a more effective incentive to add traffic to the network, due to the higher income it would receive when franchised services are added to the network during a control period.

The effectiveness of the incentive for Network Rail to add franchised services to the network would depend on the proportion of fixed costs recovered from each additional service. This is determined by the approach used to set the rate per unit of traffic. The



incentive for Network Rail would be most effective if it was based on the full allocation of fixed costs for each franchised passenger operator or service group.

**Outcome:** The network is better used

**Objective:** Ensure operators take costs of service into account when using the network

This option would improve franchised passenger operators' incentives to take into account the long-run fixed costs they impose on the network when adding new services to the network during a control period.

The proportion of fixed costs each franchised passenger operator pays for additional services would determine how much of the long-run fixed costs they are exposed to. This would depend on the approach used to set the rate per unit of traffic under this option. The incentive would be strongest if the rate per unit of traffic was based on the full allocation of fixed costs to each franchised operator.

### **General objectives**

#### ***Information requirements***

The information requirements for this option would be relatively low. Network Rail's TABS database records the actual traffic run by each operator.

#### ***Transitional costs and implementation difficulties for Network Rail***

Network Rail would face some transitional costs to update their billing system to annually adjust each franchised passenger operator's infrastructure cost charge.

At this stage we do not know how difficult it would be for Network Rail as we do not have an estimate of the costs or time involved to update their billing system.

### **Option 3: Annually adjust franchised operators' infrastructure cost charges for changes in timetabled traffic**

This option is similar to option 2; franchised passenger operators would pay a lump-sum infrastructure cost charge based on traffic forecasts, which would then be adjusted within the control period. The difference with this option is that the re-calculation of the charge at the end of each year would be based on the difference between operators' forecast traffic and actual timetabled traffic, as opposed to actual traffic run (as in option 2).

At the end of each year, franchised passenger operators' forecast traffic would be compared with the services they included in the timetable for that year. If a franchised passenger operators' timetabled traffic was above their forecast level their infrastructure cost charges for the following year would increase based on a rate per unit of traffic. While if a franchised passenger operators' timetabled traffic was below their forecast level their infrastructure charge for the following year would be reduced, also based on a rate per unit of traffic.

Based on our assessment of the unit of traffic to use for OAOs' infrastructure cost charges we also recommend adjusting franchised passenger operators' infrastructure cost charges using a rate per train mile.

In order to implement this option, each operators' timetable would have to be converted into a value based on a unit of traffic to be used to adjust infrastructure cost charges. Network Rail's NETRAFF database appears to be an option for sourcing the data required in order to implement this option. NETRAFF records operators' train miles based on timetabled traffic.

Similar to the other options, Network Rail's new cost allocation methodology could be used to allocate fixed costs to franchised operators.

The rate per unit of traffic used to adjust charges annually could be based on the full amount allocated to each franchised service, the full amount allocated to each franchised service net of the network grant, or the rate for each market segment calculated in the market can bear test (as for option 2). If the rate calculated for each market segment in the market can bear test was used, it would be the same as the rate OAOs would pay in each market segment.

The rate per unit of traffic could be charged at the franchised operator level or at the service code level.

As with option 2, this impact assessment will not assess the unit of traffic to use, the approaches to calculating the rate per unit of traffic element of the charge or the level of aggregation of the charge. These aspects of this option will be considered in more detail if we conclude that this option should be implemented.

**Assessment of Option 3:** Annually adjust franchised operators' infrastructure cost charges for changes in timetabled traffic

The main difference between annually adjusting franchised passenger operators' infrastructure cost charges for changes in timetabled traffic (option 3), and levying franchised passenger operators' infrastructure cost charges as a rate per unit of traffic on all services (option 1), is the timings of when Network Rail would receive the charge from franchised passenger operators.

This means that relative to the 'do nothing' option the costs and benefits of options 1, described above, also apply to option 3. Therefore, to avoid repetition and as with our assessment of option 2, **we have only presented the costs and benefits below that are specific to option 3.** If a cost or benefit is included in the assessment of option 1, but not below for option 3, it can be assumed it also applies to option 3.

**Outcome:** The network is efficient

**Objective:** Ensure Network Rail can recover its total costs

Based on the recent years of timetabled data in NETRAFF, it appears that total train miles vary significantly each year. For example, traffic reported in the NETRAFF database increased 27% between 2014/15 and 2015/16 and decreased by 9% between 2015/16 and 2016/17. Therefore, if future years are similarly variable, infrastructure cost charges levied on franchised operators would also vary significantly year on year. Network Rail is currently investigating the fluctuations in the NETRAFF data and it appears that recent variations have been due to changes in methodology. We are currently seeking to understand whether the methodology for measuring timetabled train miles is likely to stabilise in future years, or whether there is an alternative approach we could use to estimate the timetabled train mile figure (for example by estimating the proportion of cancellations annually and applying an adjustment to TABS data).

Network Rail does not face the risk of a revenue shortfall if a high number of franchised services are cancelled due to disruption. As cancelled services are included in the timetable, the annual adjustment for franchised operators' infrastructure cost charges would not reflect cancelled services.

**Outcome:** The network is better used

**Objective:** Provide effective incentives for Network Rail to add traffic to the network

Relative to the 'do nothing' option, this option would provide Network Rail with a more effective incentive to add traffic to the network, due to the higher income it would receive when franchised services are added to the network during a control period.

In the same way as option 2, the effectiveness of the incentive under this option would be dependent on the proportion of fixed costs recovered from franchised services added to the network during a control period. Setting the rate per unit of traffic on the full

allocation of fixed costs for each franchised operator would lead to the highest rate per unit of traffic, therefore providing Network Rail with the most effective incentive.
<p><b>Outcome:</b> The network is better used</p> <p><b>Objective:</b> Ensure operators take costs of service into account when using the network</p>
<p>Franchised operators would have an incentive to consider the long-run fixed costs to the network of running additional services.</p> <p>The strength of the incentive to consider the long-run fixed costs of adding new services to the network would depend on what the rate per unit of traffic is based on.</p>
<b>General objectives</b>
<p><b><i>Information requirements</i></b></p> <p>As already briefly explained, initial analysis by Network Rail showed that timetabled train mile data from the NETRAFF database fluctuated significantly each year between 2014/15 and 2016/17. In addition, a proportion of train mile data in NETRAFF not allocated to operators is classified as ‘unknown’. These data issues mean the current NETRAFF data cannot be used to implement this option.</p> <p>Therefore, either the NETRAFF data would have to be improved or Network Rail would need to find a new source of data that expresses timetabled data as a unit of traffic.</p> <p><b><i>Transitional costs and implementation difficulties for Network Rail</i></b></p> <p>If no new source of data could be found to implement this option Network Rail would face the cost of improving the NETRAFF database.</p> <p>Network Rail would also face transitional costs to update their billing system to adjust franchised operators’ infrastructure cost charges for changes in their timetabled traffic.</p> <p>At this stage we do not know how difficult it would be for Network Rail as we do not have an estimate of the costs or time involved to update their billing system.</p>

## Recommendation

- **We recommend Option 3, annually adjusting franchised operators' infrastructure cost charges for changes in timetabled traffic.**
- We consider this more appropriate than adjusting for changes in actual traffic. There are numerous factors outside of an operators control that affects the actual number of services that they run. As a result Network Rail's income would be more predictable under option 3.
- We recognise that there is a significant issue with the data available on timetabled traffic, we will continue to discuss this with Network Rail.

## Next Steps

- Obtain industry views on this proposed option through our September 2017 consultation on infrastructure cost charges. These will inform our next steps in terms of working with Network Rail to develop the implementation plan.



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