



Estimating Freight Avoidable Costs

Final Report – Executive Summary

31 October 2012

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Executive summary

The information contained in this executive summary should be considered in the context of the full Final Report on Estimating Freight Avoidable Costs, dated 14 September 2012.

The main objective of this study has been to produce an estimated range of the theoretical long-run annual cost savings to Network Rail that would result from removing commercial freight traffic from Network Rail's existing network (defined as "Freight Avoidable Cost").

Freight Avoidable Cost estimates presented in this report were based on Network Rail's efficiency as it is forecast for the end of CP4, but not taking into account further efficiency gains after that date which would reduce Freight Avoidable Costs and should be evaluated by the ORR. If freight avoidable costs are to be used as a basis for setting freight income, freight operating companies ("FOCs") are keen that Network Rail take steps to ensure that these costs are as efficient as possible in the future. Estimates are also based on growth in freight traffic of 42% (in tonne-kilometres) to 2033/34 as forecast in the Initial Industry Plan ("IIP").

Consequential impacts of removing freight from the network were only considered to the extent that they influence Network Rail's costs. For example, road cost and congestion impacts resulting from freight shifting from rail to road or potential additional passenger revenues from using freight paths were not considered.

Gross and Net Freight Avoidable Cost estimates – End CP4 efficiency

Millions of FY11/12 pounds p.a.	At 35 year average volumes		At CP5 average volumes	
	Low case	High case	Low case	High case
Gross Freight Avoidable Cost estimate	152	377	92	301
(-) Freight avoidable costs for which Network Rail is already compensated through an existing charge	(110)	(128)	(92)	(107)
Net Freight Avoidable Costs estimate	42	249	0	194

Long run Net Freight Avoidable Costs have been estimated to be c.£42-249m p.a. averaged over 35 years covering CP5-11. Net Freight Avoidable Costs do not include those cost items which are associated with an existing freight charge designed to compensate Network Rail for its related costs (see page 36 of the full report). The figures have been estimated using end CP4 efficiency levels and therefore actual costs would be significantly lower as Network Rail continues to improve its efficiency.

We estimate Gross Freight Avoidable Costs to be between £152m and £377m p.a. on average over the 35 year period of Network Rail's planning horizon (covering CP5 to CP11 inclusive) (see page 21 of the full report). Note that these estimates are gross in the sense that they include items for which Network Rail is already compensated through an existing charge. The gross estimate consists of:

- variable usage costs represent the most significant recurring cost saving, £96-215m p.a., mostly driven by variable track maintenance and renewal costs. This wide range (constituting more

than half of the range in the total estimate) was based on two different results from the industry's VTISM model run by Network Rail staff. We were not able to validate or disaggregate these estimates due to the nature of the VTISM model and we recommend that more work is undertaken by the ORR or Network Rail to attempt to narrow this range

- one-off enhancement costs that could be avoided would represent £64-87m p.a. in annualised terms
- consequential cost savings of £58-77m from lower performance regime payments including Schedules 4 and 8
- cost of freight only lines and other fixed assets that would be made redundant of £20-33m p.a.
- Network Rail staff cost savings of £4-5m p.a.
- offset by consequential cost increases of £39-88m in Network Rail's provision of engineering trains and other services from FOCs as Network Rail ceases to benefit from marginal pricing by FOCs

Note that these figures exclude two potentially material items which would increase Gross Freight Avoidable Costs but for which Network Rail was not able to provide supporting data during the timescales of this project. These are the cost savings arising from policy changes to maintenance and renewal of civils structures and the potential sums realised from disposal of freight property assets.

Long run Net Freight Avoidable Costs were estimated to be c.£42-249m, after subtracting items for which Network Rail is already compensated through an existing charge.

The remit of this project also required development of an allocation of Freight Avoidable Costs between selected freight commodity groups (see pages 40-53 of the full report). This was based on an allocation of the total cost between the key freight commodities, and not the incremental impact of removing each commodity individually.

We have allocated Gross and Net Freight Avoidable Costs to commodities using a set of metrics for each of the various components of the cost (e.g., tonne-kilometres for some costs, and specific future enhancement costs can be matched to the commodities they would most likely carry). These allocations may require further work. The ORR is currently consulting on allocation metrics for freight charges and this was beyond the scope of this study.

Net and Gross Freight Avoidable Cost estimates by key commodity – End CP4 efficiency, 35 year average

Millions of FY11/12 pounds p.a.	Net Freight Avoidable Costs		Gross Freight Avoidable Costs	
	Low case	High case	Low case	High case
Intermodal	27	130	80	191
Coal ESI	1	36	20	60
Other coal (non-ESI)	0	2	1	3
Nuclear	1	1	1	2
Iron Ore	(0)	1	0	1
Other	13	79	49	120
Total	42	249	152	377

Limitations and areas for further work

Freight avoidable cost estimates were based on inputs and assumptions provided by Network Rail and industry participants and results were limited to the validity of these assumptions and inputs

- outputs from the models used, such as Network Rail's VTISM, were dependent on the quality of their inputs and the modelling methodology applied. Freight operators have expressed reservations about the outputs from VTISM in some cases, particularly for the large changes in volumes considered in this study
- some inputs and forecasts, such as the scope and cost of enhancement programmes, were not finalised and could be re-evaluated at any point before they become committed schemes
- additional engineering access opportunities have been assessed as zero based on case-studies and not as a result of a network wide evaluation
- additional redundant assets have been based on an ACTRAFF-derived list and could be missing assets due to potential data issues inherent to the dataset, where these have not been captured by the subsequent Quail adjustment
- quantification of some potentially significant impacts, e.g., the value of freight property assets and the impact on civils maintenance and renewals, has not been possible because Network Rail has been unable to quantify these elements in the time available. These issues will be addressed separately
- other elements that were believed to have small potential cost impact have been assumed to be zero

Within the constraints of our work on this project we believe these assumptions to be reasonable for this purpose.

Uncertainty of some estimates leads in some cases to wide ranges of potential Freight Avoidable Costs. For example, VTISM variable usage costs and NDS consequential cost increase estimates imply a wide range and numbers could be refined with more detailed analysis, which has not been possible within this project's timescale.

Network Rail is undertaking further modelling work on civils as part of its SBP programme which could provide different estimates when compared to the current VUC estimates. Additionally, the model could provide inputs to evaluate the impact of M,R&I policy changes on civils costs.

VTISM cost saving estimates for negative changes in traffic were significantly different from those for positive traffic changes. Further study could be undertaken to identify underlying causes of these differences. The ORR has commissioned an external Reporters to review Network Rail's VTISM runs used in this study.

Potential freight avoidable costs resulting from changes in route criticality could be estimated by Network Rail after this project for possible subsequent inclusion. Given the early stages of some enhancement programmes included in the report, estimates might change as the schemes become more developed over time.

Current Network Rail NDS operational cost increase estimates result in a wide range and further study could be conducted to refine these estimates. Potential freight avoidable costs resulting from freight property asset sales were not included in this report. This could be a material number and Network Rail's current view is that the asset sale could realise several hundred million pounds. For consistency, if included, this number should be treated as other one-off impacts as described previously, i.e. as a nominal adjustment to Network Rail's RAB.

Network Rail could conduct detailed property surveys of these freight property assets to establish their market value for non-freight uses in order to provide a quantification in this area.