Crossrail Central Operating Section

Station Charging Proposals

MAYOR OF LONDON

TRANSPORT FOR LONDON

EVERY JOURNEY MATTERS

Table of Contents

1 Background 3

2 Charging System 3

3 Tariffs 3

3.1 Operations Maintenance and Renewals Charges 4

3.2 Investment Recovery Charge 4

4 Changes to Charges 6

5 Billing Arrangements 7

6 Credit Protection 7

Appendix 1 – Weighted Average Cost of Capital (WACC) 8

1 Background

This document sets out the charging principles for access to the CTOC Stations which will apply from 9th December 2018 (the date the CCOS is expected to be available for railway services) to 31 March 2022, this being the period until the initial contractual review of charges (see section 2 below).

This document should be read in conjunction with the Request for views on Station Charging Proposals document published on the same date as this document, which also sets out a number of terms used in this document.

2 Charging System

Charges for the use of the CCOS are set out in the RfL(I) Station Access Conditions (CCOS) (RfL(I) SACs). The RfL(I) SACs will be incorporated into the Station Access Agreement granted by the Station Facility Owner[1] to an access beneficiary.

Entering into each Station Access Agreement (which will incorporate the RfL(I) SACs) requires the Office of Rail and Road's (ORR's) approval, and hence this approval extends to the charging arrangements. Under Regulation 14 of the both The Railways (Access, Management and Licensing of Railway Undertakings) Regulations 2016 (Rail Regulations 2016), the ORR must also establish the charging framework and specific charging rules governing the determination of fees. Essentially, the ORR is responsible for establishing the charging framework and the Facility Owner is responsible for calculating all station charges within this framework.

The RfL(I) SACs will contain provisions whereby the charges can be reviewed on a periodic basis.

These provisions will be as set out in Condition F13 of the RfL Station Access Conditions 2015 with a review every five years. However, the initial review period (defined as First Review Period in the RfL SACs 2015) will cover the period set out in section 1 above. This shorter initial review period reflects the fact that the CCOS is new infrastructure and, as such, charges are based on prospective cost information and thus it will allow emerging deviations from expectation to be considered and reflected in the charges where appropriate at the earliest practicable opportunity.

3 Tariffs

This section sets out the different charges for access to the CTOC Stations.

The tariff will comprise:

[1] "Facility Owner" is a term used in the Railways Act 1993, for the purposes of this consultation this term has the same meaning as Service Provider under the Rail Regulations 2016. The Facility Owner of the CTOC Stations will be Crossrail Train Operating Concessionaire (CTOC) from time to time, currently MTR Corporation (Crossrail) Limited.

(a) Operations, Maintenance and Renewal Charges comprising:

(i) Long Term Charge; and

(ii) Qualifying Expenditure Charge; and

(b) Investment Recovery Charge.

3.1 Operations Maintenance and Renewals Charges

The calculation of these charges will follow the principles set out in the RfL Station Access Conditions 2015.

3.2 Investment Recovery Charge

The purpose of the Investment Recovery Charge (IRC) is to recover publicly funded capital costs of the CCOS in line with paragraph 3 of schedule 3 of the Rail Regulations 2016.

The Sponsors of the Crossrail project[2] sought confirmation from the ORR before substantial inception of the Crossrail project that a charge could, in principle, be levied to recover up to the publicly funded costs of the project (an IRC).

In November 2008 the ORR issued a Regulatory Statement[3] in relation to Crossrail that stated "we agree in principle … that the infrastructure manager would be entitled to set charges based on the long term costs of the project".

Whilst almost all of the funding of the project could be considered to be publicly funded in order to promote maximum utilisation of the infrastructure the proposed IRC will recover only those costs that have been directly funded by the Sponsors.

It should be noted that the CCOS Network Statement[4] contains consistent proposals to recovering the publicly funded costs of non-CTOC Station CCOS infrastructure.

The recoverable public funding has been allocated pro rata between project spend within the scope of this consultation and that outside the scope (eg the LUL stations).

The capital cost of the CTOC Stations to be recovered through the IRC of £1.2bn will be the initial CTOC Stations Regulatory Asset Base (RAB).

This initial RAB will be subject to amortisation as follows:

Asset Category	Amortisation approach
Long Life Civils Assets	Not amortised
Other Assets	Amortised over fixed period determined by asset class[5]

[2] Transport for London (TfL) and the Department for Transport.
[3] http://orr.gov.uk/__data/assets/pdf_file/0017/10745/crossrail-reg-statmnt-131108.pdf
[4] Upon which a consultation is being conducted in parallel to this consultation.

Long Life Civils Assets comprise the station boxes (subterranean stations), station buildings and associated civil engineering structures which have a design life of 120 years and thus add long-term economic value to the CCOS.

The IRC (in real terms) will be calculated as follows:

$IRC_t = (WACC_t \times RAB_t) + AmortisationOtherAssets_t$

Where:

WACC is the Weighted Average Cost of Capital. This is a pre-tax WACC for a notional third party infrastructure manager with characteristics similar to the immediate landlord, RfL(I) (the Infrastructure Manager)[6].

RAB is the Regulatory Asset Base.

AmortisationOtherAssets is the amortisation allowance for assets other than Long Life Civils Assets.

For the period until the first review of charges, the indicative WACC is 3.8%. The principal assumptions behind the WACC are set out in Appendix 1.

The IRC can be calculated annually based on the opening RAB and amortisation for a given year, leading to a declining profile of charge. To provide certainty the IRC will be a fixed amount, in real terms, for the period to the first review of charges (and for future periods between charges reviews). The fixed IRC over this period will have an equivalent net present value when discounted to December 2018 at the WACC as an annually recalculated declining IRC over the same period.

Construction (capital) costs have been allocated to the CTOC Stations. Whilst most costs can be allocated directly, some project-wide costs and attributable overheads have been allocated based on appropriate metrics or engineering judgement. Applying the public funding recovery to these allocated costs then gives a RAB value per station from which an annual IRC per station can be derived as above. This is then divided by the expected annual number of station calls utilised to give an IRC per station call.

The number of station calls is based on the expected CCOS capacity utilisation for the period to the first contractual review as per the contractual service level commitment (as at the date of this consultation) to be operated by CTOC from December 2019[7].

---

[5] For the purposes of calculating indicative charges in this consultation document, an average life across all asset classes of 25 years has been used. The final charges will be based on assets class specific lives.

[6] For more information on RfL(I) refer to paragraphs 1.3 and 1.5 of the covering document for this consultation.

[7] TfL/RfL(I) is not aware at this time of other prospective train operators on the CCOS and therefore considers this to be an appropriate assumption.

Indicative IRC charges per station are set out below[8]:

CTOC Station	IRC £ per station call (15/16 prices)[9]
Paddington (CCOS)	104
Custom House	20
Canary Wharf	143
Woolwich	59

The number of station calls assumed in the calculation of the above is as follows:

	Station Calls pa (#'000)
Paddington	289
Custom House, Canary Wharf, Woolwich and Abbey Wood	145

Any future enhancement to the CTOC Stations will be added to the RAB, subject to the approval of the ORR at the relevant time and will generate a further IRC calculated in accordance with the principles above.

4 Changes to Charges

Subject to the paragraphs below, the applicable station investment recovery charges shall remain constant in real terms over the period to the first review of charges. Each year the charges are adjusted by RPI.

The RfL(I) SACs will contain provisions similar to those in Condition F13 of the RfL Station Access Conditions 2015 whereby the charges may be amended on the occurrence of a "material" change in circumstances which beneficially or adversely affects the cost of delivering RfL(I)'s asset management strategy for one or more CTOC Stations.

[8] Abbey Wood station was rebuilt as part of the works carried out by NR to facilitate Crossrail services. NR is remunerated for these works by a supplementary access charge payable by TfL. The element of this access charge in relation to Abbey Wood station is proposed to be recovered from the Infrastructure Manager / Facility Owner by TfL through lease rentals and from access beneficiaries as part of the Qualifying Expenditure charge.

[9] Charges are provided to give an indication of scale. They are subject to change including as a result of revisions to forecast capital costs, the cost of capital (WACC), asset lives and methodologies to allocate project-wide costs and attributable overhead.

It is proposed that provisions be included at allow for a revision of the IRC in the event of:

- a significant increase or decrease in the utilisation (ie number of station calls) at one or more CTOC Stations; and/or
- an enhancement at a station coming into use.

As noted in section 2, the charges will be subject to a periodic review. The scope of this review will incorporate inputs into the IRC, notably the setting of the WACC.

5 Billing Arrangements

Payment of the IRC will be four weekly in advance. Agreed terms and conditions, including those relating to non-payment or late payment will be set out in the RfL(I) Station Access Conditions (CCOS).

6 Credit Protection

RfL(I) and/or the Facility Owner reserves the right to require anyone applying for access to a CTOC Station to provide credit protection directly to or for the benefit of the Infrastructure Manager (RfL(I)), which may be by way of: (a) advance payments to reduce and anticipate future obligations to pay station access charges; or (b) contractual arrangements by which a financial institution such as a bank commits to ensure that such payments are effected once they are due. RfL(I) and/or the Facility Owner may do so where the prospective access beneficiary's credit rating suggests that it may have difficulties in effecting regular payments for station access charges. In particular, RfL(I) and/or the Facility Owner intends to do so where the prospective access beneficiary's credit rating is [to be confirmed].

Any such request will be based on credit ratings not older than two years and will be for an amount not exceeding the estimated amount of station access charges during two months of train operations requested. If a prospective access beneficiary provides an advance payment for station access charges, RfL and/or the Facility Owner will not at the same time request other contractual arrangements such that the total value of the arrangements exceeds the aforementioned value.

Appendix 1 – Weighted Average Cost of Capital (WACC)

A required input in the calculation of the IRC is the WACC. The WACC represents a fair rate of return commensurate with the risks faced by the immediate landlord, the Infrastructure Manager.

The WACC which will be applied to the indexed RAB will be a pre-tax, real WACC. An allowance for taxation expenditure is therefore reflected in the WACC. The pre-tax WACC will be estimated with reference to a notional third party with the characteristics of a CCOS infrastructure manager.

The pre-tax cost of capital will be calculated using the following formula:

$$Pretax\ WACC = (g \times CoD) + \frac{(1-g)(CoE)}{(1-\tau)}$$

Where:

'g' is the gearing of the notional CCOS infrastructure manager,

'CoD' is the cost of debt,

'CoE' is the post-tax cost of equity, and

'τ' is a measure of the UK corporate tax rate.

The assumptions to be applied in estimating each of these components are set out below.

Gearing: the gearing for a *notional* CCOS infrastructure manager with an investment grade credit rating (rather than the actual gearing of the Infrastructure Manager, see below).

Cost of debt: yields on long-dated bonds from benchmark UK corporate bond investment grade indices are assumed to capture an appropriate cost of debt (rather than the actual cost of debt of the Infrastructure Manager, see below).

Cost of equity: the Capital Asset Pricing Model (CAPM) is assumed to produce a fair return on equity for the notional CCOS infrastructure manager. The cost of equity (CoE) is equal to:

$$CoE = RFR + \beta(EMRP)$$

where:

RFR is the UK real risk-free rate;

β is the equity beta specific to the notional CCOS infrastructure manager; and

$EMRP$ is the equity market risk premium for the UK.

Tax rate: although the pre-tax WACC is set with reference to a notional CCOS infrastructure manager, it is assumed that the tax-rate is zero, based on the current tax position of the TfL Group. This assumption will be revisited at the review of charges and if the ownership structure changes, as any taxation cost would need to be recovered through the IRC.

The approach to use *notional* rather than *actual* parameters to establish the WACC used to calculate charges is a standard approach used by regulators including the ORR, the CAA, Ofwat and Ofgem. This approach is considered appropriate in the context of the Infrastructure Manager for a number of reasons:

- It provides incentives for the Infrastructure Manager to financially outperform its settlement (in contrast, if *actual* values were employed, the Infrastructure Manager may be held financially neutral to any financial out- and/or under-performance);
- It provides for certainty to TOCs and promotes inter-generational equity by maintaining stability of charges over time, even upon a change of ownership (e.g. a sale of the Infrastructure Manager or the CTOC Stations), although no change of ownership outside the TfL group is currently envisaged; and
- It provides appropriate price-signals to the market that recognises the risks being taken by the Infrastructure Manager (and, ultimately, by the Sponsors).

Illustrative pre-tax WACC for the period to the first review of charges:

For the purposes of generating indicative IRC charges, a WACC figure is required. A full review of a suitable WACC for a notional third party CCOS infrastructure manager has not been undertaken at this stage, since the final figure will not be required for another year. However, an illustrative real WACC of 3.8% has been applied when calculating the station IRCs in section 3.2.

This illustrative WACC has been based on a high-level review of recent financial market data and regulatory precedents. This figure is highly likely to change once a full review of each component has been conducted by the Infrastructure Manager for the final RfL(I) SACs. The illustrative range from which our WACC of 3.8% was drawn is set out in the table below:

Parameter	**Low**	**High**	**Comment**[10]
Gearing	60%	60%	Based on UK regulatory precedents, a gearing of 60% is regarded as being commensurate with an investment grade credit rating.
Risk-free rate	-0.5%	0.5%	UK regulatory precedents for the risk-free

[10] Relevant references will be provided for the WACC assumed in the calculation of the charges included in the final RfL(I) SACs.

			rate have not fallen below 0.5%, this provides the upper end of range. Spot market yields on index-linked gilts – a proxy for the risk-free rate – have been negative for some time though. We therefore adopt a symmetric range around zero to lend some weight to current market evidence.
Total market return	6.50%	6.50%	The CMA has employed a total market return range of 5% to 6.5% in recent decisions. Consistent with other regulatory precedents we adopt an estimate at the top end of this range.
Asset Beta	0.35	0.45	Based on an inspection of UK regulatory precedents we adopt an asset beta range towards the centre-ground of recent determinations.
Equity Beta	0.88	1.13	Calculated.
Cost of Equity (post-tax)	5.6%	7.3%	Calculated.
Cost of Debt (pre-tax)	2.0%	2.2%	Based on long-term averages of Iboxx investment grade corporate bond indices.
Tax-rate	0%	0%	See discussion above.
WACC (pre-tax)	**3.5%**	**4.2%**	Calculated.