

# Heathrow Airport Ltd – Framework Capacity Statement

Framework Agreements for the allocation  
of rail infrastructure capacity

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## Purpose

This statement is published in conjunction with the Heathrow Airport Limited Network Statement – Rail to meet the requirements of European Commission (EU) regulation 2016/545 of April 7<sup>th</sup> 2016. This regulation advises all railway infrastructure managers on procedures and criteria concerning framework agreements for the allocation of rail infrastructure and capacity.

The regulation requires rail infrastructure managers to have framework agreements with rail operators. There are four key requirements for the railway infrastructure manager to fulfil:

1. The infrastructure manager shall draw up a framework capacity statement indicating for every section of line per control period and, if applicable by type of service, the following information:
  - The framework capacity already allocated and the number of train paths;
  - The indicative capacity still available for concluding framework agreements on infrastructure for which framework agreements are already concluded;
  - The maximum capacity available for framework agreements for every section of line, where applicable
2. The framework capacity statement shall respect commercial confidentiality.
3. In accordance with Article 42(7) of Directive 2012/34/EU, the infrastructure manager shall include a framework capacity statement in the network statement or provide a link in the network statement to a public website where that framework capacity statement, or as a minimum the general nature of each concluded framework statement shall also apply to the framework capacity statement.
4. The infrastructure manager shall update the framework capacity statement no longer than three months after the conclusion of a framework agreement, a substantial amendment to it or its cancellation. It shall make the information available in a way which respects commercial confidentiality.

## Glossary

Term	Definition	Role
<b>Crossrail</b>	Train operator – from May 2018 – Dec 2018 will be known as TfL Rail. From Dec 2018 becomes the Elizabeth Line & operated by MTR-C on behalf of TfL.	Will operate services from Abbey Wood and Shenfield to Heathrow Terminal 4
<b>CTA</b>	Central Terminal Area	Station serving Terminals 2 & 3
<b>Framework Capacity</b>	Infrastructure capacity allocated under a framework agreement	
<b>Framework Capacity Statement</b>	An overview of both the framework capacity allocated and an indication of available capacity	
<b>HAL</b>	Heathrow Airport Limited	Infrastructure Manager
<b>Heathrow Connect</b>	Branded train service	Operated by HEOC as the brand for stopping services to/from London Paddington.
<b>Heathrow Express</b>	Branded train service	Operated by HEOC as the brand for fast services to/from London Paddington
<b>HEOC</b>	Heathrow Express Operation Company	Train operator
<b>NRI</b>	Network Rail Infrastructure	Infrastructure owner, UK rail network. Contracted by HAL to maintain the rail infrastructure owned by HAL.
<b>Operator</b>	Train Operator	Currently Heathrow Express and Heathrow Connect
<b>ORR</b>	Office of Road and Rail	Regulatory Body
<b>ROGS</b>	The Railways and Other Guided Transport Systems (Safety) Regulations 2006	It describes who needs to comply and summarises what they need to do to meet minimum standards in Great Britain and across the European Union.
<b>SODS</b>	Single Outside Double Slip	Critical rail infrastructure
<b>T4</b>		Station serving terminal 4
<b>T5</b>		Station serving terminal 5
<b>TAC</b>	Track Access Contract	Agreement between HAL and TOC
<b>Tph</b>	Trains per hour	

## Overview of the route

Under the requirements of European Commission (EU) regulation 2016/545 Heathrow Airport Limited (HAL) is defined as a railway infrastructure owner.

HAL owns the rail infrastructure on which the Heathrow Express and Heathrow Connect rail services are operated other than that section of the route owned and operated by NRI. HAL owns the infrastructure from Heathrow Terminal 5 (KM 26.285) and Terminal 4 (KM 26.520), through Heathrow Central/CTA (Central Terminal Area – Terminal 2 & 3 – KM 23.550) as far as the tunnel portal located at KM19.913; all measurements from London Paddington station. NRI owns the entire infrastructure beyond KM 19.913 to London Paddington.

Trains operate from the stations beneath Heathrow Airport to London Paddington station. After passing over the HAL/Network Rail infrastructure boundary at the tunnel portal, trains heading to London continue over Stockley Flyover to Airport Junction and then join the Great Western Main Line to/from London Paddington. Within the tunnel section there are three stations; Heathrow Central (Central Terminal Area (CTA) serves Terminals 2 and 3), Terminal 4 and Terminal 5.

Whilst HAL own their rail infrastructure, Network Rail are the infrastructure manager (safety) for the entire route between Paddington and Heathrow Terminal 4 and 5, being contracted by HAL to undertake the role of IM (safety) on the HAL owned infrastructure as well as their own.

The HAL infrastructure consists of a twin-bored tunnel between the tunnel portal at KM19.913 and Heathrow Central/CTA and T5 stations. A single-bored tunnel connects the T4 station to the network south of the CTA Station at the junction known as SODS. All stations have two platforms, although the station at T5 does have passive provision for capacity to be increased to four platforms if required.

The maximum linespeed is 80mph.

NRI defines this route as GW180 Heathrow Airport Junction to Heathrow Terminals 4 and 5. Details can be found in the Great Western Sectional Appendix.

The point at which the boundary with NRI is located is approximately the 12¼ milepost (KM 19.913 - distance from London Paddington). The boundary is located at the tunnel portal. HAL is responsible for the route.

HAL is the owner of the HAL infrastructure and NRI is the asset manager under the Regulations. HAL has appointed NRI under contract to carry out its operational asset manager obligations under Rail Regulation in respect of the HAL infrastructure including those obligations set out in ROGS.

Colour	Sectors
	Original HAL Tunnel
	Extended HAL Tunnel

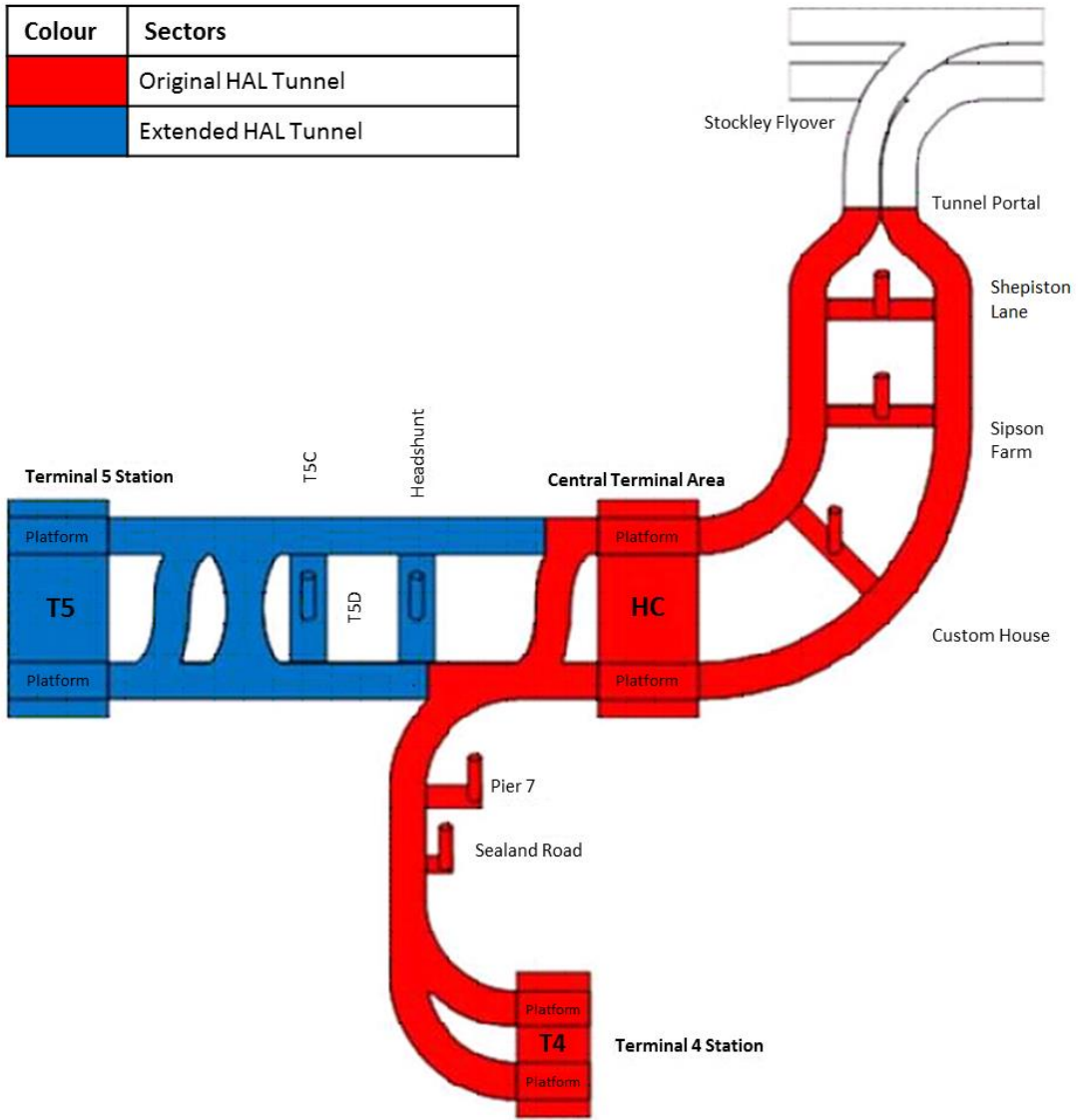


Diagram 1 – details how the HAL rail infrastructure is constructed

## Operators

Currently two train services operate over the HAL rail infrastructure. HAL allocates framework capacity for both Heathrow Express (HEOC) and Heathrow Connect train services.

- **Heathrow Express** – a non-stopping service between London Heathrow Airport and Paddington operated by the HEOC. It is an open access operator and not subject to franchising. It runs every fifteen minutes throughout the day and evening. A separate connecting shuttle service operates between CTA and T4 every 15 minutes to connect with Heathrow Express services. In May 2018, the T4 shuttle service is scheduled to be replaced by the new Crossrail service.
- **Heathrow Connect** - provided jointly by HEOC and First Great Western, connecting Heathrow Airport with Paddington station. The service follows the same route as the non-stop Heathrow Express service calling at intermediate stations between the Airport and Central London. It runs every half-hour throughout the day and evening. A change to this service is scheduled in May 2018 on the introduction of MTR Crossrail services going to 4 trains per hour.

In the December 2016 timetable there are 8 tph operating on the HAL network in each direction. Heathrow Express (HEOC) operates 4 tph between London Paddington, CTA and T5. HEOC operates for 19 hours daily from 05:07 until 00:05. HEOC also operates a shuttle service (4 tph) between CTA and T4.

Heathrow Connect operate 2tph from London Paddington to T4 or T5.

HAL has a TAC with HEOC until 2023. The same TAC covers Heathrow Connect and enables them to operate.

December 2016 timetable	Start of service – Monday to Friday	End of Service – Monday to Friday	Start of service – Saturday	End of Service – Saturday	Start of service – Sunday	End of Service – Sunday
HEOC	05:07	00:05	05:07	00:05	05:03	00:05
Connect	04:42	00:30	04:42	00:30	05:12	00:30

HEOC operate a regular interval clock face timetable of 4 tph. This means that they maintain a frequency of a train every 15 minutes. It also means that there is always a stationary train at London Paddington and T5 for passengers to board. The service is designed to benefit the airline passenger, who will often have luggage to stow on the train and is therefore able to immediately board a waiting train.

From 2018 Crossrail will take over the operation of the Heathrow Connect service between London Paddington and T4. At this the time the T4 shuttle service will cease to operate.

December 2016 timetable	Quantum of trains per hour (includes both directions)		
	CTA	T4	T5
HEOC	12	4	8
Connect	4	-	4
<b>Total</b>	<b>16</b>	<b>8</b>	<b>8</b>
May 2018 timetable			
HEOC	8	-	8
Crossrail	8	8	-
<b>Total</b>	<b>16</b>	<b>8</b>	<b>8</b>

From December 2019, Crossrail will between Heathrow T4 and Abbey Wood/Shenfield through the Central Core. This overall quantum of services will remain the same at 8tph (4 x HEOC to T5 and 4 x Crossrail to T4).

## Engineering Access

Planned engineering work is carried out daily between 00:20 - 04:40 (Monday to Friday). Whilst there are no routine planned engineering works on Friday and Saturday nights, occasionally they can be planned by exception.

Diesel hauled engineering trains are allowed to operate in the tunnels during the hours of 00:20 - 04:40 (Monday to Friday) but only when associated with scheduled maintenance work and when the access is pre-planned. No diesel operations can occur when passenger services are operating and whilst the stations are open.

## Restrictions

Diesel hauled trains and freight trains (other than pre-planned engineering trains for scheduled maintenance and operating during the hours of 00:20 - 04:40 Monday to Friday) are not allowed to operate within the tunnel.



## How Capacity is calculated

Maximum capacity on the network can be calculated by using signalling headways. The headway is based on the capability of the signalling equipment and defines the minimum spacing between trains.

<b>GW180 HEATHROW AIRPORT JUNCTION TO HEATHROW TERMINALS 4 AND 5</b>			
<b>TIMING POINT</b>	<b>DOWN</b>	<b>UP</b>	<b>Maximum tph</b>
Heathrow Airport Jn to Heathrow Tunnel Jn	2½	2½	24
Heathrow Tunnel Jn to Heathrow Terminals 2-3	2	2	30
Heathrow Terminals 2-3 to Heathrow Terminal 4	5	5	12
Heathrow Terminals 2-3 to Heathrow Terminal 5	2	2	30

The table above shows the published headways for each section of route. This means that the maximum theoretical capacity can be estimated. The figure quoted as the maximum tph is for each direction.

Actual capacity means that the maximum number of trains per hour is not possible. There are a number of justifiable constraining factors, these include:

- Pathing limitations on Network Rail infrastructure between London Paddington and Airport Junction
- CTA to T4 shuttle
- Dwell times in platforms
- Security sweep of each train which arrives at its Heathrow destination
- Ventilation systems in the tunnel – only 1 x train is allowed in each signalling section and a maximum of 5 x trains are allowed in the tunnel simultaneously
- Single Outside Double Slip (SODS) – critical and complex Switch & Crossing at CTA
- Turn round times at termini stations

In addition to the pathing constraints listed above, the overall capacity is further reduced by the level of performance allowances applied to the timetable. This is a means of ensuring that unforeseen delays and occurrences can be mitigated. It also enables the train service to resume normal working as quickly as possible.

## Heathrow Network Statement

This Framework Capacity Statement is to be read in conjunction with the Heathrow Network Statement – as published on the Heathrow Rail Regulation website.

This document describes how capacity is allocated and the process taken:

‘HAL are responsible for the allocation of capacity for maintenance, renewals and enhancements will be published annually as part of HAL’s maintenance and renewals plan. The capacity requirement for such work is published within the Engineering Access Statement and managed as part of the train planning process. Route maintenance is

restricted to periods when there are no timetabled services running or as agreed by all parties.'

'In the event that any restriction on capacity as a result of maintenance, renewal or enhancements occurs in a period when a timetabled service is scheduled, HAL will allocate capacity in a fair and non-discriminatory manner and will apply the prioritisation criteria set out at 4.2.'

## **Capacity Allocation and Conditions for Access**

HAL is responsible for the allocation of capacity through grants of TACs and will be responsible for all aspects of the allocation process, including confirming that the applicant complies with all relevant national technical, operational and safety requirements.

### **Description of Timetabling Process**

The timetabling process (governed by Part D of the Network Code) is open to anyone who is a party to the Network Code by virtue of having a TAC with HAL or anyone who proposes in good faith to enter into such a TAC and has agreed to be bound by Part D. Following an approach from a current or potential railway undertaking HAL will advise on the likelihood of train paths being available on the HAL infrastructure. This will be based on the active timetable in operation at the time. If such train paths are available or are likely to become available, HAL will guide the railway undertaking through the timetabling process.

Access to the HAL infrastructure requires entry from the wider UK Rail Network and therefore applicants for access must not only seek rights from HAL but also from NRI.

Requirements in relation to applying for a train path are detailed in the Heathrow Network Statement – Rail. This includes Operators requiring firm paths and ad-hoc requests.

### **Managing Conflicts**

Where conflicts occur between existing framework agreements and requests for new, or modified framework agreements, between requests for new framework agreements, HAL will ensure the best possible matching of the conflicting.

The principles for the coordination procedure for path requests provided for by Article 46(3) and (4) of Directive 2012/34/EU shall apply.

Where conflicts cannot be reconciled satisfactorily between HAL and the operator, HAL will attempt to resolve the conflict by modifying the proposal or by rejecting it. The process for modifying the proposal is to take a coordinated approach in an attempt to ensure the best possible matching of the conflicting requests. If the first coordination fails, a second coordination round could follow. If the second coordination fails then HAL will be in their rights to reject the request.

## Reviewing Framework Capacity

HAL will periodically review the framework agreement with the applicants for the purpose of considering the framework capacity.

If an Operator does not intend to use all, or part, of the framework capacity for a period of more than one month they must inform HAL at least one month in advance. Failure to do so could see the level of capacity reduced for the current timetable period, unless such failure to use the capacity is due to reasons outside the control of the Operator.

Applicants are required to inform HAL, without delay, of any permanent intention not to use all, or part of the framework capacity.

Before offering new framework capacity to an applicant, HAL will consider any failure to use framework capacity, or to request train paths on the basis of a framework agreement and the reasons for it.

## Penalties

HAL will not set penalties at a level exceeding the costs, direct losses, and expenses (including loss of revenue) reasonably incurred or which can reasonably be expected to be incurred by the party indemnified as a consequence of the modification or termination of the agreement. The party indemnified shall take reasonable steps to prevent or reduce the modification of the agreement, or to prevent its termination or to reduce its impact, and to recover any costs, losses and expense or to otherwise mitigate the costs, direct losses and expenses (including loss of revenue).

HAL will not request the payment of penalties in excess of the administrative costs for modifying or terminating the framework agreement in any of the following cases:

- the cause for the modification or termination of the agreement was outside the applicant's control and the infrastructure manager had been informed thereof without delay;
- the applicant had a complementary request for framework capacity rejected without which the envisaged train service was not viable;
- HAL could reallocate train paths and framework capacity in a way that the losses incurred by the modification, or the termination, of the framework agreement have already been recovered.

The framework agreement shall not contain a provision waiving a penalty in the case where the applicant requests separately other capacity than the cancelled capacity. Penalties shall not be requested if a modification involves only a marginal change to the agreed capacity.

Upon the request of the ORR, HAL will provide evidence that penalty payments have been made on time.

## **What is the current maximum capacity?**

For the reasons previously stated current capacity levels are already at close to their maximum due primarily to platform occupation at CTA. This means that the current level of 8 (4 HEOC, 2 Connect and 2 T4 shuttles) per hour is the maximum number of trains.

From May 2018, with the introduction of the Crossrail timetable, the train service specification will change. The inter terminal shuttle is withdrawn and replaced by a through Crossrail service with a benefit being that platform occupation times at CTA reduce, creating additional capacity. It is anticipated that the additional capacity as a result of the above will create at least two additional through paths per hour in each direction between Heathrow Tunnel Junction and the airport (subject to platform occupation times/availability at the terminals).

This additional capacity will be available every day when the line is open and only unavailable during times when engineering access is required.

## **What is the allocated capacity?**

Capacity is allocated to HEOC to operate 4TPH between the hours of 05:07 and 00:05, Monday to Sunday and for Heathrow Connect to operate between the hours of 04:42 and 00:30. The last Connect service is 00:01 from T4 which is timed to pass Stockley Junction at 00:10, allowing planned engineering to take possession of the network from 00:20.

## **Indicative capacity available for framework agreements**

Spare capacity for new operators only exists between 00:20 and 04:40 on a Saturday and Sunday. This is because there are no plans to undertake infrastructure work.

Additional capacity will become available from December 2019 (as detailed above) upon replacement of the existing Heathrow Connect service by Crossrail.

