

## **Appendices (W19)**

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Appendix 1

Runway Scheduling Limits Winter 2019

Arrivals Hour (UTC)																				
	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Average	Total
<b>Winter 2018</b>	37	39	35	44	42	37	37	44	42	40	41	42	42	43	38	38	18	6	36.9	665
Capacity change RSL1	+1	-1	+2			-1	+3	-2		-1							-1			
<b>Winter 2019</b>	38	38	37	44	42	36	40	42	42	39	41	42	42	43	38	38	17	6	36.9	665

Departures Hour (UTC)																				
	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Average	Total
<b>Winter 2018</b>	27	43	44	43	44	45	42	45	43	43	44	44	44	46	39	28	23	6	38.5	693
Capacity change RSL1														-1	+1					
<b>Winter 2019</b>	27	43	44	43	44	45	42	45	43	43	44	44	44	45	40	28	23	6	38.5	693

## Appendix 2

### Additional Runway Scheduling Constraints Winter 2019

#### Arrivals

- 1 Within each hour, and having regard to historic rights, no more than 5 arrivals should be scheduled in each 5 minute period in the hour.
- 2 The schedule, having regard to historic rights, will be co-ordinated to a 20 minute slot constraint, offset by 10 minutes. No more than 15 arrivals should be scheduled in each 20 minute period.
- 3 Only Airlines with a historic allocation of Night Quota are allowed to schedule arrivals at 0610 or 0615.

#### Departures

- 1 Within each hour, and having regard to historic rights, no more than 5 departures should be scheduled in each 5 minute period in the hour.
- 2 The schedule, having regard to historic rights, will be co-ordinated to a 20 minute slot constraint, offset by 10 minutes. No more than 16 departures should be scheduled in each 20 minute period.
- 3 Each hour, and having regard to historic rights, will be coordinated to an offset rolling hour. The hour is offset by 10 minutes and rolls through the hour every 20 minutes. No more than 45 departures will be scheduled in any rolling hour between 0600 and 2255 (UTC), except between 1650-1905 (UTC) when the rolling hour capacity will be 46.

Time (UTC)	0600 - 1645	1650 - 1905	1910 - 2255
Capacity	45	46	45

## Arrivals and Departures

- 1 Ad Hoc slots will be unavailable between 0430 and 0800 (UTC).
- 2 A reduced ad-hoc capacity will be declared in all hours both for arrivals and departures following the hand-back deadline on 15<sup>th</sup> July 2019. Before ad-hoc slots can be allocated in any hour the declared capacity will reduce by one arrival and one departure. Therefore in any hour to re-allocate slots there must be a minimum of 2 cancellations for 1 ad-hoc and 3 cancellations for 2 ad-hoc flights.

Arrivals	Hour (UTC)																
	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Summer 2019 Capacity	38	38	37	44	42	36	40	42	42	39	41	42	42	43	38	38	17
Reduced Capacity at the hand-back deadline			-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Summer 2019 Capacity for ad hoc recycling	0	0	35	42	40	34	38	40	40	37	39	40	40	41	36	36	15

Departures	Hour (UTC)																
	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Summer 2019 Capacity	27	43	44	43	44	45	42	45	43	43	44	44	44	45	40	28	23
Reduced Capacity at the hand-back deadline			-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Summer 2019 Capacity for ad hoc recycling	0	0	42	41	42	43	40	43	41	41	42	42	42	43	38	26	21

- 3 Ad-Hoc slot allocation will be suspended when weather conditions deteriorate. (Exceptions, contained in ANNEX 3 of Local Rule 2, will be allowed to operate during the suspension.)

## Appendix 3

## Heathrow Terminal Scheduling Limits Winter 19/20

Terminal	A/D	Constraint	Coordination Limit	Upper Theoretical Limit
T2	D	Combined 1 Hour	2800	3500
		Combined 3 Hour	6800	8550
	A	International & CTA 1 Hour	2600	3900
		International & CTA 2 Hour	5100	6500
		Domestic 1 Hour	400	600
T3	D	International 1 Hour	3000	3700
		International 3 Hour	7000 (0000-1725)	8300
			6100 (1730-2359)	
	A	International 1 Hour	3500	4650
		International 2 Hour	5000	7100
T4	D	International 1 Hour	2000	2800
		International 3 Hour	4250	6000
	A	International 1 Hour	1800	2500
		International 2 Hour	3000	4300
T5	D	Combined 1 Hour	4500	5000
	A	International 1 Hour	3750	4500
		Domestic 1 Hour	950	1200

## Check-in Limits

### Terminal 2

Zone	Desks	Declaration
A	32	32
B	26	26
C	12	12
D	46	46

### Terminal 3

Zone	Desks	Declaration
A	33	33
B	29	29
C	26	26
D	26	26
E	26	26
F	26	26
G	28	28

### Terminal 4

Zone	Desks	Declaration
A	14	14
B	5	5
C	26	26
D	16	16
E	16	16
F	26	26
G	10	10
H	14	14

## Terminal 3 Integrated Baggage System Limit

Coordination Limit: 33 laterals  
 Upper Limit: 45 laterals

## Terminal 4 Baggage System Limits

ABF Warning Limit: 44 MUPs  
 Upper Limit: 56 MUPs  
 MBH Warning Limit: 80 MUPs  
 Upper Limit: 92 MUPs  
 TBF Single Limit 10 MUPs

Appendix 4

Load Factors Winter 19

W19 Declared	T2 Domestic	T2 CTA & Int	T2 Combined	T3 International		T4 International		T5 Domestic	T5 International (+ Dom Dep)	
Day of Week	A	A	D	A	D	A	D	A	A	D
1	88%	84%	81%	84%	85%	87%	85%	86%	84%	81%
2	85%	82%	80%	81%	86%	84%	84%	82%	80%	78%
3	81%	79%	79%	77%	85%	82%	87%	83%	79%	79%
4	78%	81%	85%	80%	88%	83%	87%	79%	81%	83%
5	78%	84%	87%	85%	89%	86%	90%	79%	85%	85%
6	75%	89%	87%	87%	88%	85%	88%	84%	86%	86%
7	86%	88%	84%	88%	87%	89%	89%	85%	86%	86%

## Appendix 5

## Stand Limits Winter 19

Table 5.1

**Total Physical Stand Supply - For Information Only, this is not the W19 Declared Stands**

<b>Winter 19</b>										
<b>Apron</b>	<b>F</b>	<b>E</b>	<b>E (747-400)</b>	<b>E (777-200)</b>	<b>D (767-300)</b>	<b>D (757)</b>	<b>C (A321)</b>	<b>C (A319)</b>	<b>B</b>	<b>TOTAL</b>
<b>T2</b>	11	11	0	2	0	0	14	0	0	<b>38</b>
<b>T3</b>	12	19	4	5	1	1	3	0	0	<b>45</b>
<b>T4</b>	6	12	7	2	2	0	4	1	0	<b>34</b>
<b>T5</b>	15	15	10	0	4	0	15	1	0	<b>60</b>
<b>Total exc. Cargo</b>	<b>44</b>	<b>57</b>	<b>21</b>	<b>9</b>	<b>7</b>	<b>1</b>	<b>36</b>	<b>2</b>	<b>0</b>	<b>177</b>
<b>CARGO</b>	0	8	2	2	0	0	0	0	0	<b>12</b>
<b>Total inc. Cargo</b>	<b>44</b>	<b>65</b>	<b>23</b>	<b>11</b>	<b>7</b>	<b>1</b>	<b>36</b>	<b>2</b>	<b>0</b>	<b>189</b>

- MARS – main centrelines counted except MARS stands which are predominately used by narrow body aircraft and therefore are declared as two centre-lines, e.g.:
  - Stand 218 declared as 218L & 218R
  - Stand 221 declared as 221L & 221R
- MCA - allocated based on current predominate usage requirement:
  - Stands 415 – 420 declared as 3 x C(A321) and 1 x C(319)
  - Stands 449 – 452 declared as 2 x E
- 701 & 702 – no live movements

Table 5.2

## Stand outages for construction work

<b>Winter 19 Stand Outages for Construction Work</b>										
<b>Apron</b>	<b>F</b>	<b>E</b>	<b>E (747-400)</b>	<b>E (777-200)</b>	<b>D (767-300)</b>	<b>D (757)</b>	<b>C (A321)</b>	<b>C (A319)</b>	<b>B</b>	<b>TOTAL</b>
<b>T2</b>	0	0	0	0	0	0	0	0	0	0
<b>T3</b>	0	0	0	0	0	0	0	0	0	0
<b>T4</b>	0	0	0	0	0	0	0	0	0	0
<b>T5</b>	0	0	0	0	0	0	0	0	0	0
<b>Total exc. Cargo</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CARGO</b>	0	0	0	0	0	0	0	0	0	0
<b>Total inc. Cargo</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

- There are no planned stand outages for construction works.

Table 5.3

## Stand downgrades for project work and/or operational resilience

<b>Winter 19 Stand Downgrades for Projects or Ops. Resilience</b>										
<b>Apron</b>	<b>F</b>	<b>E</b>	<b>E (747-400)</b>	<b>E (777-200)</b>	<b>D (767-300)</b>	<b>D (757)</b>	<b>C (A321)</b>	<b>C (A319)</b>	<b>B</b>	<b>TOTAL</b>
<b>T2</b>	-5	5	0	0	0	0	0	0	0	0
<b>T3</b>	-6	4	2	0	0	0	0	0	0	0
<b>T4</b>	-2	0	2	0	0	0	0	0	0	0
<b>T5</b>	-4	4	0	0	0	0	0	0	0	0
<b>Total exc. Cargo</b>	<b>-17</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CARGO</b>	0	0	0	0	0	0	0	0	0	0
<b>Total inc. Cargo</b>	<b>-17</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Remote Code F stands are downgraded to Code E3 to prevent A380 remotes

- **T2:** Stands 212, 213, 254, 255, 258 Code F remotes restricted to Code E3
- **T3:** Stands 209, 210, 318 and 327 restricted to E2(747-400)  
Stands 594, 595, 596 Code F remotes restricted to Code E3
- **T4:** Stands 440, 441 restricted Code E3 to E2(747-400)  
Stands 453 and 454 Code F remotes restricted to Code E3

Table 5.4

Additional stand outages due to operational issues; e.g. maintenance, stand cleaning, off slot performance, etc.

Winter 19 Additional Stand Outages, e.g. Maint, Off-slot Perf.										
Apron	F	E	E (747-400)	E (777-200)	D (767-300)	D (757)	C (A321)	C (A319)	B	TOTAL
<b>T2</b>	-1	-2	0	0	0	0	-2	0	0	-5
<b>T3</b>	-1	-1	-2	-1	0	-1	0	0	0	-6
<b>T4</b>	-1	-3	-3	-1	0	0	-1	0	0	-9
<b>T5</b>	-1	-1	-1	0	0	0	-1	0	0	-4
<b>Total exc. Cargo</b>	<b>-4</b>	<b>-7</b>	<b>-6</b>	<b>-2</b>	<b>0</b>	<b>-1</b>	<b>-4</b>	<b>0</b>	<b>0</b>	<b>-24</b>
<b>CARGO</b>	0	-5	0	-2	0	0	0	0	0	-7
<b>Total inc. Cargo</b>	<b>-4</b>	<b>-12</b>	<b>-6</b>	<b>-4</b>	<b>0</b>	<b>-1</b>	<b>-4</b>	<b>0</b>	<b>0</b>	<b>-31</b>

Additional stand outage declaration maintains a similar level of contingency to the W18/S19 declarations:

- One Pier Served Code F stand removed in each terminal
- **T2:** Requirement as declared for W18/S19
- **T3:** Requirement as declared for W18/S19
- **T4:** Stands 453, 454 & 455 removed from T4 declaration for T3 south-side towing as declared for W18/S19  
Stand 456 removed due to frequent Royal Suite use
- **T5:** Requirement as declared for W18/S19
- **Cargo:** Requirement as declared for W18/S19. Stands 601-606 removed due to no fuel, reverse parking or GA use. 616 for resilience.

Table 5.5

## W19 Total Stands Declared for Schedule Coordination

<b>Winter 19</b>										
<b>Apron</b>	<b>F</b>	<b>E</b>	<b>E (747-400)</b>	<b>E (777-200)</b>	<b>D (767-300)</b>	<b>D (757)</b>	<b>C (A321)</b>	<b>C (A319)</b>	<b>B</b>	<b>TOTAL</b>
<b>T2</b>	5	14	0	2	0	0	12	0	0	<b>33</b>
<b>T3</b>	5	22	4	4	1	0	3	0	0	<b>39</b>
<b>T4</b>	3	9	6	1	2	0	3	1	0	<b>25</b>
<b>T5</b>	10	18	9	0	4	0	14	1	0	<b>56</b>
<b>Total exc. Cargo</b>	<b>23</b>	<b>63</b>	<b>19</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>32</b>	<b>2</b>	<b>0</b>	<b>153</b>
<b>CARGO</b>	0	3	2	0	0	0	0	0	0	<b>5</b>
<b>Total inc. Cargo</b>	<b>23</b>	<b>66</b>	<b>21</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>32</b>	<b>2</b>	<b>0</b>	<b>158</b>

Note: GA capacity is declared separately (see Appendix 6)

## Appendix 6

### Additional Constraints and Explanatory Notes

#### W19 Runway Scheduling Limits

The RSL Working Group has agreed to re-consider any flex requests that were considered but not accepted at the RSL meeting, prior to the circulation of the SAL (Schedule Airline Listing) at the end of April and again after the IATA conference at the end of June 2019. These wish lists would all have been received by ACL before the RSL meeting.

#### New or Retimed slots after 22:40 (local)

In order to minimise the unplanned use of scarce night allocation movements due to delayed operations, no new or retimed services shall be allocated slots later than 22:40 (local) without a proportionate allocation of night quota - if such quota is available for allocation. If no such quota is available, relative to the forecast use for the airline, then no slots shall be allocated.

#### ATM Cap

A cap on the annual number of Air Transport Movements (ATMs) at Heathrow of 480,000 was introduced as a planning condition for the development of Terminal 5. In order not to exceed this level, a limit on the number of slots that may be allocated for air transport movements during the Winter 19 season, is set at 9,236 per week.

Additionally, after the slot hand back deadline in June 2019, the total seasonal number of air transport movements allocated should not exceed 195,763.

#### Night Flight Restriction

Aircraft of Quota Count 4 (QC4) will not be scheduled to operate between 23:30 and 06:00 (local) i.e. in the night quota period.

(This applies to Scheduled times only and does not apply to flights which have been delayed into the night period.)

#### Voluntary Agreement on Night Flights

The informal voluntary agreement between Heathrow and the Heathrow airlines regarding night flights is:

- Early morning arrivals will not land before 04:30 (local).

(This does not apply to arrivals delayed from the day before. However, if they have been subject to such severe delays that a further delay to ensure that they arrive after 04:30 would make little difference, then the Duty Manager Airside may decide to refuse permission for an arrival before 04:30.)

- Cargo flights will not be scheduled to operate between 23:30 and 06:00 (local). (This applies to Scheduled times only and does not apply to flights which have been delayed into the night period.)

### Terminal Declarations

As throughput increases, it is becoming increasingly difficult to encapsulate the complicated nature of each operational/facility constraint within a simple declared capacity limit for each terminal. We appreciate your continued cooperation in assessing the full impact of scheduling changes, notably new entrant airlines and significant changes from existing carriers, including slot exchanges.

Following consultation at the Terminal and Stands Limits Working Group (TSL), the Winter 19 Terminal limits have been agreed.

Heathrow will continue to assess any capacity overage requests that fall within the boundaries of the initial coordination limits and the upper limits which reflect the theoretical capacity of the terminals.

Heathrow will continue to declare limits for the Terminals 3 and 4 Baggage Systems.

Heathrow will continue to declare limits for check-in in Terminals 2, 3 & 4.

### A380 Reclaim Belts

Heathrow has a number of A380 flights operating at the airport. Although there is variation in the seat capacity and transfer volumes of the A380 flights, in general a larger reclaim belt is required for an A380 operation.

With agreement at the Terminal and Stands Limits Working Group, Heathrow declares a limit on the number of A380 flights arriving within 60 minutes in Terminals 2, 3 and 4.

Based upon our assessments as to what is suitable for an A380 operation, we declare the following arrivals reclaim capacity for A380 operations, in a rolling hour:

Terminal	Reclaim Belts declared suitable for A380 operations
T2	6
T3	3
T4	2

Any breaches of this limit should be referred to Heathrow Airport to assess the individual flight to take account of seat capacity and transfer volumes.

## **Transit Flights**

Transit flights require all passengers to be processed through transfer security unless held in transit gate lounges. Due to the resulting peak passenger flows this has a disproportional impact on transfer security capacity. It is therefore important to separate transit flights to enable them to use the limited transit gate facilities or to limit the impact on transfer security.

Therefore only one transit flight should be scheduled in each terminal within any 90 minute period. This limit is to be enforced for new transit flights.

## **Stands**

Stand capacity is a critical constraint at Heathrow. Modelled stand demand versus available supply will continue to constitute a formal co-ordination parameter for each apron for Winter 19. Stand supply needs to be assessed at terminal level on all campuses. Where any breaches of the terminal stand declarations occur, we request that ACL either seek airline scheduling adjustments to resolve any overages, or refer the overage to Heathrow for assessment, to determine if a solution can be found within the constraints of the apron concerned.

As previously agreed, with regards to the T3/T5 boundary, all stands starting with '5' east of stand 582 (including 582) will be T3 and all stands starting with '5' west of stand 582 (excluding 582) will be T5. This allows a better balance of stand capacity for T3 and T5.

As agreed at the TSL meeting of April 2019 remote stands 209 and 210 will be allocated to Terminal 3 for coordination purposes.

Modelling of capacity at Heathrow has shown that to ensure aircraft flow is maintained effectively it will be necessary to use other terminals' stands for aircraft from Terminal 3. This will increase the number of towing movements which in turn may cause congestion on associated taxiways. In mitigation, we must ensure as part of the co-ordination process that the likelihood of this is minimised, and not exacerbated, by changes to slot allocations or timing.

We ask you to be mindful of the need to minimise carriers' ground time in the peak period and give this a high priority in the allocation of available runway slots.

## **Domestic, CTA, International Stand Capacity**

There is a need for the schedule coordination process to consider domestic, CTA, and international stands capacity individually.

As previously, we request that ACL carry out high level assessments that differentiate domestic, CTA, and international demand against capacity in Terminals 2 and 5. The

assessment is to be carried out at Initial Coordination, after the IATA Conference, and after the slot hand-back deadline. The results are to be shared with Heathrow. This will enable a trigger for early notification of issues and prompt any actions required to address the problems, including potential re-timing of slots.

### **Aircraft parking at Heathrow Airport outside of scheduled turnaround periods**

In recent years it has become apparent that a number of away based carriers have elected to cancel flights during planned holiday periods and park their aircraft at Heathrow outside of their scheduled turnaround periods. This practice, in conjunction with the current programme of construction works limiting stand capacity, causes congestion at the airport and has negative impact on airport operations over an extended period of time.

Until construction works affecting stand capacity are complete airlines should not leave aircraft parked at Heathrow Airport outside of scheduled turnaround periods in particular during the US Thanksgiving holiday period (from the Monday before Thanksgiving until the following Sunday inclusive) and during the Christmas holiday period (21<sup>st</sup> December to 2<sup>nd</sup> January 2019 inclusive).

(See also General Aviation below)

### **New / unproven aircraft types**

To avoid potential operational issues we request that ACL refers to Heathrow for individual review any applications for aircraft to operate in any terminal / facility which they have not operated previously.

Examples of which are:

- Airbus A350-1000
- Boeing 747-8 Intercontinental and Freight
- Airbus A350-900 in Terminal 4.

Heathrow airport will provide a list of aircraft at terminal level for ACL reference.

### **General Aviation (GA) Stand Capacity**

To ensure GA stand demand does not exceed supply, a separate stand capacity limit for GA is required.

Declarations will make a distinction between GA stands capable of servicing live movements and stands capable of parking tows only. Assessments carried out should therefore be able to distinguish between stand demand that requires live stands and demand that can be decanted to parking only stands.

Five stands are required for GA parking and two for GA live movements

- GA parking = 3x narrow body and 2x wide body
- GA live = 2 x Code C or 1 x Code E3

Winter 19 - GA									
	F	E3	E2 (747-400)	E (777-200)	D (767-300)	D (757)	C (A321)	C (A319)	TOTAL
Live*		1					2		2x code C or 1x code E3
Parking Only		2					3		5

*\*Stands 457(L&R) will be used for live GA movements and can either be used by 2x Code C A321 or 1x Code E3. For red carpet movements Stand 458 (E3) can be used. Live aircraft that are not using the red carpet, will most likely arrive/depart from Stand 456 or another 450 stand.*

GA stand declarations only impact cargo stands capacity i.e. cargo is reduced by 3 narrow body stands. Other stands declared as GA were previously already excluded from capacity declarations.

Peak periods will require the following restrictions to GA Parking:

- Thanksgiving – no GA Parking (live declaration not affected), 2 days before until 2 days after
- Christmas – no GA Parking (live declaration not affected), 21<sup>st</sup> December to 27<sup>th</sup> December inclusive.
- New Year – no GA Parking (live declaration not affected) 29<sup>th</sup> December to 2<sup>nd</sup> January inclusive.

## Roads

The Central Terminal Area 2-way scheduling limit remains at 14000pph for Winter 19.