

Oberon Report Indicators (up to and including Q1/2019)

This paper, provided by NERL, reports on three London Approach capacity metrics:

- Total London Approach air traffic flow management (ATFM) delays, broken down by approach function and delay cause
- Average London Approach ATFM delay per arrival, broken down by approach function and delay cause and
- Average UK ATFM delay per arrivals, broken down by approach function and delay cause.

Data is provided on an annual basis. The delays relating to London do not include regulations applied to other UK sectors outside of the London Approach functions.

As with previous reports, this paper contains information about all delay causes. This gives a more complete picture for all London Approach Airports. All delay causes includes non NERL attributable (airfield or weather) as well as NERL attributable relating to:

- ATC Capacity (Airspace Capacity)
- Airspace Management
- ATC Staffing
- ATC Routings
- ATC Equipment
- ATC Special Event (Projects, eg ExCDS) and
- Military¹.

Background to changes to NERL delays

The data for 2017 now reflects the changes made by the Network Manager through its post-operational adjustments. The data presented for Jan-Dec 18 will also be subject to change through the Network Manager's post-operational adjustment process, which will not take effect until later in 2019. Additionally, the data presented for 2019 will be subject to change in 2020.

Special event delays in 2017 and 2018 were caused by the introduction of a new electronic flight strip system (ExCDS). This was implemented in 5 phases between November 2017 and July 2018. Airlines and airports were fully consulted on the implementation plan to minimise disruption. Special event delays relate to the introduction of a change in the operation (e.g. a new technology) and are applied to ensure the change is implemented safely. This report has been updated to include all delays relating to ExCDS transitions. This has resulted in a slight increase in Special Event delays that were reported in NATS statistics but omitted from the original Oberon reports for Jan-Mar and Jan-Jun 18.

ATC capacity delays have increased at Luton and Stansted in 2018. This is due to growth in traffic demand at peak times exceeding the capacity of the Essex airspace, which handles the approaches for both Luton and Stansted. Airspace modernisation is required to increase the capacity of the airspace. ATC capacity delays are applied when traffic demand exceeds the capacity of the airspace, to ensure that all flights are handled safely. ATC capacity delays do not include delays caused by staffing, as these are captured separately in 'ATC staffing delays'. As a result of post ExCDS implementation review of TC Monitor Values (MV), the MV for Essex airspace has been increased by 2 flights per hour which should help mitigate some capacity delays in this airspace.

¹ This category is included as a cause of NERL delay because it is listed as one in NERL's Licence. However, it is not shown in the tables and charts because the military did not generate any delay over the period.

The list of defined regulation TV's used to classify London Approach Air Traffic Flow Management delay has been updated to include new traffic volumes: EGKKTCE, EGLLTCE, and EGLCTCE. This change has been applied retrospectively, resulting in the total delay for Gatwick in 2018 increasing from 27,519 minutes to 29,239 minutes.

London Approach Air Traffic Flow Management (ATFM) delays, broken down by approach function and delay cause: NERL attributable and all causes

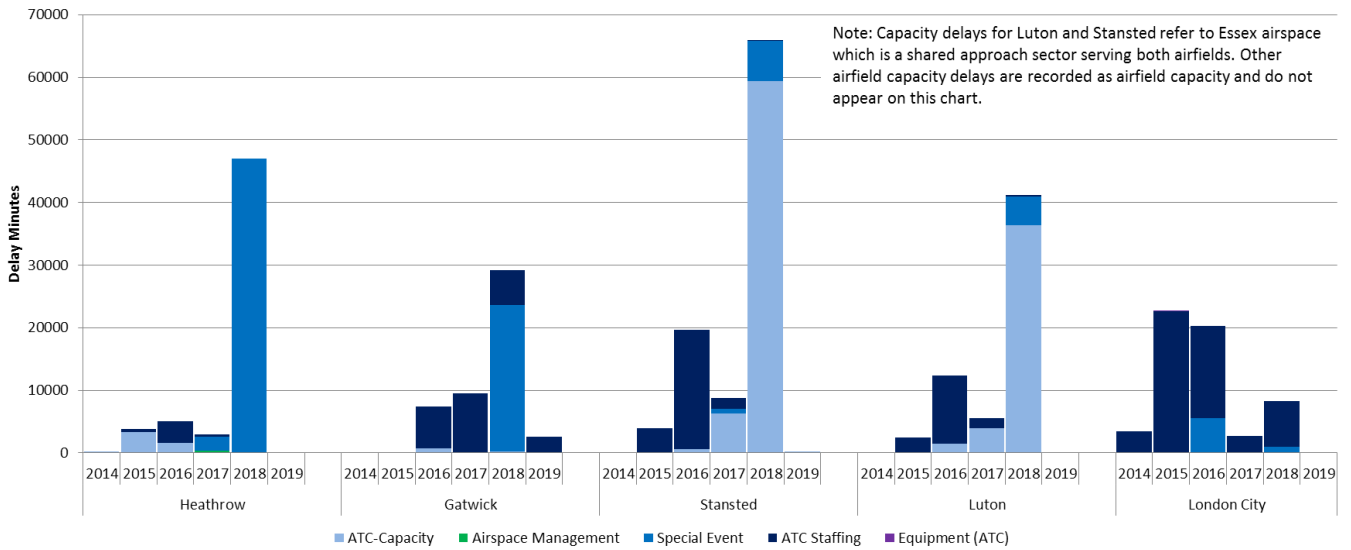
The tables and charts shows total Air Traffic Flow Management delay minutes for the approach service to the 5 London Approach airfields, firstly for NERL attributable delay and then all causes (with NERL attributable delay highlighted in yellow).

NERL London Approach Air Traffic Flow Management (ATFM) delays (min), broken down by approach function and delay cause							
Airport	Year	ATC-Capacity	Airspace Management	Special Event	ATC Staffing	Equipment (ATC)	Total NERL Delay
Heathrow	2014	216	0	0	0	0	216
	2015	3257	0	0	508	0	3765
	2016	1612	0	0	3482	0	5094
	2017	125	182	2265	316	0	2888
	2018	95	0	46887	0	0	46982
	2019	0	0	0	0	0	0
Gatwick	2014	0	0	0	0	0	0
	2015	0	0	0	0	0	0
	2016	695	0	0	6665	0	7360
	2017	0	0	0	9446	0	9446
	2018	173	0	23488	5578	0	29239
	2019	0	0	0	2570	0	2570
Stansted	2014	0	0	0	0	0	0
	2015	0	0	0	3964	0	3964
	2016	654	0	0	19045	0	19699
	2017	6266	0	768	1673	0	8707
	2018	59377	0	6391	155	0	65923
	2019	212	0	0	0	0	212
Luton	2014	0	0	0	0	0	0
	2015	0	0	0	2451	0	2451
	2016	1476	0	0	10857	0	12333
	2017	3878	0	0	1686	0	5564
	2018	36304	0	4636	295	0	41235
	2019	124	0	0	0	0	124
London City	2014	0	0	0	3428	0	3428
	2015	0	0	0	22608	26	22634
	2016	0	0	5575	14714	0	20289
	2017	0	0	0	2722	0	2722
	2018	0	0	907	7316	0	8223
	2019	0	0	0	0	0	0

Total London Approach Air Traffic Flow Management (ATFM) delays (min), broken down by approach function and delay cause																
Airport	Year	ATC-Capacity	Equipment (non_ATC)	Aerodrome Capacity	Airspace Management	Other	Special Event	ATC Staffing	Equipment (ATC)	Weather	Airport (Weather)	Airport (All Other Causes)	Total NERL	Total ATFM Delay		
Heathrow	2014	216	0	0	0	0	216	0	0	0	3173	400446	46988	216	451039	
	2015	3257	0	0	0	0	0	0	508	0	5538	450698	51081	3765	511082	
	2016	1612	0	0	0	0	288	0	3482	0	1292	423111	17600	5094	447385	
	2017	125	0	0	0	182	0	2265	316	0	4572	434077	22524	2888	464061	
	2018	95	0	0	0	0	173	46887	0	0	426	332805	106834	46982	487220	
	2019	0	0	0	0	0	0	0	0	0	0	124212	3092	0	127304	
Gatwick	2014	0	0	0	0	0	0	0	0	0	0	72769	16633	0	89402	
	2015	0	0	0	0	0	0	0	0	0	0	109219	29447	0	138666	
	2016	695	0	0	0	0	0	0	6665	0	0	241499	95559	7360	344418	
	2017	0	0	0	0	0	0	0	9446	0	0	217436	237409	9446	464291	
	2018	173	0	0	0	0	0	23488	5578	0	0	164114	220139	29239	413492	
	2019	0	0	0	0	0	0	0	2570	0	0	55699	8227	2570	66496	
Stansted	2014	0	0	0	0	0	0	0	0	0	587	1767	4196	0	6550	
	2015	0	0	0	0	0	0	0	3964	0	1985	18933	9543	3964	34425	
	2016	654	0	0	0	0	0	0	19045	0	8421	67488	5143	19699	100751	
	2017	6266	0	0	0	0	11	768	1673	0	14168	65719	22148	8707	110753	
	2018	59377	573	360	0	0	689	6391	155	0	8119	91676	32202	65923	199542	
	2019	212	0	0	0	0	0	0	0	0	497	12009	4635	212	17353	
Luton	2014	0	0	0	0	0	0	0	0	0	443	339	2440	0	3222	
	2015	0	0	0	0	0	0	0	2451	0	1278	11053	5312	2451	20094	
	2016	1476	0	0	0	0	0	0	10857	0	6808	45384	9320	12333	73845	
	2017	3878	0	0	0	0	31	0	1686	0	10753	32492	4830	5564	53670	
	2018	36304	0	0	0	0	516	4636	295	0	4889	27725	9288	41235	83653	
	2019	124	0	0	0	0	0	0	0	0	244	6484	405	124	7257	
London City	2014	0	0	0	0	0	0	0	3428	0	542	41405	9589	3428	54964	
	2015	0	0	0	0	0	0	0	22608	26	0	28887	12107	22634	63628	
	2016	0	0	0	0	0	0	0	5575	14714	0	4582	55235	20168	20289	100274
	2017	0	0	0	0	0	0	0	0	2722	0	184	56945	6060	2722	65911
	2018	0	0	0	0	0	0	0	907	7316	0	0	43802	7321	8223	59346
	2019	0	0	0	0	0	0	0	0	0	0	19256	10565	0	29821	

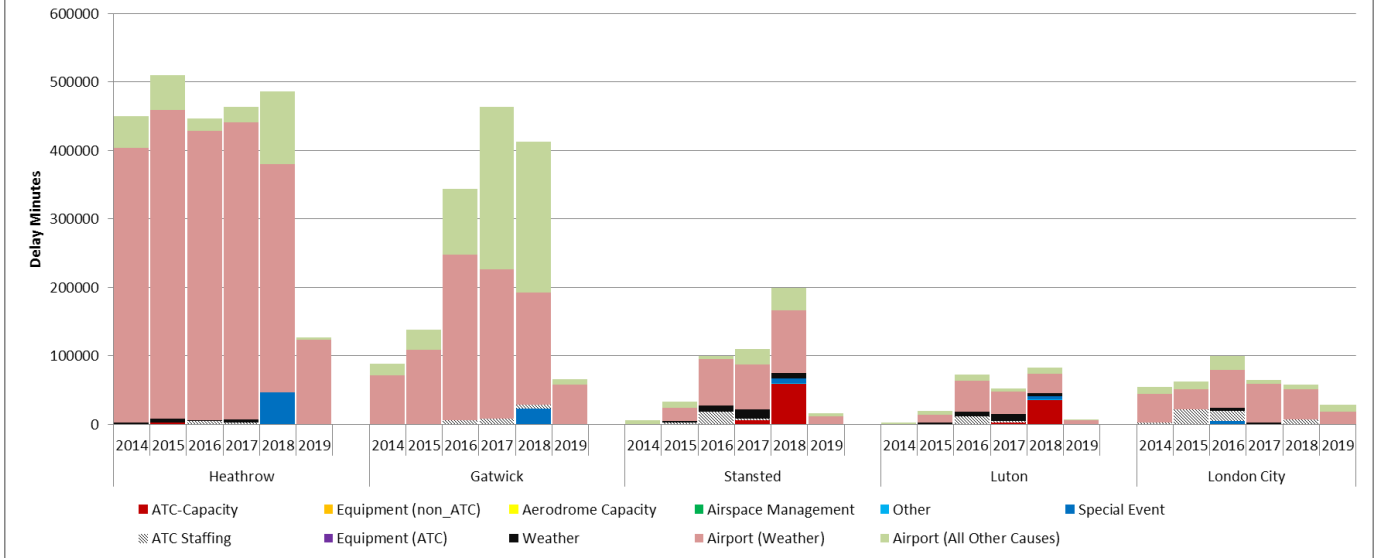
NERL London Approach Air Traffic Flow Management (ATFM) delays, broken down by approach function and delay cause

note: 2019 data is only for Jan - Mar



Total London Approach Air Traffic Flow Management (ATFM) delays, broken down by approach function and delay cause

note: 2019 data is only for Jan - Mar



London Approach ATFM delay per arrival, broken down by approach function and delay cause: NERL attributable and all causes

The tables and charts show average Air Traffic Flow Management delay per flight for the approach service to the 5 London Approach airfields, firstly for NERL attributable delay and then all causes (with NERL attributable delay highlighted in yellow).

Average NERL London Approach ATFM delay per arrival (sec), broken down by approach function and delay cause

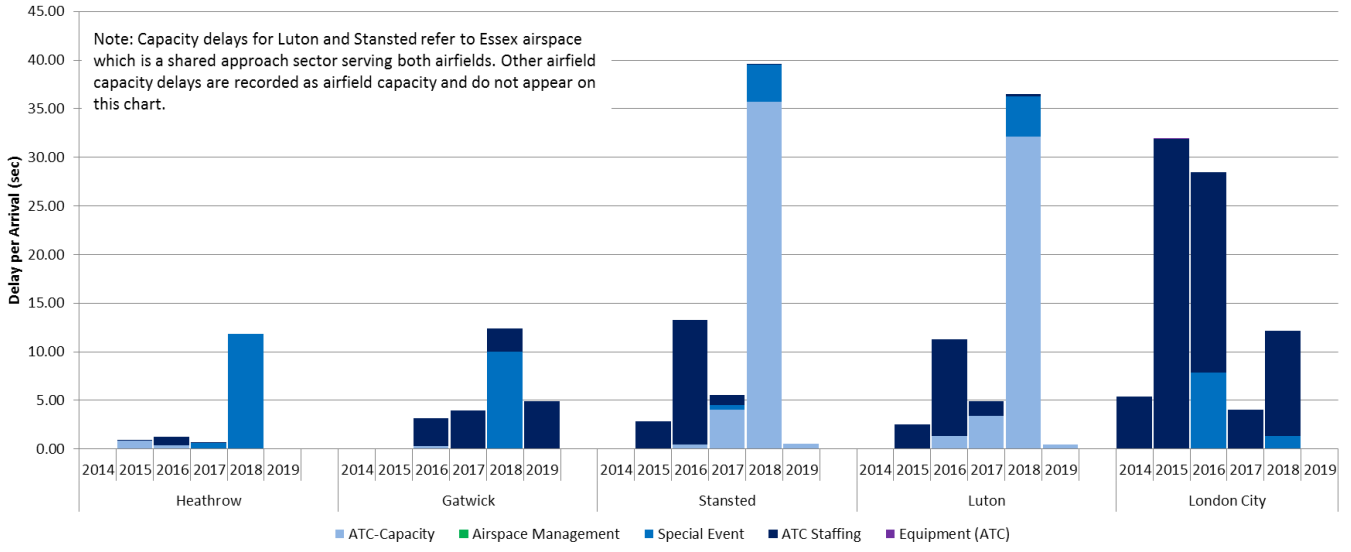
Airport	Year	ATC-Capacity	Airspace Management	Special Event	ATC Staffing	Equipment (ATC)	Total NERL Delay
Heathrow	2014	0.05	0.00	0.00	0.00	0.00	0.05
	2015	0.82	0.00	0.00	0.13	0.00	0.95
	2016	0.41	0.00	0.00	0.88	0.00	1.29
	2017	0.03	0.05	0.57	0.08	0.00	0.73
	2018	0.02	0.00	11.80	0.00	0.00	11.82
2019	0.00	0.00	0.00	0.00	0.00	0.00	
Gatwick	2014	0.00	0.00	0.00	0.00	0.00	0.00
	2015	0.00	0.00	0.00	0.00	0.00	0.00
	2016	0.30	0.00	0.00	2.86	0.00	3.15
	2017	0.00	0.00	0.00	3.97	0.00	3.97
	2018	0.07	0.00	9.94	2.36	0.00	12.37
2019	0.00	0.00	0.00	4.95	0.00	4.95	
Stansted	2014	0.00	0.00	0.00	0.00	0.00	0.00
	2015	0.00	0.00	0.00	2.84	0.00	2.84
	2016	0.44	0.00	0.00	12.80	0.00	13.24
	2017	4.00	0.00	0.49	1.07	0.00	5.56
	2018	35.68	0.00	3.84	0.09	0.00	39.62
2019	0.58	0.00	0.00	0.00	0.00	0.58	
Luton	2014	0.00	0.00	0.00	0.00	0.00	0.00
	2015	0.00	0.00	0.00	2.54	0.00	2.54
	2016	1.35	0.00	0.00	9.95	0.00	11.30
	2017	3.44	0.00	0.00	1.50	0.00	4.94
	2018	32.13	0.00	4.10	0.26	0.00	36.49
2019	0.49	0.00	0.00	0.00	0.00	0.49	
London City	2014	0.00	0.00	0.00	5.40	0.00	5.40
	2015	0.00	0.00	0.00	31.90	0.04	31.93
	2016	0.00	0.00	7.83	20.65	0.00	28.48
	2017	0.00	0.00	0.00	4.04	0.00	4.04
	2018	0.00	0.00	1.34	10.82	0.00	12.16
2019	0.00	0.00	0.00	0.00	0.00	0.00	

Average London Approach ATFM delay per arrival (sec), broken down by approach function and delay cause

Airport	Year	ATC-Capacity	Equipment (non_ATC)	Aerodrome Capacity	Airspace Management	Other	Special Event	ATC Staffing	Equipment (ATC)	Weather	Airport (Weather)	Airport (All Other Causes)	Total NERL	Total ATFM Delay
Heathrow	2014	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.80	101.59	11.92	0.05	114.43
	2015	0.82	0.00	0.00	0.00	0.00	0.00	0.13	0.00	1.40	114.07	12.93	0.95	129.35
	2016	0.41	0.00	0.00	0.00	0.00	0.07	0.00	0.88	0.33	106.88	4.45	1.29	113.01
	2017	0.03	0.00	0.00	0.05	0.00	0.57	0.08	0.00	1.15	109.43	5.68	0.73	116.99
	2018	0.02	0.00	0.00	0.00	0.00	0.04	11.80	0.00	0.11	83.72	26.88	11.82	122.57
2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	131.53	3.27	0.00	134.81	
Gatwick	2014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.34	7.62	0.00	40.96
	2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.96	13.20	0.00	62.16
	2016	0.30	0.00	0.00	0.00	0.00	0.00	2.86	0.00	0.00	103.49	40.95	3.15	147.60
	2017	0.00	0.00	0.00	0.00	0.00	0.00	3.97	0.00	0.00	91.33	99.72	3.97	195.02
	2018	0.07	0.00	0.00	0.00	0.00	9.94	2.36	0.00	0.00	69.45	93.16	12.37	174.98
2019	0.00	0.00	0.00	0.00	0.00	0.00	4.95	0.00	0.00	107.24	15.84	4.95	128.02	
Stansted	2014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1.36	3.22	0.00	5.02
	2015	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	1.42	13.57	6.84	2.84	24.67
	2016	0.44	0.00	0.00	0.00	0.00	0.00	12.80	0.00	5.66	45.36	3.46	13.24	67.72
	2017	4.00	0.00	0.00	0.00	0.01	0.49	1.07	0.00	9.05	41.99	14.15	5.56	70.76
	2018	35.68	0.34	0.22	0.00	0.41	3.84	0.09	0.00	4.88	55.10	19.35	39.62	119.92
2019	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	32.68	12.61	0.58	47.22	
Luton	2014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.39	2.80	0.00	3.69
	2015	0.00	0.00	0.00	0.00	0.00	0.00	2.54	0.00	1.32	11.44	5.50	2.54	20.80
	2016	1.35	0.00	0.00	0.00	0.00	0.00	9.95	0.00	6.24	41.59	8.54	11.30	67.67
	2017	3.44	0.00	0.00	0.00	0.03	0.00	1.50	0.00	9.55	28.85	4.29	4.94	47.66
	2018	32.13	0.00	0.00	0.00	0.46	4.10	0.26	0.00	4.33	24.53	8.22	36.49	74.02
2019	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	25.66	1.60	0.49	28.72	
London City	2014	0.00	0.00	0.00	0.00	0.00	0.00	5.40	0.00	0.85	65.24	15.11	5.40	86.61
	2015	0.00	0.00	0.00	0.00	0.00	0.00	31.90	0.04	0.00	40.76	17.08	31.93	89.77
	2016	0.00	0.00	0.00	0.00	0.00	7.83	20.65	0.00	6.43	77.53	28.31	28.48	140.76
	2017	0.00	0.00	0.00	0.00	0.00	0.00	4.04	0.00	0.27	84.49	8.99	4.04	97.79
	2018	0.00	0.00	0.00	0.00	0.00	1.34	10.82	0.00	0.00	64.80	10.83	12.16	87.79
2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	112.24	61.58	0.00	173.82	

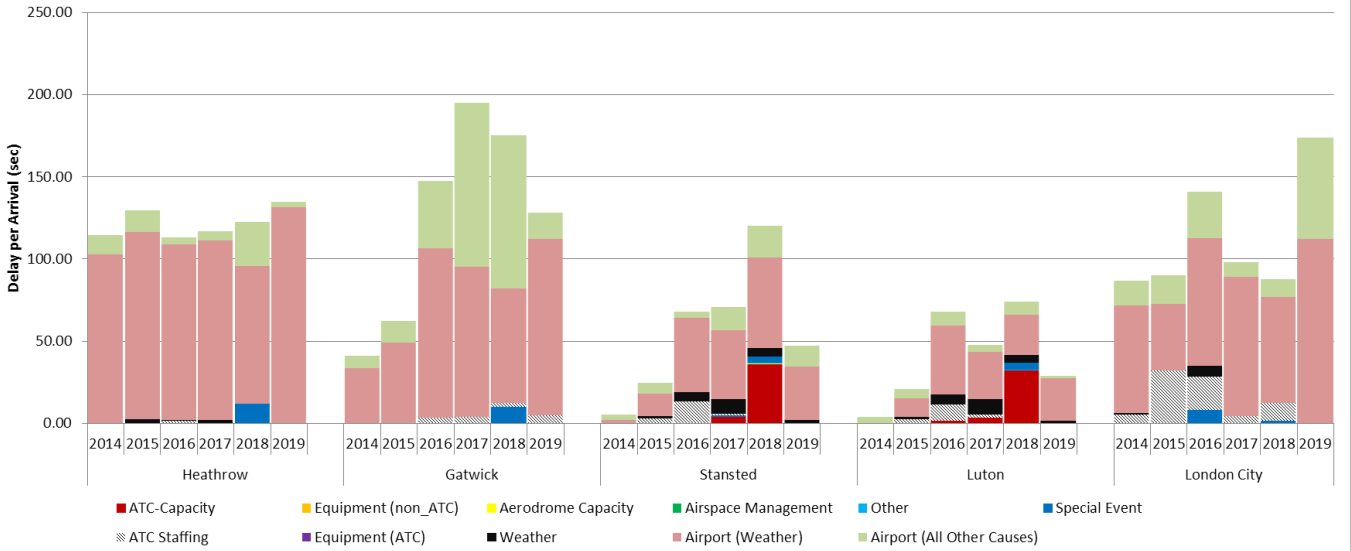
Average NERL London Approach ATFM delay per arrival, broken down by approach function and delay cause

note: 2019 data is only for Jan - Mar



Average London Approach ATFM delay per arrival, broken down by approach function and delay cause

note: 2019 data is only for Jan - Mar



UK ATFM delay per arrival, broken down by airfield and delay cause: NERL attributable and all causes

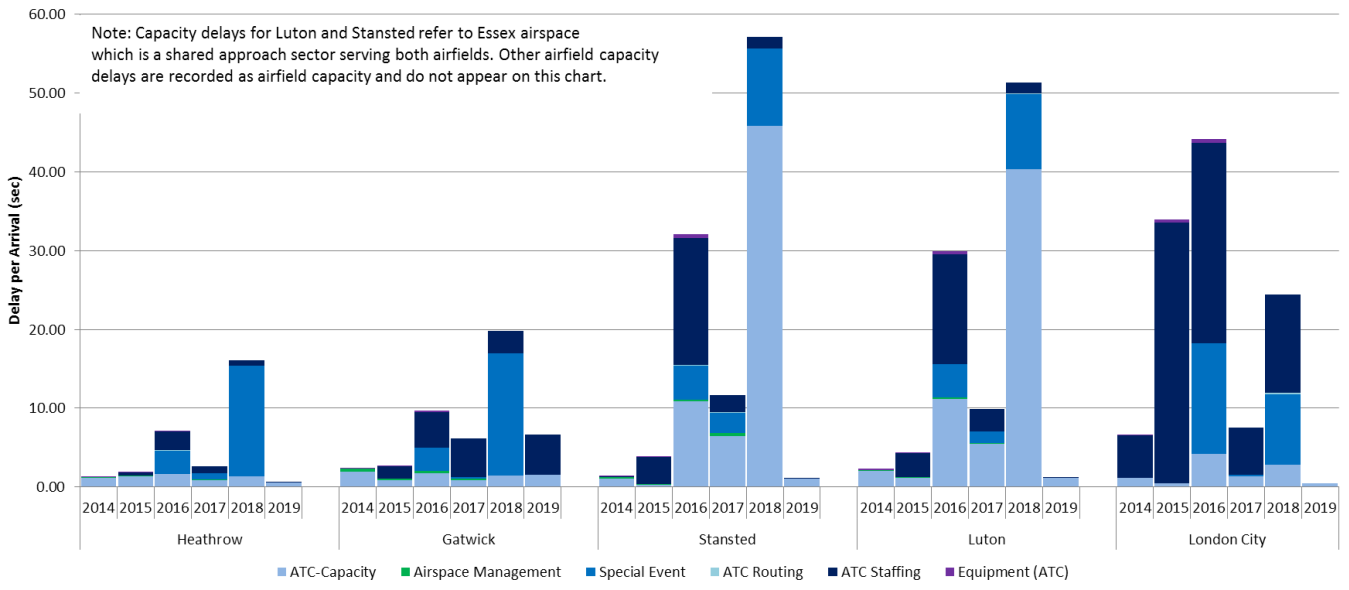
The table and chart shows average UK Air Traffic Flow Management delay per flight for all arrivals to the 5 London Approach airfields including London Approach and all en route causes, firstly for NERL attributable delay and then all causes (with NERL attributable delay highlighted in yellow).

Average NERL Delay (sec) Per Flight affecting Arrivals by London Approach Airfield (All Causes)								
Airport	Year	ATC-Capacity	Airspace Management	Special Event	ATC Routing	ATC Staffing	Equipment (ATC)	Total NERL Delay
Heathrow	2014	1.17	0.05	0.00	0.00	0.00	0.05	1.28
	2015	1.38	0.05	0.00	0.00	0.39	0.04	1.86
	2016	1.61	0.04	2.99	0.01	2.37	0.02	7.04
	2017	0.87	0.11	0.79	0.00	0.89	0.00	2.65
	2018	1.32	0.01	14.09	0.00	0.67	0.00	16.08
	2019	0.61	0.00	0.00	0.00	0.01	0.00	0.62
Gatwick	2014	1.97	0.33	0.00	0.00	0.01	0.15	2.46
	2015	0.91	0.15	0.00	0.00	1.57	0.07	2.70
	2016	1.77	0.23	3.01	0.00	4.54	0.18	9.72
	2017	0.83	0.22	0.23	0.00	4.87	0.00	6.16
	2018	1.46	0.00	15.54	0.01	2.83	0.00	19.83
	2019	1.60	0.00	0.00	0.00	5.04	0.00	6.63
Stansted	2014	1.05	0.23	0.00	0.00	0.03	0.18	1.49
	2015	0.25	0.12	0.00	0.00	3.45	0.13	3.95
	2016	10.86	0.24	4.32	0.04	16.09	0.51	32.05
	2017	6.42	0.43	2.51	0.16	2.18	0.00	11.70
	2018	45.86	0.00	9.73	0.06	1.41	0.00	57.06
	2019	1.04	0.00	0.00	0.00	0.06	0.00	1.11
Luton	2014	2.03	0.15	0.00	0.00	0.00	0.14	2.32
	2015	1.13	0.15	0.00	0.00	2.99	0.11	4.38
	2016	11.20	0.21	4.18	0.01	13.89	0.38	29.87
	2017	5.47	0.12	1.45	0.00	2.88	0.00	9.91
	2018	40.30	0.00	9.58	0.02	1.41	0.00	51.31
	2019	1.17	0.00	0.00	0.00	0.09	0.00	1.26
London City	2014	1.18	0.00	0.00	0.00	5.40	0.06	6.64
	2015	0.45	0.00	0.00	0.00	33.13	0.40	33.98
	2016	4.17	0.07	13.96	0.00	25.49	0.45	44.14
	2017	1.32	0.01	0.25	0.01	5.96	0.00	7.55
	2018	2.78	0.00	8.97	0.22	12.45	0.00	24.42
	2019	0.48	0.00	0.00	0.00	0.00	0.00	0.48

Average UK Delay (sec) Per Flight affecting Arrivals by London Approach Airfield (All Causes)																		
Airport	Year	Accident	ATC-Capacity	Equipment (non_ATC)	Aerodrome Capacity	Airspace Management	Other	Special Event	ATC Routing	ATC Staffing	Equipment (ATC)	Environmental Issues	Weather	Airport (Weather)	Airport (All Other Causes)	Total NERL	Total ATFM	
Heathrow	2014	0.00	1.17	0.00	0.00	0.05	0.49	0.00	0.00	0.00	0.05	0.00	0.00	1.29	101.59	11.92	1.28	116.58
	2015	0.00	1.38	0.00	0.00	0.05	0.00	0.00	0.00	0.39	0.04	0.00	0.00	5.15	114.07	12.93	1.86	134.00
	2016	0.00	1.61	0.00	0.00	0.04	0.31	2.99	0.01	2.37	0.02	0.00	0.00	5.20	106.88	4.45	7.04	123.87
	2017	0.01	0.87	0.00	0.00	0.11	0.24	0.79	0.00	0.89	0.00	0.00	0.00	4.34	109.43	5.68	2.65	122.36
	2018	0.00	1.32	0.00	0.00	0.01	0.13	14.09	0.00	0.67	0.00	0.00	0.00	3.70	83.72	26.95	16.08	130.58
	2019	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	131.53	3.27	0.62	135.43
Gatwick	2014	0.00	1.97	0.00	0.00	0.33	0.31	0.00	0.00	0.01	0.15	0.00	0.00	0.87	33.34	7.62	2.46	44.61
	2015	0.00	0.91	0.00	0.00	0.15	0.00	0.00	0.00	1.57	0.07	0.00	0.00	5.99	48.96	13.20	2.70	70.86
	2016	0.00	1.77	0.00	0.00	0.23	0.20	3.01	0.00	4.54	0.18	0.00	0.00	5.42	103.49	40.95	9.72	159.78
	2017	0.00	0.83	0.00	0.00	0.22	0.25	0.23	0.00	4.87	0.00	0.00	0.00	3.16	91.33	99.72	6.16	200.61
	2018	0.00	1.46	0.00	0.00	0.00	0.07	15.54	0.01	2.83	0.00	0.00	0.00	4.19	69.45	93.16	19.83	186.69
	2019	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	5.04	0.00	0.00	0.00	0.00	107.24	15.84	6.63	129.71
Stansted	2014	0.00	1.05	0.00	0.00	0.23	0.25	0.00	0.00	0.03	0.18	0.00	0.00	3.07	1.36	3.22	1.49	9.39
	2015	0.00	0.25	0.00	0.00	0.12	0.00	0.00	0.00	3.45	0.13	0.00	0.00	4.14	13.57	6.84	3.95	28.50
	2016	0.00	10.86	0.00	0.00	0.24	0.27	4.32	0.04	16.09	0.51	0.00	0.00	11.81	45.36	3.46	32.05	92.94
	2017	0.01	6.42	0.00	0.00	0.43	0.53	2.51	0.16	2.18	0.00	0.00	0.00	15.68	41.99	14.15	11.70	84.06
	2018	0.00	45.86	0.34	0.22	0.00	1.19	9.73	0.06	1.41	0.00	0.00	0.00	9.79	55.10	19.35	57.06	143.04
	2019	0.00	1.04	0.00	0.00	0.00	0.00	0.05	0.00	0.06	0.00	0.00	0.00	1.35	32.68	12.61	1.11	47.80
Luton	2014	0.00	2.03	0.00	0.00	0.15	0.37	0.00	0.00	0.00	0.14	0.00	0.00	3.97	0.39	2.80	2.32	9.85
	2015	0.00	1.13	0.00	0.00	0.15	0.00	0.00	0.00	2.99	0.11	0.00	0.00	6.06	11.44	5.50	4.38	27.38
	2016	0.00	11.20	0.00	0.00	0.21	0.11	4.18	0.01	13.89	0.38	0.00	0.00	13.81	41.59	8.54	29.87	93.93
	2017	0.00	5.47	0.00	0.00	0.12	0.49	1.45	0.00	2.88	0.00	0.00	0.00	18.21	28.85	4.29	9.91	61.75
	2018	0.00	40.30	0.00	0.00	0.00	1.00	9.58	0.02	1.41	0.00	0.00	0.00	9.57	24.53	8.22	51.31	94.63
	2019	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.97	25.66	1.60	1.26	29.49
London City	2014	0.00	1.18	0.00	0.00	0.00	0.97	0.00	0.00	5.40	0.06	0.11	0.00	1.51	65.24	15.11	6.64	89.59
	2015	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	33.13	0.40	0.00	0.00	2.71	40.76	17.08	33.98	94.53
	2016	0.00	4.17	0.00	0.00	0.07	0.81	13.96	0.00	25.49	0.45	0.00	0.00	12.15	77.53	28.31	44.14	162.94
	2017	0.00	1.32	0.00	0.00	0.01	0.95	0.25	0.01	5.96	0.00	0.00	0.00	5.85	84.49	8.99	7.55	107.83
	2018	0.00	2.78	0.00	0.00	0.00	0.18	8.97	0.22	12.45	0.00	0.00	0.00	4.99	64.80	10.83	24.42	105.22
	2019	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	112.24	61.58	0.48	174.30

Average NERL UK ATFM delay per arrival, broken down by airfield and delay cause

note: 2019 data is only for Jan - Mar



Average UK ATFM delay per arrival, broken down by airfield and delay cause

note: 2019 data is only for Jan - Mar

