



Monthly Network Operations Report

Analysis December 2019



SUPPORTING EUROPEAN AVIATION



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NOTICE

Traffic and Delay Comparisons

All traffic and delay comparisons are between report month and equivalent month of previous year, unless otherwise stated.

Graphics

All graphs in sections 2, 3 and 4 are in average minutes of ATFM delay per day, unless otherwise stated.

NM Area

All figures presented in this report are for the geographical area that is within Network Manager's responsibility (NM area). For further information on the NM Area go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <https://www.eurocontrol.int/publication/reporting-assumptions-and-descriptions>

Regulation Reason Groupings

The table below shows the colour coding used in the report charts.

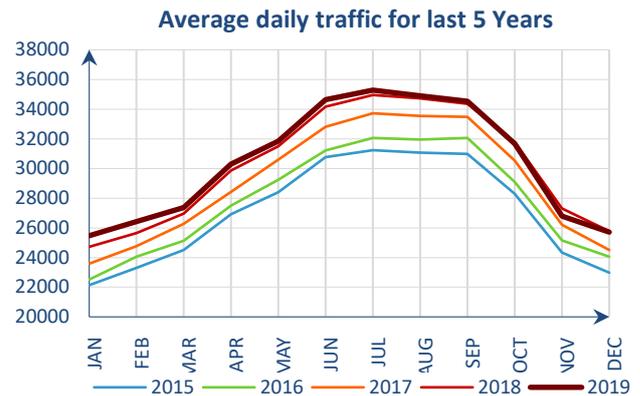
	EN-ROUTE CAPACITY (ATC)		AIRPORT CAPACITY (ATC)
	EN-ROUTE STAFFING (ATC)		AIRPORT STAFFING (ATC)
	EN-ROUTE DISRUPTIONS (ATC)		AIRPORT DISRUPTIONS (ATC)
	EN-ROUTE CAPACITY		AIRPORT CAPACITY
	EN-ROUTE DISRUPTIONS		AIRPORT DISRUPTIONS
	EN-ROUTE EVENTS		AIRPORT EVENTS
	EN-ROUTE WEATHER		AIRPORT WEATHER

For further information on the regulation reason groupings, go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <https://www.eurocontrol.int/network-performance>.

ATFM Statistics dashboard

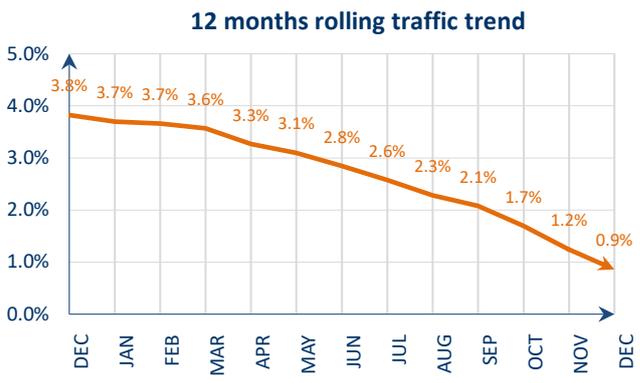
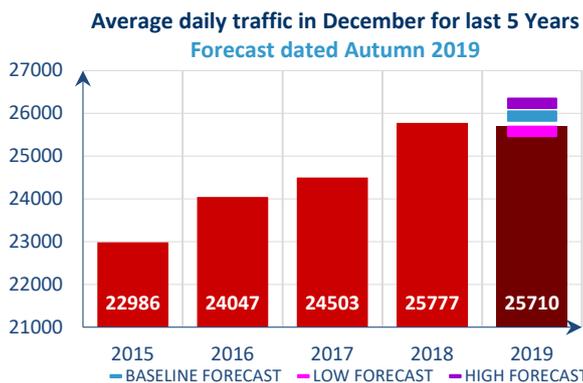
More detailed information available via the [ATFM Statistics dashboard](#).

1. TOTAL TRAFFIC



Traffic decreased by 0.3% in December 2019ⁱ.

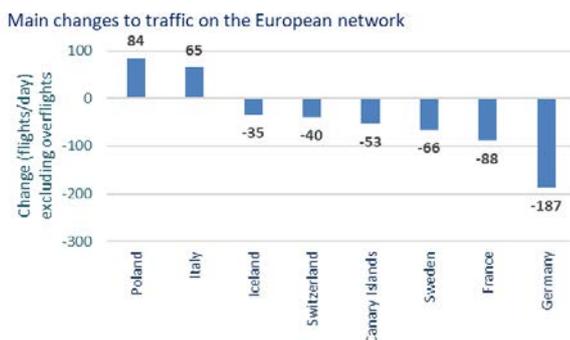
Average daily traffic in December 2019 was 25,710.



The traffic decrease of 0.3% for December was below the baseline forecast published in Autumn 2019.

This graph shows the variation in average daily traffic for the last 12-month period relative to the previous 12 months. The average daily traffic from January 2019 to December 2019 was 0.9% higher than the average from January 2018 to December 2018.

European flights decreased for the third consecutive month: -0.3% in December from -1.9% in November. The decrease reflected the deteriorating economic situation, trade tensions, political unrest along with the aftermath of the recent airline failures. Additionally, the French Air Traffic Control industrial action accelerated the decline in French local traffic which was down 6% (-56 flights/day) in December.



Only two States added more than 50 daily flights to the European local traffic growth (owing to their flows to and from):

- **Poland (+84):** UK (+13); Ukraine (+11), internal flow (+10), Norway (+9), Italy (+7);
- **Italy (+65):** UK (+16), Spain (+9), Poland (+7), Belgium/Luxembourg (+7)

Spain (+42), Austria (+38), Hungary (+35) and Belgium/Luxembourg (+32) contributed more than 25 daily flights to European local traffic growth.

On the other end of the spectrum, the North-West European flow continued to record fewer daily flights with the following six states being the most affected (flows are in both directions):

- Germany (-187): Spain (-34), Canary Islands (-32), UK (-32), internal flow (-26), Switzerland (-18);
- France (-88): internal flow (-56), Algeria (-25), Germany (-14);
- Sweden (-66): internal flow (-37), Germany (-8), UK (-6);
- Canary Islands (-53): Germany (-32), UK (-9);
- Switzerland (-40): Germany (-18), internal flow (-10);
- Iceland (-35): North America (-20), UK (-6).

The top five external partners in average daily flights on flows in both directions were the United States (867 flights, down 1.3%), the Russian Federation (713 flights, down 1.6%), the United Arab Emirates (357 flights, up 1.1%), Egypt (300 flights, up 7.5%), and Qatar (215 flights, up 5.3%).

The airlines which added the most flights to the European network on a daily basis were Ryanair (+117 flights), Wizz Air Hungary (+92 flights), and Logan Air (+40 flights).

For more information on EUROCONTROL Statistics and Forecasts, go to: <https://www.eurocontrol.int/dashboard/statfor-interactive-dashboard>

Four of the top ten airports had positive traffic growth. Overall, the largest traffic increases in December 2019 were recorded at Tel Aviv/Ben Gurion, Budapest, Milano/Malpensa, Casablanca and Warsaw airports. The largest traffic decreases were at Paris/Orly, Berlin/Tegel, Düsseldorf, Stockholm/Arlanda and Palma de Mallorca airports. French ATC Industrial action throughout the month partially explains the traffic decrease at French airports.

Four of the top ten aircraft operators flew more compared to December 2018. The operators with the highest traffic growth were Loganair, Jet2.com, Wizz Air, Air France and Binter Canarias.

Norwegian Air International, Ukraine International, Flybe, Eurowings and Norwegian Air Shuttle recorded the highest traffic decreases.

The increase in the number of flights for Air France follows the reintegration of HOP flights into AFR. easyJet Europe commenced use of their second operator code EJU at the start of the IATA summer season, resulting in a shift of flights from the EZY code. Jet2.com saw new aircraft join their fleet. The decrease in flights for Norwegian Air International follows company restructuring, as well as a reduction in flights following the Boeing 737 Max grounding.

N°	ADEP	ADEP NAME	201912	%	N°	ICAO	AIR OPERATOR	201912	%
1	EHAM	AMSTERDAM/SCHIPHOL	633	0.6%	1	FYR	RYANAIR	1935	6.6%
2	LFPG	PARIS CH DE GAULLE	626	-1.3%	2	DLH	DEUTSCHE LUFTHANSA	1249	-3.7%
3	EGLL	LONDON/HEATHROW	621	-0.7%	3	THY	TURKISH AIRLINES	1193	-2.3%
4	EDDF	FRANKFURT MAIN	589	-4.5%	4	AFR	AIR FRANCE	988	15.9%
5	LEMD	ADOLFO SUAREZ MADRID-BARAJA	554	4.0%	5	EZY	EASYJET	719	-44.9%
6	LTFM	ISTANBUL NEW AIRPORT	554	0.0%	6	KLM	KLM ROYAL DUTCH AIRL	641	2.2%
7	EDDM	MUENCHEN	490	-3.0%	7	SAS	SCANDINAVIAN AIRLINES SYSTEM	641	-2.8%
8	LEBL	BARCELONA/EL PRAT	406	1.0%	8	BAW	BRITISH AIRWAYS	630	-1.1%
9	LIRF	ROMA/FIUMICINO	363	-4.9%	9	EJU	EASY JET EUROPE AIRLINE GMBH	620	0.0%
10	LOWW	WIEN SCHWECHAT	353	4.9%	10	WZZ	WIZZ AIR	555	19.8%
11	EGKK	LONDON/GATWICK	340	3.3%	11	EWG	EUROWINGS AG	493	-11.9%
12	LSZH	ZURICH	322	-5.2%	12	AZA	ALITALIA	484	-2.4%
13	EKCH	KOBENHAVN/KASTRUP	305	-0.5%	13	VLG	VUELING AIRLINES SA	483	-1.3%
14	LTFJ	ISTANBUL/SABIHA GOKCEN	297	0.8%	14	PGT	PEGASUS HAVA TASI	453	3.7%
15	ENGM	OSLO/GARDERMoen	296	-1.1%	15	SWR	SWISS INTERNATIONAL	376	-0.8%
16	LPPT	LISBOA	280	1.5%	16	TAP	TAP AIR PORTUGAL	358	1.5%
17	EIDW	DUBLIN	280	-0.3%	17	LOT	LOT-POLISH AIRLINES	353	5.9%
18	EBBR	BRUSSELS NATIONAL	275	0.1%	18	FIN	FINNAIR OY	350	7.9%
19	LIMC	MILANO MALPENSA	271	7.0%	19	AUA	AUSTRIAN AIRLINES	320	0.8%
20	ESSA	STOCKHOLM-ARLANDA	268	-6.8%	20	AFL	AEROFLOT-RUSSIAN	318	-3.1%
21	LFPO	PARIS ORLY	260	-9.6%	21	BEE	JERSEY EUROPEAN TIA FLYBE	305	-14.0%
22	EFHK	HELSINKI-VANTAA	250	0.6%	22	MAX	NORWEGIAN AIR SHUTTLE	290	-8.3%
23	EDDL	DUESSELDORF	249	-8.0%	23	WIF	WIDEROE	284	-1.2%
24	EPWA	CHOPINA W WARSZAWIE	247	6.2%	24	QTR	QATAR AIRWAYS COMP.	253	3.5%
25	LSGG	GENEVA	235	0.0%	25	AEA	AIR EUROPA	253	-2.7%
26	EGSS	LONDON/STANSTED	234	-1.6%	26	IBE	IBERIA	244	2.0%
27	LGAV	ATHINA/ELEFTHERIOS VENIZELOS	232	-0.2%	27	RAM	ROYAL AIR MAROC	208	4.3%
28	EGCC	MANCHESTER	229	-2.1%	28	UAE	EMIRATES	204	2.3%
29	EDDT	BERLIN-TEGEL	229	-8.7%	29	EIN	AER LINGUS TEORANTA	189	-1.4%
30	LLBG	TEL AVIV/BEN GURION	207	14.3%	30	AME	AIR NOSTRUM	187	-0.7%
31	GCLP	GRAN CANARIA	179	-5.4%	31	BEL	BRUSSELS AIRLINES	184	-1.6%
32	LKPR	PRAHA RUZYNE	179	1.4%	32	BCS	DHL EXPRESS	177	7.1%
33	EGGW	LONDON/LUTON	178	3.7%	33	IBK	NORWEGIAN AIR INTERNATIONAL	165	-35.9%
34	EDDH	HAMBURG	173	-5.5%	34	BTI	AIR BALTIC CORPORAT.	150	6.8%
35	EDDK	KOELN-BONN	160	-2.3%	35	EZS	EASY JET SWITZERLAND	137	-1.8%
36	LHBP	BUDAPEST LISZT FERENC INT.	160	11.6%	36	OAL	OLYMPIC	136	8.2%
37	EGPH	EDINBURGH	157	3.8%	37	LOG	LOGANAIR	132	42.8%
38	LROP	BUCURESTI/HENRI COANDA	152	1.7%	38	EXS	JET2.COM	126	27.1%
39	EDDS	STUTTGART	147	2.1%	39	IBB	BINTER CANARIAS	115	12.2%
40	LIML	MILANO LINATE	145	3.0%	40	UAL	UNITED AIRLINES INC.	115	5.4%
41	LFMN	NICE-COTE D'AZUR	141	-0.7%	41	AEI	AEGEAN AIRLINES	114	7.1%
42	LEMG	MALAGA/COSTA DEL SOL	140	-2.7%	42	VOE	VOLOTEA	112	8.8%
43	LFLL	LYON SAINT-EXUPERY	139	-4.8%	43	AUI	UKRAINE INTERNATIONAL	111	-27.8%
44	LEPA	PALMA DE MALLORCA	137	-6.7%	44	NJE	NETJETS	109	10.4%
45	GMMN	CASABLANCA/MOHAMMED	132	6.9%	45	DAH	AIR ALGERIE	108	2.7%
46	UKBB	KYIV/BORYSPIL	126	1.1%	46	TRA	TRANSAVIA.COM	107	4.1%
47	LIME	BERGAMO/ORIO ALSERIO	123	0.0%	47	IBS	IBERIA EXPRESS	107	7.2%
48	LPPR	PORTO	122	0.0%	48	DAL	DELTA AIR LINES INC.	100	-0.4%
49	LFML	MARSEILLE PROVENCE	121	0.0%	49	CFE	CITYFLYER EXPRESS	99	5.9%
50	EGBB	BIRMINGHAM	117	-5.5%	50	SXS	SUNEXPRESS AIRLINES	96	9.0%
TOTALS and % TOTAL TRAFFIC			13423	59.5%	TOTALS and % TOTAL TRAFFIC			18076	70.3%

Top 50 Departure Airports with average daily traffic and percentage compared to same period of previous year

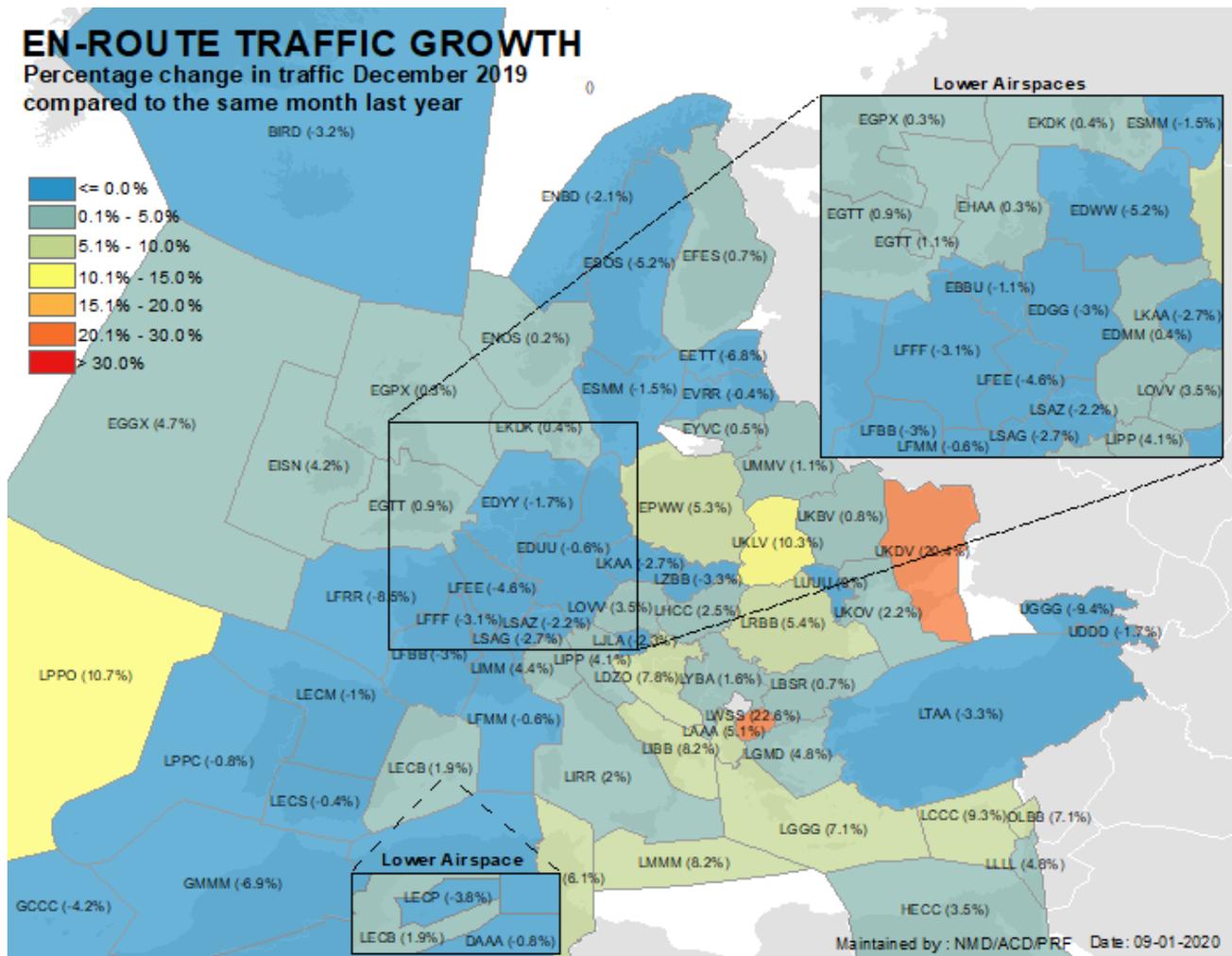
Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201912	%
		Unidentified	1588	4.3%

Average daily traffic and percentage compared to same period of previous year for all flights where Air Operators can't be identified

EN-ROUTE TRAFFIC GROWTH

Percentage change in traffic December 2019 compared to the same month last year

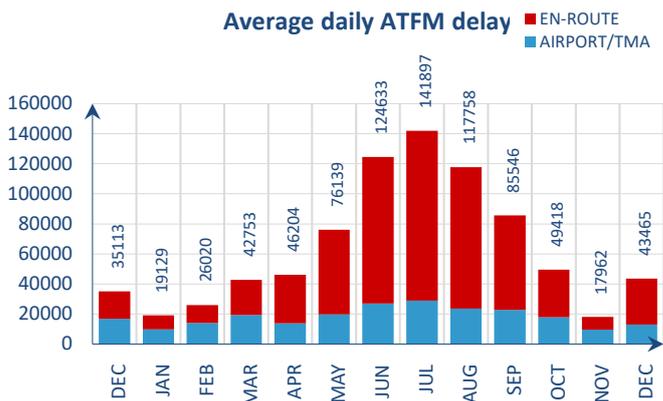


Nº	ASP ID	ASP NAME	201912	%	Nº	ASP ID	ASP NAME	201912	%
1	BIRDACC	REYKJAVIK ACC	335	-3.2%	39	LFBALL	BORDEAUX ACC	2070	-3.0%
2	DAAAACC	ALGER ACC	483	-0.8%	40	LFEACC	REIMS ACC	2260	-4.6%
3	DTTACC	TUNIS ACC	297	6.1%	41	LFFFALL	PARIS ACC	2878	-3.1%
4	EBBUACC	BRUSSELS ACC	1490	-1.1%	42	LFMMACC	MARSEILLE ACC	2494	-0.6%
5	EDGGALL	LANGEN ACC	3021	-3.1%	43	LFMMAPP	MARSEILLE TMA	681	-0.6%
6	EDMMACC	MUENCHEN ACC	2813	0.4%	44	LFRACC	BREST ACC	2230	-8.5%
7	EDUUUAC	KARLSRUHE UAC	4472	-0.6%	45	LGGGACC	ATHINAI ACC	1094	7.2%
8	EDWWACC	BREMEN ACC	1521	-5.2%	46	LGMACC	MAKEDONIA ACC	867	4.8%
9	EDYYUAC	MAASTRICHT UAC	4493	-1.7%	47	LHCCACC	BUDAPEST ACC	1899	2.5%
10	EETTACC	TALLIN ACC	507	-6.8%	48	LIBBACC	BRINDISI ACC	728	8.2%
11	EFESACC	TAMPERE ACC	555	0.7%	49	LIMMACC	MILANO ACC	2063	4.4%
12	EGGXOCA	SHANWICK OACC	1259	4.7%	50	LIPPACC	PADOVA ACC	1564	4.1%
13	EGPXALL	SCOTTISH ACC	2389	0.3%	51	LIRRACC	ROMA ACC	1957	2.0%
14	EGTTACC	LONDON ACC	4920	0.9%	52	LJLAACC	LJUBLJANA ACC	645	-2.3%
15	EGTTTC	LONDON TMA TC	3479	1.1%	53	LKAAACC	PRAHA ACC	1900	-2.7%
16	EHAACC	AMSTERDAM ACC	1446	0.3%	54	LLLLACC	TEL-AVIV ACC	501	4.8%
17	EIDWACC	DUBLIN ACC	588	-1.0%	55	LMMMACC	MALTA ACC	318	8.2%
18	EISNACC	SHANNON ACC	1102	4.2%	56	LOWVACC	WIEN ACC	2046	3.5%
19	EKDKACC	KOBENHAVN ACC	1398	0.4%	57	LPPCACC	LISBOA ACC	1528	-0.8%
20	ENBDACC	BODO ACC	514	-2.1%	58	LPPDACC	SANTA MARIA OAC	435	10.7%
21	ENOSACC	OSLO ACC	888	0.2%	59	LQSBACC	BH ACC	646	717.7%
22	ENSVACC	STAVANGER ACC	596	4.2%	60	LRBBACC	BUCURESTI ACC	1692	5.4%
23	EPWWACC	WARSAWA ACC	2050	5.3%	61	LSAGACC	GENEVA ACC	1492	-2.7%
24	ESMMACC	MALMO ACC	1367	-1.5%	62	LSAZACC	ZURICH ACC	1816	-2.2%
25	ESOSACC	STOCKHOLM ACC	1003	-5.2%	63	LTAACC	ANKARA ACC	3217	-3.3%
26	EVRACC	RIGA ACC	691	-0.4%	64	LTBBACC	ISTANBUL ACC	1879	0.7%
27	EYVACC	VILNIUS ACC	607	0.5%	65	LUUUACC	CHISINAU ACC	108	0.0%
28	GCCACC	CANARIAS ACC	1016	-4.2%	66	LWSSACC	SKOPJE ACC	347	22.6%
29	GMMMACC	CASABLANCA ACC	1222	-6.9%	67	LYBAACC	BEOGRAD ACC	1425	1.6%
30	HECCACC	CAIRO ACC	710	3.5%	68	LZBBACC	BRATISLAVA ACC	1124	-3.3%
31	LAAAACC	TIRANA ACC	411	5.1%	69	OLBBACC	BEIRUT ACC	151	7.1%
32	LBSRACC	SOFIA ACC	1862	0.7%	70	UDDACC	YEREVAN ACC	173	-1.7%
33	LCCACC	NICOSIA ACC	1002	9.3%	71	UGGACC	TBILISI ACC	364	-9.5%
34	LDZOACC	ZAGREB ACC	1223	7.8%	72	UKBVACC	KYIV FIR/ACC	404	0.8%
35	LECBACC	BARCELONA ACC	1857	1.9%	73	UKDVACC	DNIPRO ACC	59	20.4%
36	LECMACC	MADRID ACC	2856	-1.0%	74	UKLVACC	L'VIV ACC	363	10.3%
37	LECPACC	PALMA ACC	380	-3.8%	75	UKOVACC	ODESA ACC	230	2.2%
38	LECSACC	SEVILLA ACC	1040	-0.4%	76	UMMVACC	MINSK ACC	750	1.1%

The highest relative traffic increases in December 2019 were in BH, Skopje, Dnipro, Santa Maria and L'viv ACCs. Traffic variation in BH ACC is due the second phase of BHATM project. Traffic increase in Ukraine is partially due to an increase in overflights. French ATC industrial action throughout the month partially explain the traffic variation in the French ACCs. UK ACCs traffic variation is partially due to the usage of western routes to avoid France during industrial action.

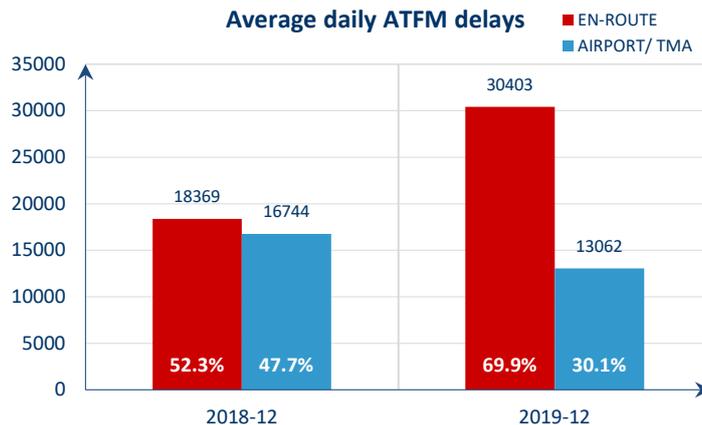
2. ATFM DELAY AND ATTRIBUTIONS

Average daily ATFM delay



Total ATFM delays increased by 23.8% in December 2019.

Average daily ATFM delays



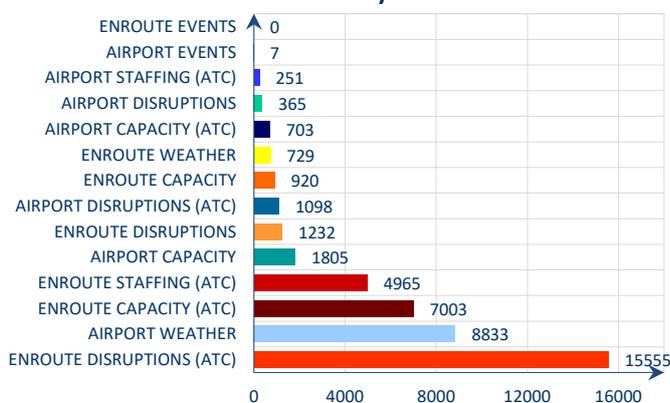
En-route ATFM delays increased by 65.5% and airport ATFM delays decreased by 22.0%.

Monthly ATFM delays trend



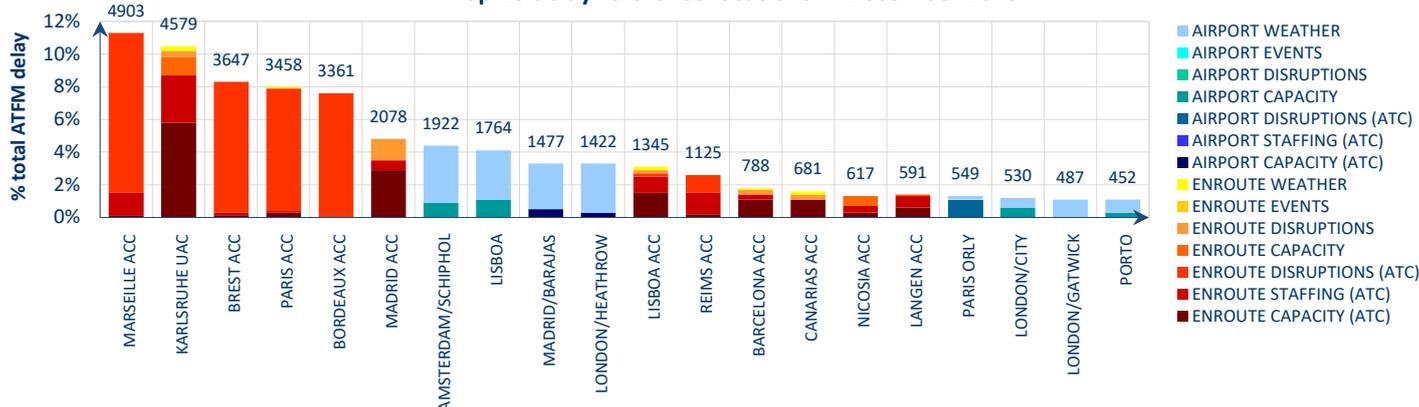
The rolling 12-month trend shows that ATFM delay was 5.6% lower during the period January 2019 – December 2019 compared to January 2018 – December 2018.

Reasons for ATFM delays in December 2019



En-route ATC disruptions (35.8%), airport weather (20.3%) and en-route ATC capacity (16.1%) were the main causes of ATFM delays in December 2019.

Top 20 delay reference locations in December 2019

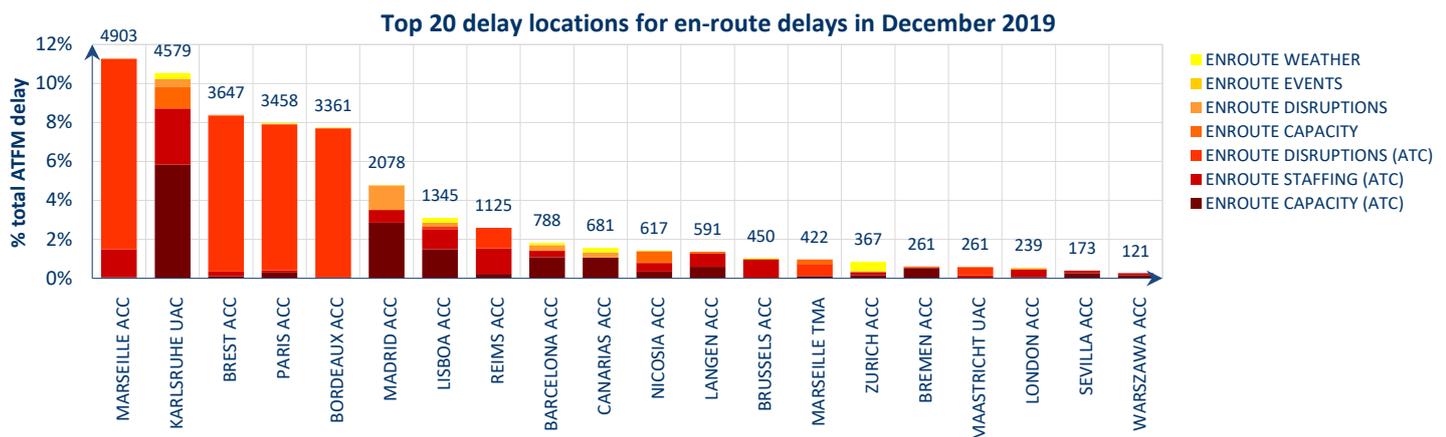
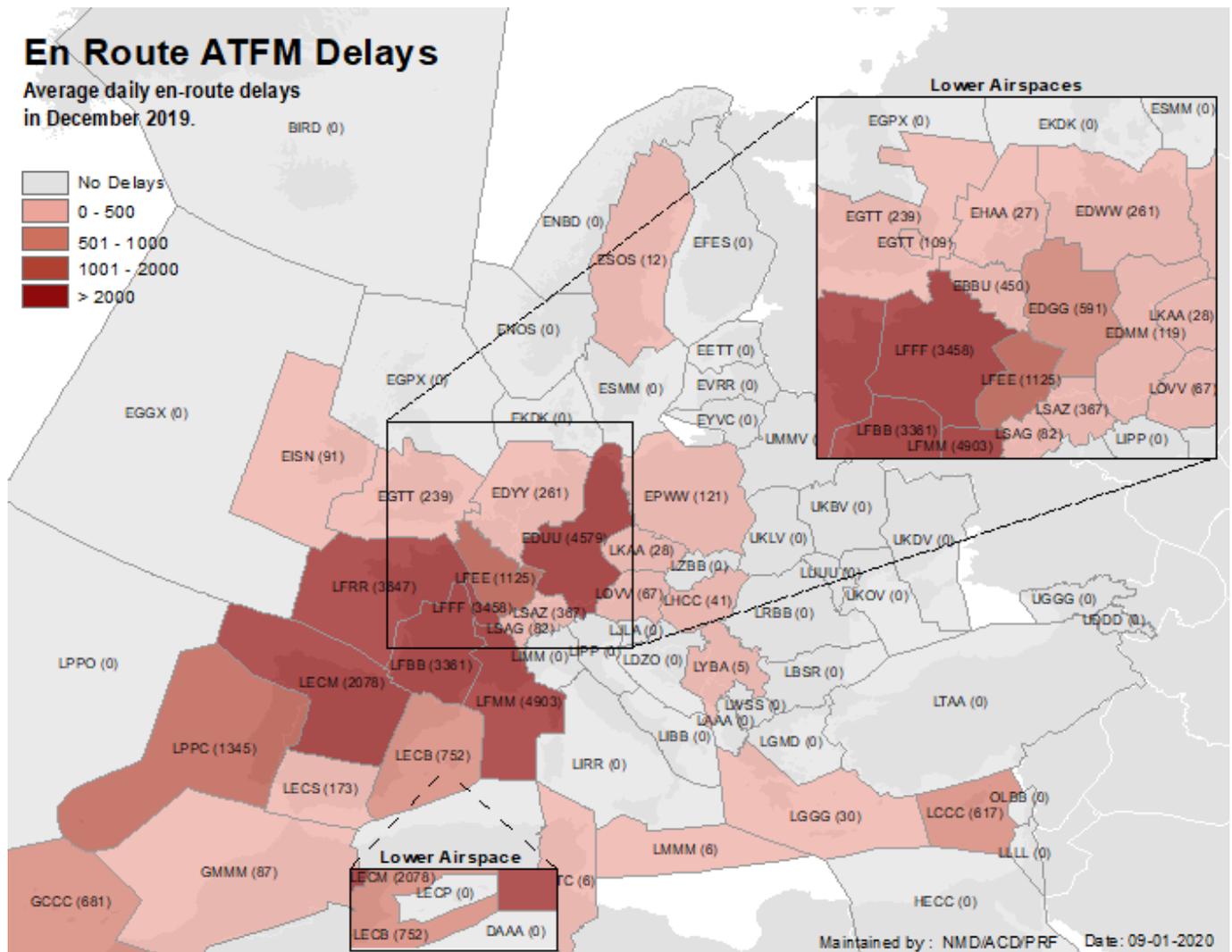


These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

- Several French ATC industrial actions throughout the month generated high delays in French ACCs such as Marseille, Brest, Paris and Bordeaux;
- Low visibility and strong winds impacted operations at Amsterdam/Schiphol, Lisbon, London/Heathrow and Madrid/Barajas airports;
- High delay due to ATC capacity in Karlsruhe UAC;
- Staffing shortage in Karlsruhe, Marseille, Reims and Lisboa ACCs.

3. EN-ROUTE ATFM DELAYS

EN-ROUTE ATFM DELAY PER LOCATION



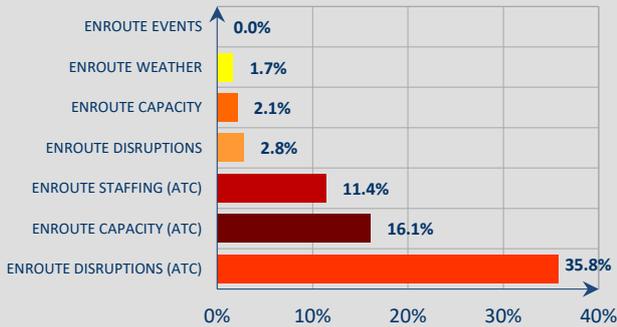
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **67.8%** of the monthly total (network) ATFM delay.
 The top 5 en-route ATFM delay locations generated **45.9%** of the monthly total (network) ATFM delay.

More detailed information available in the Airspace dashboard via the [ATFM Statistics dashboard](#).

EN-ROUTE ATFM DELAY PER DELAY GROUP

Reasons for en-route delays in December 2019



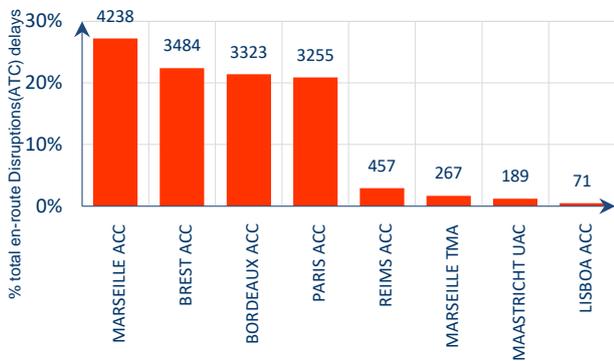
En-route ATFM delays accounted for 69.9% of all ATFM delays. Most of this delay was caused by en-route ATC disruptions, en-route ATC capacity and en-route ATC staffing as explained in detail below. The other causes were:

En-route disruptions: Traffic onload in Madrid, Karlsruhe, Barcelona, Canarias, Shannon and Lisbon ACCs due to French industrial action throughout the month;

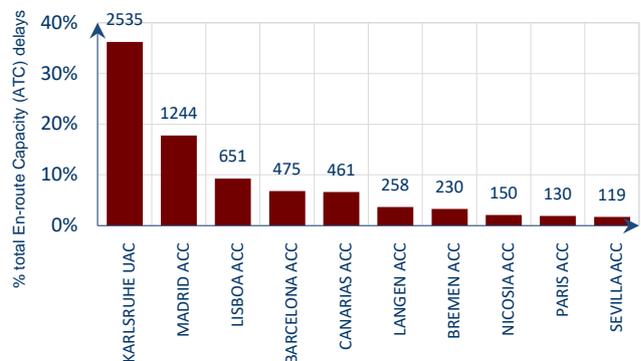
En-route capacity: Several military activities impacted operations in Karlsruhe, Nicosia, Marseille and Langen ACCs;

En-route weather: Strong winds and turbulence impacted operations Zurich, Karlsruhe, Lisbon, Canarias and Vienna ACCs.

Top en-route Disruption (ATC) delays in December 2019



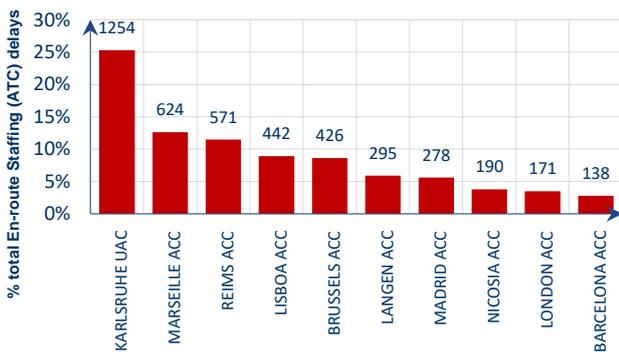
Top en-route Capacity (ATC) delays in December 2019



French ATC industrial action throughout the month generated high delays in French ACCs.

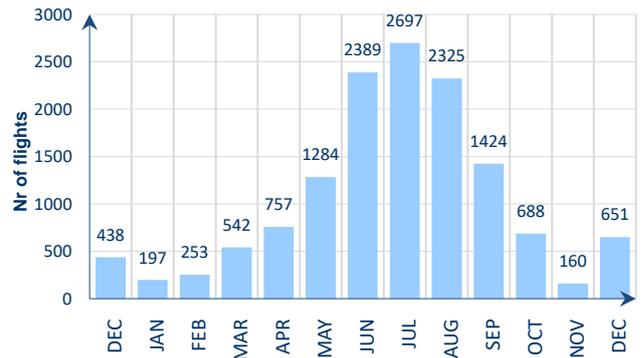
Karlsruhe UAC was the biggest generator of ATC capacity delays with a total of 78,589 minutes for December.

Top en-route Staffing (ATC) delays in December 2019



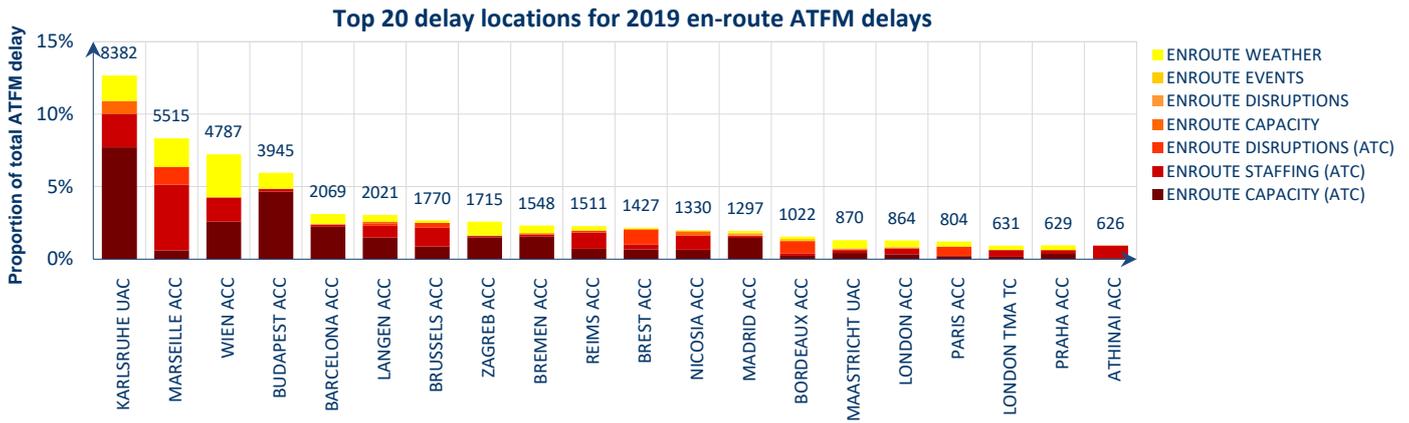
Several staffing issues throughout the month in Karlsruhe UAC generated a total of 38,879 minutes of ATFM delay.

Average daily flights >= 15 min en-route delay



The average daily flights with an en-route ATFM delay of at least 15 minutes increased from 438 flights/day in December 2018 to 651 flights/day in December 2019, which represents 2.5% of all traffic.

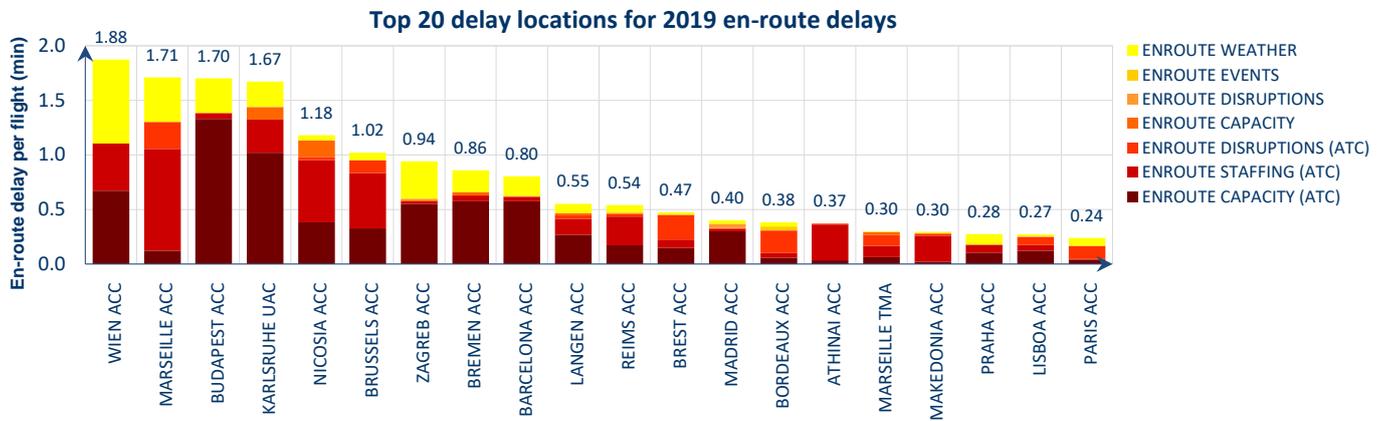
EN-ROUTE ATFM DELAY YEAR-TO-DATE



These are the top 20 en-route delay locations for 2019 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.

The top 20 en-route delay locations generated **64.6%** of the total ATFM (network) delay.

The top 5 en-route delay locations generated **37.3%** of the total ATFM (network) delay.



These are the top 20 average en-route ATFM delay per flight generating locations in 2019. Figures are the average daily en-route delay in minutes per flight for the individual locations.

Monthly en-route delay per flight monitoring

Reporting month: The average en-route ATFM delay per flight in the NM areaⁱⁱ in December was 1.18 min/flt, which is well above the corresponding monthly guidelineⁱⁱⁱ value of 0.29 min/flt.

Year To Date: The average en-route ATFM delay per flight in 2019 in the NM areaⁱⁱ is 1.57 min/flt which is three times the corresponding target value of 0.50 min/flt.

2019 daily flights >= 15 min en-route delay

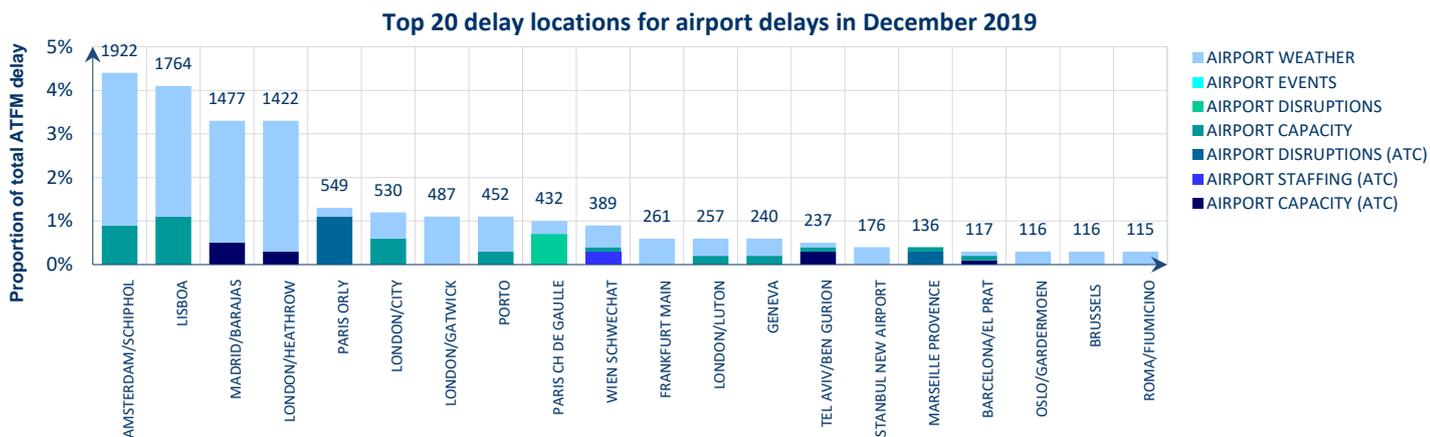
An average of 1,120 flights/day had an en-route ATFM delay of at least 15 minutes in 2019. The corresponding figure in 2018 was 1,250 flights/day.

The top 3 locations for flights with 15 minutes or more en-route ATFM delays (year-to-date) are:

- Karlsruhe UAC with 188 flights/day;
- Marseille ACC with 135 flights/day;
- Wien ACC with 120 flights/day.

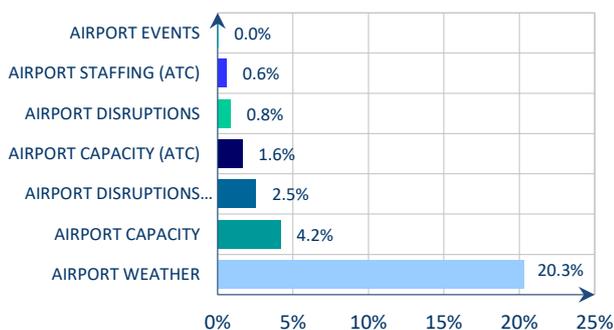
4. AIRPORT/TMA ATFM DELAYS

AIRPORT/TMA ATFM DELAY PER LOCATION

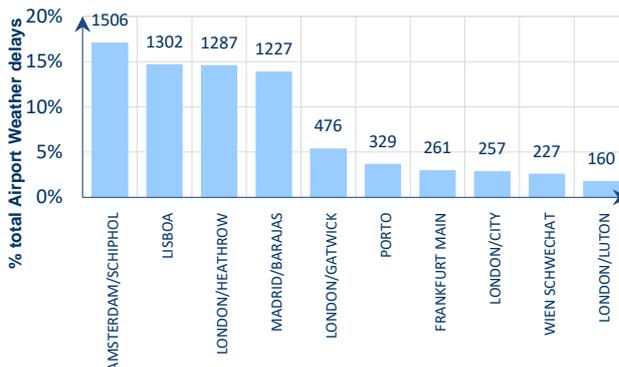


AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for airport delays in December 2019



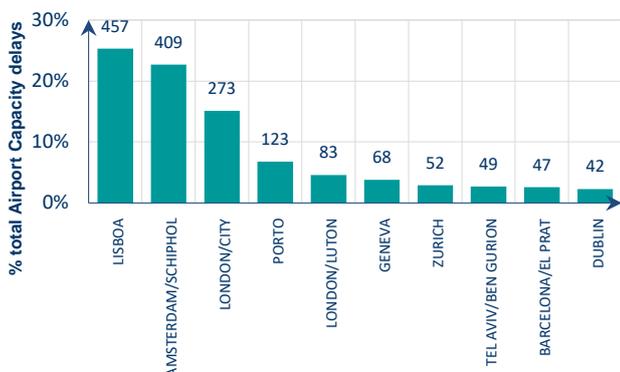
Top Airport Weather delays in December 2019



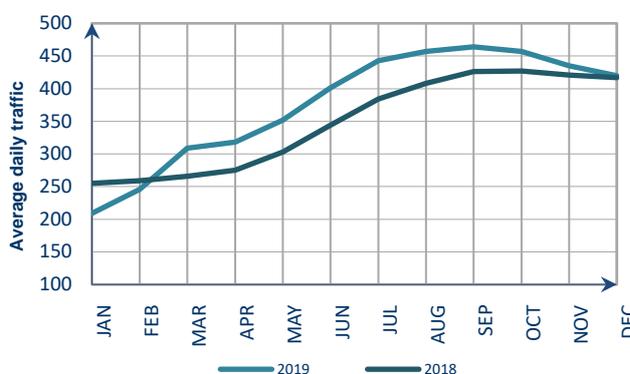
Airports accounted for 30.1% of all ATFM delays in December 2019, mainly due to weather.

Low visibility and strong winds impacted operations strongly at Amsterdam/Schiphol, Lisbon, London/Heathrow and Madrid/Barajas airports.

Top Airport Capacity delays in December 2019



Year-to-date daily flights >= 15 min airport delay



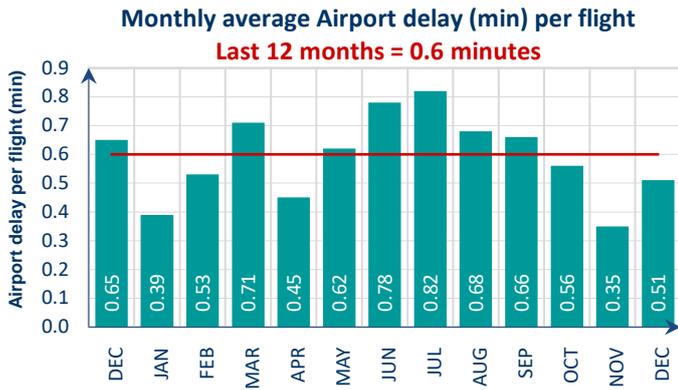
Military activity in the vicinity of Lisbon airport generated delays. Airport capacity issues at Amsterdam/Schiphol due to high demand. Capacity delays at London/City airport due to reduced stands.

An average of 420 flights/day had an airport ATFM delay of at least 15 minutes. The corresponding figure in 2018 was 417 flights.

The top 3 locations for flights with 15 minutes or more airport ATFM delay (year-to-date) are:

- Amsterdam Schiphol with 129 flights/day;
- Madrid/Barajas with 33 flights/day;
- London/Heathrow with 30 flights/day.

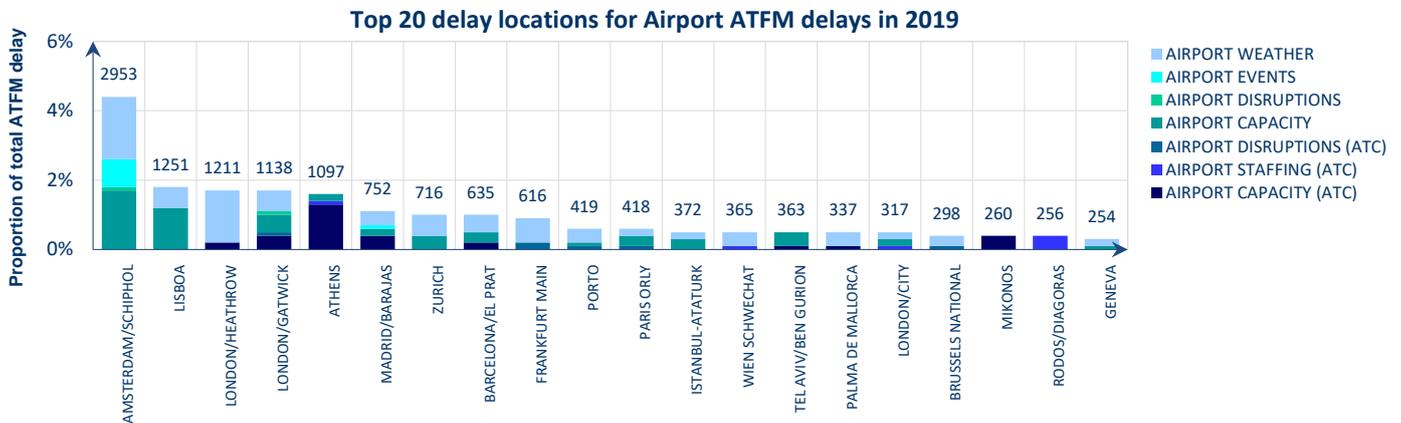
AIRPORT/TMA ATFM DELAY PER FLIGHT



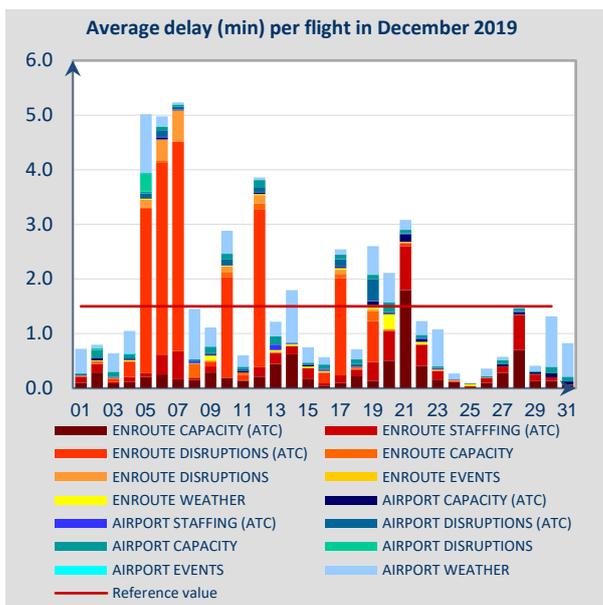
Average airport/TMA delay per flight decreased from 0.65 min/ft in December 2018 to 0.51 min/ft in December 2019.

Lisbon and London/City airports generated an average delay per flight well above their year to date average mainly due to airport weather and capacity.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



5. DAILY EVOLUTION



Nine days in December 2019 had an average ATFM delay per flight exceeding 1.5 min; These were the most significant days :

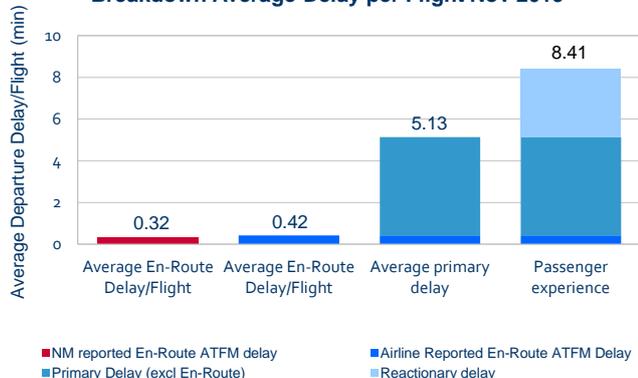
- 05-07 December;** French ATC industrial action generated high delays in French ACCs such as Bordeaux, Brest, Marseille, Paris and Reims ACCs; Neighbouring States were also impacted due to traffic onload; Low visibility impacted operations at Amsterdam/Schiphol, Frankfurt and London/Heathrow airports; Staffing shortages in Lisbon, London, Karlsruhe and Langen ACCs;
- 10 December;** French ATC industrial action generated delays in Bordeaux, Brest, Marseille, Paris and Reims ACCs; Fog at Madrid/Barajas and strong winds at London/Heathrow impacted operations;
- 12 December;** French ATC industrial action generated delays in Marseille, Paris, Brest and Bordeaux ACCs; ATC capacity issues in Karlsruhe and Bremen ACCs; ATC staffing shortage in Karlsruhe UAC;
- 17 December;** French ATC industrial action generated delays in Marseille, Paris, Brest and Bordeaux ACCs; ATC staffing issues in Lisbon and Brussels ACCs;
- 19 December;** French ATC industrial action generated delays in Paris, Reims and Brest ACCs; Staffing issues in Karlsruhe, Brussels and Madrid ACCs; Airport capacity delays at Amsterdam/Schiphol airport; Low visibility and strong winds impacted operations at Lisbon and Oslo/Gardermoen airports;
- 21 December;** ATC capacity issues due to high demand in Madrid, Canarias, Lisbon, Karlsruhe and Barcelona ACCs; ATC staffing delays in Madrid, Marseille, Brussels, Lisbon and Brest ACCs.

6. ALL AIR TRANSPORT DELAYS (SOURCE: CODA)

This section presents the all air transport delay situation as seen from the airlines by using the data collected by Central Office for Delay Analysis (CODA) from airlines. Data coverage is 61% of the commercial flights in the ECAC region for **November 2019**. ATFM delays reported by airlines may be lower than the NM calculated ATFM delays due to difference in methods: ATFM delays of NM are the (flight) planned “delays”; the airlines report the “actual” experienced ATFM delay on departure.

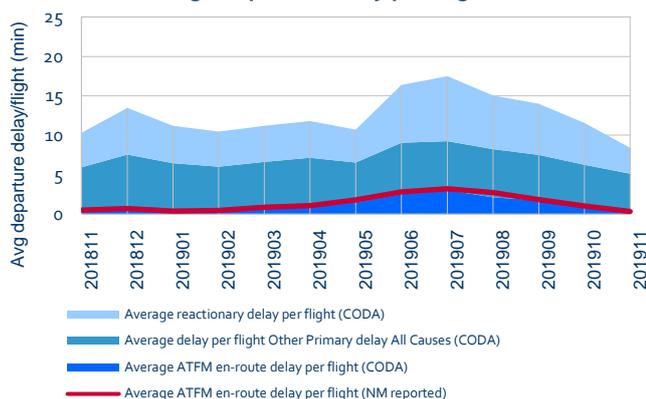
For instance, a flight with an ATFM delay may also have a handling delay absorbed within the ATFM delay. In the event of a long delay an example being during ATC industrial action a flight may keep its original schedule, however when it's flight plan is submitted for example a day later any ATFM delay allocated may be lower or zero, in this case airline reported delay will exceed NM reported ATFM delay.

Breakdown Average Delay per Flight Nov 2019



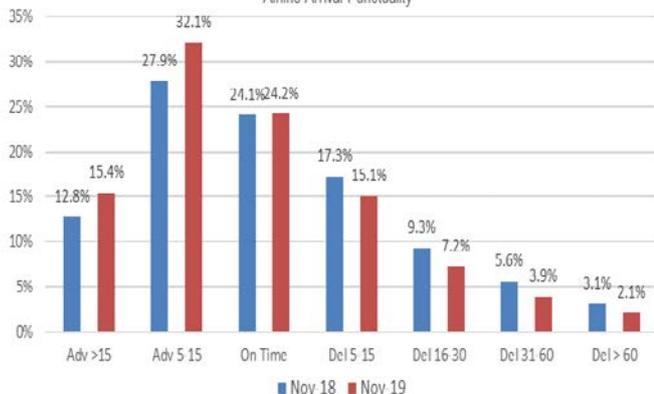
Based on airline data, the average departure delay per flight from ‘All-Causes’ was 8.41 minutes per flight, an 18% decrease in comparison to November 2018 where the average delay was 10.26 mins/flight. Primary delays counted for 61% or 5.13 min/ft, with reactionary delays representing the smaller remaining share of 39% at 3.28 min/ft.

Average Departure Delay per Flight 2018/2019



Further analysis of the past 12 months shows that the monthly average ‘All-Causes’ en-route ATFM delay was 0.42 min/ft in November 2019. Lufthansa industrial action on 07 and 08 November led to approximately 1,300 fewer flights another industrial action by ground personnel at Helsinki Airport on 25 and 26 November resulted in approximately 238 fewer flights. The Italian ATC industrial action on 25 November generated en-route ATFM delay and airport ATFM delay. On 25 November, low visibility affected several airports such as Amsterdam Schiphol, Dublin, Frankfurt and Munich airports. Airport capacity also affected Lisbon.

Airline Arrival Punctuality

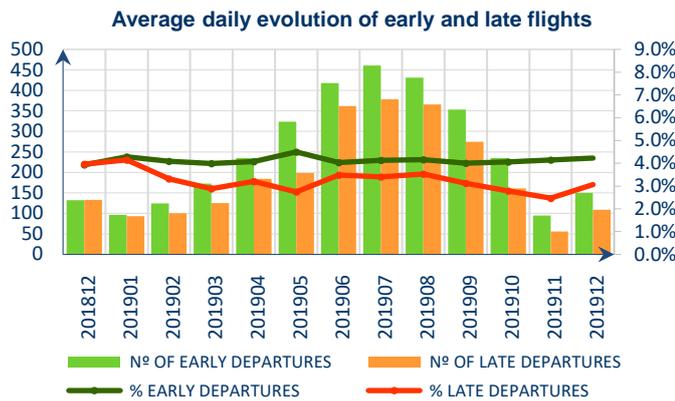


Airline punctuality improved in November 2019 with 86.8% of flights arriving within the 15-minute threshold, or earlier than their scheduled arrival time (STA) this was an increase of 4.7 percentage points in comparison to November 2018.

For more information on CODA delays:

<https://www.eurocontrol.int/publication/all-causes-delay-air-transport-europe-november-2019>

7. ATFM SLOT ADHERENCE

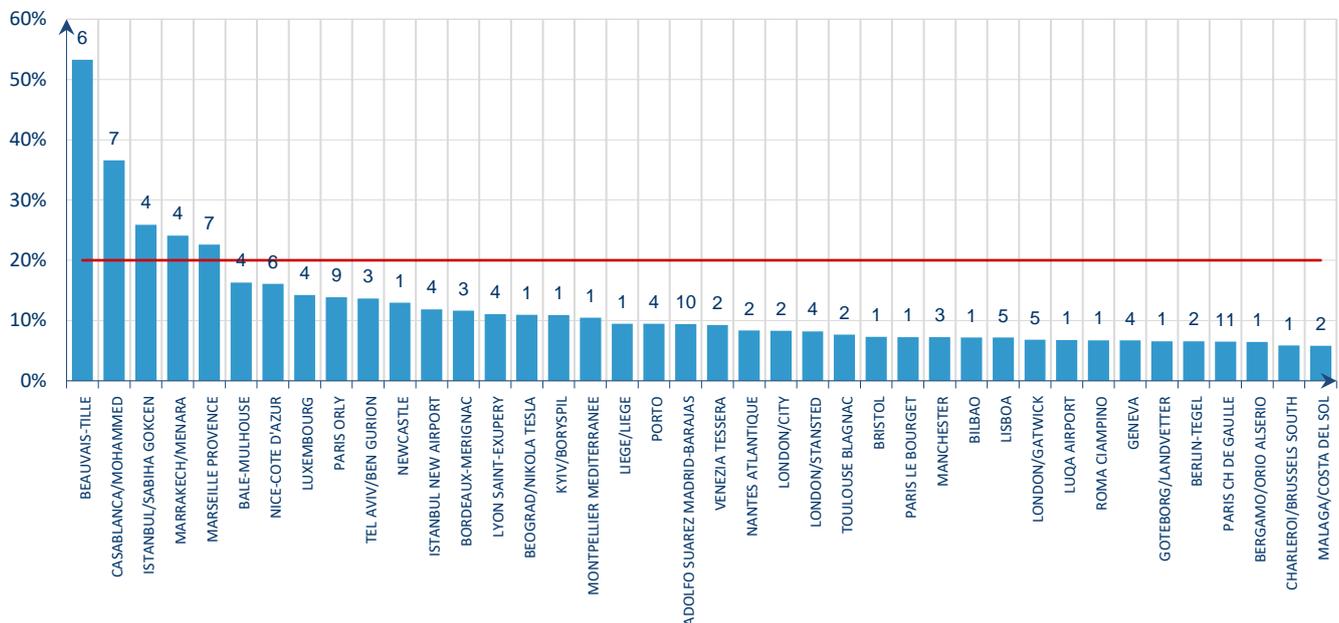


The percentage of early departures for December 2019 is 4.2% of regulated flights, which is an increase of 0.3 percentage points compared to December 2018.

The percentage of late departures for December 2019 is 3.1% of regulated flights, which is a decrease of 0.9 percentage points compared to December 2018.

The chart below shows the airports that have more than 300 regulated flights during the month with their average daily number and proportion of regulated flights that departed outside of the Slot Tolerance Window (STW). Any airport above the red line is non-compliant with the threshold (20%). Those airports with a number of departures outside the slot tolerance window can reduce network predictability.

Proportion of regulated flights outside the Slot Tolerance Window in December 2019



8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

MAJOR AIRSPACE OR ATM SYSTEM IMPROVEMENT PROJECTS

PLANNED EVENTS

Four ACCs performed projects associated with airspace reorganisations and redefinitions during December 2019.

BH ACC carried out the second phase of BHATM project (the AoR expansion from FL325 to FL660) without generating ATFM delays.

Beograd and Zagreb ACCs followed the BHATM Phase 2 by redefining their respective Areas of Responsibility not generating ATFM delays.

Nicosia ACC carried out a real time simulation for future sector reorganisations without generating ATFM delays.

AIRPORTS

Local Plans in December

A number of airports undertook infrastructure and technical system improvement works during December. These improvements as well as some special events had at most a minor impact on local airport operations, unless otherwise stated.

Completed

- Runway maintenance/closure at Nice and Paris/Orly airports;
- Apron construction work at Hamburg airport;
- Full scale winter operations exercise on 10 December at Athens airport;
- APP/TWR radar and HMI software update/fixing at Luxembourg airport generated 3,367 minutes of ATFM delays throughout December.

Ongoing

- Runway maintenance/closure at Katowice, Larnaca, Palma de Mallorca and Venice airports;
- Taxiway and/or apron improvements at Amsterdam/Schiphol, Basel/Mulhouse, Cologne, Frankfurt/Main, Ibiza, Malta, Paris/Charles de Gaulle, Porto, Rome/Fiumicino, Tenerife/Sur, Tirana and Venice airports;
- Terminal building improvements/works at Budapest, Frankfurt/Main, Ljubljana, Oslo/Gardermoen, London/City and Paris/Charles de Gaulle airports.

DISRUPTIONS

Technical

- Flight server failure in Maastricht UAC on 03 and 04 December generated 5,847 minutes of ATFM delay;
- Frequency instability in Lisbon ACC on 07 December generated 2,206 minutes of ATFM delay;
- Partial radio system failure in Marseille TMA on 21 December generated 1,337 minutes of ATFM delay;

Industrial Action

- French ATC industrial action from 04 December to 08 December generated 261,470 minutes of en-route ATFM delay and 6,834 minutes of airport ATFM delay. Additional delays were reported locally in neighbouring states due to traffic onload and generated 27,121 minutes of ATFM delay;
- French ATC industrial action from 09 December to 11 December generated 51,007 minutes of en-route ATFM delay and 3,943 minutes of airport ATFM delay. Additional delays were reported locally in neighbouring states due to traffic onload and generated 2,292 minutes of ATFM delay;
- French ATC industrial action from 11 December to 13 December generated 80,813 minutes of en-route ATFM delay and 3,679 minutes of airport ATFM delay. Additional delays were reported locally in neighbouring states due to traffic onload and generated 4,146 minutes of ATFM delay;
- French ATC industrial action from 16 December to 18 December generated 51,477 minutes of en-route ATFM delay and 4,859 minutes of airport ATFM delay. Additional delays were reported locally in neighbouring states due to traffic onload and generated 2,040 minutes of ATFM delay;
- French ATC industrial action from 18 December to 20 December generated 22,336 minutes of en-route ATFM delay and 12,541 minutes of airport ATFM delay. Additional delays were reported locally in neighbouring states due to traffic onload and generated 822 minutes of ATFM delay.

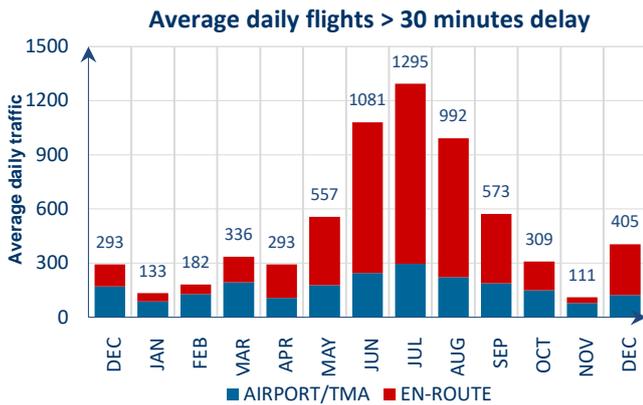
9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

The number of flights with more than 30 minutes of ATFM delay decreased by 38.2% compared to December 2018.

In December 2019, 69.6% of flights with more than 30 minutes of ATFM delay were en-route and 30.4% were airport.

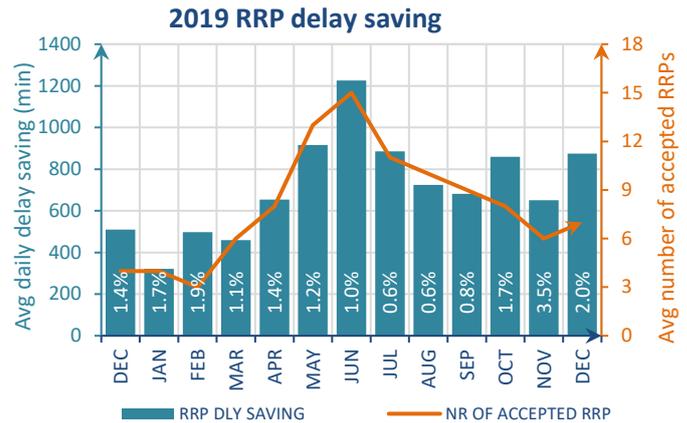
An average 20 flights per day had their delay reduced to less than 30 minutes by NM.



REROUTING PROPOSAL DIRECT DELAY SAVINGS

On average 7 RRP/day were executed saving 875 min/day, accounting for 2.0% of ATFM delays.

This graph shows the actual daily averages for the previous 13 months' period^{iv}.



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i See Notice on page 2 for more information on traffic and delay comparison.

ii See Notice on page 2 for more information on NM Area.

iii NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual target (0.5 min/flight).

iv NM has revised the delay saving method. Where flights are subject to scenarios, delay savings from RRP are considered when the RRP is sent 3 hours (or less) in advance of the EOBT.



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