

Directorate Network Management Monthly Network Operations Report

Analysis – February 2013



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NOTICE:

All figures presented in this report are for the geographical area that is within Network Manager's responsibility (NM area). See ACC coverage on page 3.

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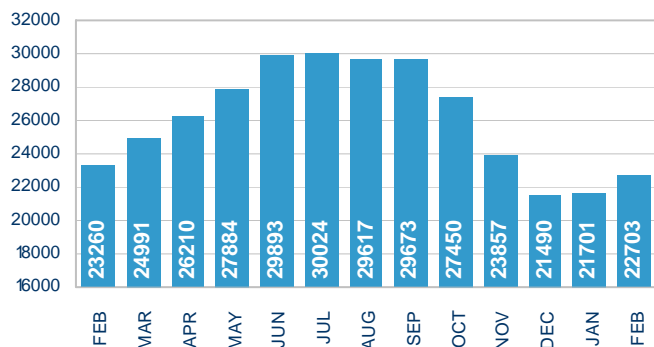
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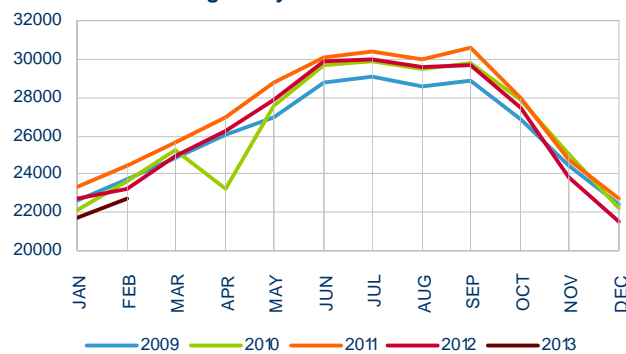
1. TOTAL TRAFFIC

Last 13 months average daily traffic



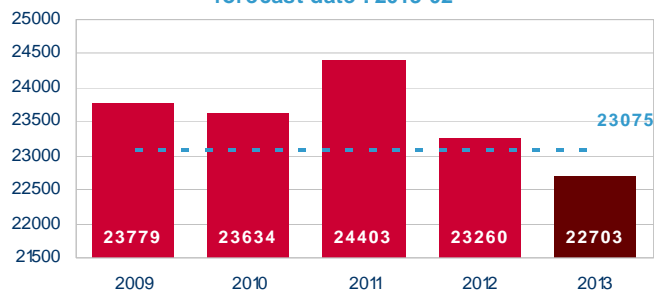
In February 2013, traffic decreased by 2.4% compared to February 2012.

Average daily traffic for last 5 Years



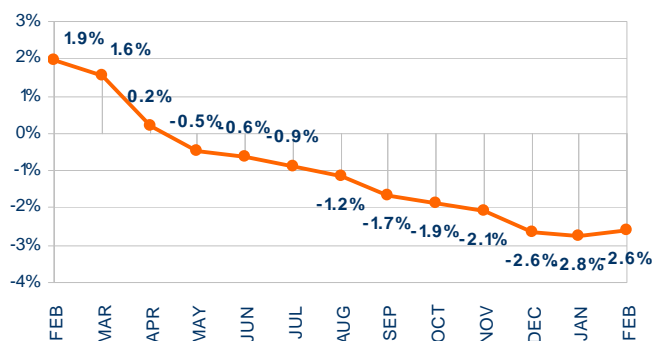
Similar to the previous 3 months, traffic in February 2013 was the lowest of the last 5 years. This is now a clear trend since November 2012.

Average daily traffic in February for last 5 Years
forecast date : 2013-02



February 2013 traffic was below the forecast.

12 months rolling traffic trend



This graph shows the variation in average daily traffic for the last 12-month period relative to that for the 12-month period before. The average daily traffic from March 2012 to February 2013 decreased by 2.6% relative to that from March 2011 to February 2012.

In February 2013, 8 of the top 10 airports had less traffic compared to February 2012.

The largest traffic increases were recorded at Istanbul Ataturk (+18.9 %), Budapest Ferihegy (+14.6%) and Istanbul Sabiha (+13.4%) airports.

The largest traffic decrease (-12.8 %) was at Madrid Barajas airport as a result of overall traffic reduction in Spain in conjunction with Spanair cessation of operations in January 2012. Traffic decreased at Athens airport by 11.8% and at Las Palmas airport by 11.1% due to Islas Airways ceasing operations in October 2012.

Only 4 of the top 10 air operators had increased traffic in February 2013. Aeroflot Russian (+22.7 %) and Pegasus (+28.8 %) recorded traffic growth, with the Pegasus increase being largely attributed to a 22% fleet increase over the last year. A change in the flight designators for Turkish Airlines domestic flights has resulted in the automatic attribution of flights to unidentified operators (see below). An initial recomputation of THY flights for February shows an average daily traffic of 800 flights, a growth of 15%. (see note 1 below)

Airline consolidation and restructuring explains most of the significant traffic decreases and increases: Air Nostrum (-40.6 %), Iberia (-34.7%), Finnair (-32.4 %), Olympic (-22.5 %), BAW shuttle (+28.4%) and Finnish Commuter Airlines (+44.6 %).

"Unidentified operators" (mainly General Aviation traffic) increased by 11.2% in February 2013. Exclusion of THY flights shows a decrease of -0.3% to 2065 flights.

N°	ADEP	ADEP NAME	201302	%
1	EGLL	LONDON/HEATHROW	634	-1.1%
2	LFPG	PARIS CH DE GAULLE	632	-0.9%
3	EDDF	FRANKFURT MAIN	601	1.4%
4	EHAM	SCHIPHOL AMSTERDAM	526	-0.9%
5	EDDM	MUENCHEN	505	-3.6%
6	LTBA	ISTANBUL-ATATURK	496	18.9%
7	LEMD	MADRID BARAJAS	430	-12.8%
8	LIRF	ROME FIUMICINO	349	-3.3%
9	LSZH	ZURICH	326	-3.0%
10	EKCH	COPENHAGEN KASTRUP	313	-5.2%
11	ENGM	OSLO/GARDERMOEN	311	0.3%
12	LEBL	BARCELONA	309	-6.1%
13	LOWW	WIEN SCHWECHAT	309	-6.7%
14	LFPO	PARIS ORLY	304	3.1%
15	ESSA	STOCKHOLM-ARLANDA	287	0.4%
16	EGKK	LONDON/GATWICK	280	-3.1%
17	EBBR	BRUSSELS NATIONAL	267	-4.3%
18	EDDL	DUESSELDORF	254	-5.6%
19	LSGG	GENEVE COINTRIN	253	-1.6%
20	EFHK	HELSINKI-VANTAA	235	-3.7%
21	EDDT	TEGEL-BERLIN	213	4.4%
22	LIMC	MILANO MALPENSA	204	-5.6%
23	EGCC	MANCHESTER	197	-2.0%
24	EIDW	DUBLIN	196	2.1%
25	EPWA	WARSAWA/OKECIE	185	5.7%
26	LPPT	LISBOA	173	0.0%
27	EGSS	LONDON/STANSTED	169	0.0%
28	EDDH	HAMBURG	168	-8.2%
29	LFLL	LYON SATOLAS	157	-5.4%
30	LTJF	ISTANBUL-SABIHA	152	13.4%
31	LGAV	ATHINA/ELEFTHERIOS VENIZELOS	149	-11.8%
32	LIML	MILANO LINATE	145	-5.8%
33	LFMN	NICE	140	2.9%
34	LKPR	PRAHA RUZYNE	139	-9.2%
35	EDDS	STUTTGART	136	-7.5%
36	GCLP	LAS PALMAS	136	-11.1%
37	EDDK	KOELN-BONN	135	-8.2%
38	ENBR	BERGEN/FLESLAND	131	0.0%
39	LFML	MARSEILLE PROVENCE	130	0.8%
40	LFBO	TOULOUSE BLAGNAC	128	4.1%
41	EGPH	EDINBURGH	127	-8.6%
42	LTAC	ANKARA-ESENOGA	119	0.0%
43	EGGW	LONDON/LUTON	113	-1.7%
44	LROP	OTOPENI-INTL.	106	0.0%
45	ENZV	STAVANGER/SOLA	106	0.0%
46	EGBB	BIRMINGHAM	103	-4.6%
47	EGLC	LONDON/CITY	102	3.0%
48	LHBP	FERIHEGY-BUDAPEST	102	14.6%
49	LEPA	PALMA DE MALLORCA	102	-9.7%
50	EGPD	ABERDEEN	95	0.0%
TOTALS and % TOTAL TRAFFIC			11879	52.3%

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

N°	ICAO	AIR OPERATOR	201302	%
1	DLH	DEUTSCHE LUFTHANSA	1649	-2.9%
2	RFR	RYANAIR	1031	-4.0%
3	AFR	AIR FRANCE	1015	6.6%
4	EZY	EASYJET	892	1.1%
5	SAS	S.A.S	808	13.0%
6	BAW	BRITISH AIRWAYS	643	12.4%
7	THY	TURKISH AIRLINES	See text	See text
8	KLM	KLM ROYAL DUTCH AIRL	537	-0.4%
9	BER	AIR BERLIN, INC.	448	-11.1%
10	AZA	ALITALIA	413	-4.6%
11	SWR	SWISS INTERNATIONAL	398	-3.6%
12	WIF	WIDEROE	357	11.2%
13	NAX	NORWEGIAN AIR SHUTTLE	356	9.9%
14	BEE	JERSEY EUROPEAN TIA FLYBE	323	-4.4%
15	AUA	AUSTRIAN AIRLINES	317	-3.4%
16	TAP	TAP/AIR PORTUGAL	266	0.0%
17	PGT	PEGASUS HAVA TASI	228	28.8%
18	AFL	AEROFLOT-RUSSIAN	222	22.7%
19	LOT	LOT-POLISH AIRLINES	210	-1.4%
20	ANE	AIR NOSTRUM	209	-40.6%
21	VLG	VUELING AIRLINES SA	206	4.6%
22	IBE	IBERIA	186	-34.7%
23	BEL	BRUSSELS AIRLINES	184	-5.6%
24	WZZ	WIZZ AIR	175	6.1%
25	EIN	AER LINGUS TEORANTA	172	-1.2%
26	FCM	FINNISH COMMUTER AIRLINES OY(F	162	44.6%
27	AEA	AIR EUROPA	156	8.3%
28	GWI	GERMAN WINGS	154	3.4%
29	FIN	FINNAIR OY	140	-32.4%
30	UAE	EMIRATES	137	18.1%
31	RAM	ROYAL AIR MAROC	136	-4.2%
32	SHT	BAW SHUTTLE	131	28.4%
33	UAL	UNITED AIRLINES INC.	119	-8.5%
34	EZS	EASY JET SWITZERLAND	118	11.3%
35	BCS	EUROPEAN AIR TRANSP.	118	4.4%
36	NJE	NETJETS	105	-3.7%
37	BTI	AIR BALTIC CORPORAT.	104	-8.8%
38	OAL	OLYMPIC	100	-22.5%
39	AEE	AEGEAN AIRLINES	99	-10.8%
40	QTR	QATAR AIRWAYS COMP.	97	11.5%
41	BZH	BRITAIR S.A.	95	-7.8%
42	DAL	DELTA AIR LINES INC.	93	-8.8%
43	TOM	THOMSON FLY LTD	92	-1.1%
44	LOG	LOGANAIR	90	2.3%
45	HKS	CHC HELIKOPTER SERVICE AS	89	-3.3%
46	ROT	TAROM	89	2.3%
47	BCY	CITYJET	88	-16.2%
48	TRA	TRANSVIA.COM	87	13.0%
49	EZE	EASTERN AIRWAYS UK	87	1.2%
50	NAY	NAYSA	84	-22.2%
TOTALS and % TOTAL TRAFFIC			14015	61.7%

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

N°	ICAO	AIR OPERATOR	201302	%
		Unidentified	2302	11.2%

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

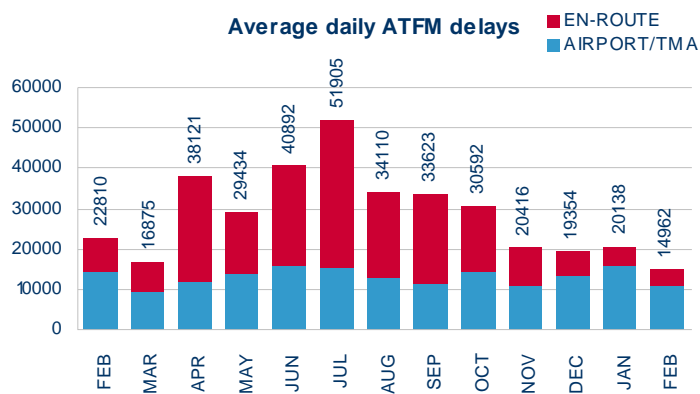
1 - Note – Text relating to Pegasus Airlines updated Thursday 14th March 2013.

Percentage increase in traffic during February 2013 compared to the same month last year

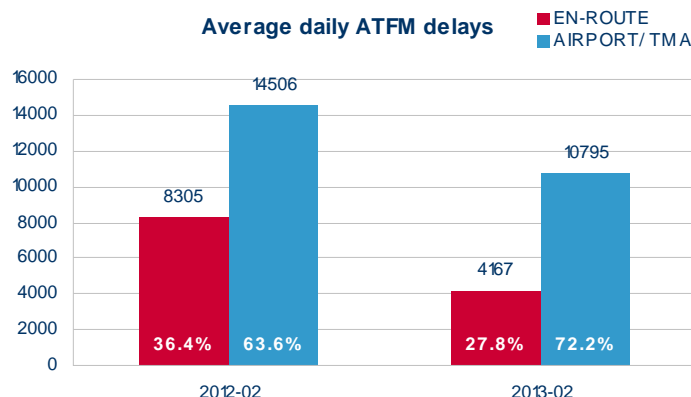


The most significant traffic increases occurred in Chisinau, Karlsruhe and Simferopol ACCs. The increase of 28.5% in Malta ACC is a continuation of the recovery from the 2011 Libyan airspace closure. Traffic decreased significantly in Munich, Madrid, Tampere, Canarias, Seville, Palma, Makedonia, Beograd, Milano, Kiev, Ljubjana and Brindisi ACCs. The implementation of VOLMUK project in Germany continued to impact the traffic distribution to Munich (-) and Karlsruhe (+) ACCs.

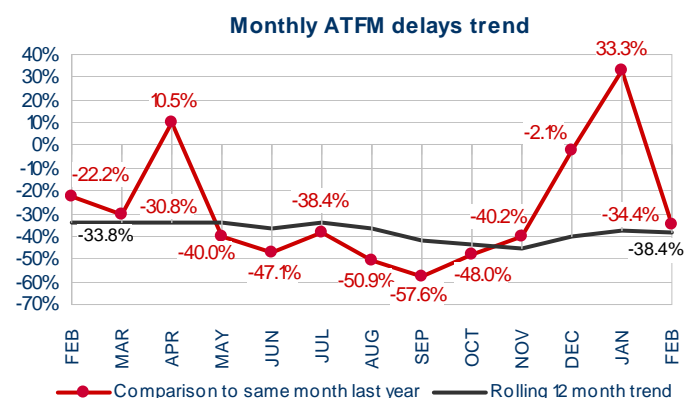
2. ATFM DELAY AND ATTRIBUTIONS



ATFM delays decreased by 34.4% in February 2013 compared to February 2012.

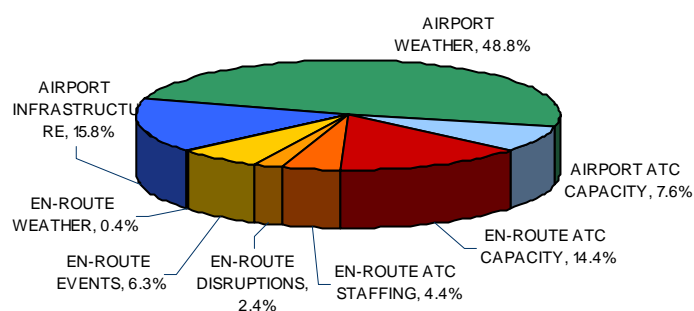


Compared to February 2012, both the airport ATFM delays and the en-route ATFM delays decreased significantly.

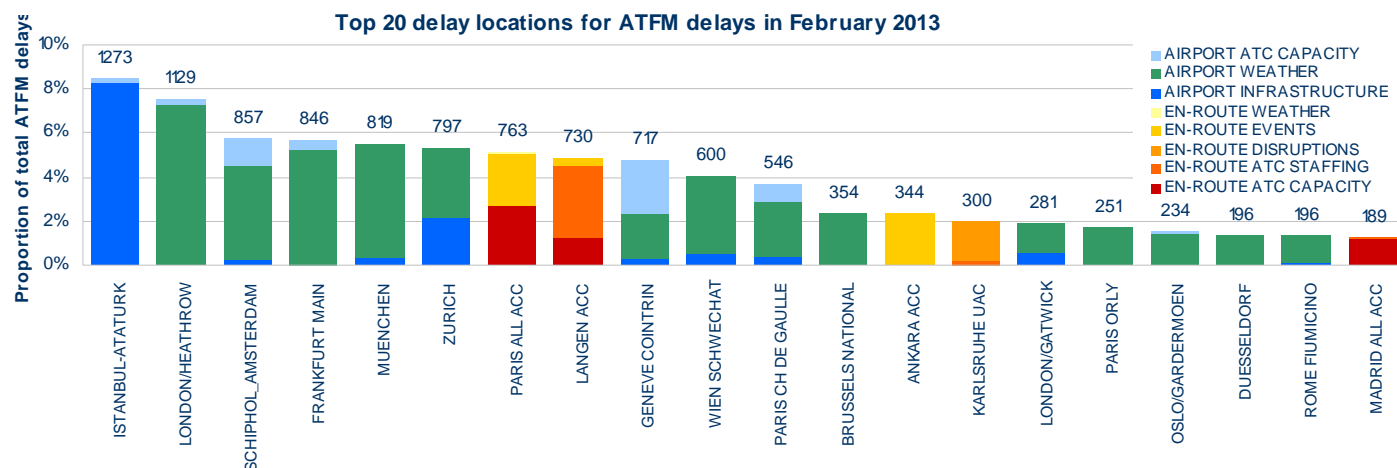


ATFM delay trend shows a gentle decline until November but since then the trend shows a slight increase due to recent airport weather problems.

Proportion of ATFM delay in February 2013



In February, 72.2% of all ATFM delay occurred at Airports/TMA and the remaining 27.8% was en-route. 48.8% of the ATFM delays were due to airport weather.

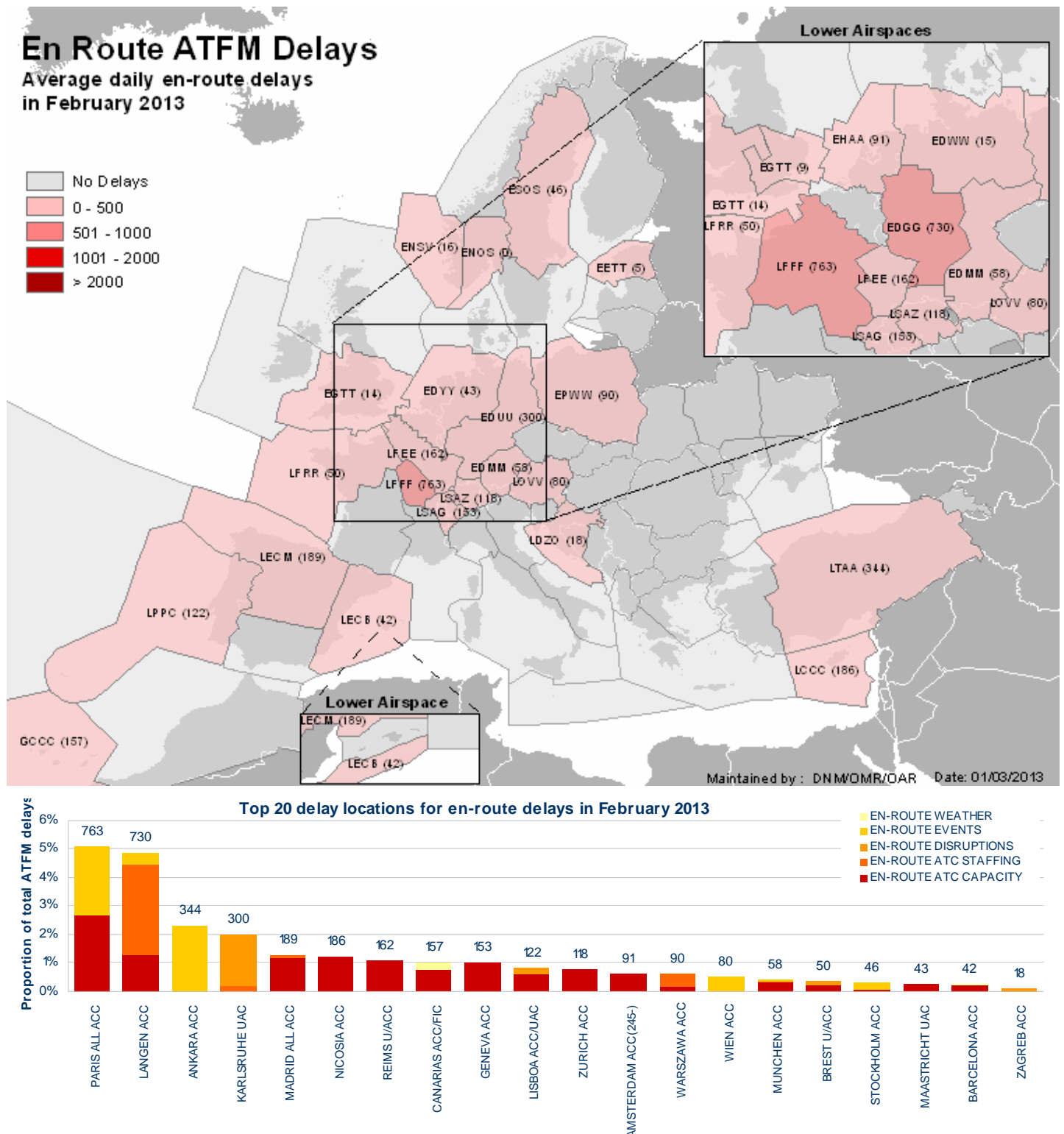


These are the top 20 delay generating locations for the reporting month. Figures are the average daily delays in minutes.

- Istanbul Ataturk airport had the highest delays in February due to southerly winds limiting the use of the most optimum runway configuration.
- Twelve of the top 20 airports (London Heathrow, Amsterdam, Frankfurt, Munich, Vienna, Paris CDG, Brussels, London Gatwick, Paris Orly, Oslo, Dusseldorf and Rome Fiumicino) were strongly affected by weather throughout the month with low visibility, fog, wind and snow issues.
- The limited use of the optimum runway configurations at Zurich airport (due to environmental constraints) plus the snow and the wind generated delays.
- Paris ACC's delays were caused by the implementation of airspace changes and ATC capacity issues.
- Langen ACC had delays due to staff shortages, ATC capacity and due to the effects of the FDPS failure in Karlsruhe on the 25 February.
- Geneva airport delays were due to snow and airport ATC capacity.
- Delays in Ankara ACC were due to reduced ATC Capacity in ORBB (Baghdad) FIR (NOTAM A0178/12).
- Delays in Karlsruhe ACC were essentially caused by the FDPS failure on the 25 February; they also experienced staffing issues and capacity reduction due to VOLMUK implementation.
- Madrid ACC recorded delays due to en-route ATC capacity.

3. EN-ROUTE ATFM DELAYS

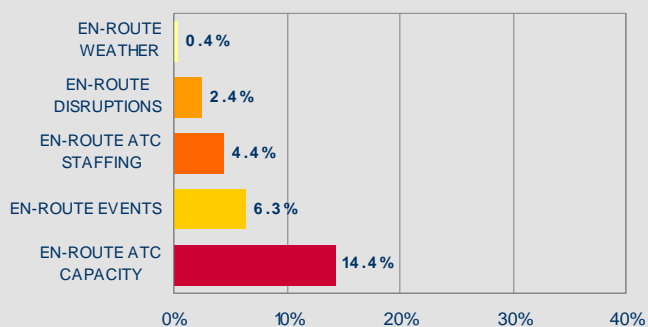
3.1. EN-ROUTE ATFM DELAY PER LOCATION



The top 20 en-route delay locations generated **25.0%** of the monthly total (network) ATFM delay.
The top 5 en-route delay locations generated **15.6%** of the monthly total (network) ATFM delay.

3.2. EN-ROUTE ATFM DELAY PER DELAY GROUP

Reasons for en-route delays in February 2013

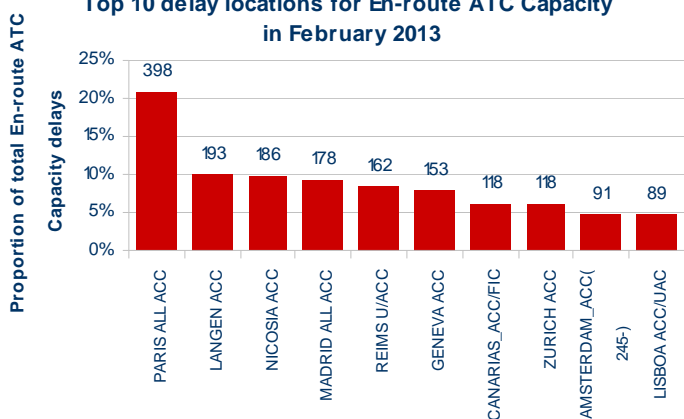


En-route delays accounted for 27.9% of all ATFM delays. 14.4% were attributed to en-route ATC capacity, 6.3% to en-route events, 4.4% to ATC staffing, 2.4% to en-route disruptions and 0.4% to en-route weather.

The Interface Reims Paris (IRP), the impact on Ankara of capacity reduction in Baghdad, Vienna transition and COOPANS implementation in Stockholm TMA have been recorded under "en-route events".

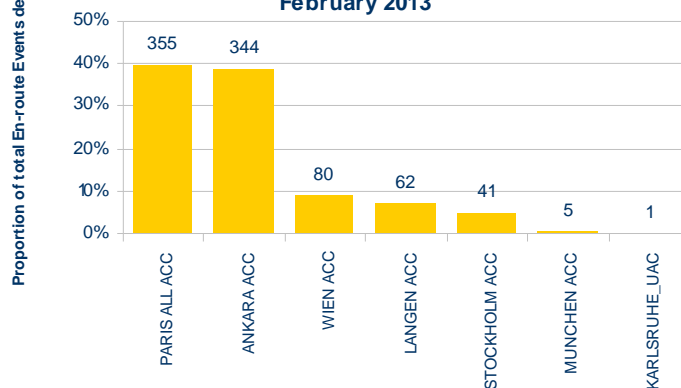
En-route external disruptions were due to the FDPS failure in Karlsruhe on the 25 February.

Top 10 delay locations for En-route ATC Capacity in February 2013



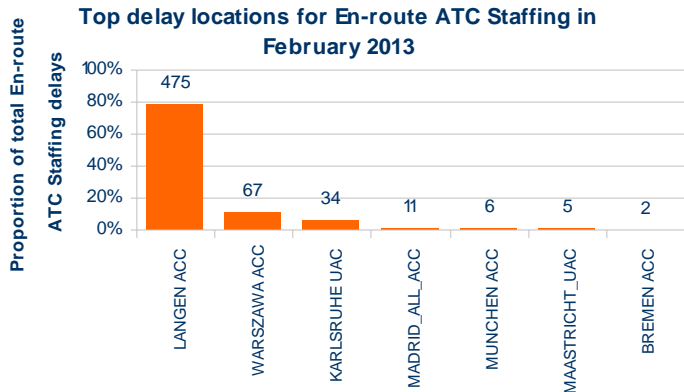
ATC capacity delays increased in Paris, Langen, Madrid, Reims, Geneva and Amsterdam ACCs compared to last month, while Lisbon and Nicosia ACCs had less ATC capacity delays. Canarias and Zurich entered the top 10 list in February.

Top delay locations for En-route Events in February 2013



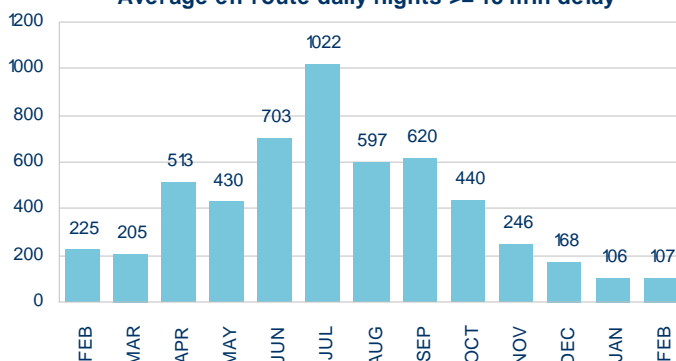
Ankara delays were due to the capacity reduction in Baghdad FIR.

Top delay locations for En-route ATC Staffing in February 2013



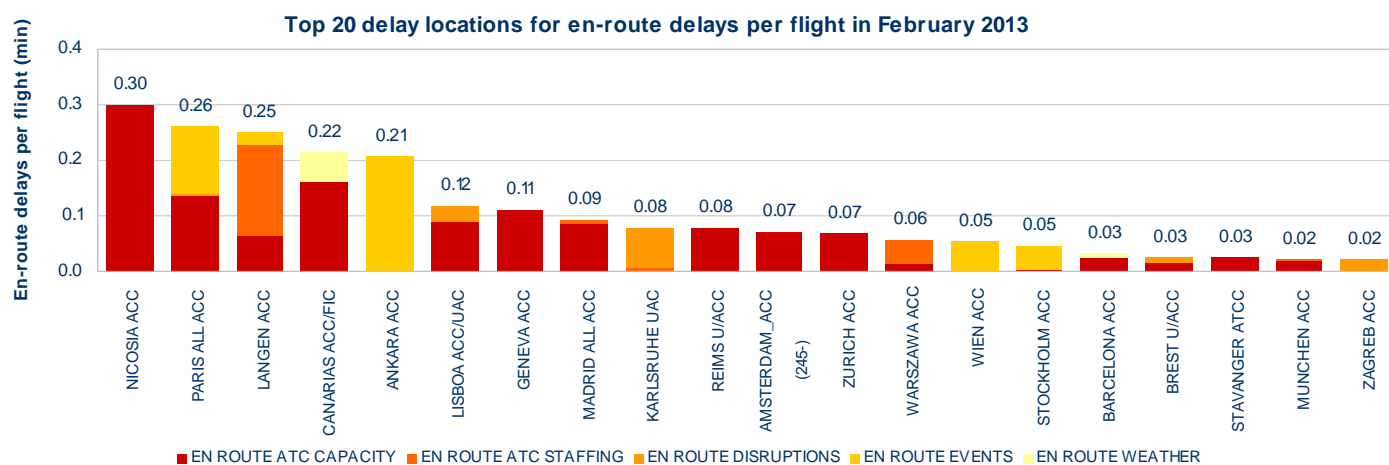
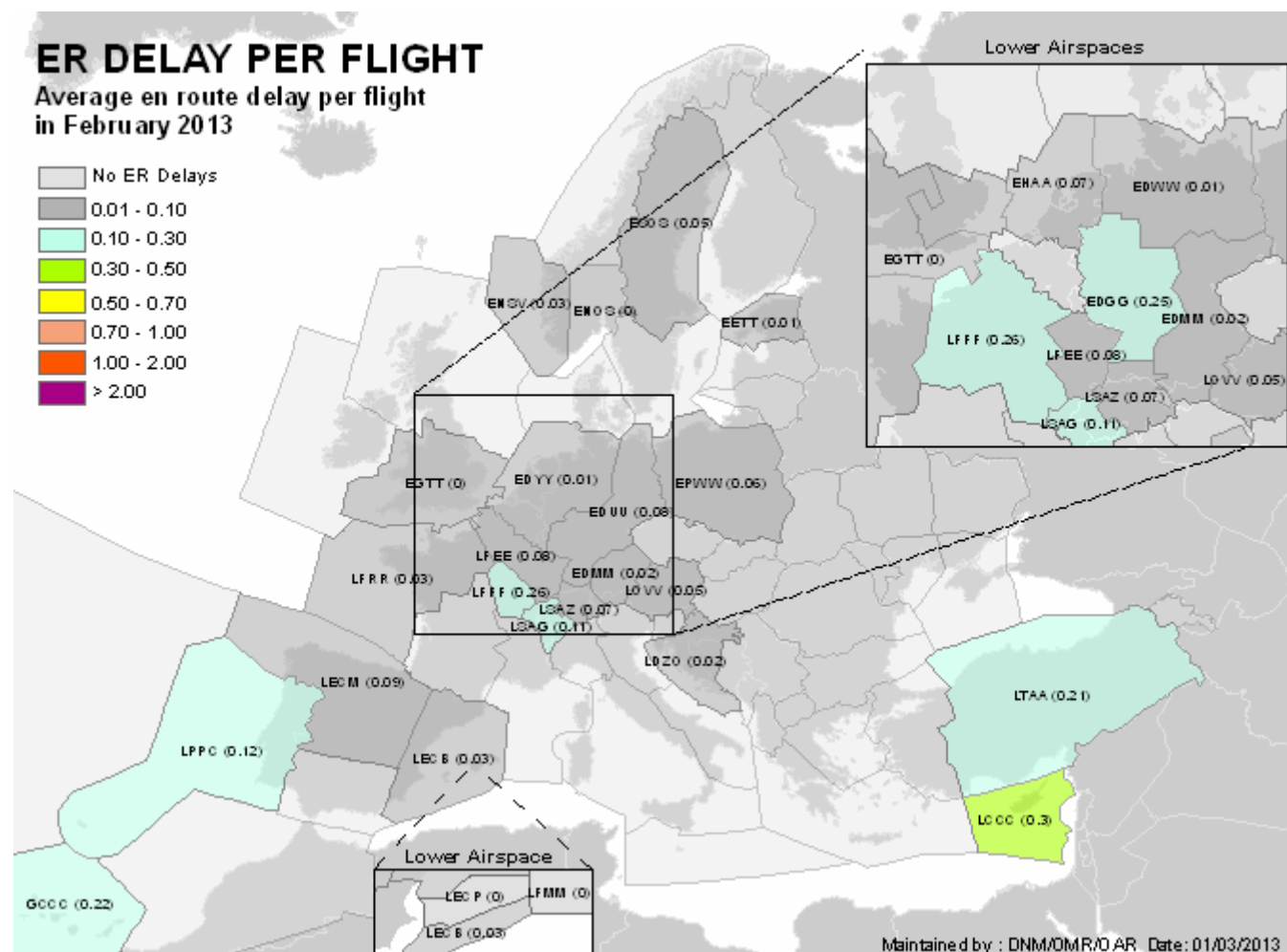
In February 2013, en-route staffing was an issue mainly for Langen ACC. Airspace design changes (IRP) impacted Paris ACC.

Average en-route daily flights >= 15 min delay



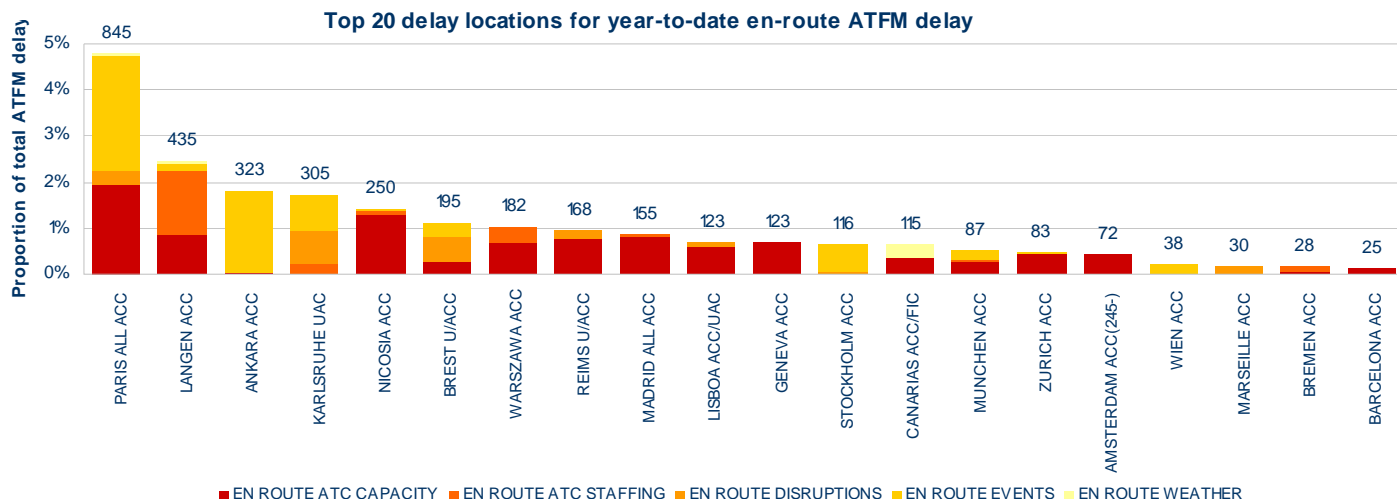
In February 2013 an average of 107 flights per day had an en-route delay of at least 15 minutes. Corresponding figure in February 2012 was 225 flights.

3.3. EN-ROUTE ATFM DELAY PER FLIGHT

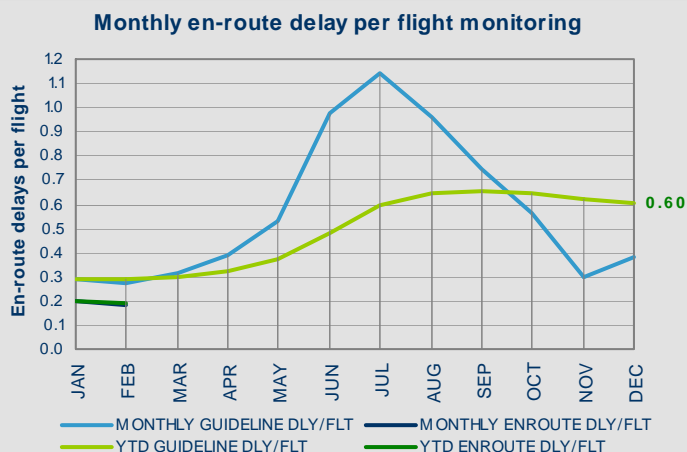


Nicosia ACC generated the highest average en-route delay per flight, due to ATC capacity issues.

3.4. EN-ROUTE ATFM DELAY YEAR-TO-DATE

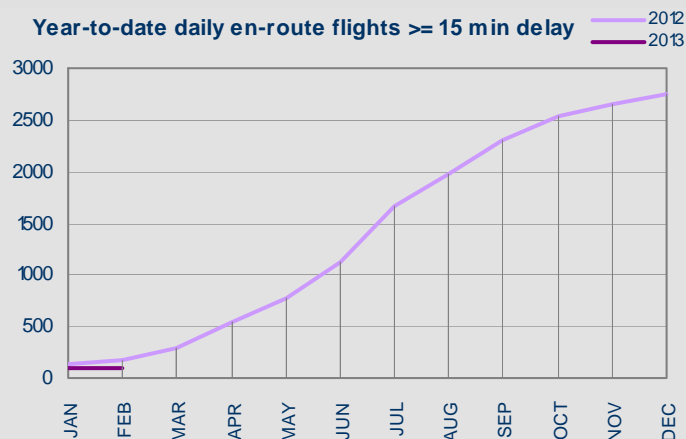


The top 20 en-route delay locations generated **20.9%** of the total ATFM (network) delay.
 The top 5 en-route delay locations generated **12.2%** of the total ATFM (network) delay.



Reporting month: In February, the average en-route delay per flight was 0.18 min/flt, which is below the monthly guideline delay of 0.28 min/flt.

YTD: The average en-route delay per flight in 2013 to date is 0.19 min/flt which is below the corresponding guideline value of 0.29 min/flt.

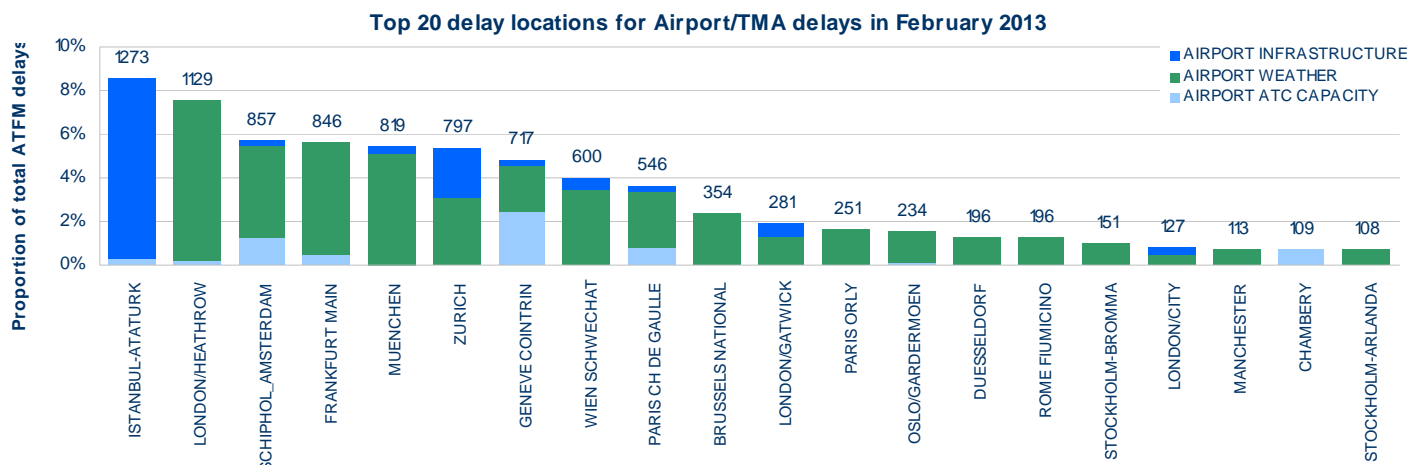


In February, 106 flights per day were subject to at least 15 minutes of delay. The corresponding figure in 2012 was 177 flights.

* NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual interim target (0.6 min/flight).

4. AIRPORT/TMA ATFM DELAYS

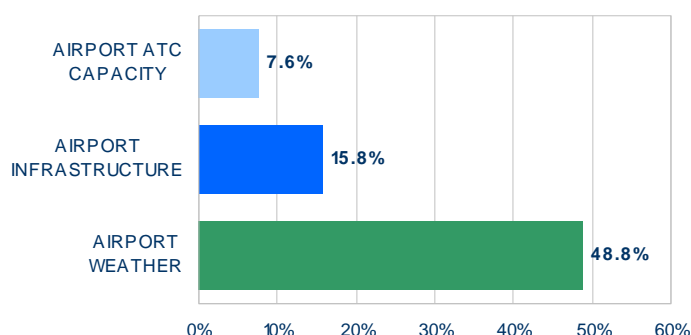
4.1. AIRPORT/TMA ATFM DELAY PER LOCATION



The top 20 Airport/TMA delay locations generated **64.9%** of the monthly total ATFM (network) delay.
The top 5 Airport/TMA delay locations generated **32.9%** of the monthly total ATFM (network) delay.

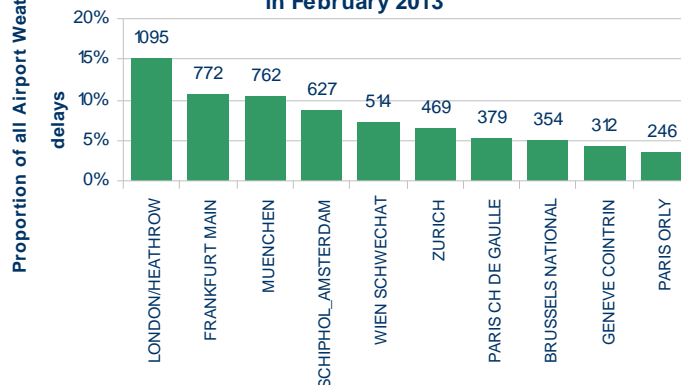
4.2. AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for Airport/TMA delays in February 2013



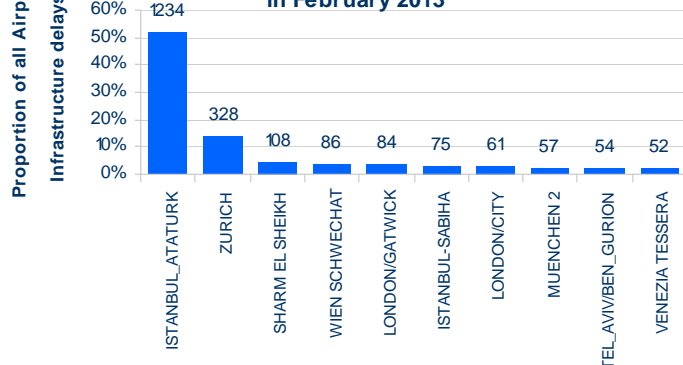
Airport/TMA delays accounted for 72.2% of all ATFM delays, 48.8% was due to weather.

Top 10 delay locations for Airport Weather in February 2013



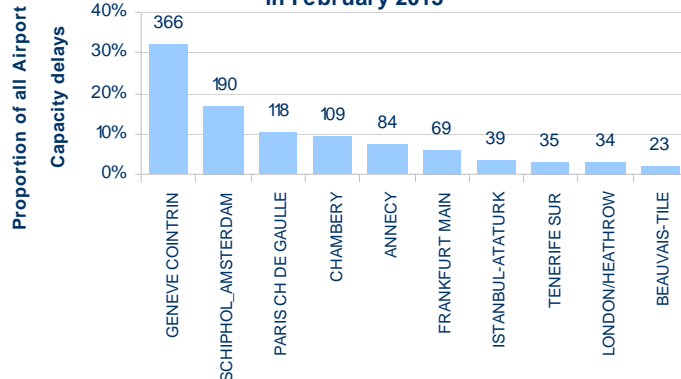
Delays at London Heathrow, Frankfurt, Munich, Amsterdam, Vienna, Zurich, Paris CDG, Brussels, Geneva and Paris Orly were mainly due to seasonal weather: low visibility, fog, snow and winds

Top 10 delay locations for Airport Infrastructure in February 2013



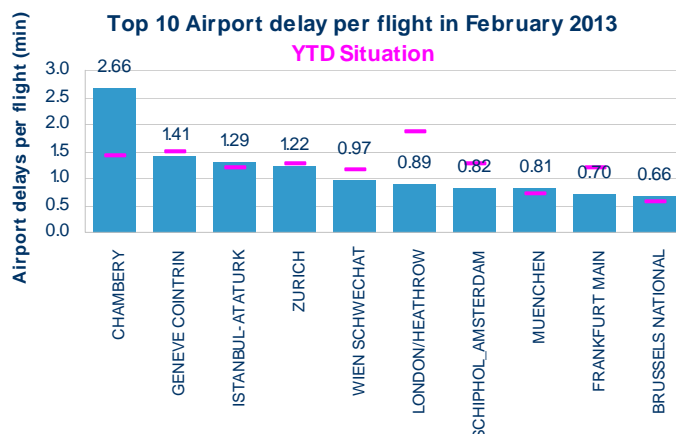
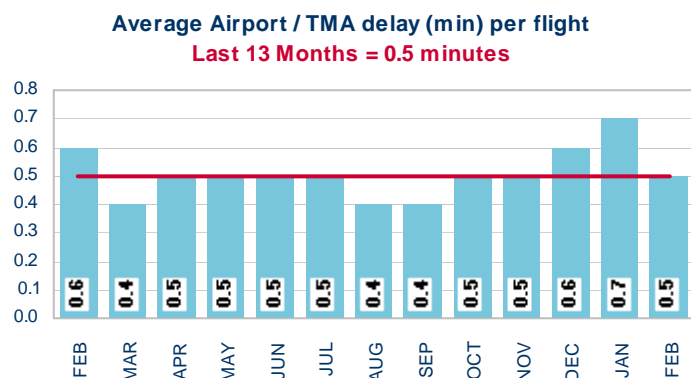
Limitations to optimum runway use at Istanbul Ataturk airport (southerly winds) and at Zurich airport (environmental constraints) continued to cause delays.

Top 10 delay locations for Airport ATC Capacity in February 2013



Geneva had the highest delays with high levels of ski traffic.

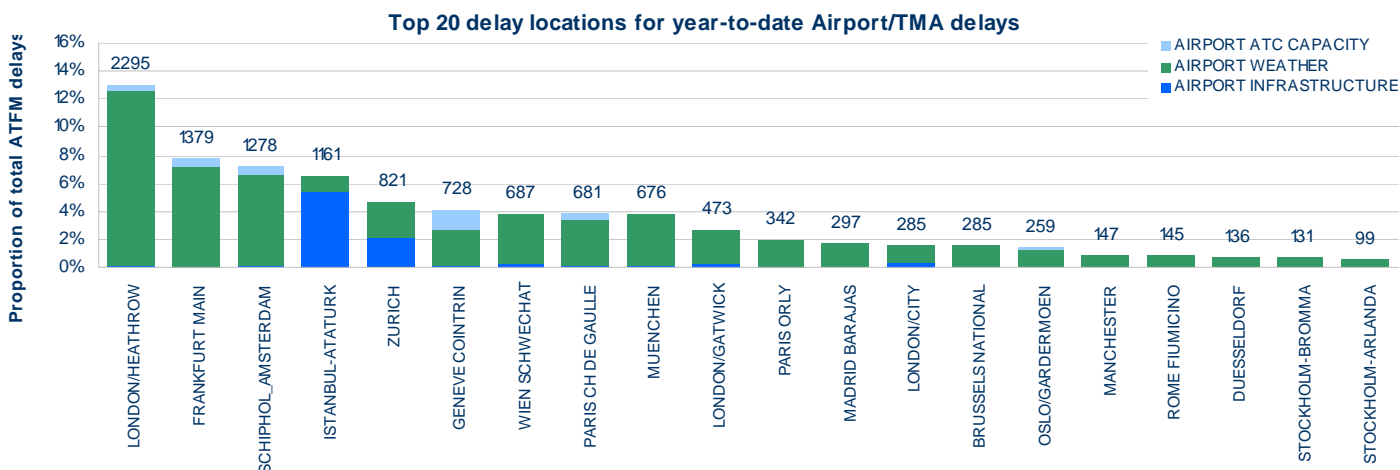
4.3. AIRPORT/TMA ATFM DELAY PER FLIGHT



Average Airport/TMA delay per flight decreased from 0.6 minutes in February 2012 to 0.5 minutes in February 2013.

In February Chambery and Geneva airports had the highest delay per flight, mainly due to the ski traffic.

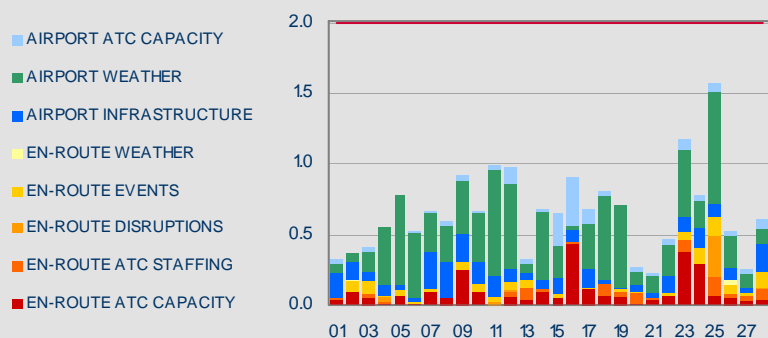
4.4. AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



The top 20 Airport/TMA delay locations generated **69.6%** of the total ATFM (network) delay since the beginning of the year. The top 5 Airport/TMA delay locations generated **39.2%** of the total ATFM (network) delay since the beginning of the year.

5. DAILY EVOLUTION

Average delay (min) per flight in February 2013



In February 2013, there were no days with an average delay per flight at or above 2 minutes:

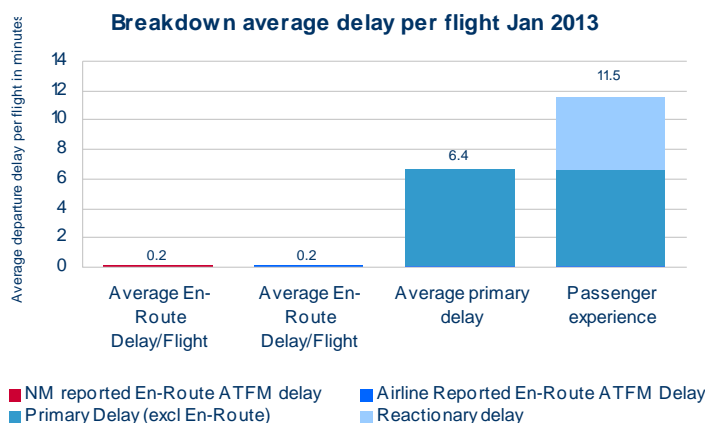
The day with the highest average delay per flight was Monday 25 February.

Airport weather delays occurred on most days in February as in January, but there were no very severe weather days (two in January): snow at Frankfurt, Dusseldorf, Paris CDG and Orly and Brussels airports; fog at Stockholm airport; low visibility at Vienna airport and thunderstorm at Rome Fiumicino airport. Karlsruhe ACC had a FDPS failure on 25 February. Langen ACC also recorded significant delays due to staffing issues. Runway configuration at Istanbul Ataturk airport continued to cause delays. Ankara ACC suffered from the capacity reduction in Baghdad FIR. En-route ATC capacity delays were registered in Madrid ACC.

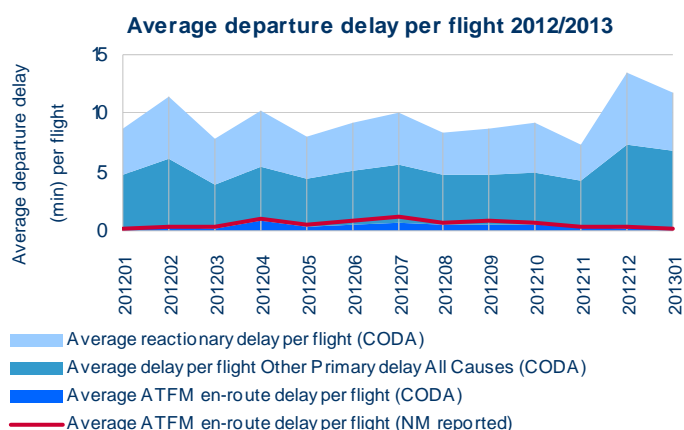
6. ALL AIR TRANSPORT DELAYS (Source: CODA)

The analysis below is based on airline data provided to CODA by airlines (AO's). As the airline data collection for February 2013 is not yet complete at the time of writing, this analysis covers the latest available 13-month period (January 2012-January 2013) and contains details on 56% of commercial flights in the ECAC region.

ATFM delays reported by airlines are often lower than the ATFM delays calculated by the network manager (NM). ATFM delays of NM are the (flight) planned "delays" whereas 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. For the airline, a part of this delay is the ATFM delay and the rest is the handling delay.



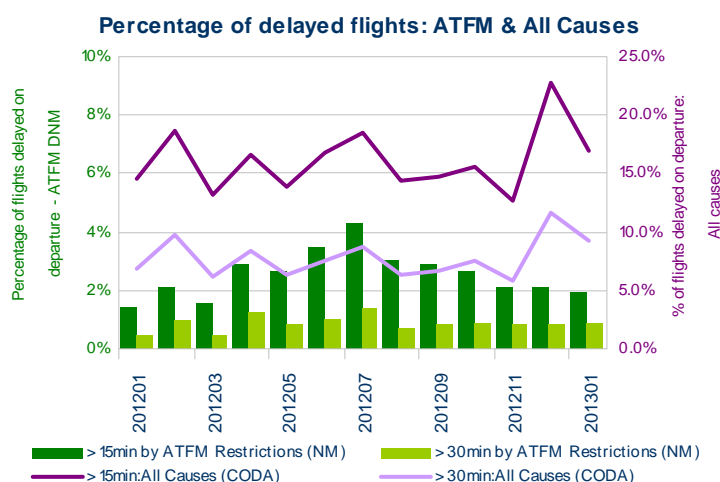
Airline reported en-route ATFM delay in January 2013 was 0.2 minutes per flight which is identical the NM reported average en-route ATFM delay of 0.2 minutes per flight. According to airline reporting, in January 2013 the average delay per flight for all-causes of delay was 11.5 minutes. The primary delay share of total all-causes delay was 57 % (or 6.6 min/ft) of which en-route delays contributed 0.2 min/ft. The remaining were Reactionary delays, this counted for 43% or a contribution of 4.9 min/flight.



Weather delays from high winds, snow and related low visibility in January 2013 increased to 2.2 minutes per flight up from 0.9 minutes per flight in January 2012. This follows the increase of weather delays seen in December 2012 to 1.8 minutes per flight up from 0.9 minutes per flight in December 2011.

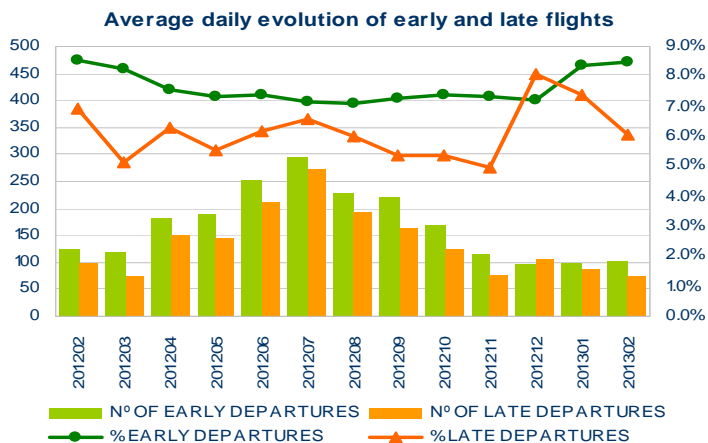
Both NM and airlines reported identical en-route ATFM delays of 0.2 minutes per flight.

Based on airline data, the reported share of reactionary delay minutes in January 2013 was 43%. This is the second lowest reactionary delay share over the last 13 months (just above the 42% recorded in November 2012).



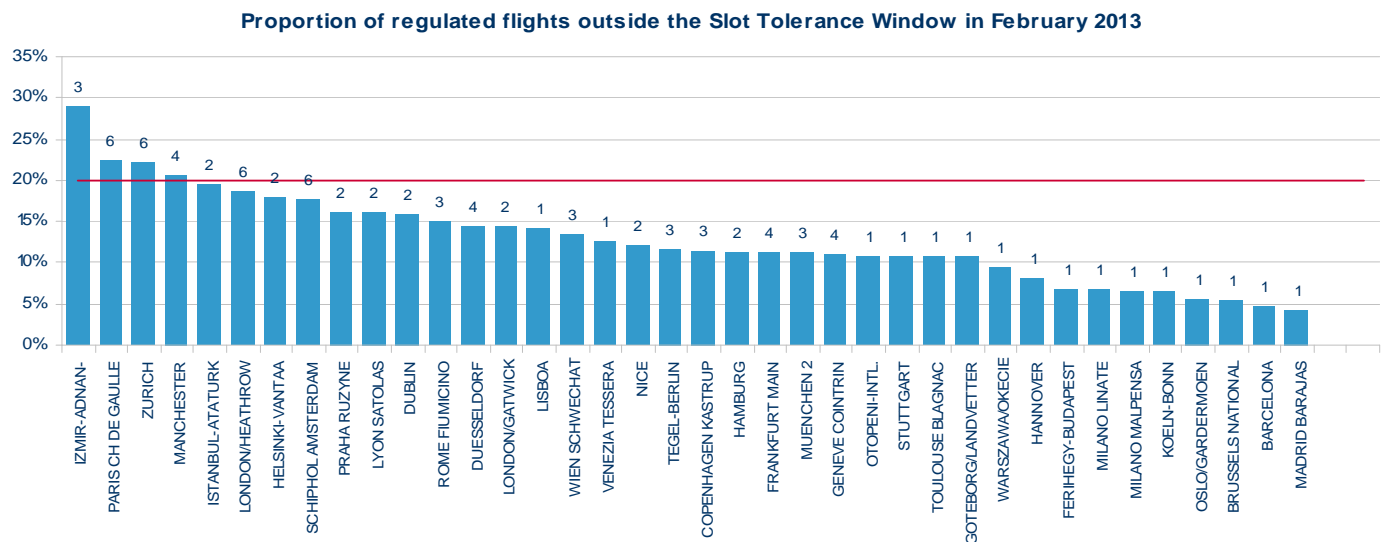
The percentage of flights delayed by long ATFM delays (those exceeding 15 minutes and 30 minutes) increased to 1.9% and 0.9% respectively in January 2013 compared to January 2012 where 1.5% and 0.5% of flights were delayed. The percentage of flights delayed from all-causes (those exceeding 15 & 30 minutes) increased from 14.5% and 6.9% in January 2012 to 17.0% and 9.3% in January 2013 respectively.

7. ATFM SLOT ADHERENCE



In February the percentage of late non-compliant departures decreased compared to the previous months but this has been offset against the increase of early departures. Although the overall percentage of traffic departing within their Slot Tolerance Window (STW) is above the target (at least 80%), there are many airports for which compliance can be improved.

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 STW. Any airport above the red line is non-compliant with the ATFM slot adherence target (min 80%) and non-compliant departures from Paris CDG, Zurich, London Heathrow, Amsterdam and Manchester airports have wider network impact.



8. SIGNIFICANT EVENTS AND ISSUES

8.1. PLANNED EVENTS

- **Bratislava ACC** successfully moved to the new ops room on 19 February as planned. The plan was also to be back to normal operations by 27 February, but this was achieved earlier.
- **Chisinau ACC** continued training for the new ATM systems to be implemented later in 2013; low impact on network performance and no reduction of sector capacities.
- Continuation of the transition (period 1) of former Munich upper sectors to **Karlsruhe ACC** (familiarisation of ATCOs to the new system and new airspace structure); planned medium impact on network performance; sector capacities reduced by approximately 25%, successively adapted on a day to day basis.
- **Vienna ACC** successfully moved to the new system COOPANS on 28 February as planned, with 50% capacity reduction on the first days (as planned).

8.2. DISRUPTIONS

- **01/02/2013** – Continuation of industrial action by French public services, impacted reported in January network operations report.
- **11/02/2013** – Zagreb ACC - 1630-1653UTC - radar failure causing reduced capacities until 16:57UTC. No network impact.
- **25/02/2013** – Karlsruhe ACC - 0940-1148UTC - 50% capacity reduction due to FDPS failure. Regulations applied in Langen and Munich ACCs as protection with medium network impact.

8.3. OTHER CONSTRAINTS

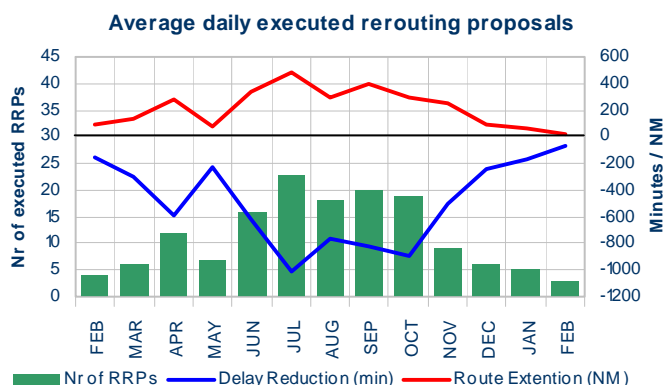
There were no other constraints with network impact in February 2013.

9. NM ADDED VALUE

9.1 RRP DIRECT DELAY SAVINGS

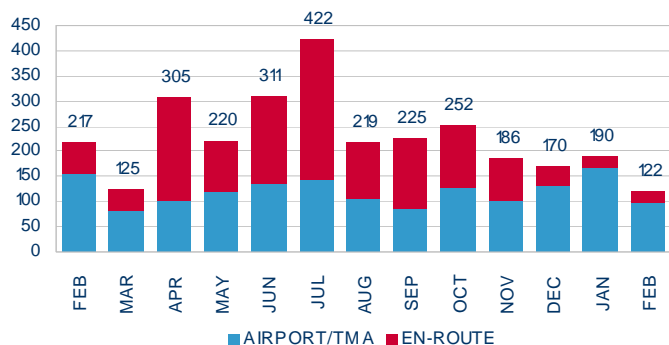
In February 2013, NM proposed alternative routes to an average of 5 flights per day of which 3 were accepted. This saved 69 minutes of daily delay at a cost of 20nm extra mileage flown.

This graph shows the actual daily averages for the previous 13 months period.



9.2 FLIGHTS WITH DELAY > 30'

Average daily flights > 30 minutes delay



The number of flights that had more than 30 mins of ATFM delay decreased by 43.8% from 217 flights/day in February 2012 to 122 flights/day in February 2013.

79.5% of the delay was at airports.