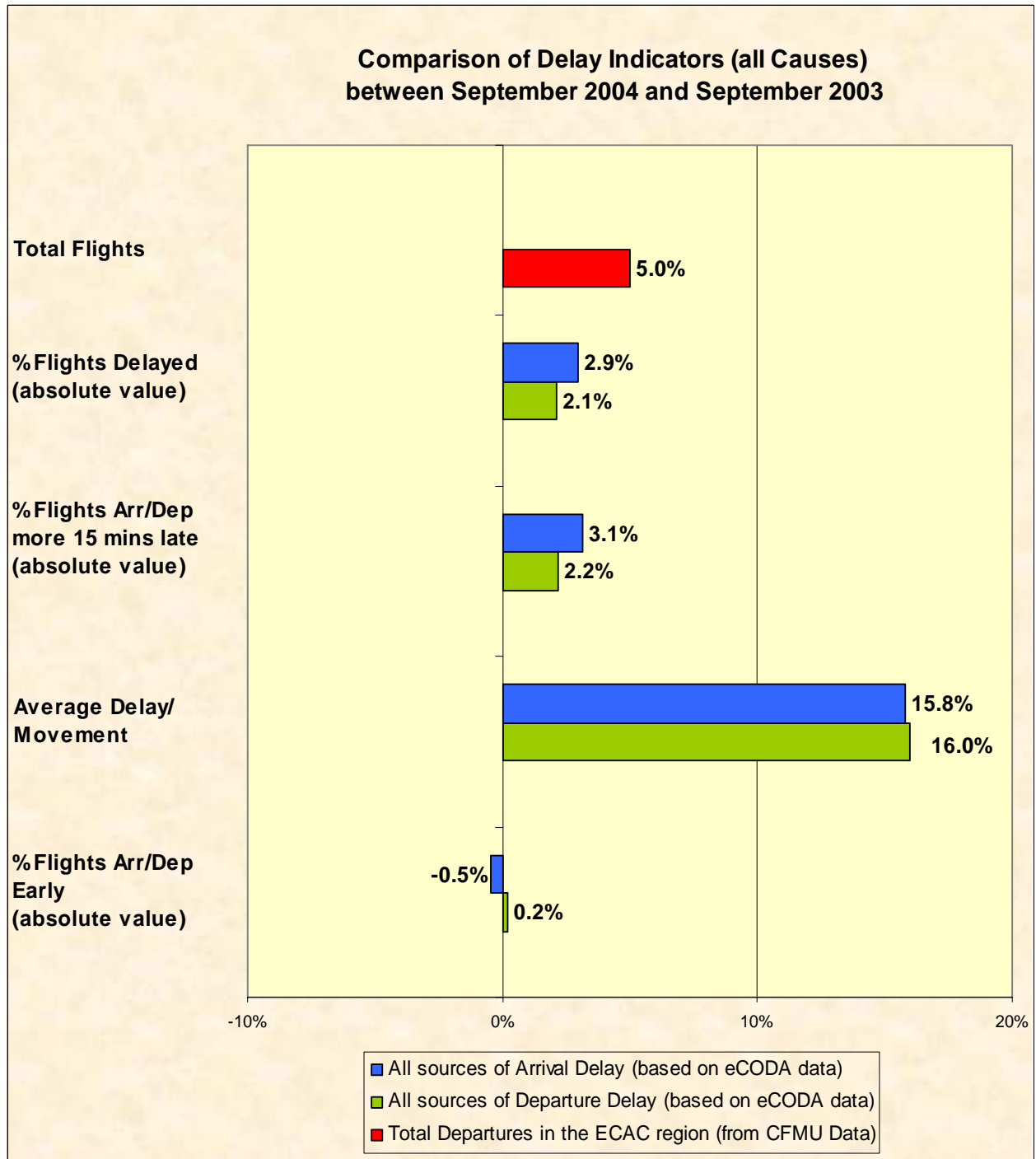


## Delays to Air Transport in Europe September 2004



**This page has been deliberately left blank.**

## FOREWORD

This report represents an overview of the delay situation in the European Civil Aviation Conference Area. It is based on delay data supplied by the CFMU and airline data from eCODA, and has been prepared by the Central Office for Delay Analysis (CODA), a service of the European Air Traffic Management Programme (EATMP).

The report consists of an overview of the reporting period, a summary of the main delay effects, and a series of charts and graphics, which illustrate the main characteristics of the reporting period. A glossary of terms and abbreviations used throughout the report is given in Annex 2.

***In this report the definition of the CFMU ATFM departure delay is based on the difference between the scheduled off-block time and the calculated off-block time, taking into account slot time and estimated taxi time. Airline data from eCODA is based on real recorded delays.***

© European Organisation for the Safety of Air Navigation (EUROCONTROL) 1997. All rights reserved.

*The information contained herein is the property of EUROCONTROL and no part may be reproduced or used except as authorised by written permission of EUROCONTROL. The copyright, the foregoing restriction and use, extend to all media in which the information is embodied.*

*IMPORTANT NOTICE: Information contained in this document does not necessarily engage the responsibility or reflect the official position of EUROCONTROL. While EUROCONTROL aims to keep this information accurate, complete accuracy cannot be guaranteed. Errors brought to EUROCONTROL's attention shall be corrected. This report shall be considered only as an informative document on delays to air transport in Europe*

**Central Office for  
Delay Analysis**

**EUROCONTROL**

**96 Rue de la Fusée  
B - 1130 Brussels**

**Tel.** : + 32-2-729 35 74  
**Fax** : + 32-2-729 90 04  
**E-Mail** : [coda@eurocontrol.int](mailto:coda@eurocontrol.int)  
**Web Site** : <http://www.eurocontrol.int/eCoda/>  
**SITA** : BRUAT7X

**This page has been deliberately left blank.**

## Table of Contents

1. SUMMARY OVERVIEW .....	7
2. Year on Year Trends in Main Indicators.....	12
3. Most Affected Traffic Flows by CODA Regions .....	14
4. Most Affected and Most Dense Traffic Flows.....	15
5. Most Affected City Pairs.....	16
6. Most Affected and Most Dense City Pairs .....	17
7. ATFM Delay Share by Country.....	18
8. Reasons for ATFM Delay.....	19
9. Consolidated Evolution of Industry Delay Causes by Category .....	20
10. Primary Departure Delay Causes.....	21
Definition of CODA Flow Regions (Annex 1) .....	22
Glossary of Terms and Abbreviations (Annex 2) .....	23
Standard IATA Delay Codes (Annex 3) .....	24
Correlation between IATA Delay Codes and the CFMU Reasons for Regulation (Annex 4) ..	26

**This page has been deliberately left blank.**

## 1. SUMMARY OVERVIEW

Traffic in the ECAC region increased by 5% when compared with September 2003. The Average Delay per Movement, due to all causes of delay, increased by 16% to 9.5 minutes for departures and to 9.8 minutes for arrivals. ATFM delay increased by 17% with the Average Delay per Movement increasing by 12% to 1.8 minutes.

For the first nine months of the year, traffic grew by 4.4%, with delayed flights due to all causes increasing by 29% for departures and by 28% for arrivals. The number of flights delayed by more than fifteen minutes was up 36% for departures and 35% for arrivals. Turning to the delays, the Average Delay per Movement was 9.9 minutes for departures and 10.2 minutes for arrivals. Total ATFM delay increased by 3%, with the Average Delay per Movement falling by 1% to 1.7 minutes.

### TRAFFIC SITUATION FOR SEPTEMBER 2004<sup>1</sup>

Compared with September 2003, departures throughout the ECAC region increased significantly and with almost eight hundred and fifteen thousand flights, it was the highest ever September figure since CFMU started operations (up thirty percent on September 1996 and up eight percent on September 2002). Domestic traffic rose by two percent and international traffic was up by seven percent. Ninety two percent of the busier countries had an increase in International traffic, with the largest real increases in Germany, United Kingdom, Spain, France and Italy. Serbia and Montenegro and the Former Yugoslav Republic of Macedonia had the largest real decreases. Turning to the domestic traffic, the United Kingdom, Spain, Turkey, Germany and Greece had the largest rises whereas France and Italy had the largest falls.

Eighty six percent of the busier airports (those with more than two thousand five hundred flights per month) saw an increase in traffic, with twenty one percent having a rise of more than ten percent. The largest real increases were at Munich, Prague, Vienna and Budapest. At the other end of the scale, Nice, Birmingham, Berlin and Naples had the largest decreases.

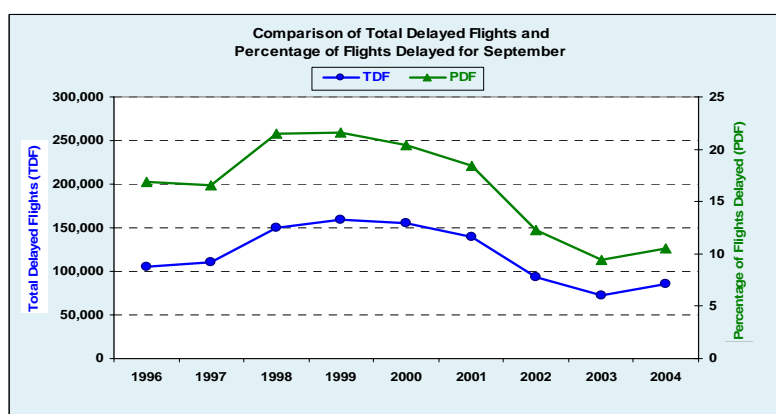
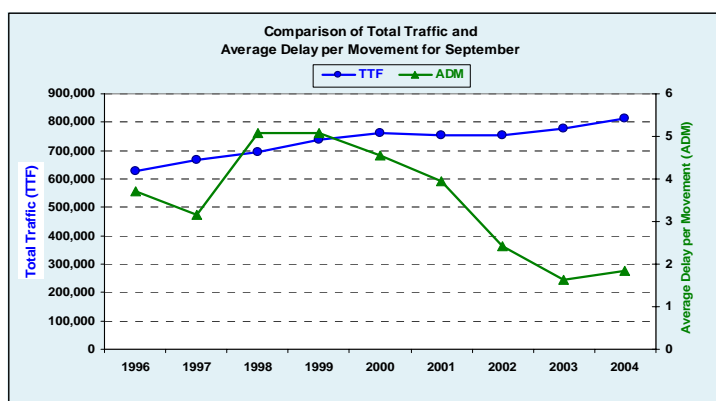
With eleven flights during the busiest hour, Barcelona-Madrid was the busiest city pair (up five percent on September last year) and was followed by Milan/Linate-Rome/Fiumicino with seven flights during the busiest hour. Over fifty percent of the busier pairs (those with at least two hundred and fifty flights per month) had an increase in the number of flights, with twenty seven percent having a rise of more than ten percent. Stockholm-Helsinki, Hamburg-Stuttgart and Aberdeen-London/Heathrow had the largest real increases whereas Cologne/Bonn-Berlin, Rome/Fiumicino-Catania and Rome/Fiumicino-Milan/Malpensa had the largest real decreases.

---

<sup>1</sup> The analysis was based on the CFMU database, which contains details on all IFR flights in the ECAC region.

## ATFM DELAY SITUATION FOR SEPTEMBER 2004

Delays due solely to ATFM measures increased by seventeen percent when compared with September 2003. The Average Delay per Movement also saw an increase and rose by twelve percent to just under two minutes. The main cause of the delay was ATC capacity (fifty eight percent) followed by Airport capacity and Weather (both with fourteen percent) and ATC staffing (six percent).



Delayed flights increased by eighteen percent, with the percentage of flights delayed rising by one percentage point to eleven percent. Compared with September 2003, flights delayed by more than fifteen minutes increased by twenty percent and flights delayed by more than sixty minutes rose by three percent.

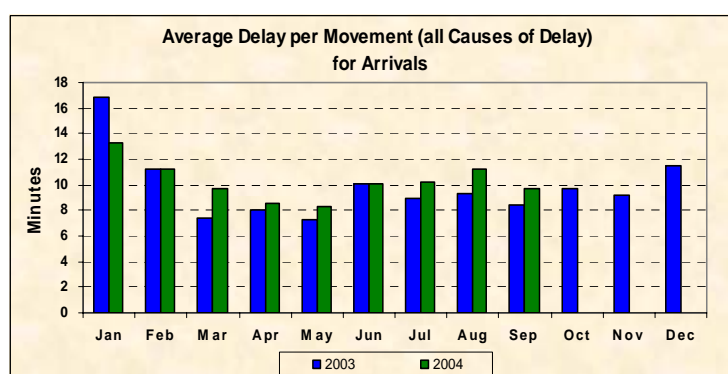
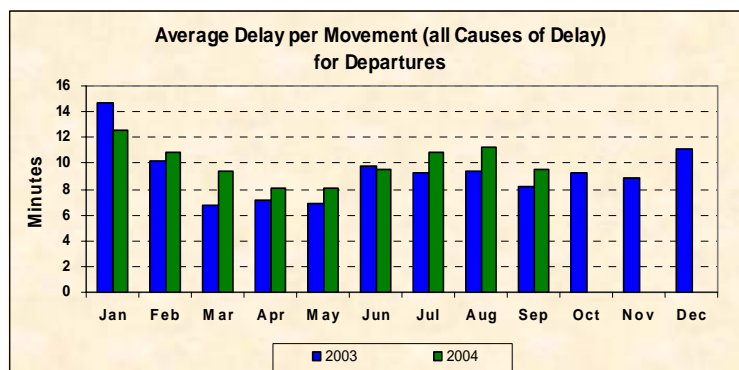
Thirty six percent of all ATFM delay in the ECAC region was due to regulations put in place to protect airports. Compared with the same month last year, the share of the delay due to these restrictions decreased by two percentage points and the actual amount of the delay rose by ten percent. Lack of Airport Capacity accounted for forty two percent of the airport delay, with Weather (thirty five percent) and ATC Capacity (sixteen percent) being the other major causes. Compared with September 2003, there was an increase in ATC Capacity (up seventy six percent), followed by Weather (up fifty four percent). The airports of London, Zurich, Barcelona, Vienna and Frankfurt were the most affected by airport-related regulations.

Based on the locations of the most penalising regulations, traffic (including overflights) using the airspace of France, the United Kingdom, Switzerland and Italy had the largest share of the delay and accounted for forty six percent of the total ATFM delay in the ECAC region. Compared with September 2003, Austria had the largest increase (up five percentage points) and was followed by Spain and Norway (up four percentage points) and Czech Republic (up three percentage points). To offset these increases, there were decreases in Germany (down eleven percentage points) and the United Kingdom (down six percentage points).



**ALL CAUSES DELAY SITUATION FOR SEPTEMBER 2004<sup>2</sup> (eCODA)**

The Average Delay per Movement, for departures and for all causes of delay was nine and a half minutes and represented an increase of sixteen percent on September 2003. Forty percent of flights were delayed on departure, with seventeen percent delayed by more than fifteen minutes. On the other hand, eleven percent of flights departed before their scheduled time.



The Average Delay per Movement, for arrivals, again for all causes of delay, was almost ten minutes; an increase of sixteen percent on last year. Thirty nine percent of flights were delayed on arrival, with eighteen percent delayed by more than fifteen minutes. On the positive side, thirty one percent of flights landed before their scheduled time.

Forty one percent of the busier departure airports (those with at least nine hundred flights per month) had an Average Delay per Movement of more than ten minutes. The airports of London/Heathrow and Dublin were the most affected, both with average delays of sixteen minutes and were followed by Rome/Fiumicino and Edinburgh (both with fourteen minutes). Compared with September 2003, almost half of the busier departure airports had an increase in average delay of one minute or more, with the largest rise at Warsaw (almost six minutes), followed by Lisbon (up five minutes), London/Heathrow, Madrid (up almost five minutes) and London/Gatwick, Barcelona and Edinburgh (all three up four minutes). These increases were offset by decreases at Milan/Linate, Larnaca and Turin (all three down five minutes). All the airports had a proportion of their traffic departing before their scheduled time; with Bilbao, Bordeaux and Ibiza having the largest, with twenty five percent and Copenhagen the lowest with three percent.

Looking at the busier destination airports shows that the traffic arriving at London/Heathrow had the largest Average Delay per Movement, with seventeen minutes and was followed by Ibiza, New York and London/Gatwick (all three with almost sixteen minutes). Compared with September 2003, nearly half of the busier destination airports had an increase in average delay of more than one minute, with the largest rise at London/Heathrow (up eight minutes), followed by London/Gatwick (up six minutes) and Madrid, Lisbon and Glasgow (all three up five minutes). At the other end of the scale, there were decreases at Larnaca (down ten minutes), Prague and Venice. All the airports had a proportion of their flights arriving before their scheduled time, with Paris/Orly having fifty percent of its flights landing early. At the other end of the scale, Amsterdam had eight percent of its flights landing early.

<sup>2</sup> The analysis was based on airline data from eCODA, which for September 2004 contains details on 34.2% of IFR GAT flights in Europe.

The most affected city pair, due to all causes of delay, was London/Heathrow-Barcelona with an Average Delay per Movement of twenty five minutes and was followed by Madrid-London/Heathrow (twenty three minutes), Edinburgh-London/Heathrow and London/Heathrow-Madrid (both with average delays of almost twenty two minutes). It is worth noting that London/Heathrow appeared as either the departure or the destination airport in the first ten most affected city pairs<sup>3</sup>. Compared with September 2003, more than two thirds of the pairs had an increase in Average Delay per Movement, with twenty eight percent of them having an increase of more than three minutes. The largest increases were between Aarhus-Copenhagen and London/Heathrow-Barcelona (both pairs having an increase of fourteen minutes). To offset these increases, twenty percent of the city pairs had a decrease of one minute or more, with the largest falls between Rome/Fiumicino-Turin (down sixteen minutes) and Athens-Larnaca (down twelve minutes).







An analysis of the delay causes and categories, grouped by IATA codes, shows that thirty two percent of them had an increase in delay share, with the largest rises in the Cargo & Mail, Others and Weather categories. To balance these increases, there were decreases in the Mandatory Security, ATFM Restriction at Destination Airport and Passenger & Baggage categories (only those categories with more than one percent of the delay were taken into account).

With ten percent share of the delay, Technical & Aircraft Equipment was the most penalising direct delay category and was followed by ATFM En Route Demand Capacity (eight percent), Aircraft & Ramp Handling and Restriction at Departure Airport (both with seven percent).

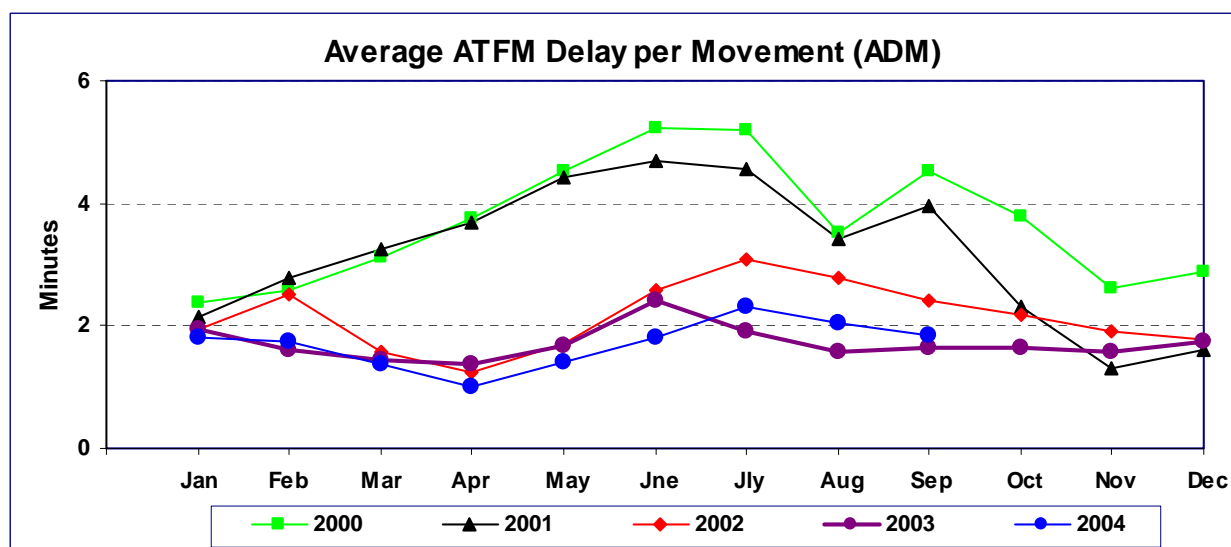
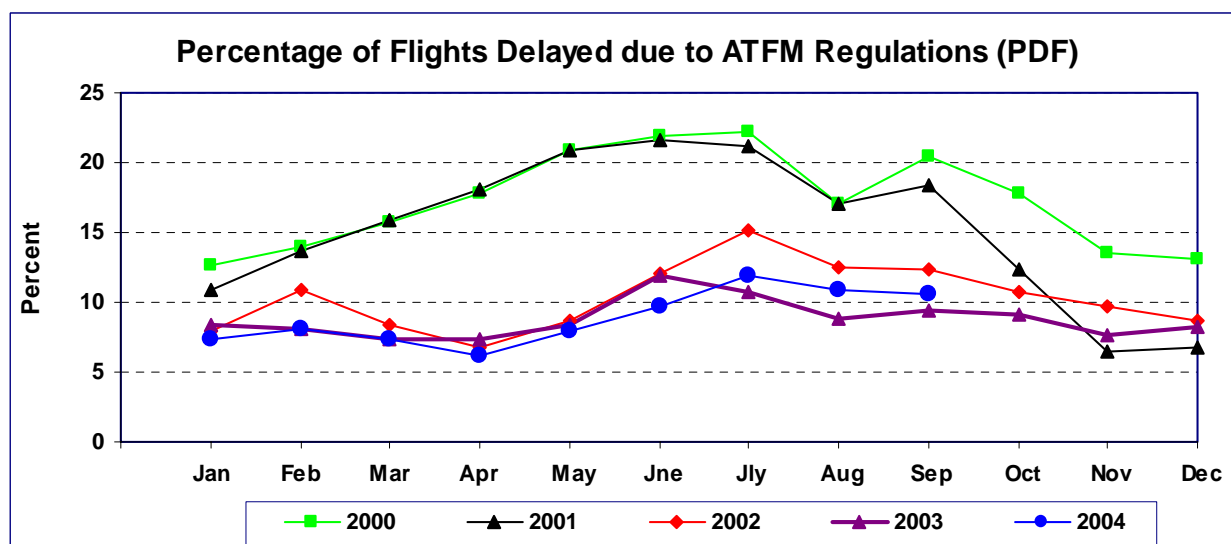
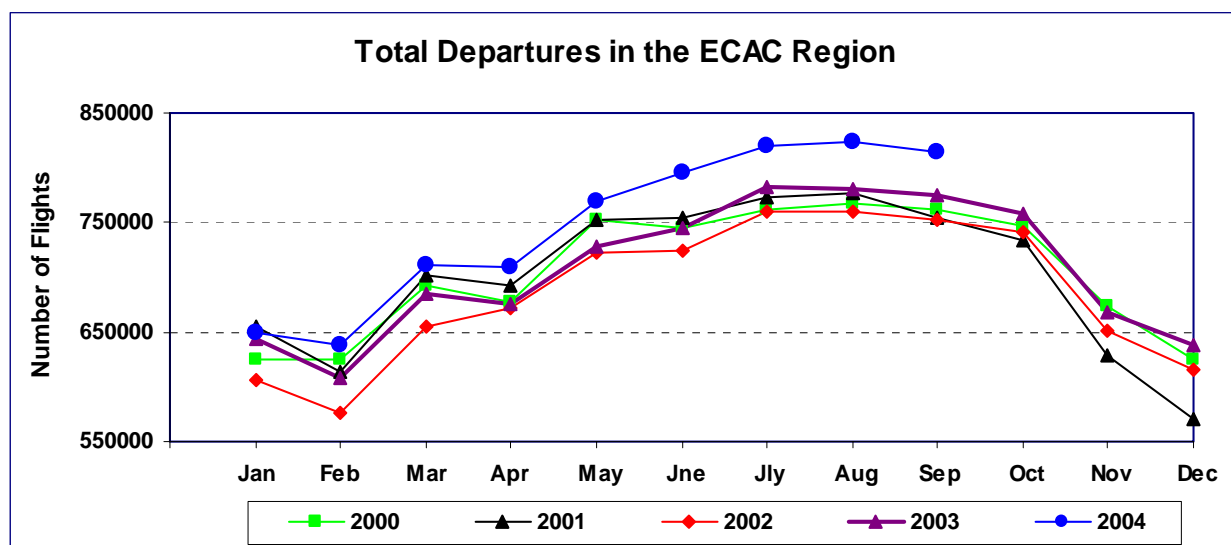
---

<sup>3</sup> The main causes of the delay were Airlines, Weather and ATC Capacity.

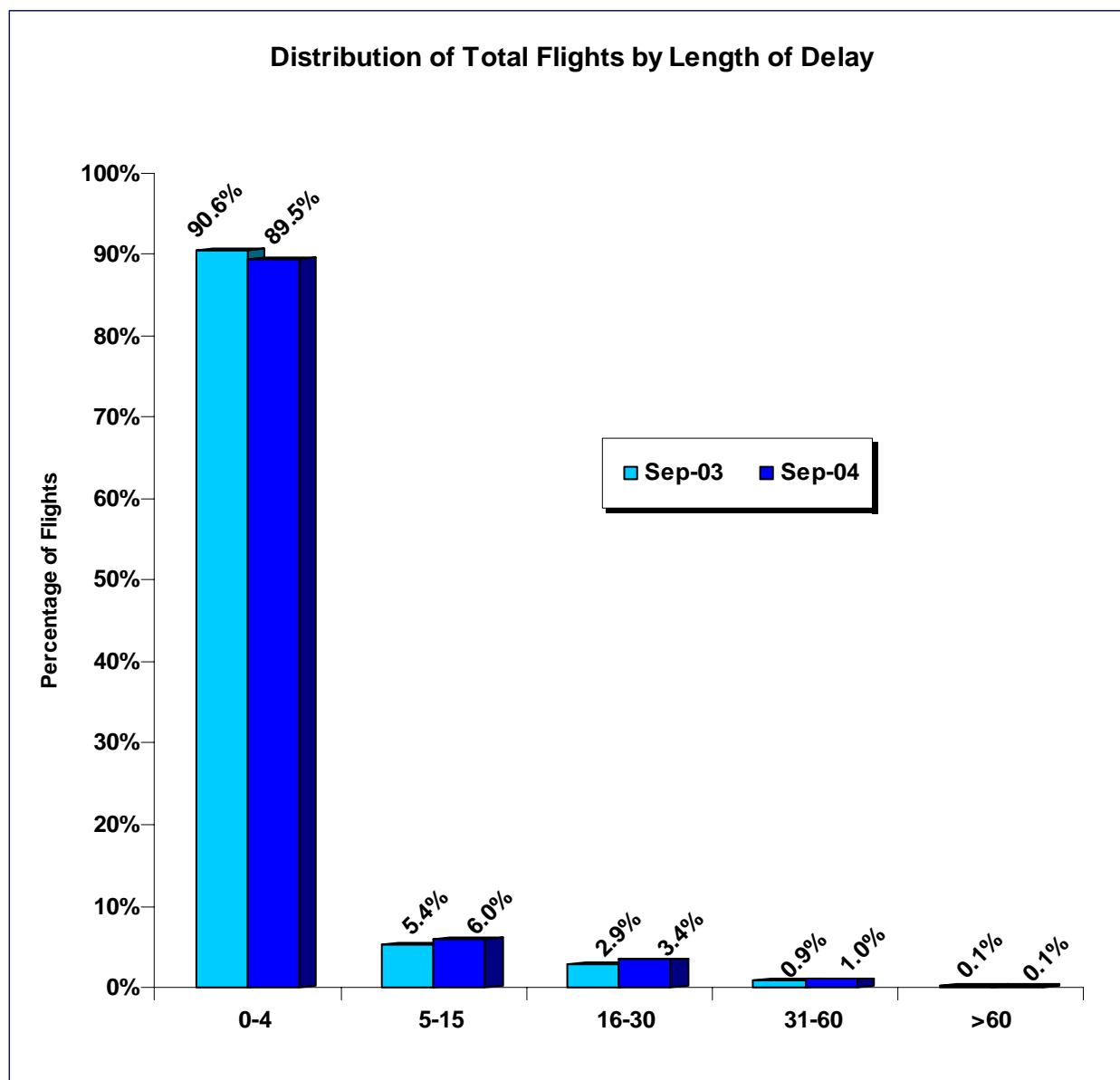
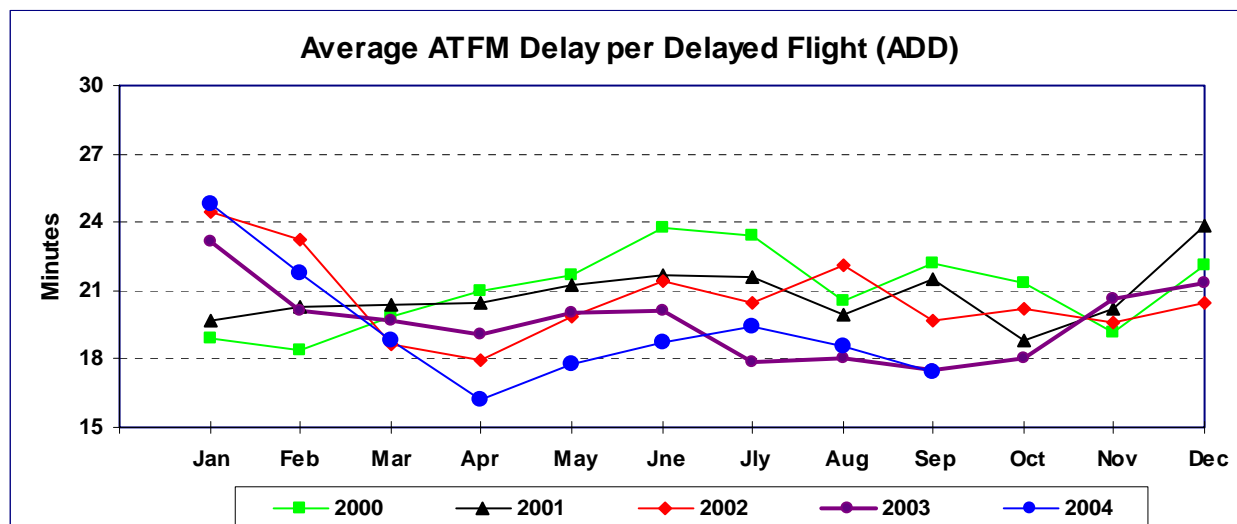
## SUMMARY OF SIGNIFICANT EVENTS

-  Adverse weather conditions including fog, thunderstorms, strong winds reducing departure or arrival rates for short periods.
-  Technical problems including radar failures at Southampton, Canary Islands, Bodo, Trondheim, Rennes and Lille ACCs; radar maintenance at Ljubljana, Brindisi, Pisa and Catania ACCs; frequency problems at Berlin, Malmö, Athens, Roma and Makedonia ACCs; computer shutdown at London ACC; ILS Calibration at Madrid, Barcelona and Budapest ACCs; NEON implementation at Maastricht ACC; FDPS failure at Munich ACC; radar degradation and maintenance at Lisbon ACC.
-  Aircraft accident/incident at Florence, Toussus-le-Noble, Limnos and Edinburgh; work on runway at Brussels, Cannes and Edinburgh; single runway operations at London/Heathrow, Paris/Le Bourget and Rome/Fiumicino; fire in tower at Asturias; security alert at London/Stansted.
-  Staff issues including shortages at Trondheim ACC; industrial action by refuelling staff at London/Heathrow; industrial action at Oslo ACC; industrial action by ground handling agents at London/Gatwick; industrial action by meteorological officers at Paris/Le Bourget.
-  Military activity at Amsterdam, Shanwick, Sion, London, Geneva and Reims ACCs.
-  Other items included new operations room phase 5 at Dublin; new ATC procedures at Lyon; Athens Paralympics; Ops room transfer from Bodo to Trondheim ACC; Tel Aviv FIR closed due to day of atonement.

## 2. Year on Year Trends in Main Indicators

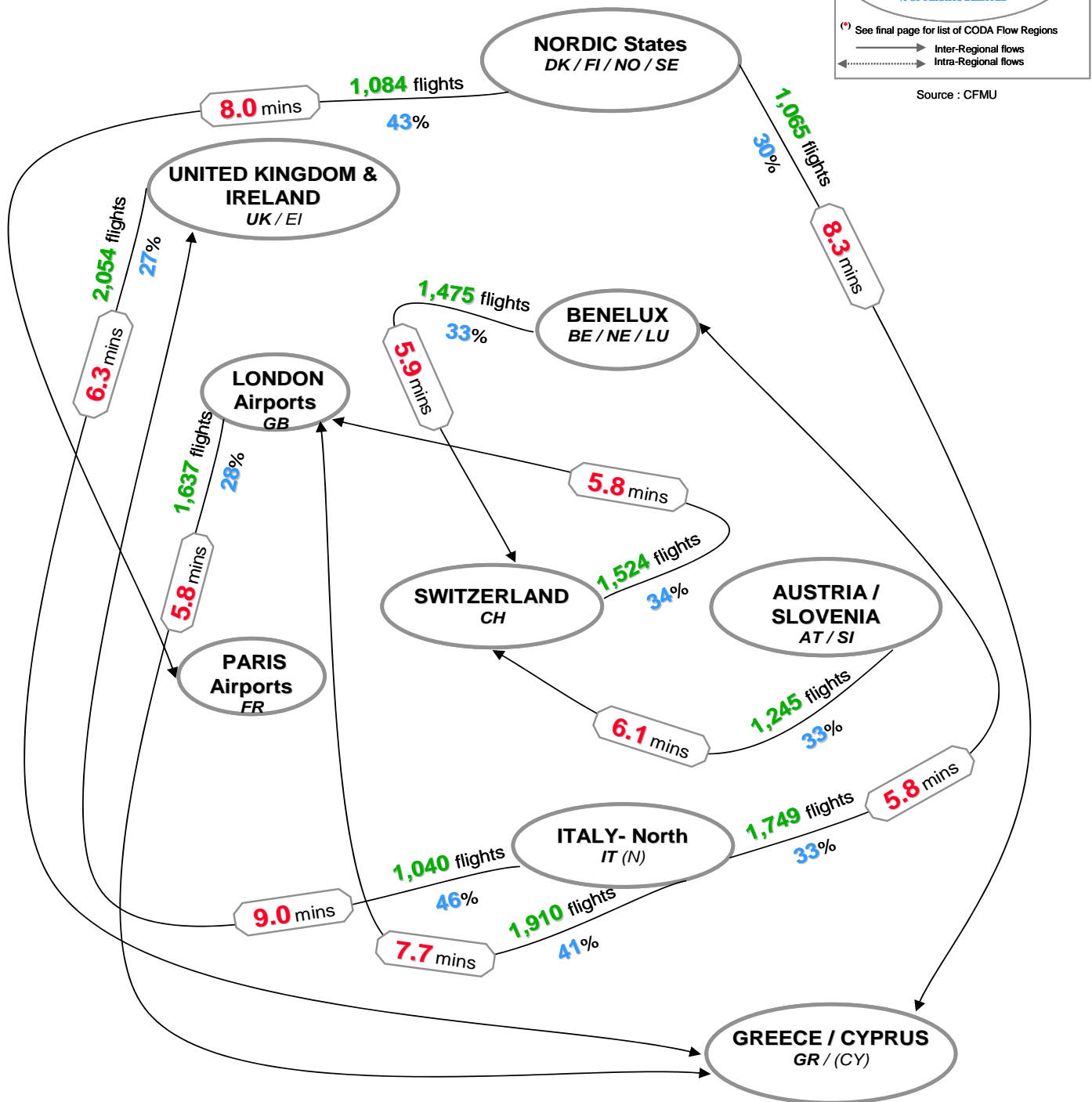


Source : CFMU ATFM Data



Source : CFMU ATFM Data

## 3. Most Affected Traffic Flows by CODA Regions



Selected flights: 14,783 (2% of Total flights)  
 Delayed flights: 5,028 (34% of Selected flights)  
 Accumulated delay: 99,122 mins (7% of Total Delay)  
 Avg. Delay per Mvmt: 6.7 mins

**ATFM Delay Situation on 10 Regional CODA Traffic Flows (>1,000 flights) in September 2004**

## 4. Most Affected and Most Dense Traffic Flows

**MOST AFFECTED TRAFFIC FLOWS (CFMU)**

Rank	Departure	Destination	TTF	TRF	TDF	PDF	TDM	ADD	ADM
1	Italy-North	United Kingdom & Ireland	1,040	685	480	46.15	9,374	19.53	9.01
2	Nordic States	Greece/Cyprus	1,065	557	318	29.86	8,881	27.93	8.34
3	Nordic States	Paris Airports	1,084	750	461	42.53	8,644	18.75	7.97
4	Italy-North	London Airports	1,910	1,193	775	40.58	14,639	18.89	7.66
5	United Kingdom & Ireland	Greece/Cyprus	2,054	857	559	27.22	12,846	22.98	6.25
6	Austria/Slovenia	Switzerland	1,245	745	405	32.53	7,542	18.62	6.06
7	BENELUX	Switzerland	1,475	831	485	32.88	8,706	17.95	5.90
8	Italy-North	BENELUX	1,749	961	577	32.99	10,178	17.64	5.82
9	London Airports	Greece/Cyprus	1,637	667	456	27.86	9,499	20.83	5.80
10	Switzerland	London Airports	1,524	927	512	33.60	8,813	17.21	5.78
11	Switzerland	Austria/Slovenia	1,234	573	378	30.63	6,611	17.49	5.36
12	London Airports	Italy-North	1,902	949	579	30.44	9,906	17.11	5.21
13	Switzerland	BENELUX	1,459	833	440	30.16	7,455	16.94	5.11
14	Central Europe	Austria/Slovenia	1,711	804	493	28.81	8,514	17.27	4.98
15	Germany-West	London Airports	3,333	1,488	875	26.25	15,615	17.85	4.68
16	France Southeast	BENELUX	1,170	656	330	28.21	5,473	16.58	4.68
17	Greece/Cyprus	London Airports	1,658	773	430	25.93	7,624	17.73	4.60
18	Paris Airports	Italy-North	1,955	1,072	598	30.59	8,785	14.69	4.49
19	Greece/Cyprus	United Kingdom & Ireland	2,028	759	442	21.79	9,010	20.38	4.44
20	Germany-West	Switzerland	3,645	1,572	862	23.65	16,129	18.71	4.42
<b>Totals</b>			<b>34,878</b>	<b>17,652</b>	<b>10,455</b>	<b>29.98</b>	<b>194,244</b>	<b>18.58</b>	<b>5.57</b>

**MOST DENSE TRAFFIC FLOWS (CFMU)**

Rank	Departure	Destination	TTF	TRF	TDF	PDF	TDM	ADD	ADM	ADM-Rank
1	Nordic States	Nordic States	66,759	3,228	1,557	2.33	44,328	28.47	0.66	26
2	United Kingdom & Ireland	United Kingdom & Ireland	31,275	3,068	1,534	4.90	27,189	17.72	0.87	21
3	Iberian Peninsula/Canaria	Iberian Peninsula/Canaria	27,880	2,588	1,300	4.66	21,735	16.72	0.78	23
4	Germany-West	Germany-West	22,735	3,531	1,566	6.89	23,657	15.11	1.04	20
5	Greece/Cyprus	Greece/Cyprus	13,240	593	323	2.44	10,091	31.24	0.76	24
6	Non ECAC	Non ECAC	13,152	78	41	0.31	848	20.68	0.06	34
7	Italy-North	Italy-South/Malta	10,905	2,526	1,517	13.91	24,990	16.47	2.29	5
8	Italy-South/Malta	Italy-North	10,898	1,773	967	8.87	16,285	16.84	1.49	16
9	London Airports	United Kingdom & Ireland	9,727	1,128	642	6.60	10,948	17.05	1.13	17
10	United Kingdom & Ireland	London Airports	9,633	2,217	1,176	12.21	21,607	18.37	2.24	7
11	Italy-South/Malta	Italy-South/Malta	9,192	979	472	5.13	7,265	15.39	0.79	22
12	Turkey	Turkey	9,052	0	0	0.00	0	0.00	0.00	35
13	Germany-West	Non ECAC	8,776	2,438	1,238	14.11	19,224	15.53	2.19	9
14	Non ECAC	London Airports	8,737	354	201	2.30	3,907	19.44	0.45	29
15	Non ECAC	Germany-West	8,672	492	213	2.46	3,806	17.87	0.44	30
16	London Airports	Non ECAC	8,645	1,479	843	9.75	13,752	16.31	1.59	14
17	Iberian Peninsula/Canaria	Balearics/Spain East	8,356	1,724	895	10.71	17,941	20.05	2.15	10
18	Balearics/Spain East	Iberian Peninsula/Canaria	8,350	1,780	814	9.75	14,773	18.15	1.77	13
19	Balearics/Spain East	Balearics/Spain East	7,350	668	388	5.28	11,272	29.05	1.53	15
20	Paris Airports	Non ECAC	7,338	2,138	1,124	15.32	16,361	14.56	2.23	8
21	Germany-West	Germany-East/Czech Rep	7,313	1,113	348	4.76	4,954	14.24	0.68	25
22	Non ECAC	Paris Airports	7,278	384	156	2.14	2,219	14.22	0.30	32
23	Germany-East/Czech Rep	Germany-West	7,222	1,354	511	7.08	7,578	14.83	1.05	18
24	Central Europe	Central Europe	6,413	464	228	3.56	3,455	15.15	0.54	28
25	France North	France North	6,327	135	44	0.70	707	16.07	0.11	33

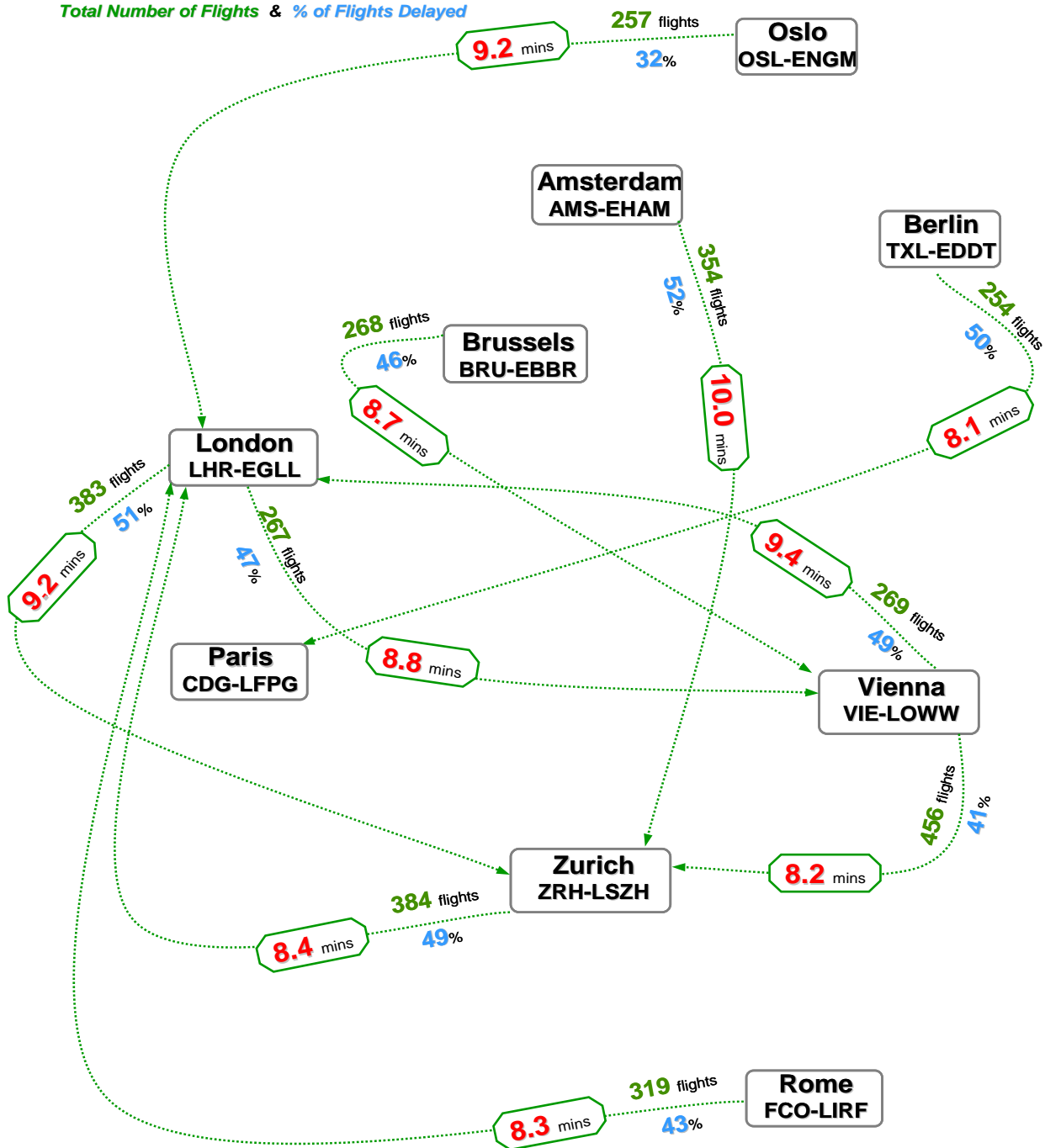
Source: CFMU ATFM Data

## 5. Most Affected City Pairs

**AVERAGE DELAY PER MOVEMENT**

Source : CFMU

Total Number of Flights &amp; % of Flights Delayed



Selected flights: 3,211 (0.4% of Total flights)  
 Delayed flights: 1,479 (46% of Selected flights)  
 Accumulated delay: 28,324 mins (2% of Total Delay)  
 Avg. Delay per Mvmt.: 8.8 mins

12/1004 - CPCF0904.PPT

**ATFM Delay Situation on 10 City Pairs (>250 flights) in September 2004**



## 6. Most Affected and Most Dense City Pairs

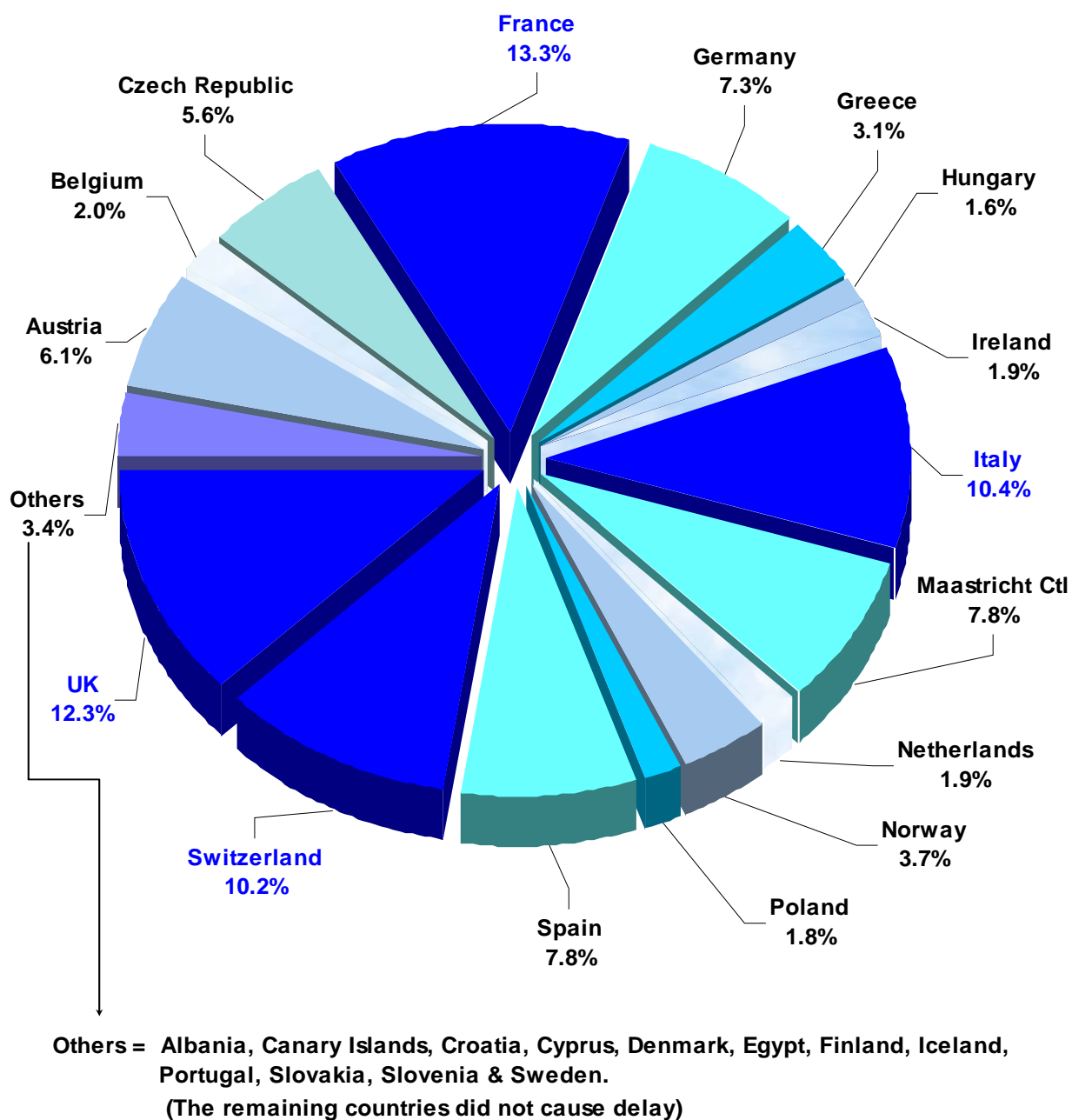
MOST AFFECTED CITY PAIRS (CFMU)									
Rank	Departure	Destination	TTF	TRF	TDF	PDF	TDM	ADD	ADM
1	Amsterdam	Zurich	354	257	183	51.69	3,522	19.25	9.95
2	Vienna	London/Heathrow	269	180	131	48.70	2,537	19.37	9.43
3	London/Heathrow	Zurich	383	303	194	50.65	3,529	18.19	9.21
4	Oslo/Gardermoen	London/Heathrow	257	128	83	32.30	2,359	28.42	9.18
5	London/Heathrow	Vienna	267	184	125	46.82	2,351	18.81	8.81
6	Brussels	Vienna	268	181	124	46.27	2,319	18.70	8.65
7	Zurich	London/Heathrow	384	302	189	49.22	3,228	17.08	8.41
8	Rome/Fiumicino	London/Heathrow	319	208	138	43.26	2,655	19.24	8.32
9	Vienna	Zurich	456	317	186	40.79	3,756	20.19	8.24
10	Berlin-Tegel	Paris/Charles-De-Gaulle	254	189	126	49.61	2,068	16.41	8.14
11	Paris/Charles-De-Gaulle	Zurich	363	283	171	47.11	2,882	16.85	7.94
12	Munich	London/Heathrow	336	199	131	38.99	2,587	19.75	7.70
13	Geneva	London/Heathrow	303	214	122	40.26	2,275	18.65	7.51
14	Frankfurt	London/Heathrow	513	278	193	37.62	3,613	18.72	7.04
15	Vienna	Frankfurt	352	197	128	36.36	2,455	19.18	6.97
16	Zurich	Amsterdam	357	230	133	37.25	2,459	18.49	6.89
17	Madrid/Barajas	London/Heathrow	361	207	133	36.84	2,483	18.67	6.88
18	Munich	Zurich	351	173	116	33.05	2,408	20.76	6.86
19	Hamburg	Paris/Charles-De-Gaulle	251	190	111	44.22	1,690	15.23	6.73
20	Dusseldorf	London/Heathrow	312	193	115	36.86	2,094	18.21	6.71
Totals			6,710	4,413	2,832	42.21	53,270	18.81	7.94

MOST DENSE CITY PAIRS (CFMU)										
Rank	Departure	Destination	TTF	TRF	TDF	PDF	TDM	ADD	ADM	ADM-rank
1	Barcelona	Madrid/Barajas	1,914	839	389	20.32	7,477	19.22	3.91	4
2	Madrid/Barajas	Barcelona	1,887	614	328	17.38	7,150	21.80	3.79	5
3	Milan/Linate	Rome/Fiumicino	1,232	447	257	20.86	4,113	16.00	3.34	7
4	Rome/Fiumicino	Milan/Linate	1,228	90	59	4.80	1,288	21.83	1.05	21
5	Barcelona	Palma De Mallorca	916	22	7	0.76	183	26.14	0.20	26
6	Palma De Mallorca	Barcelona	878	241	138	15.72	4,011	29.07	4.57	2
7	Paris/Orly	Toulouse/Blagnac	850	317	132	15.53	1,703	12.90	2.00	12
8	Toulouse/Blagnac	Paris/Orly	847	3	1	0.12	5	5.00	0.01	30
9	London/Heathrow	Paris/Charles-De-Gaulle	831	212	104	12.52	1,681	16.16	2.02	11
10	Paris/Charles-De-Gaulle	London/Heathrow	827	353	218	26.36	3,981	18.26	4.81	1
11	Den Helder/De Kooy	Unknown	750	0	0	0.00	0	0.00	0.00	31
12	Paris/Orly	Nice	746	199	83	11.13	964	11.61	1.29	16
13	Nice	Paris/Orly	745	17	7	0.94	87	12.43	0.12	28
14	Athens	Makedonia	744	77	38	5.11	841	22.13	1.13	18
15	Helsinki-Vantaa	Stockholm/Arlanda	744	3	0	0.00	0	0.00	0.00	33
16	Munich	Dusseldorf	743	199	66	8.88	831	12.59	1.12	20
17	Makedonia	Athens	743	5	3	0.40	106	35.33	0.14	27
18	Cologne/Bonn	Munich	739	114	40	5.41	635	15.88	0.86	22
19	Dusseldorf	Munich	736	233	90	12.23	1,207	13.41	1.64	13
20	Stockholm/Arlanda	Helsinki-Vantaa	723	73	22	3.04	265	12.05	0.37	24
21	Munich	Berlin-Tegel	721	201	35	4.85	456	13.03	0.63	23
22	Munich	Cologne/Bonn	721	34	9	1.25	83	9.22	0.12	29
23	Berlin-Tegel	Munich	713	231	56	7.85	902	16.11	1.27	17
24	London/Heathrow	Amsterdam	708	84	49	6.92	1,059	21.61	1.50	15
25	Amsterdam	London/Heathrow	707	288	166	23.48	2,993	18.03	4.23	3

Source: CFMU ATFM Data

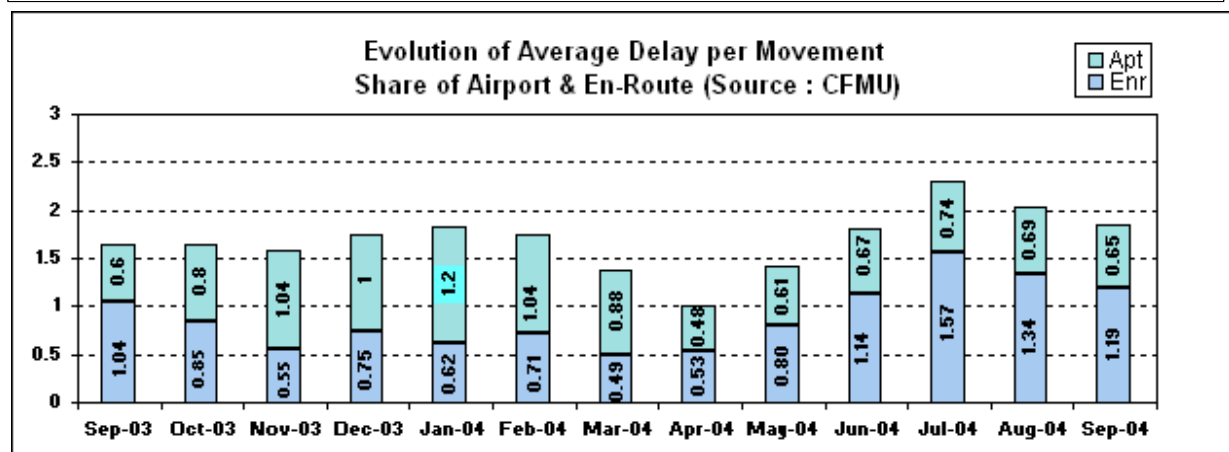
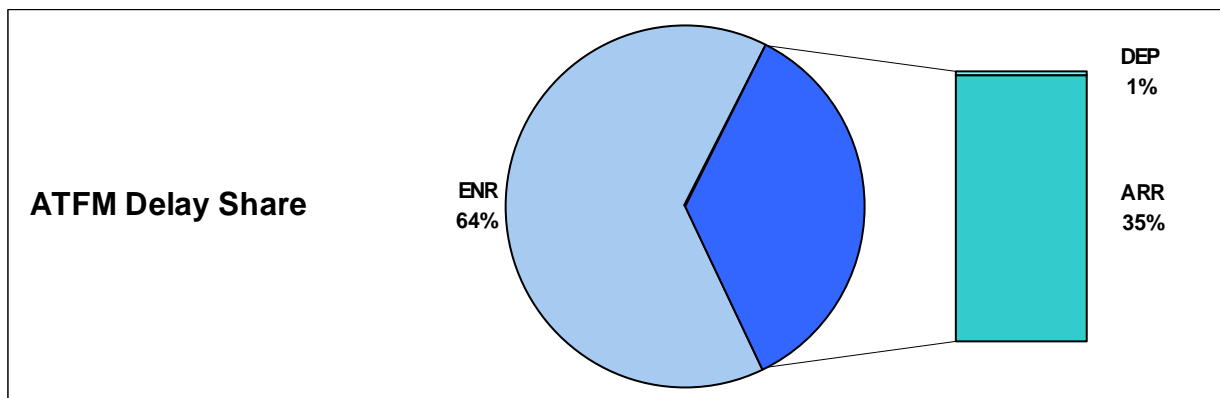
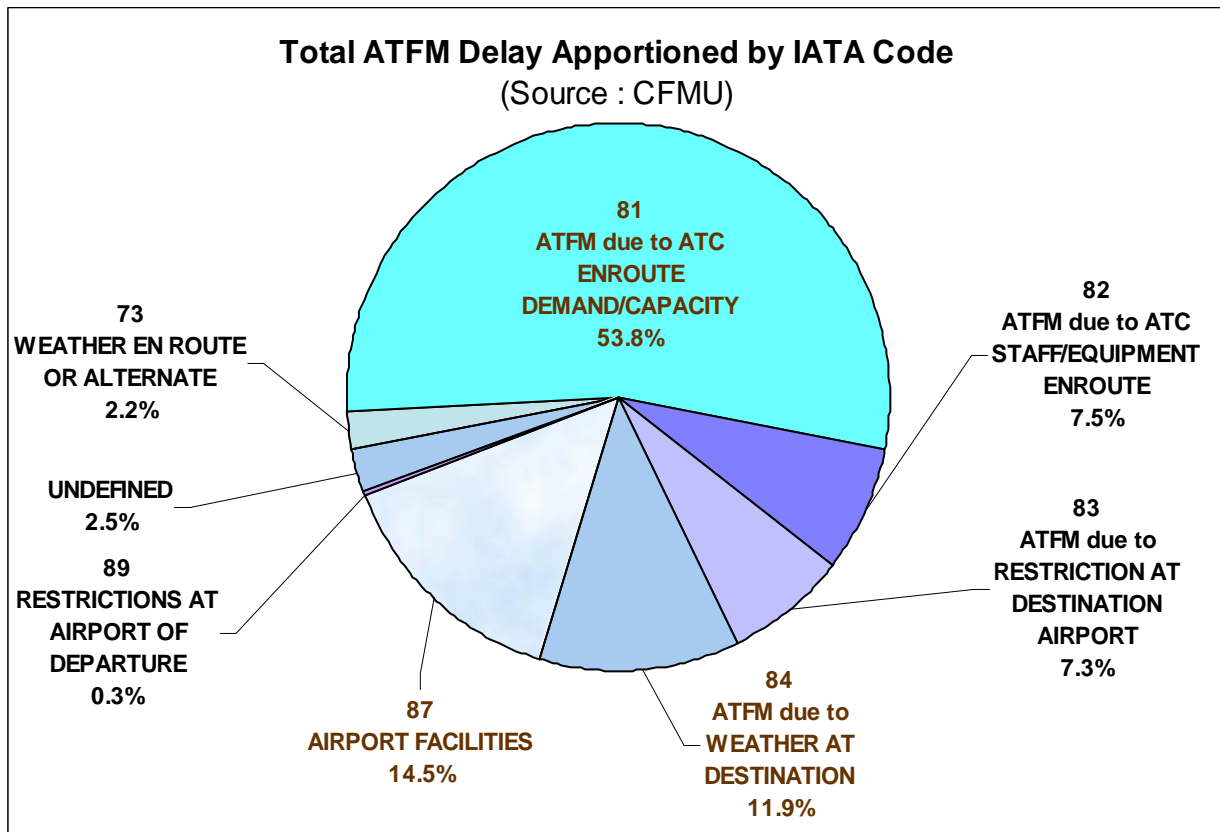
## 7. ATFM Delay Share by Country

**ATFM Delay Share as Imposed by Country  
based on the most penalising regulation  
(Source : CFMU)**

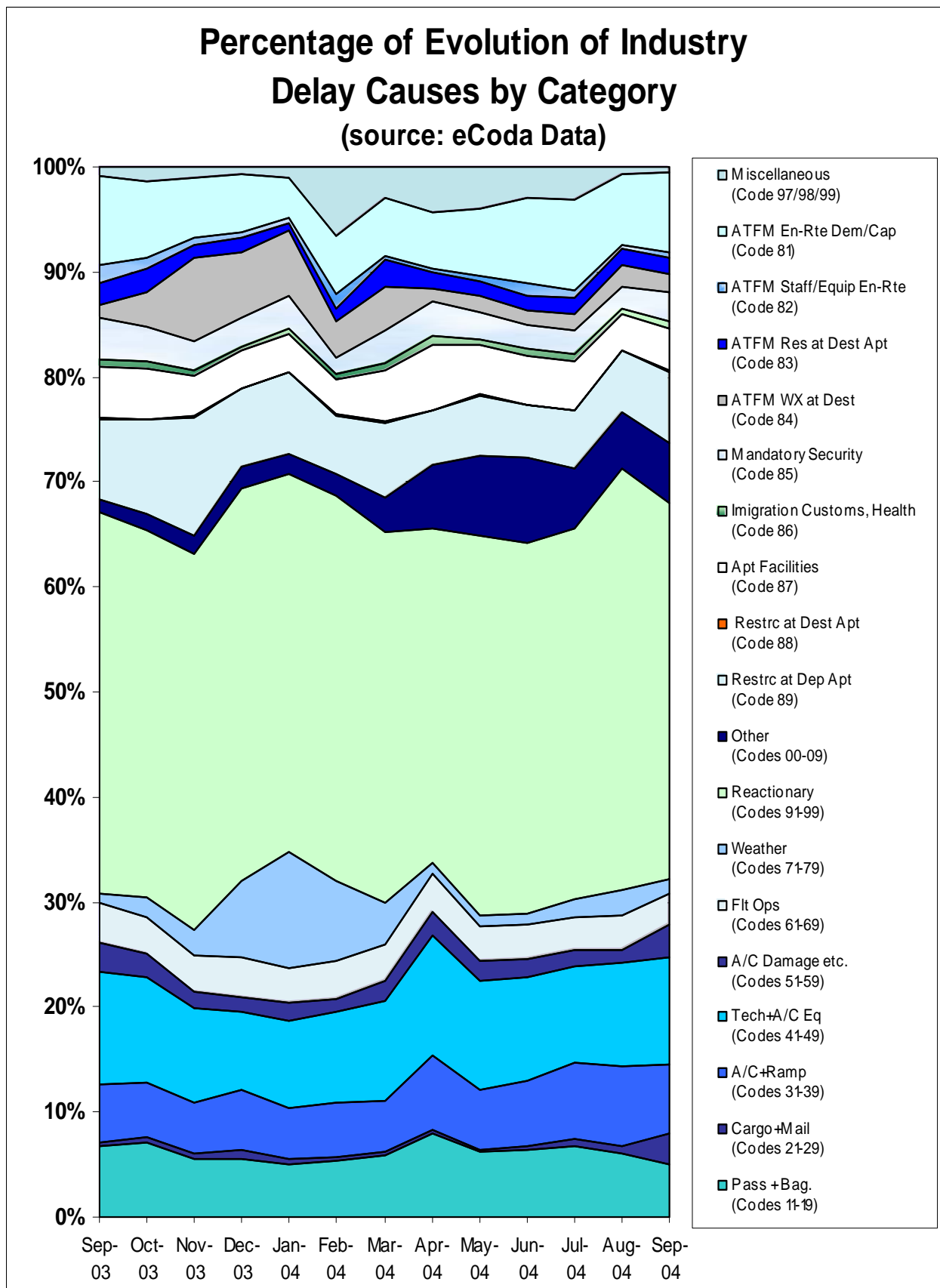


September 2004

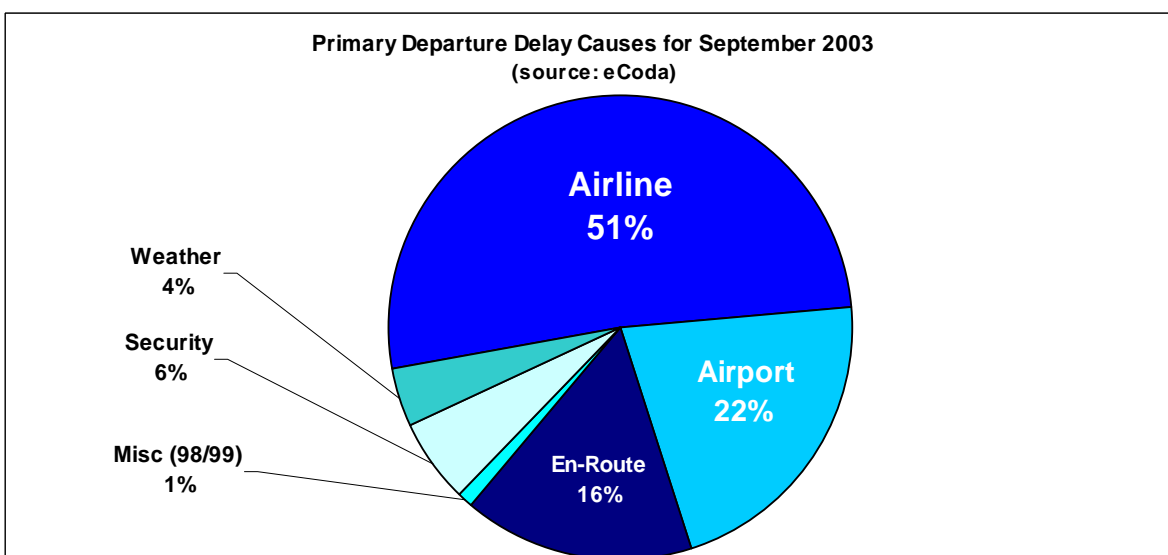
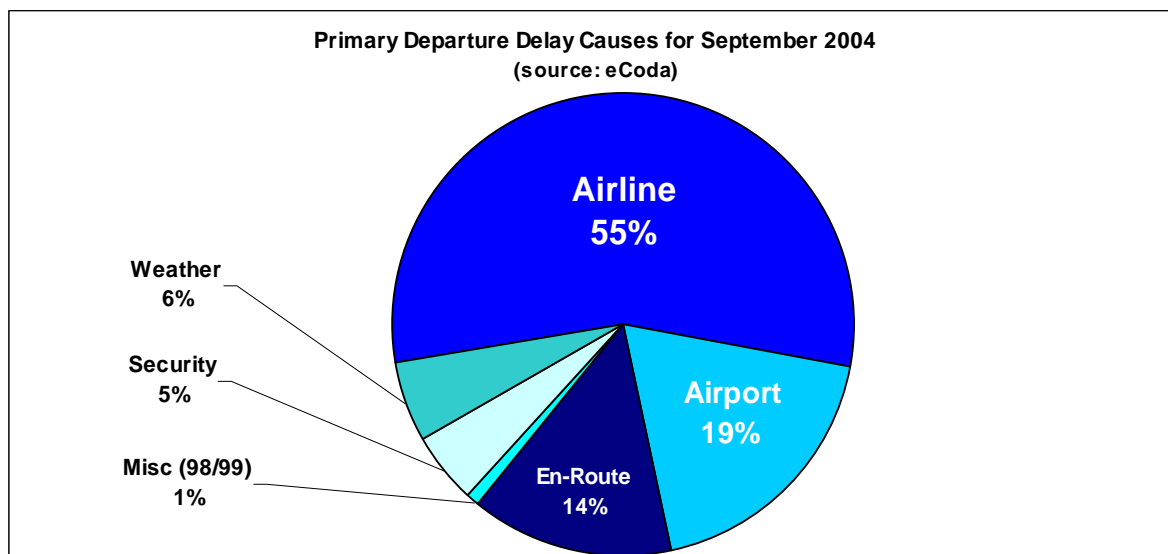
# 8. Reasons for ATFM Delay



## 9. Consolidated Evolution of Industry Delay Causes by Category

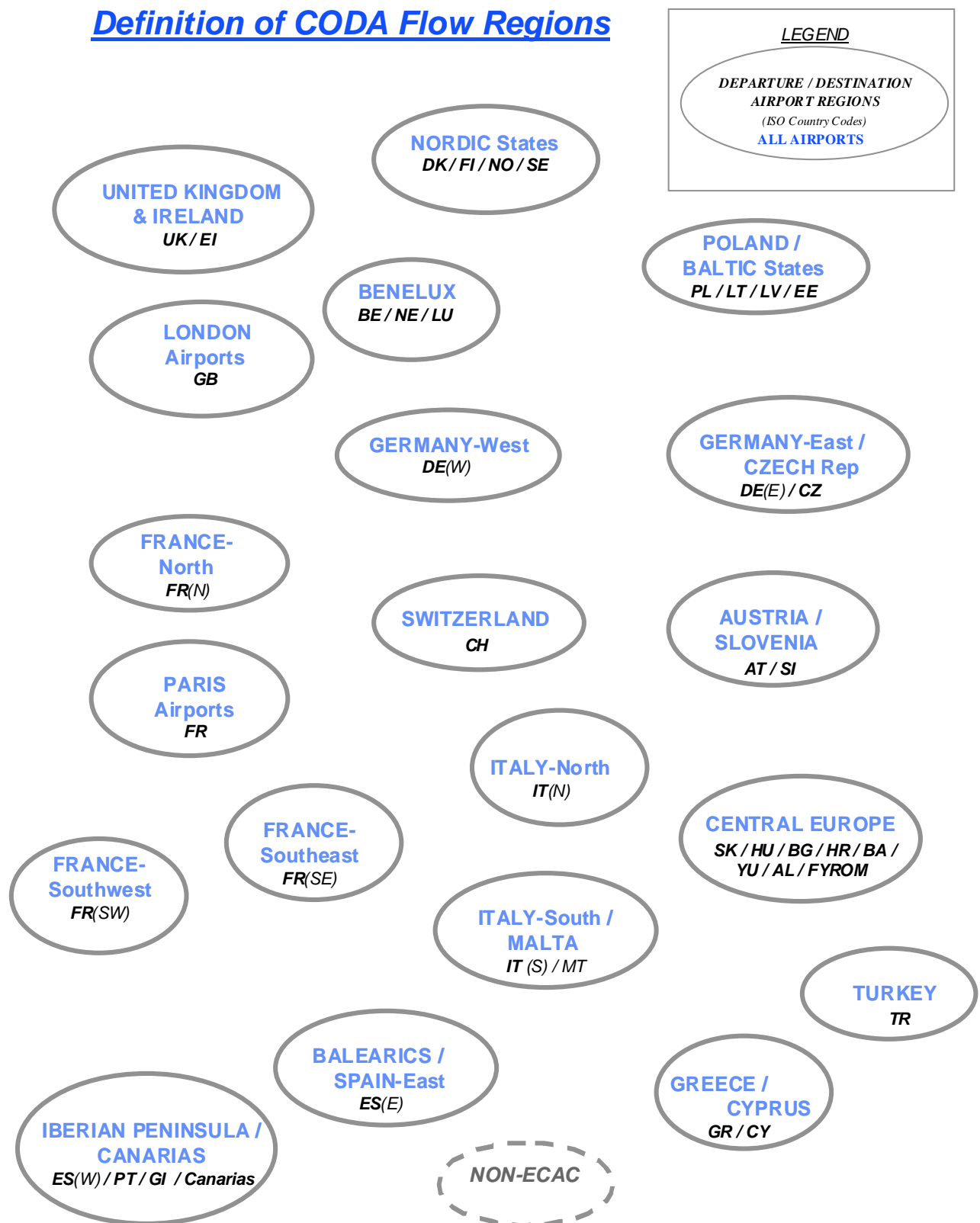


## 10. Primary Departure Delay Causes



eCODA Cause	Description	IATA Code
Airline	Passengers + Baggage	11-19
	Cargo + Mail	21-29
	Aircraft + Ramp Handling	31-39
	Technical + Aircraft Equipment	41-49
	Aircraft Damage and Ops Computer Failure	51-59
	Flight Operations	61-69
	Other Airline-Related Causes	Others
Airport	ATFM due to Restriction at Destination Airport	83
	Immigration, Customs, Health	86
	Airport Facilities	87
	Restriction at Destination Airport	88
	Restriction at Airport of Departure, with or without ATFM	89
En-Route	ATFM due to ATC En-Rte Demand Capacity	81
	ATFM due to ATC Staff/Equipment En-Route	82
Misc	Miscellaneous	98-99
Security	Mandatory Security	85
Weather	Weather	71-79
	ATFM due to Weather at Destination	84

## Definition of CODA Flow Regions (Annex 1)

Definition of CODA Flow Regions

## Glossary of Terms and Abbreviations (Annex 2)

### Delay Parameter Abbreviations

<b>TTF</b>	Total Flights
<b>TRF</b>	Total Regulated Flights
<b>TDF</b>	Total Delayed Flights
<b>PRF</b>	Percentage of Regulated Flights
<b>PDF</b>	Percentage of Delayed Flights
<b>TDM</b>	Total Delay in Minutes
<b>ADM</b>	Average Delay per Movement
<b>ADR</b>	Average Delay per Regulated Flight
<b>ADD</b>	Average Delay per Delayed Flight

### Glossary of Terms

<b>AEA</b>	Association of European Airlines
<b>ATFM</b>	Air Traffic Flow Management
<b>ATS</b>	Air Traffic Services
<b>CFMU</b>	Central Flow Management Unit
<b>CODA</b>	Central Office for Delay Analysis
<b>EATMP</b>	European Air Traffic Management Program
<b>ECAC</b>	European Civil Aviation Conference
<b>EDAS</b>	European Delay Analysis System
<b>ERA</b>	European Regions Airline Association
<b>EURACA</b>	European Air Carrier Assembly
<b>IACA</b>	International Air Carrier Association
<b>IATA</b>	International Air Transport Association

## Standard IATA Delay Codes (Annex 3)

### Others

00-05	AIRLINE INTERNAL CODES
06 (OA)	NO GATE/STAND AVAILABILITY DUE TO OWN AIRLINE ACTIVITY
09 (SG)	SCHEDULED GROUND TIME LESS THAN DECLARED MINIMUM GROUND TIME

### Passenger and Baggage

11 (PD)	LATE CHECK-IN, acceptance after deadline
12 (PL)	LATE CHECK-IN, congestions in check-in area
13 (PE)	CHECK-IN ERROR, passenger and baggage
14 (PO)	OVERSALES, booking errors
15 (PH)	BOARDING, discrepancies and paging, missing checked-in passenger
16 (PS)	COMMERCIAL PUBLICITY/PASSENGER CONVENIENCE, VIP, press, ground meals and missing personal items
17 (PC)	CATERING ORDER, late or incorrect order given to supplier
18 (PB)	BAGGAGE PROCESSING, sorting etc.

### Cargo and Mail

21 (CD)	DOCUMENTATION, errors etc.
22 (CP)	LATE POSITIONING
23 (CC)	LATE ACCEPTANCE
24 (CI)	INADEQUATE PACKING
25 (CO)	OVERSALES, booking errors
26 (CU)	LATE PREPARATION IN WAREHOUSE
27 (CE)	DOCUMENTATION, PACKING etc ( <i>Mail Only</i> )
28 (CL)	LATE POSITIONING ( <i>Mail Only</i> )
29 (CA)	LATE ACCEPTANCE ( <i>Mail Only</i> )

### Aircraft and Ramp Handling

31 (GD)	AIRCRAFT DOCUMENTATION LATE/INACCURATE, weight and balance, general declaration, pax manifest, etc.
32 (GL)	LOADING/UNLOADING, bulky, special load, cabin load, lack of loading staff
33 (GE)	LOADING EQUIPMENT, lack of or breakdown, e.g. container pallet loader, lack of staff
34 (GS)	SERVICING EQUIPMENT, lack of or breakdown, lack of staff, e.g. steps
35 (GC)	AIRCRAFT CLEANING
36 (GF)	FUELLING/DEFUELLING, fuel supplier
37 (GB)	CATERING, late delivery or loading
38 (GU)	ULD, lack of or serviceability
39 (GT)	TECHNICAL EQUIPMENT, lack of or breakdown, lack of staff, e.g. pushback

### Technical and Aircraft Equipment

41 (TD)	AIRCRAFT DEFECTS.
42 (TM)	SCHEDULED MAINTENANCE, late release.
43 (TN)	NON-SCHEDULED MAINTENANCE, special checks and/or additional works beyond normal maintenance schedule.
44 (TS)	SPARES AND MAINTENANCE EQUIPMENT, lack of or breakdown.
45 (TA)	AOG SPARES, to be carried to another station.
46 (TC)	AIRCRAFT CHANGE, for technical reasons.
47 (TL)	STAND-BY AIRCRAFT, lack of planned stand-by aircraft for technical reasons.
48 (TV)	SCHEDULED CABIN CONFIGURATION/VERSION ADJUSTMENTS.

### Damage to Aircraft & EDP/Automated Equipment Failure

51 (DF)	DAMAGE DURING FLIGHT OPERATIONS, bird or lightning strike, turbulence, heavy or overweight landing, collision during taxiing
52 (DG)	DAMAGE DURING GROUND OPERATIONS, collisions (other than during taxiing), loading/off-loading damage, contamination, towing, extreme weather conditions
55 (ED)	DEPARTURE CONTROL
56 (EC)	CARGO PREPARATION/DOCUMENTATION
57 (EF)	FLIGHT PLANS



**Flight Operations and Crewing**

- 61 (FP) FLIGHT PLAN, late completion or change of, flight documentation
- 62 (FF) OPERATIONAL REQUIREMENTS, fuel, load alteration
- 63 (FT) LATE CREW BOARDING OR DEPARTURE PROCEDURES, other than connection and standby (flight deck or entire crew)
- 64 (FS) FLIGHT DECK CREW SHORTAGE, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
- 65 (FR) FLIGHT DECK CREW SPECIAL REQUEST, not within operational requirements
- 66 (FL) LATE CABIN CREW BOARDING OR DEPARTURE PROCEDURES, other than connection and standby
- 67 (FC) CABIN CREW SHORTAGE, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
- 68 (FA) CABIN CREW ERROR OR SPECIAL REQUEST, not within operational requirements
- 69 (FB) CAPTAIN REQUEST FOR SECURITY CHECK, extraordinary

**Weather**

- 71 (WO) DEPARTURE STATION
- 72 (WT) DESTINATION STATION
- 73 (WR) EN ROUTE OR ALTERNATE
- 75 (WI) DE-ICING OF AIRCRAFT, removal of ice and/or snow, frost prevention excluding unserviceability of equipment
- 76 (WS) REMOVAL OF SNOW, ICE, WATER AND SAND FROM AIRPORT
- 77 (WG) GROUND HANDLING IMPAIRED BY ADVERSE WEATHER CONDITIONS

**ATFM + AIRPORT + GOVERNMENTAL AUTHORITIES****AIR TRAFFIC FLOW MANAGEMENT RESTRICTIONS**

- 81 (AT) ATFM due to ATC EN-ROUTE DEMAND/CAPACITY, standard demand/capacity problems
- 82 (AX) ATFM due to ATC STAFF/EQUIPMENT EN-ROUTE, reduced capacity caused by industrial action or staff shortage, equipment failure, military exercise or extraordinary demand due to capacity reduction in neighbouring area
- 83 (AE) ATFM due to RESTRICTION AT DESTINATION AIRPORT, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
- 84 (AW) ATFM due to WEATHER AT DESTINATION

**AIRPORT AND GOVERNMENTAL AUTHORITIES**

- 85 (AS) MANDATORY SECURITY
- 86 (AG) IMMIGRATION, CUSTOMS, HEALTH
- 87 (AF) AIRPORT FACILITIES, parking stands, ramp congestion, lighting, buildings, gate limitations, etc.
- 88 (AD) RESTRICTIONS AT AIRPORT OF DESTINATION, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
- 89 (AM) RESTRICTIONS AT AIRPORT OF DEPARTURE WITH OR WITHOUT ATFM RESTRICTIONS, including Air Traffic Services, start-up and pushback, airport and/or runway closed due to obstruction or weather<sup>4</sup>, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights

**Reactionary**

- 91 (RL) LOAD CONNECTION, awaiting load from another flight
- 92 (RT) THROUGH CHECK-IN ERROR, passenger and baggage
- 93 (RA) AIRCRAFT ROTATION, late arrival of aircraft from another flight or previous sector
- 94 (RS) CABIN CREW ROTATION, awaiting cabin crew from another flight
- 95 (RC) CREW ROTATION, awaiting crew from another flight (flight deck or entire crew)
- 96 (RO) OPERATIONS CONTROL, re-routing, diversion, consolidation, aircraft change for reasons other than technical

**Miscellaneous**

- 97 (MI) INDUSTRIAL ACTION WITH OWN AIRLINE
- 98 (MO) INDUSTRIAL ACTION OUTSIDE OWN AIRLINE, excluding ATS
- 99 (MX) OTHER REASON, not matching any code above

*SOURCE: Provisional list composed by IATA*

<sup>4</sup> Restriction due to weather in case of ATFM regulation only, else refer to code 71 (WO)

## Correlation between IATA Delay Codes and the CFMU Reasons for Regulation (Annex 4)

CORRELATION BETWEEN IATA DELAY CODES AND THE CFMU REASONS FOR REGULATION					
CFMU			IATA		
REASON FOR REGULATION	CODE	REGULATION LOCATION	EXAMPLE	CODE	DELAY CAUSE
ATC Capacity	C	D	Demand exceeds the capacity	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Ind Action	I	D	Controllers' strike	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Routeings	R	E	Phasing in of new procedures	81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
ATC Staffing	S	D	Illness; traffic delays on the highway	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Equipment	T	D	Radar failure; RTF failure	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
Accident/Incident	A	D	RWY23 closed due accident	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Aerodrome Capacity	G	A	Lack of parking; taxiway closure; areas closed for maintenance; demand exceeds the declared airport capacity	83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
		D		87	AIRPORT FACILITIES
		A		87	AIRPORT FACILITIES
De-icing	D	D	De-icing	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Equipment non-ATC	E	D	Runway or taxiway lighting failure	87	AIRPORT FACILITIES
		A		87	AIRPORT FACILITIES
		D		98	INDUSTRIAL ACTION OUTSIDE OWN AIRLINE
Ind Action non-ATC	N	A	Firemen's strike	98	INDUSTRIAL ACTION OUTSIDE OWN AIRLINE
		D		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
Military Activity	M	A	Brilliant Invader; ODAX	83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
		D		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
Special Event	P	D	European football cup; Heads of Government meetings	89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
		D		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Weather	W	E	Thunderstorm; low visibility; X winds	73	WEATHER EN ROUTE OR ALTERNATE
		A		84	ATFM due to WEATHER AT DESTINATION
		D		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Other	O	E	Security alert	81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
		A		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT