



COMMISSION OF THE EUROPEAN COMMUNITIES

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**Communication from the Commission  
to the Council and the European Parliament  
on congestion and crisis in Air Traffic.**

# AIR TRAFFIC MANAGEMENT

## CONGESTION AND CRISIS

### INTRODUCTION

The aim of this communication is to review the problem of congestion and crisis situations in air traffic. The Commission considers it necessary to analyze the current situation, identify its causes and clarify the competences and responsibilities of each stakeholder in such a way as to examine to what extent the situation can be further improved on the basis of actions already taken by the aviation community. Such a review is essential since millions of our citizens will again, at the occasion of the great summer tourist migrations, experience long delays in crowded airports and face the frustration of holidays spoiled by the irritating problem of congested air space.

Air Traffic Control (ATC) is a vital element in air safety. Planes must be kept sufficiently separated to avoid collisions and given the speeds and flying conditions the crews cannot themselves assume this function without the ground assistance provided by air traffic controllers.

The Chicago Convention, signed in 1944, and to which nearly all States in the world are parties, makes individual States responsible for such services in their air space. It also created an agency, the International Civil Aviation Organisation (ICAO), whose role it is to draw up the necessary standards to assure the inter-operability of the different systems established by the individual States so that aircraft can circulate throughout the world.

To the extent that each State remains the sole judge of the quality and quantity of services supplied in its air space, ICAO has also sought to develop mechanisms to adjust the supply to user needs.

Certain European States, aware of the need for closer regional cooperation to improve the planning and development of their control systems, as well as their interest to carry out certain tasks together, created, in 1960, the European Organisation for the Safety of Air Navigation (EUROCONTROL) which today groups 17 States, of which only 11 belong to the European Union. This organisation, originally founded to supply ATC services in the European upper Airspace, has to date only supplied such services for the Benelux countries and northern Germany. It is today the only organisation with the required expertise and resources to conceive complex programmes to improve air traffic in Europe and ensure their implementation.

It was only during the 1980's that Europe realised that ATC capacity could affect civil aviation development while it was always deemed previously that airport capacity and the number of runways environmentally sustainable were the sole limiting factors.

In 1986, European airlines recorded that approximately 12% of their flights suffered a delay of more than 15 minutes (from all causes, ATC, weather, company, airport, etc.). This figure reached 20% in 1988 and 25% in 1989 attributed mainly to congestion. Several studies made during this period evaluate the cost of ATC delay to have been between 1.5 and 2.5 billion ECU per year.

This serious deterioration has provoked an immediate reaction from all political bodies because it was demonstrating that shortfalls in ATC threatens the liberalisation process necessary to complete the single market and proves a major obstacle to the implementation of basic liberties laid down in the Treaty, particularly the free movement of citizens.

Since 1988 the Commission has proposed<sup>1</sup> using Treaty provisions and Community resources to find a solution to this problem.

The Parliament has also adopted several resolutions, particularly those of 18 September 1992 & 27 September 1994, urging Member States for closer cooperation to implement a coordinated programme of actions and make use of community mechanisms to guarantee its execution.

The European Council, in Essen, also recalled the priority to be given to the Air Traffic Management system.

Despite these initiatives the Member States have always preferred to work within the framework of ECAC and EUROCONTROL. The role of the Community has been largely confined to financing initiatives taken by these organisations (EATCHIP<sup>2</sup>, APATSI<sup>3</sup>) or to legislating the standards adopted by EUROCONTROL.

To this end the Commission has supported these programmes to the tune of 5 million ECU and provided 30 million ECU to finance research into Air Traffic Management (ATM). The Community has also, in 1993, adopted a Directive<sup>4</sup> on the definition and utilisation of compatible technical specifications for the purchase of Air Traffic Management equipment and systems.

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<sup>1</sup> COM(88) 577end of 16.1989

<sup>2</sup> European Air Traffic Control Harmonisation and Integration Programme

<sup>3</sup> Airport / Air Traffic Services Interface

<sup>4</sup> Directive EEC/93/65 - JO n° L 187 of 29.7.1993

The National Administrations responsible for supplying ATC services have made on their side considerable efforts to increase the capacity of their systems within these programmes and using the expertise and resources of EUROCONTROL. They have increased their investments, hired and trained many more controllers.

According to figures published for the Ministerial meeting of the European Civil Aviation Conference the current level of investment for ATC in the ECAC area is around 1.2 billion ECU and the total cost of ATC en route services has increased by 50 % between 1986 and 1993 (see Annex 1).

This has produced encouraging results up to 1994, since, according to figures published by IATA, the number of flights delayed by more than 15 minutes is back to the 1986 level despite a 50 % increase in traffic (see Annex 2).

Nevertheless the results remain far below the expectation of airspace users, the cost of ATC delays being estimated to be still between 1.2 and 2 billion ECU. At the same time the ATC element of the total operating cost of intra-European services has increased from 3,8 % in 1986 to 5,6 % in 1994 according to AEA figures. It may even reach 20 % of the total cost for regional services.

Furthermore the figures available for the last half of 1994 and the first months of 1995 indicate a break in the previous trend towards reduction of delays and possibly a reverse trend (see Annex 3).

These figures show that despite huge increases in costs, the methods used up to now to increase the efficiency of the European air traffic control services are reaching their limits. It is therefore necessary to give a new impetus to the whole process of improving the European Air Traffic Management system.

The Commission will prepare, for the end of 1995, a White Paper outlining in detail its strategy to create a truly unified ATM system for Europe. The following elements will be considered :

- integration of ATM in the Trans-European Network system in order to raise supplementary resources from different Community Funds (Cohesion Funds, Infrastructure Fund, PHARE, ...) to accelerate the necessary standardisation actions and upgrading programmes undertaken in the framework of EATCHIP and APATSI and encourage regional projects of cooperation such as CEATS<sup>5</sup> and the Nordic harmonisation programme;

- utilisation of Community Research and Development Programmes to elaborate, in a more coordinated manner, the new EATMS<sup>6</sup> concept and techniques required to meet the expected increase of demand;
- consideration of the most appropriate institutional framework to provide ATC services to ensure that the European dimension is taken into account, the economic and social impact is duly assessed and the provisions of the Treaty and the international obligations of the Member States of the Union are respected.

It will take some time before such a new initiative produces results. In the meantime, the reappearance each summer of crisis situations which affect the European travellers and the economies of several peripheral European regions<sup>7</sup> obliges us to examine in detail the methods used to handle air traffic congestion in order to examine how to improve them to prevent crises or reduce their impact.

It is in this spirit that the Commission has widely consulted national administrations, users and Unions in order to determine how to build on what exists to make the system more efficient without increasing the costs for users or adding new institutional layers.

The Commission considers that the implementation of the measures described in this paper which takes account of these consultations can contribute effectively to the achievement of these objectives.

## 1.- MANAGEMENT OF CONGESTION AND CRISIS

As early as the seventies the aeronautical community had become aware of the need to anticipate the risk of congestion in order to avoid overloads incompatible with the maintenance of safety standards. The objective was essentially to keep on the ground aircraft which would otherwise have been in a part of the airspace at a time when it would have been impossible to handle them safely. A number of national Air Traffic Flow Management (ATFM) units were created.

The crisis at the end of the eighties highlighted the strategic importance of ATFM and in particular the necessity to carry it out on as large a scale as possible in order to benefit from an overall view and thus make it possible to use the available ATC capacity efficiently.

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<sup>6</sup> European Air Traffic Management System

<sup>7</sup> The cost of ATC arrival and departure delays at Palma airport for the peak season '94 (May to October) can be evaluated at half a billion ECU for the airlines without mentioning the prejudice to the passengers and the local economy.

This triggered the States, working with the European and North Atlantic Office of ICAO and EUROCONTROL, to agree a centralised concept for Air Traffic Flow Management. The creation of the Central Flow Management Unit (CFMU) was the natural consequence. The CFMU operates on behalf of all the 32 States of ECAC i.e. most of the States of Western Europe.

The procedures have been progressively improved in order to warn the Users beforehand of the restrictions which will be implemented and to suggest alternative routes. The same knowledge may be used to optimise the operation of control centres and to better allocate resources to the threatened sectors.

In the future, air traffic flow management will become an integral part of Air Traffic Management because economics tell us that increase in the quality of service beyond a certain level, even if technically and environmentally possible, cannot be economically justified and that we have therefore to learn to live at certain times with an "acceptable" level of undercapacity. It will then be necessary to define and implement rules, means, and procedures to make the best use of this capacity and minimise the effects of congestion on those peak days or hours when demand exceeds the agreed capacity. The same mechanisms will be also available to manage crisis situations when capacity is temporarily reduced for unplanned reasons such as strikes, equipment failures, restrictions on the use of certain areas of European airspace, etc.

### 1.1. *The strategic phase*

Strategic ATFM planning comprises all actions taken well in advance. The main thrust takes place during the winter months when preparations are made for the following summer season. However strategic planning is a continuous process leading into the pretactical phase which starts two days ahead of the day of operation. This first stage of the process consists of reviewing lessons learnt during the previous season and comparing the predicted demand and capacity in order to identify potential bottlenecks.

Previously most of this work was carried out during the ATS/ATFM Co-ordination Meetings organised by ICAO in the autumn and spring and at which Providers and Users meet to take stock of the past and appraise the future. Since 1991 the CFMU has been responsible for co-ordinating strategic planning. It organises regional meetings where required and a five day meeting of all European ATS authorities shortly before the plan is finalised at the spring ICAO ATS/ATFM Co-ordination meeting. In the late seventies and early eighties planning was based on statistics provided by some States but it was not possible to have a proper Europe wide view of the situation. Since 1985 EUROCONTROL has been collecting data from the Users concerning their planned operations for the coming months and this has added

a new dimension to the planning process. However the data provided, although useful, is incomplete because business aviation, air taxi services, air ambulance services general aviation and military traffic are unable to plan far ahead and the charter operators are often faced with late changes as tourist fashion swings from one resort to another. It is currently considered that at this initial stage of the evaluation only 80% of the demand is known.

The ATS authorities provide the CFMU with the capacity values of their sectors. Capacity values are obtained by different methods and reduced by varying amounts to provide safety margins, which are necessary because the current manual system is imprecise and sectors frequently have to work with traffic levels over 50% in excess of the declared capacity. The first weeks of CFMU tactical operations indicate that its automated system is capable of metering the traffic to much finer limits which will ultimately allow the declared capacities to be brought into line with the real capacity.

The main result of this phase is the traffic orientation scheme (T.O.S.) which is a set of mandatory itineraries whose object is to spread the traffic geographically across the various routes in such a way as to reduce the demand at foreseeable bottlenecks. There may also be recommendations aimed at exerting pressure on the users to avoid certain areas or certain periods and on the providers to profit from the foreknowledge of a problem in order to resolve it. Strategic planning also includes co-ordinating arrangements for any events known in advance and which will result in increased demand or reduced capacity (major sporting events or the running-in period when a control centre starts to use new equipment or systems).

## 1.2. *The pretactical phase*

In the days which precede each day of operation improved knowledge of the demand allows a more precise analysis of the demand/capacity situation.

The CFMU has effectively carried out this work since 1994 and publishes each day, in the name of ECAC States, the ATFM Notification Message (ANM) giving details of the restrictions which will affect the traffic of the following day (flows involved, periods of the day concerned, acceptable flow rates, etc.) and may recommend alternative routes.

As the use of the recommended alternative routes is not mandatory there is no way of knowing in advance if they will be used, how far the traffic will be redistributed and how it might move the congestion to other areas.

### 1.3. *The tactical phase*

This last stage of the ATFM process is the really operational phase. It consists of implementing the measures announced in the previous phases in so far as the real situation justifies it.

Any non-exempted or non-priority flight whose flight plan indicates that it will enter a "restricted" sector is allocated an "ATC slot", ie. a time of departure leading to a specified time of entry to the sector in question. The slot is calculated so that the flow through the sector does not exceed the declared capacity. Slots are allocated on the basis of "first planned, first served". This in fact establishes virtual queues on the basis of the users intentions as announced in their flight plans.

Flights coming from too far away to respect a slot are exempt from restrictions. Flights for humanitarian reasons and flights expressly designated by national authorities have priority.

Until recently this work was carried out by national or regional Flow Management Units (FMU). It is gradually being transferred to the CFMU (starting in April 1995 with the area previously managed by the Paris Flow Management Unit) so that tactical flow management for the whole of western Europe will be carried out by the CFMU from spring 1996.

The five Flow Management Units (Frankfurt, London, Madrid, Rome and the CFMU) are in permanent contact with ATC through Flow Management Positions (FMP) in each control centre so that any event likely to affect the situation can be immediately integrated and reflected at the operational level. These might be an improvement in the traffic situation or increase in capacity justifying a relaxation or the suppression of restrictions but also a deterioration requiring the reinforcement of restrictions or the implementation of new ones.

### 1.4. *Crisis Management*

Following the establishment of an ad-hoc crisis cell to deal with the events of July 1994 it has been accepted that normal flow management mechanisms may need support in handling some crises, due to the requirement for rapid, high level decisions e.g. concerning the allocation of resources, which are beyond the competence of ATFM experts.

The EUROCONTROL Member States have accordingly decided to create a Crisis Management Group which will meet when necessary in support of the CFMU. States are represented by senior officials from their Air Navigation Directorate. Those directly involved in any particular crisis will be convened by the CFMU and will constitute the cell dealing with that situation.



## 2.- AREAS FOR FURTHER DEVELOPMENT

The mechanisms which have been described are based on transparency and voluntary action by the various actors involved. These consider that the mechanisms are, in general, satisfactory and place great hopes in the full implementation of the CFMU to improve their operation and efficiency.

It is, nevertheless, useful to examine these mechanisms to determine whether the introduction of a minimum of obligation or of incentive to co-operate, depending on the situation, could accelerate and strengthen that improvement.

### 2.1. *Planning*

As seen from the outside the main weakness of the existing mechanisms dealing with air traffic flow management is the lack of certainty. Goodwill is certainly not in question, but the willingness of each actor to retain as much flexibility as possible hinders serious advance planning.

The result is that airspace Users do not know by how much they will be penalised until the moment when they receive their ATC slots; at the same time they cannot really evaluate the benefit they would get by changing their flight plans. As a consequence many of them stick to their initial plans and try to negotiate their slot in real time contributing to increasing the workload of the flow management units. The final victim is the passenger who, in most cases, is waiting in expectation of an early departure never confirmed.

Changing this situation would require great efforts by all actors to better evaluate the foreseeable demand and available capacity and to develop through increased cooperation mechanisms to adjust them further in order to achieve a balance.

#### 2.1.1. *Capacity*

Everybody agrees that better advanced knowledge of the available capacity would be a significant improvement, particularly if figures announced could be binding.

Today each ATC centre determines its capacity on the basis of the available resources and is more inclined to cope with its own internal constraints than with other's requirements. It was only in 1995 that a first attempt at global advance planning took place in order to satisfy the Spanish request for a better preparation of the summer season in order to avoid the reappearance of crisis situations in the south west of Europe.

It would therefore be desirable to develop a standard method and tools to determine the available ATC sector capacity and the establishment of procedures for common advance planning. The result of such planning should be binding, except in cases of unforeseeable disruption, and be used by the airspace Users and airports to better plan and organise their own activities.

In the same spirit Traffic Orientation Schemes (T.O.S.) could be quantified in order to give an indication of the flows assigned routes can bear thus giving the operators a chance to plan in accordance.

To carry out this work in good conditions the CFMU should use supplementary means to assure co-ordination between the suppliers and could even be given sufficient authority to take decisive actions.

### 2.1.2. *Demand*

It is clear that congestion is to some extent created artificially by the scheduling of the Aircraft Operators in response to market demand. This is influenced by several factors but the most marked of these is the requirement of tour operators to concentrate traffic on certain destination areas on certain days of the week. This, coupled with the economic requirement of the Users to plan their first departure as soon as the aerodrome curfew is lifted and to return on the last flight of the day just before the curfew is applied, leads to a theoretical planning which would generate waves of traffic operating to and from the same areas in unison.

If it is universally recognised that in a commercially competitive environment, aircraft operators must have the flexibility to meet their market requirements, it is also admitted that a minimum of realism and self control should be introduced in the planning of their activities if passengers are to receive the service that they deserve.

To achieve this goal, both airports and airspace Users should give more consideration to ATC restrictions.

The planning of movements at many aerodromes is carried out by local scheduling committees and co-ordinated at global level by IATA scheduling conferences, using rules largely developed by the industry itself, to spread the traffic over the day in such a way as to keep traffic and passenger flows within the capacity of the aerodrome facilities. The possibility of implementing similar rules, developed co-operatively, to limit the concentration described above and reduce the difference between the demand and the en-route capacity should be examined.

In order to encourage such co-operation, the authorities may have to create the appropriate conditions. On one hand all parties involved in the flight planning should be allowed to meet and co-ordinate in order to make a better use of the available capacity. As already done for airport slot co-ordination, such activities need to be consistent with anti-trust law. On the other hand there should be an incitement to agree on and accept common rules. This could be achieved by letting the passengers know who is planning realistically and who is not, as it is done in the United States for many years where airlines punctuality figures are published regularly so that users can compare the quality of the services provided.

In the same spirit of better adjustment of demand to capacity, airport scheduling should consider establishing capacity figures which integrate ATC constraints as is currently done, in a limited way, by the scheduling authority of Frankfurt Airport for certain flows. What is the use of programming ten departures in a limited time frame towards a specified direction when it is known in advance that only half of them can really take off ? This is already done for parameters of a similar nature in the direct environment of the airport (aircraft parking limitations, check-in facilities, capacity of waiting rooms, constraints in neighbouring sectors, the influence of arrival and departure procedures, etc...). Integration of the airport slot allocation mechanisms and the air traffic flow management process deserves therefore further consideration. In such a complex area this necessitates an important in-depth analysis.

## 2.2. *Priority rules.*

In any society in which relations between individuals are not dictated solely by force alone, the most equitable way, as a first approximation, to adjust demand to supply is the "first come, first served" queue. This is exactly what happens in the final phase of air traffic flow management today. One may however ask if, as in advanced societies, other means, based on voluntary co-operation and/or laws, might not be preferable.

All phases of the ATFM process involve the application of priority in one form or another. Strategic planning results in a routing scheme which permits only specified traffic flows to use specified routes. Pretactical planning may involve the application of ad-hoc orientations and some traffic may be obliged to fly at uneconomic lower levels in order to make use of spare capacity in the lower sectors and reduce the demand and delay in upper sectors. While such decisions are taken solely with the objective of improving the global use of capacity they inevitably favour some flows and penalise others and in that sense are applications of priority.

In the tactical phase slots are allocated and hence delay is apportioned, in accordance with the current rule, "first planned, first served". Whilst this rule has universal acceptance among Users and Providers it is only effective if all the potential traffic is known before slots are issued. This is often not the case when flights departing from aerodromes close to a restricted area are in competition with flights departing from aerodromes far away and which therefore file their flight plan and require their slot earlier.

The Flow Management Units sometimes intervene to give a measure of priority to individual flights which have specific difficulties or exceptional delay. Used circumspectly these initiatives are not questioned.

It would be useful to consider for each phase of ATFM operations what priority rules would lead to the most efficient use of the available capacity and what compromises might be necessary in order to make such rules acceptable to all concerned.

The CFMU is responsible for the co-ordination of strategic planning, for carrying out pretactical planning and has started to take over the execution of tactical operations. As has been shown above the CFMU in the course of this activity is called upon to make decisions which have a bearing on priority and the way in which the inevitable penalties (uneconomic flight levels, additional mileage or delay) are distributed among the users.

While each State publishes the traffic orientation scheme in the form of a NOTAM or AIC<sup>8</sup>, thus making it obligatory, the same cannot be said of other recommendations or procedures. It has been argued that the common agreement that the CFMU should publish the ANM is a de facto delegation of responsibility however there has been no corresponding transfer of authority to give legal support to its actions and decisions.

Again consideration should be given to the necessity to provide the CFMU with a proper legal basis for its work. This must give authority to its decisions whilst at the same time defining the framework within which it is empowered to act.

### 2.3. *The management of crises.*

The EUROCONTROL crisis cell has been established. It will certainly learn by experience but must be considered competent to deal with the sole ATM aspects of any crisis, i.e. to make the best use of the remaining resources.

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<sup>8</sup>

NOTAM : Notice to AirMen  
AIC : Aeronautical Information Circular

Some situations may however call for action beyond the competence of the ATM authorities :-

- it may be necessary under some circumstances to lift aerodrome curfews or to make use of military facilities and airspace;
- if a critical Air Traffic Control Centre was significantly or totally disabled, temporary arrangements for the restoration of an acceptable level of service in and around the airspace of that Centre would certainly require international co-operation and agreement.

It should be considered therefore whether there is a need for the EUROCONTROL Crisis Cell to have access to support at a high political level and if so how this could best be organised. Bearing in mind that under these circumstances meetings have to be arranged in hours and decisions reached and implemented in days, constraining powers may be required to enable quick reaction through an international framework of contingency planning.

The common element of all crises is a dramatic reduction of capacity. It may not be possible for all of the displaced demand to be absorbed by the very limited spare capacity of surrounding sectors. Under these circumstances it may be necessary to make painful decisions as to priority. It is therefore proposed that the examination of priority rules proposed above should include special rules which might be invoked in crisis situations. This would have to be supported by a decision making mechanism for authorising the CFMU to apply the modified rule in any given circumstances.

Some States have established minimum service levels which must be provided in case of industrial action. It would be useful for planning purposes if there was a common standard applied throughout the region. It would be even more useful if the standard could be defined in such a way as to limit the interference to international overflying traffic. The difficulty of obtaining agreement between unions and management across the E.U. is not underestimated nevertheless it is considered that an effort should be made to define and apply a commonly agreed minimum service level for ATM services.

### 3. A EUROPEAN APPROACH

Although the foregoing analysis has demonstrated that the aeronautical world has not neglected the problems posed by the congestion of European airspace, important improvements are still necessary and possible provided that they are supported by real political will. In this spirit the European Union should define a strategy which addresses the following objectives.

### 3.1. *An organisation with authority*

It is certain that EUROCONTROL and the CFMU have already undertaken many tasks in the domain of air traffic flow management but the framework within which they carry them out is not well defined and the division of responsibilities remains uncertain. On the other hand there remains much to be done in the field of strategic flow planning and the integration of ATFM techniques into ATC. To this end, the CFMU, could be given, in addition to its operational tasks, the responsibility of ensuring better co-ordination and real planning as underlined in the preceding Chapter. This could imply that it also has the means to monitor and enforce the decisions taken, such as slots allocated, routes assigned, capacities agreed, etc...

### 3.2. *Equitable rules for giving access to airspace*

Although this is a delicate subject it is not contested that it represents a vast and as yet unexplored, area for improvement. In the short term it is necessary to define, in conjunction with all concerned, Community standards for a minimum service that takes into account the legitimate interests of all involved in the case of a sudden and unexpected reduction of capacity whether due to a strike or equipment failure.

It should also be considered whether new rules on priority and re-routing of traffic would permit a more efficient use of airspace and an equitable sharing of the available capacity whilst better taking into account the political objectives of the Community particularly in the fields of economic and social cohesion. It would then be necessary to decide if and how such rules might be implemented bearing in mind that any regulation should be limited to the strict minimum consistent with the objective to be attained.

### 3.3. *Reinforced co-operation*

One of the main characteristics of the current situation is that each player acts independently of the others although knowing that what is being planned cannot be realised. Tour operators sell holidays which concentrate the movement of tourists on specific resorts on specific days, the transport companies schedule their flights accordingly, airports allocate the corresponding slots, the air traffic control centres calculate their capacity on the basis of the resources available, when the day arrives the queues are managed as well as possible and the final victim of all this improvisation is the passenger.

While all of this is probably natural in a liberal environment the objective of which is to satisfy the client, it unfortunately results in exactly the opposite. Under these

conditions regulations will not help. Only better co-ordination between the actors, more responsible behaviour and respect for the passengers will allow the provision of a better service while contributing to the efficiency and competitiveness of European air transport operators.

In addition it would be useful to research ways of ensuring a better co-ordination between the allocation of airport slots and the planning of traffic flows using available experience to develop new concepts.

Finally it is important to provide information so that passengers can make an informed choice of the services which they buy and the other actors are encouraged to do their best to satisfy their needs. This requires knowledge of the performance and quality of service which are being offered. This could be achieved by the systematic publication of comparable punctuality indicators for airports and airlines.

#### 3.4. *Political crisis management*

Experience has shown that crisis management carried out only at the operational level may be insufficient because the solution of some problems which may arise on these occasions requires high level political decisions in different domains.

To correct this deficiency, a group composed of representatives of the Member States at a level where all parties concerned would be involved, particularly the internal affairs and defence ministers, could augment the crisis unit of EUROCONTROL to examine without delay those situations which could not be resolved at its level or to ensure the execution of its recommendations.

#### 4. CONCLUSIONS

Much remains to be done to prevent the reappearance of critical situations related to airspace congestion and to mitigate the consequences of crisis situations. Even if the outstanding problems are complex and not of a nature to be solved by short term actions, a certain number of initiatives can be taken in the framework of the existing structures, to support the mechanisms and bodies recently established and to improve further their efficiency :

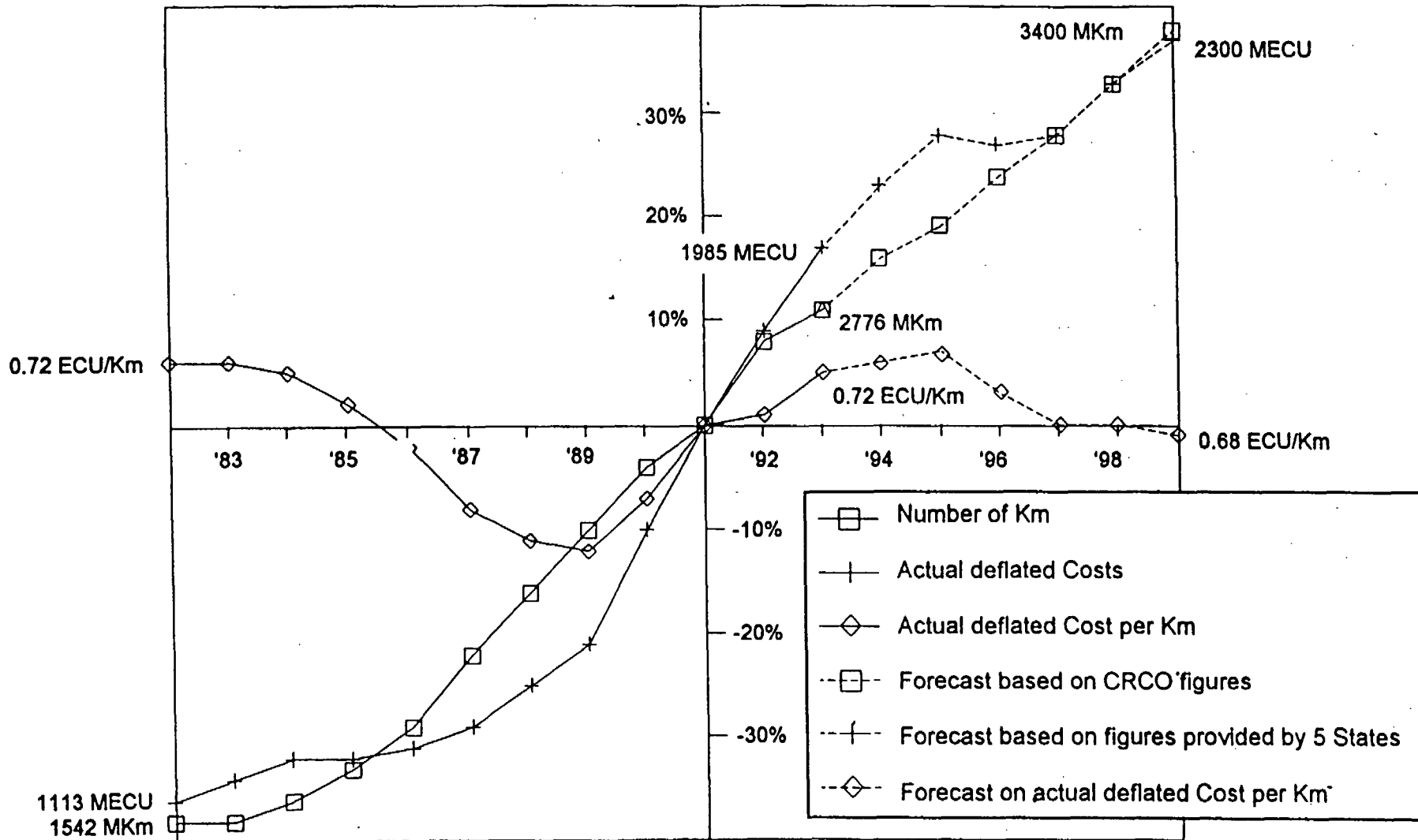
- political support to the Crisis Cell of EUROCONTROL;

- define, in conjunction with all partners involved, the modalities of a common minimum service in case of crisis and examination in conjunction with EUROCONTROL, the establishment of alternative priority rules for access to airspace under both normal and crisis conditions;
- publication of punctuality indicators comparable with airports and airlines;
- better planning of traffic flows and integration of ATC constraints in the allocation of airport slots;
- cooperative sharing of available ATC capacity;

Nevertheless the Commission is conscious that such actions, aiming at more closely correlating capacity and demand in order to minimise the inconvenience of congestion for the Passengers and the Users, must not in any way lead to a relaxation of the efforts deployed to increase the overall capacity of the European Air Traffic Control System.



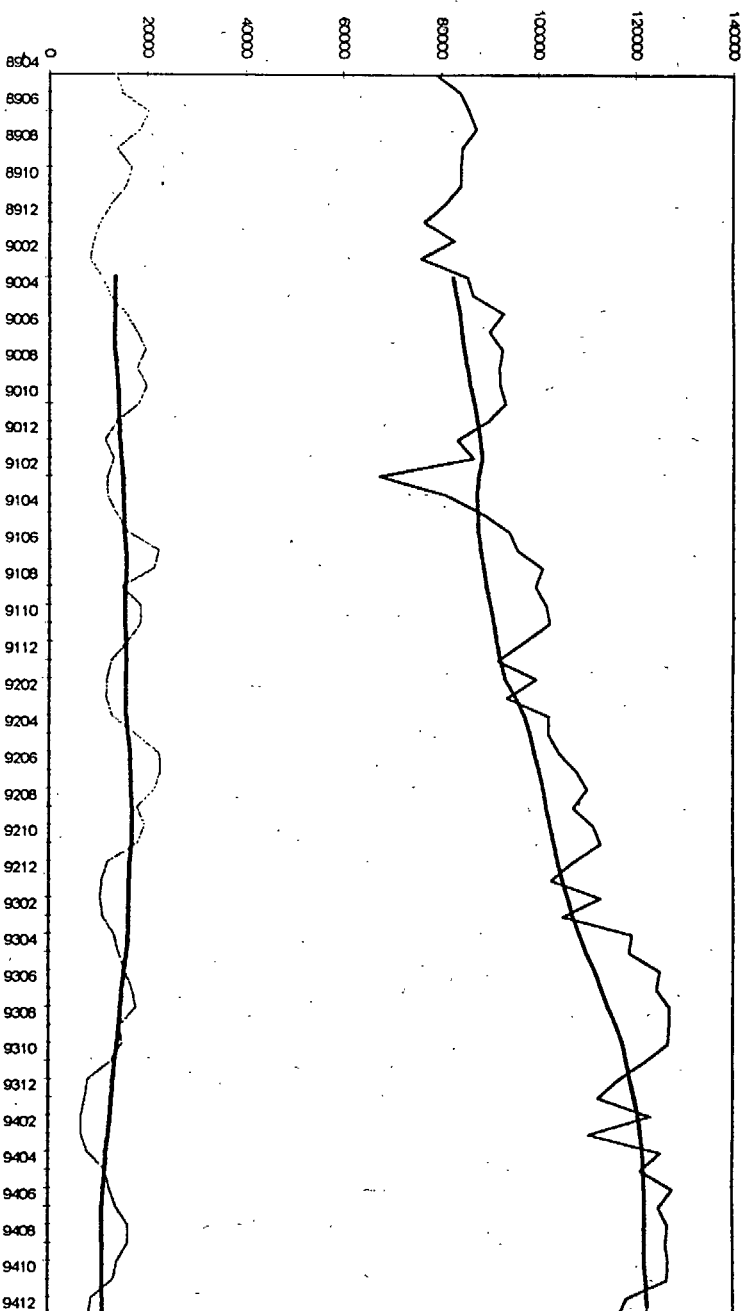
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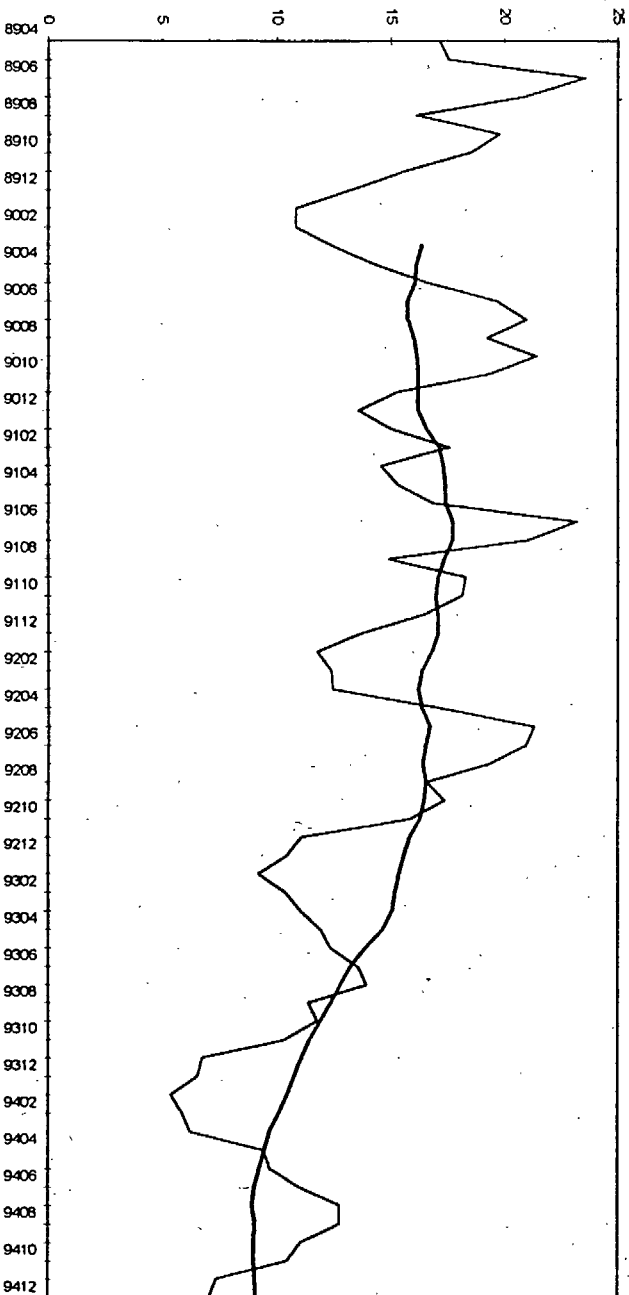
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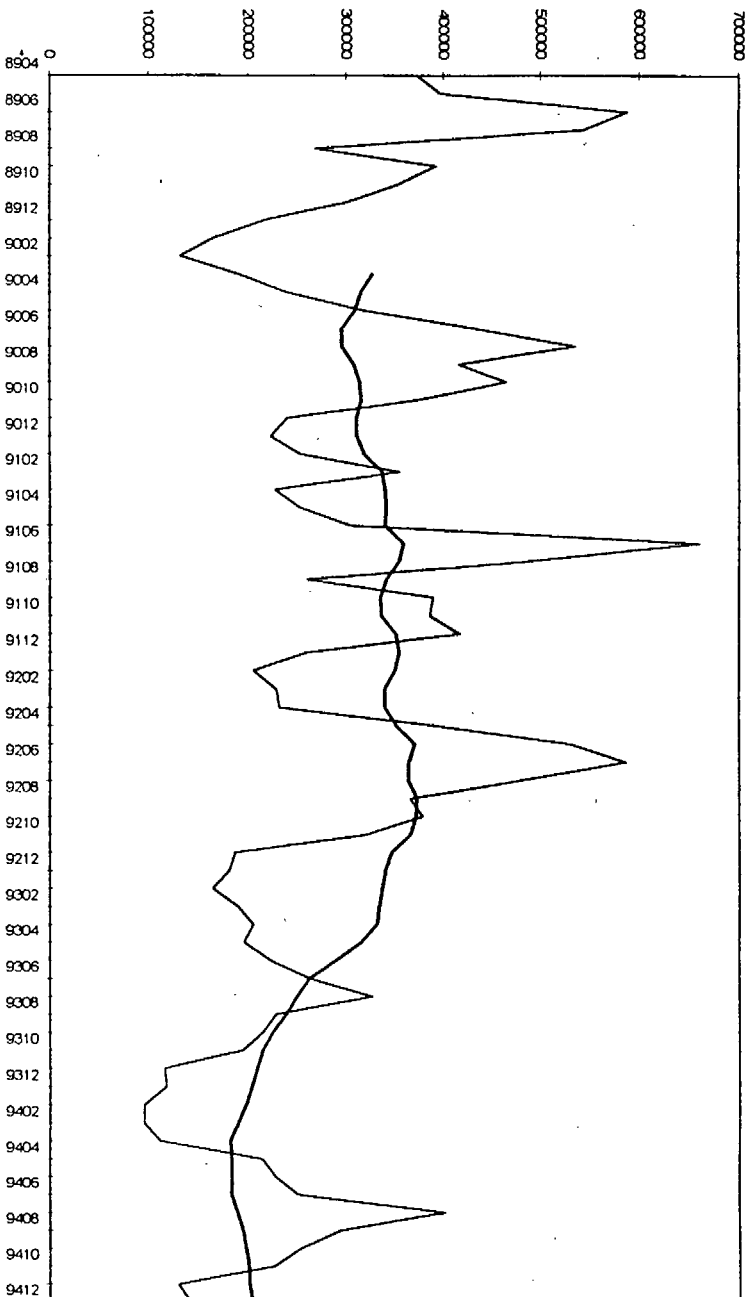
ATC DELAYS



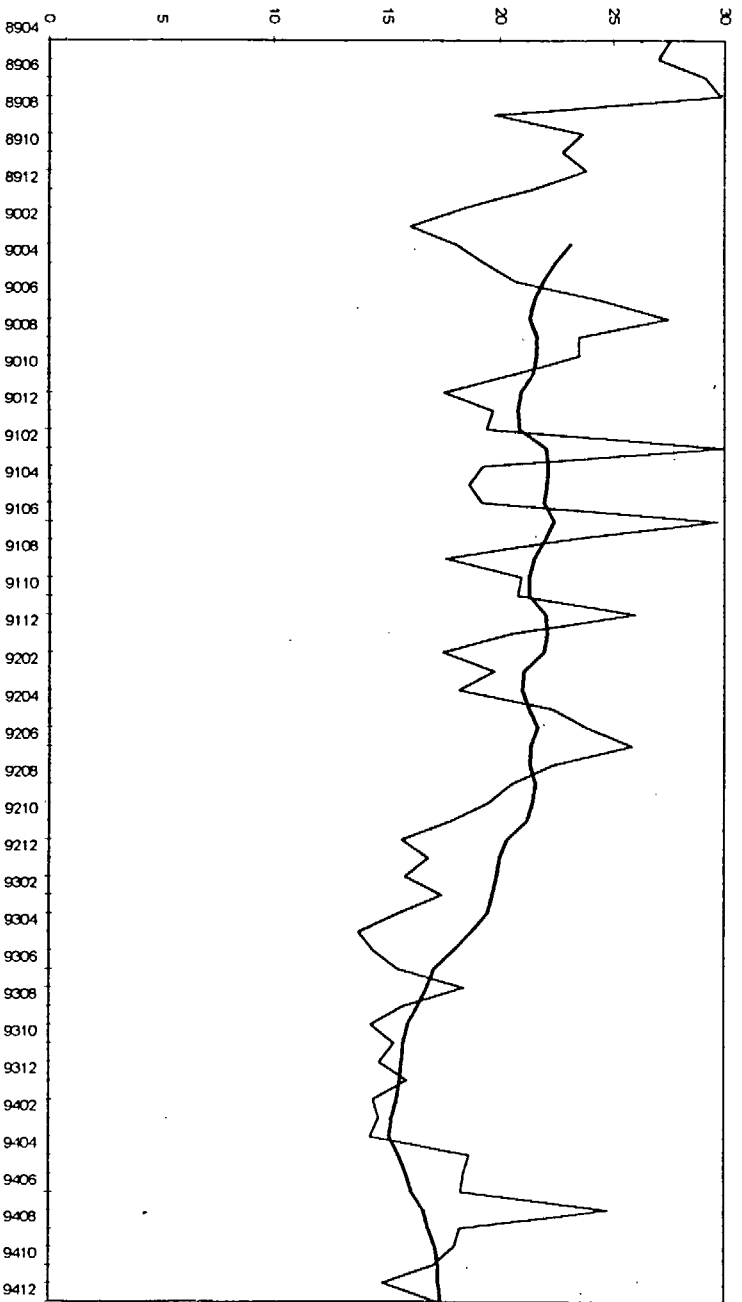
IATA SURVEY  
PERCENTAGE OF FLIGHTS DELAYED



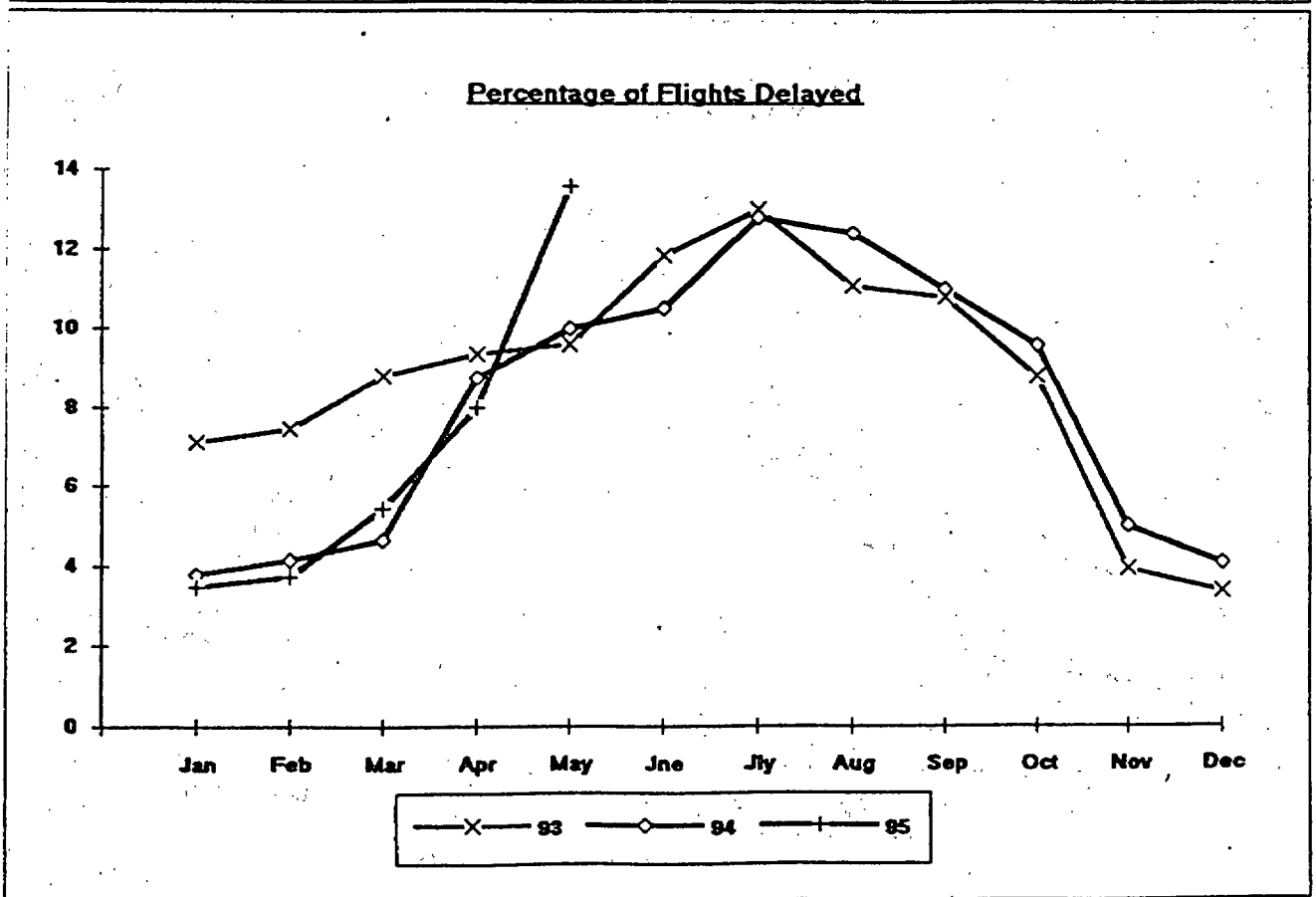
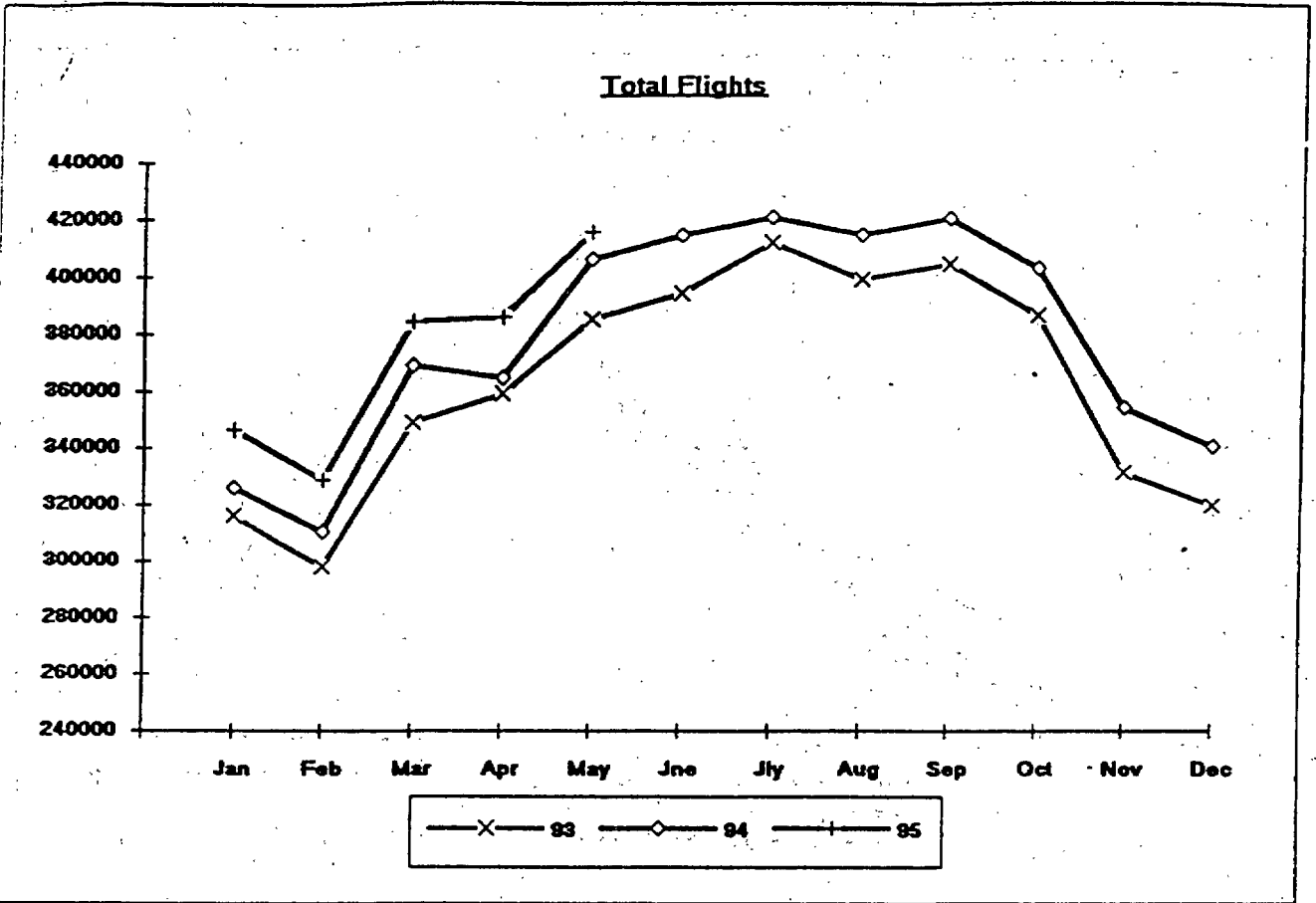
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IATA SURVEY  
AVERAGE TIME LENGTH PER DELAY

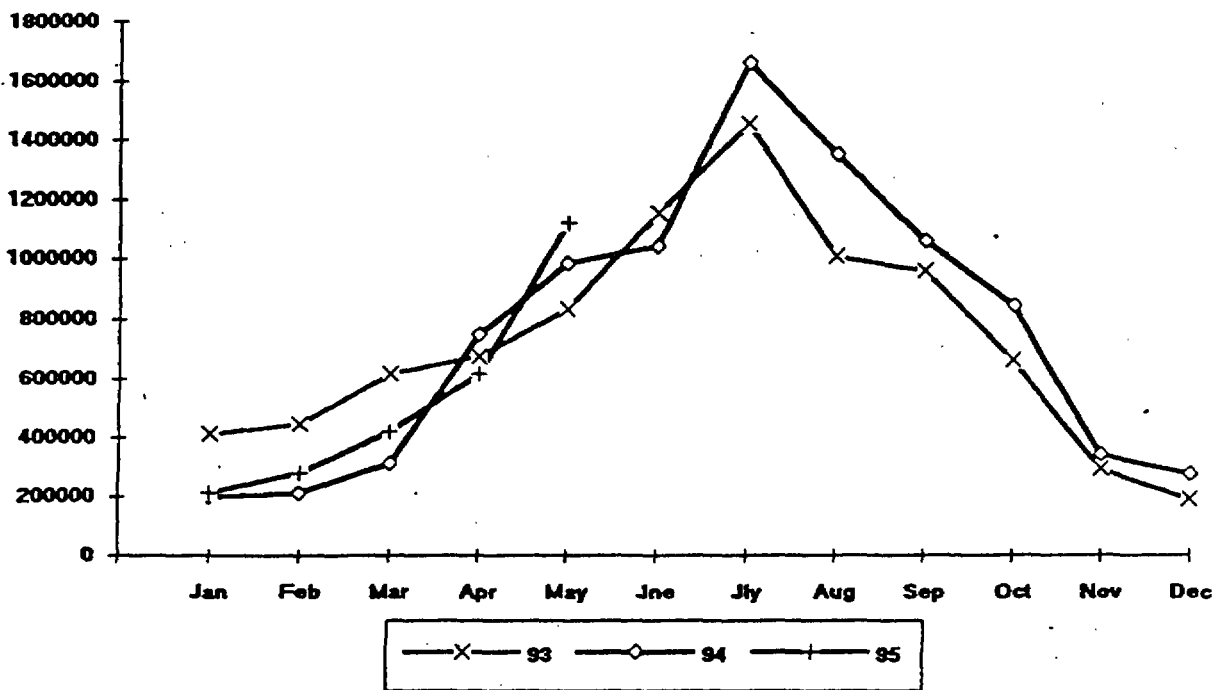


# ATFM DELAY SURVEY - MAY 1995

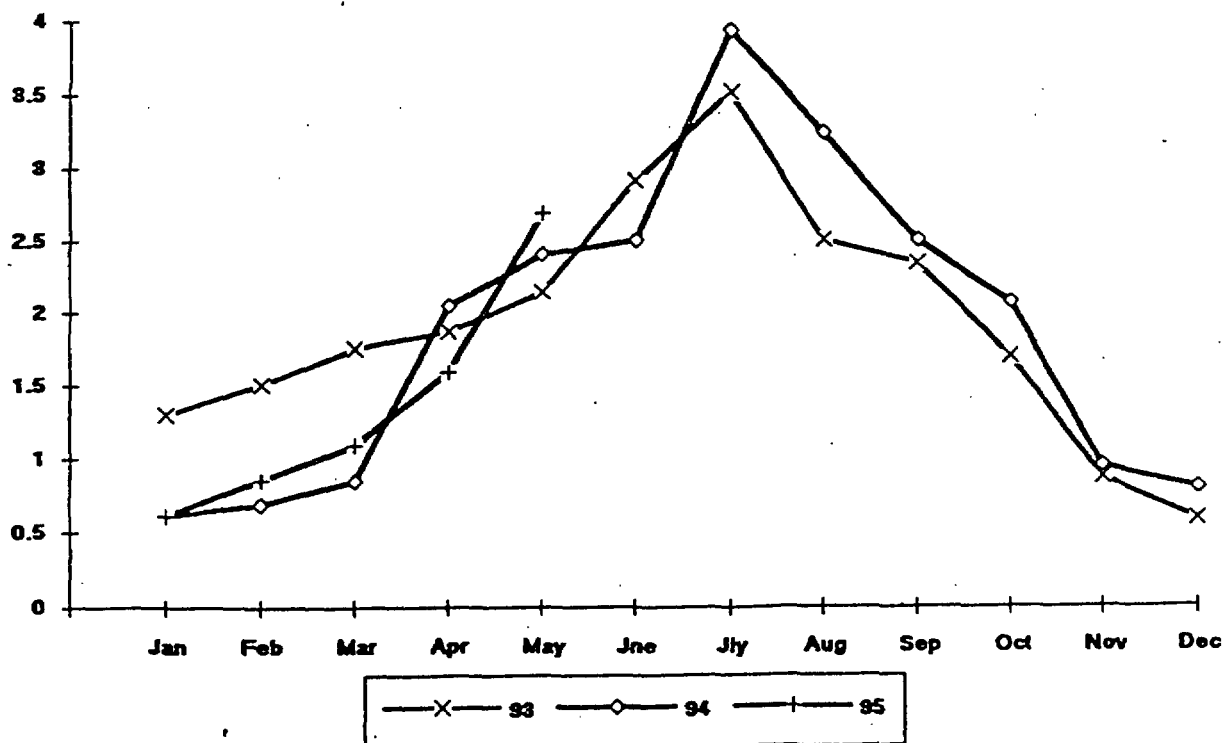


# ATFM DELAY SURVEY - MAY 1995

Total Delay (in minutes)



Average Delay per Flight



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# DOCUMENTS

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