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Evolution of demand for leisure air transport in 2025, Synthesis Report

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EUROPEAN ORGANISATION
FOR THE SAFETY OF AIR NAVIGATION



EUROCONTROL EXPERIMENTAL CENTRE

Evolution of demand for leisure air transport in 2025

Synthesis Report

EEC Note No. 12/07

DEMAND 2025

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Abstract: <p>The purpose of the DEMAND 2025 study is to explore what can be assumed today about the main features of the demand for leisure air transport in 2025 – leisure meaning all travel purposes except business, ie when the expense is a discretionary choice-. An original methodology has been devoted to the study, and applied to the case of the French population, one of the Top 5 European populations for leisure air traffic in EU15 in 2003.</p> <p>Determining how leisure air travel demand will evolve in the future requires an understanding of how passengers make their decisions to travel and how their behaviour and needs will evolve. That is why two complementary approaches have been used in this study: an economic approach and a sociological approach, using the EUROCONTROL STATFOR scenarios for the description of the general context in 2025.</p> <p>This innovative methodology has provided answers to two categories of questions:</p> <ol style="list-style-type: none"> 1. What will the main characteristics of air travel demand in 2025 be in the considered scenarios? 2. How to improve long-term demand analysis methods in general? 						

EXECUTIVE SUMMARY

The development of competition between airlines which followed air transport deregulation, coupled with more efficient and less costly aircraft technologies led to the democratisation of the air transport mode. Nowadays, 69% of the total numbers of air trips made by Europeans are leisure trips.

The purpose of the **DEMAND 2025** study is to explore what can be assumed today about the main features of the demand for leisure air transport in 2025 – leisure meaning all travel purposes except business, ie when the expense is a discretionary choice-. An original methodology has been devoted to the study, and applied to the case of the French population, one of the Top 5 European populations for leisure air traffic in EU15 in 2003.

Determining how leisure air travel demand will evolve in the future requires an understanding of how passengers make their decisions to travel and how their behaviour and needs will evolve. That is why two complementary approaches have been used in this study: an economic approach and a sociological approach, using the EUROCONTROL STATFOR scenarios for the description of the general context in 2025.

This innovative methodology has provided answers to two categories of questions:

1. What will the main characteristics of air travel demand in 2025 be in the considered scenarios?
2. How to improve long-term demand analysis methods in general ?

Regarding the characteristics of air travel demand in 2025, the study has identified the following trends:

- Increase in the level of air travel demand for the purpose of Visiting Friends and Relatives (VFR)
- Increase in the level of air travel demand for retired people;
- Increase in the demand for individualised travel;
- Use of travel as a way to escape from the very fast rhythm imposed by society
- Only increases in air fares or regulation measures limiting supply levels, will lead people to reduce their air travel demand.

Regarding the way to improve the long-term demand analysis methods in general, the study has highlighted the importance of further exploration of some aspects dealt with in the present study:

- The total cost of travel, including the cost of living at destination;
- Household consumption of leisure air travel;
- The holiday departure rates according to socio-professional categories;
- The number of retired and emigrated people that will impact the number of trips for the purpose of Visiting Friends and Relatives ;
- The opposition environmental issues/right to travel;
- The use of long-term projections made by experts from different disciplines.

Finally, the DEMAND 2025 study has revealed the lack of understanding of current demand features and of the expectations of potential travellers, although such information is essential for long-term demand analysis.

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1	Context.....	1
1.2	Purpose and scope of the document.....	2
1.3	Structure of the document.....	2
2.	METHODOLOGY AND ORIGINALITY OF THE STUDY.....	3
3.	LEISURE AIR TRAVEL DEMAND IN 2025	5
3.1	Main characteristics of the current leisure air travel demand.....	5
3.2	Main characteristics of the leisure air travel demand in 2025	7
3.2.1	<i>Common characteristics</i>	7
3.2.2	<i>Characteristics by scenarios</i>	8
4.	LESSONS LEARNED : HOW TO IMPROVE LONG TERM DEMAND ANALYSIS ?.....	10
5.	APPLICABLE AND REFERENCE DOCUMENTS.....	12
5.1	European and international references	12
5.2	French references	13
5.3	Work-package references	17

ABBREVIATIONS

DGAC	Direction Générale de l'Aviation Civile
LAT	Leisure air transport
VFR	Visits to friends and relatives
WP	Work-package

1. INTRODUCTION

1.1 Context

The development of competition between airlines that followed air transport deregulation, coupled with more efficient and less costly aircraft technologies led to the democratisation of this transport mode. The emergence of a new category of airlines and air carriers, the “low-cost” carriers, contributed also, by offering low fares.

All this means that the use of air transport for leisure purposes has strongly developed. In this study, we define leisure trips as all trips not undertaken for business purposes; this comprises holidays, but also trips to visit friends and relatives (called VFR trips hereafter). This results today in a large preponderance of air trips for leisure purposes in the total air traffic. In 2002, leisure air travel represented 69% of the total number of air trips made by European people (Source DATELINE project).

Levels and characteristics of the total demand for air travel are therefore strongly impacted by the characteristics and levels of demand for air travel for leisure purposes. Leisure air travel is likely to play an essential role in the long-term evolution of leisure air transport. This role is all the more important as the total volume of traffic (for all trip purpose) is expected to grow from 3.1 billions of Passengers in 2000 to 3.8 billion in 2025 (Source ESPON¹ estimations). If the share of leisure air travel is 69% of the total, the number of leisure air travellers could be 2.6 billion passengers in 2025.

With a view to better handling what could be the long-term evolution of leisure air transport, EUROCONTROL has launched a price enquiry aiming at dealing with the evolution of demand for leisure air transport in 2025, named DEMAND 2025. The objective of the DEMAND 2025 study is to identify what would be the features of the demand for leisure air transport in 2025.

In general, air transport demand is defined as the air travel quantities purchased during a specific period of time for a given level of fares, and for a given set of transport service attributes. Changes in airfares will change quantities purchased: Demand is influenced by the prices as well as the proposed destinations, the services offered on board, etc. Although individual preferences can vary significantly from one individual to another, some sets of attributes can be considered while deciding among transport alternatives. Some attributes can be directly quantifiable such as, for instance, total travel cost while others are much more difficult to quantify such as safety, comfort and convenience.

However, understanding how leisure air transport may evolve in the future requires determining how passengers value these attributes and accordingly make a travel decision, and how the behaviour and needs of air passengers will evolve. For this we choose to develop an innovative methodology associating two complementary approaches: economic and sociological approaches. Developing such a methodology can be considered as an important challenge of the study since such an approach has not previously been developed and is considerably different from the general way of dealing with demand analyses. One of the main advantages of the methodology developed in the scope of the DEMAND 2025 study is that it can be applied to every European country. We choose in the scope of the study to focus more particularly on the case of France .

We analyse the leisure air travel demand of the French population, but it would also be possible to apply this to other countries (subject to the availability of necessary data and information). The French demand for leisure air travel is particularly interesting to consider since the air traffic for leisure purpose originating

¹ The European Spatial Planning Observation Network (ESPON) is set up to support policy development and to build a European scientific community in the field of territorial development. The main aim is to increase the general body of knowledge about territorial structures, trends and policy impacts in an enlarged European Union.

from France belongs to the Top 5 of the total European leisure air traffic (EU15). In addition, France is clearly a large market, and its leisure travel behaviour is perhaps intermediate between that of North Western Europe and Mediterranean countries. Changes in the level and characteristics of the French demand for leisure air transport can therefore have a significant impact on the total European demand.

1.2 Purpose and scope of the document

The present document is a synthesis, providing the main results obtained in the DEMAND 2025 study.

More details on these results and the way we obtained them are available in the four following deliverables:

- DEL1: Definition of the study (Ref 120)
- DEL2: Economic analysis of future demand for air travel (Ref 122)
- DEL3: Sociological analysis of future demand for air travel (Ref 119)
- DEL4: Study of air transport demand: final report (Ref 121)

1.3 Structure of the document

The present document is structured as follows:

- Section 2 explains the methodology of the study and shows in which ways it is original
- Section 3 presents the main results in terms of the features of air travel demand in 2025
- Section 4 concludes the synthesis by identifying ways to go further in the demand analysis
- Section 5 provides the bibliographical references used in the study

2. METHODOLOGY AND ORIGINALITY OF THE STUDY

At the beginning of the study, we performed a literary review of long-term transport demand forecast. This highlighted the need to develop methods different from the usual scenario building exercise, in order to identify and define factors which have to be taken into account and better anticipated for long-term evolution.

Considering the importance of behaviour evolution for long-term demand analysis, we have chosen to develop a different method including a sociological approach, an innovation in long-term air demand analysis. The sociological approach involved:

- 10 experts during individual interviews (1h30 each)
- 23 French travellers in 2 Focus Groups (3h30 each)
- 12 individual interviews of French travellers (45 minutes each).

One of the main characteristics of experts interviews is the diversity of their domains. Besides experts in air travel we have also interviewed a psychiatrist, a philosopher, a political scientist and a researcher in law : they provided essential information on behavioural evolution in the French society.

Interviewing travellers and asking them to project themselves into the future is also an interesting way to get potential future trends for air travel demand. Combining interviews of experts and travellers provides useful qualitative information in terms of future evolution:

- leisure traveller behaviour (needs)
- image of air travel according to travellers
- the concept of leisure air travel
- household consumption in terms of leisure travel (trends)

One of the main difficulties to overcome in this sociological approach lies in the difficulty for ordinary people to project themselves into the future. Quite often, the imagined future is influenced by the present, and by the future depicted in the media.

In parallel with the sociological approach we have developed an economic approach aiming at identifying the potential future evolution of leisure air travel in 2025 by answering three or four essential questions:

- What is the budget that households will dedicate to air travel and how will it evolve?
- What are the characteristics of air travel demand in terms of trip purposes, in terms of sensitivity to airfares, etc., and how will it evolve?
- What will the future characteristics of air travel supply be?

This economic approach is different from the generally considered approaches for long-term air travel demand analysis in several aspects:

- We choose to consider household consumption behaviour since it provides essential information on the budget dedicated to air travel;
- We firstly focus our analysis on the general leisure travel market before the specific leisure air travel market ;
- As changes in travelling behaviour are also strongly related to future changes in air travel supply, we have also provided a peek into future travel supply features.

One of the main difficulties appearing when performing this economic approach lies in the evaluation of households' consumption in leisure air travel. Indeed, such data is not directly available through statistics providers (neither EUROSTAT nor national (French) statistics providers). The evaluation has required a lot of work to seek and use available statistical data, and some assumptions due to insufficient details. More generally the lack of data on the current features of the air demand is a barrier to building a demand

projection by 2025 since, finally, few quantitative estimations exist about factors that are essential to consider in long-term demand analysis.

Knowledge of the potential 2025 air travel demand features, obtained through the economic and sociological approaches, was then used to describe profiles of travellers and non-travellers in 2025. Three scenarios, developed by EUROCONTROL in the STATFOR Long-Term Forecast (2010-2025) (Ref 14) were used: Scenarios A (Globalisation and rapid growth), C (Strong growth and regulation) and D (Regionalisation). In each scenario, three profiles are described:

- mass-market traveller (typical traveller)
- niche-market traveller (atypical traveller)
- non-traveller

Each profile is then illustrated in more detailed examples.

This method enables simultaneous capturing of the bulk of the market, through the mass-market travellers, and the most marginal trends, which represent fewer people, but could shape future transport demand, and are thought-provoking.

However, this method has limits: if it has taken into consideration behaviour that already exists,-which could increase or decrease in the future (trends)-, it has not allowed exploration of purely new future behaviour. In addition, while the study could highlight potential 'pioneer' profiles of travellers, it didn't allow forecasting whether these pioneer profiles will spread to the mass of travellers or not.

3. LEISURE AIR TRAVEL DEMAND IN 2025

Determining how the leisure air travel characteristics will evolve by 2025 requires having deep and proper knowledge of the current situation. That is why the analysis requires answering two questions:

- What are the current features of the leisure air travel demand
- How these features will evolve by 2025

3.1 Main characteristics of the current leisure air travel demand

3.1.1 Leisure travel

Leisure travel represents the largest share of long-distance journeys (distance over 100 Km) made by European people. Among the 5 long-distance (LD) journeys that each mobile person (i.e. people travelling at least once a year) living in EU-15 makes on average by year, 4 are for leisure reasons. France is among the four countries with the highest number of LD journeys per year and per mobile person, with Finland, Greece and Sweden (Figure 3-1).

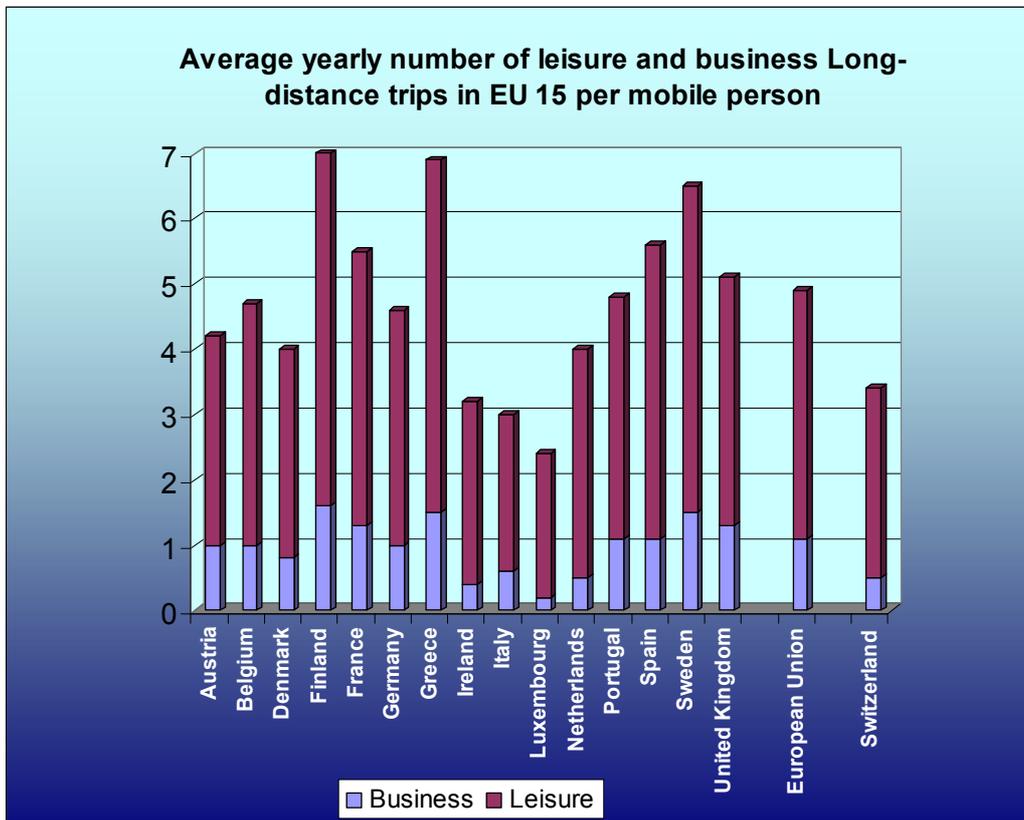


Figure 3-1: Yearly number of leisure and business long-distance trips in EU 15 per mobile person
(Source DATELINE (Ref 11))

When traveling for leisure reasons the distance covered by French travelers can vary a lot according to the context of the leisure travel. Hence, if the distance traveled for holidays is mainly between 100 and 499 Km (with a higher share of journeys between 250 and 499 Km), this distance is often less than 249 Km for other private journeys (74% of other private journeys are distances of between 100 and 249 Km) (DATELINE (Ref 11)).

Nevertheless, whatever this context, leisure journeys are mostly made by car: 67% of holidays and 78% of other private journeys are made by car. If the second most used mode of transport in the scope of both leisure contexts is rail transport, air transport is a transport mode mainly used in the scope of holidays. The number of trips that people make for leisure purposes is strongly related to the budget they dedicate to these trips and as a consequence to their consumption features. The **main difficulty** when trying to measure the level of demand for leisure travel lies in the fact that household expenditure in **leisure travel belongs to three different categories**: “Leisure and culture” that includes all inclusive leisure travel, “Transport” that includes services of transport and “Hotels and restaurants” that include travel accommodation. As a consequence, analyzing how household behaviour changed in terms of budget share dedicated to leisure travel requires focusing on these three categories of expenditure.

On average, European households dedicate 13% of their total consumption to leisure travel (for all transport modes) while this percentage reaches 11% for French households. This difference is mainly linked to the lower importance of expenditure on package holidays in the total of French expenditures (Table 3-1). In total, we can estimate that EU-15 households spent in 1999, 594 billion euros in leisure travels. When dedicating 90 billion euros to such expenditure category, French households can be considered as spending 15% of the total EU-15 leisure travel expenditures.

Share of leisure travel expenditure in the total consumption in 1999	European Union (15 countries)	France
Transport services	1%	1%
Car use expenses	6%	6%
Package holidays	2%	1%
Restaurants, cafés and the like in leisure travels	2%	2%
Accommodation services (hotels)	1%	1%
Total share of leisure travels expenditures	13%	11%

Table 3-1: Share of leisure travel expenditure in the total consumption in 1999 in France and EU15 (Source EUROSTAT)

3.1.2 Leisure air travel

To analyse the household consumption behaviour in terms of leisure air travel it is essential to evaluate which share represents such consumption. However, available statistics on household consumption do not provide the share of expenditure in restaurants and hotels that is made in the context of leisure air travel. That is why our analysis of leisure air travel consumption is limited to the analysis of consumption in terms of air transport service and package holidays.

With this definition we evaluate that on average, European households dedicate 2% of their consumption to such leisure air travel expenditure. (Figure 3-2), what represents in 1999 91 billion euros. Although being one of the European countries with the higher average number of long-distance trips (Figure 3-1), France presents a very low share of the leisure air travel consumption in the total consumption. In total French households dedicate 7.4 billions euros to expenditures in leisure air travel in 1999.

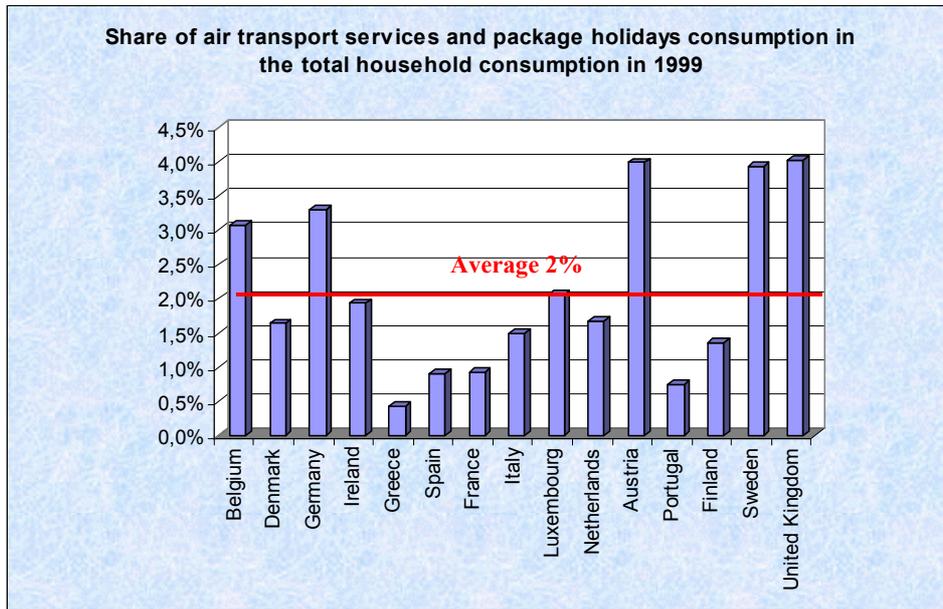


Figure 3-2: Share of air transport services and package holidays in the total household consumption by EU15 countries in 1999

Although currently small, the share of expenses in leisure air travel in the total household consumption could increase in the future. This potential change will be strongly related to the potential changes in travelling behaviour, not only in terms of volume of travel demand but also in terms of the characteristics of this demand.

3.2 Main characteristics of the leisure air travel demand in 2025

The DEMAND 2025 study identifies the main characteristics of leisure air travel demand in 2025 in the context of the EUROCONTROL Long-term forecasts scenarios. Three scenarios, developed by EUROCONTROL in the STATFOR Long-Term Forecast (2010-2025) (Ref 14) are considered: Scenarios A (Globalisation and rapid growth), C (Strong growth and regulation) and D (Regionalisation). If some characteristics are common to the scenarios considered for 2025, others can differ a lot between scenarios.

3.2.1 Common characteristics

Some characteristics are common to all the scenarios considered for 2025:

- **General increase in the demand for air travel.** More and more people will consider that traveling is a right. In the short term, this phenomenon may lead to an increase in the volume of air travel which could be followed by exceed capacity. **Increase in the level of demand for air travel for VFR purposes**, especially in intra-European flights, mainly due to the potential increase of intra-European migration
 - **Increase in the demand for air travel for retired people** due to their large number associated with their increasing interest in travel as a leisure activity
- **Price is and will be the main choice criteria**
- **Technology developments impact demand.** In the future, technology will enter everyday life and will be accessible to all. However, because technology is stressful, in compensation people will seek the simplification of procedures (easier and more pleasant consultations, objective comparisons, purchases on Internet)

- **Psychological factors will have less impact than technological aspects on air travel evolution**
- **Increase in the demand for individualised travel** thanks to the large use of tools such as internet (or future internet) that facilitates such individualisation
- **Ecology will be a factor that will shape the market.** On the one hand, preoccupations and ecological consciousness will be more embodied in 2025. Genuine ecological involvement will become a mean to be socially recognized. On the other hand, behaviour will significantly change only if spurred on by governments or politicians (legislations). As far as professionals are concerned, ecology will be a tool of power, influence or seduction.
 - **Only increases in air fares or regulation measures limiting supply levels will lead people to reduce their air travel demand.** People mostly consider air travel as a right and are not fully ready to travel less only by ecological conscience. They prefer easing their conscience by giving money to ecological organisations rather than by reducing their demand for air travel.
- **Future travel will be articulated around “pioneers” and “most ordinary people” segmentation.** Most ordinary people will orient themselves towards short and fast trips. They will **use travel as a way to escape from the very fast rhythm imposed by society, but** without a real break from everyday life (rather short and medium haul trips). Conversely, some pioneers will rather prefer long-haul and long trips. They will search for a slower pace and continuity; for sharing relationships (travel-based experiences). Time will be more and more valued for its true worth.
- **Today:** (1) taking a plane is stressful; (2) plane journey time is considered as wasted time; (3) air travel has no longer any value in itself, it has become common and more and more pragmatic. **By 2025, some people hope that leisure air travel will be more friendly, more entertaining (plane + airport).**
- The European spirit will be better rooted in France: using air transport, people will travel around Europe as within a single country (thanks to for instance the Open Skies agreements). However, trains will compete with short and medium haul air travel.

3.2.2 Characteristics by scenarios

Besides these common elements to all scenarios, some demand characteristics can change a lot according to scenarios. These differences concern average travellers, atypical travellers as well as non-travellers.

- Differences in **average travellers’** profiles according to scenarios:
 - The income level of average travellers tends to increase when the economic situation tends to slow down or when air fare levels increase due to environmental constraints;
 - The average travellers’ state of mind varies according to the scenarios. If travel is always considered as a way of “escaping” from everyday life, the **main motivation** to escape **can go from entertainment and discovery** in the case of good economic growth without environmental constraint, **to isolation in a cocoon** in the case of lower economic growth with geopolitical tensions.
- Differences in **atypical travellers** profiles according to scenarios:
 - The **existence of environmental constraints can significantly affect the motivations to travel** of atypical individuals. In the absence of environmental constraints, atypical travellers mainly focus on the need to give a meaning to travel: they do not want to consider it as an object of consumption. As environmental constraints emerge, the development of environmental conscience of some atypical travellers leads them to modulate their air travel demand to fight pollution;
 - Some atypical travellers are also **in opposition to the current trends**. They consider that neither environmental constraints nor international tensions can prevent them from travelling where, when and how they want.
- Differences in **non-travellers’** profiles according to scenarios:
 - If the decision not to travel by air is often related to the inability to pay the high air fare levels, this decision can also come from other reasons depending on the scenario context as for instance the fear of travelling overland where international tensions exist.

- Profiles of people travelling a lot by plane for work purposes preferring another mode of transport for holidays are particularly likely to exist in scenarios with good economic growth.

4. LESSONS LEARNED: HOW TO IMPROVE LONG TERM DEMAND ANALYSIS?

Despite the difficulties encountered in collecting the appropriate data, the DEMAND 2025 study has provided interesting information on some features of the future demand for leisure air travel. Another important output of the DEMAND 2025 study is the identification of ways to improve long-term demand analysis methods.

The analysis made in the DEMAND 2025 study indeed allowed highlighting that some factors would be worth considering in long-term analysis methods while they are generally not included. The **accuracy** of long-term analysis studies could then be **improved** by **exploring further** some **aspects** dealt with in the present study:

- **The total cost of travel** (i.e. including transport cost as well as accommodation costs): air travel is only an intermediate commodity, and demand for air travel results from the demand for a more complex product which is the whole package: air travel is not something to be enjoyed for its own sake.
For example, for countries which are areas of departure (Northern Europe, UK...), the cost of accommodation abroad, and more generally the cost of living in destination countries is a major determinant of travel behaviour.
- **Household consumption in leisure and leisure air travel** : associated with the elasticity of the total cost of travel, this consumption level will provide useful information on the potential demand for leisure air travel.
Today, leisure activities represent a larger part of people's life than they used to (only 20% of one's life is dedicated to work today, while it was 70% a century ago), and the ways in which people spend their free time are evolving fast. Leisure air travel is part of that free time, and is competing with other activities. The evolution of the ways in which people spend their free time is therefore worthy of study.
- **The holiday departure rates by socio-professional category**: The penetration rate of air transport by socio-professional category could evolve in the future according to their behaviour evolution in the holiday context; Past trends show that some categories (intermediate, farmers...) are going on more holidays than before. The evolution of these trends is therefore important to investigate.
- **The analysis of traffic in terms of distance travelled**: need to analyse the market share of short and medium-haul flights favoured by the feeling of time scarcity and the fact that time is a part of the cost equation for travellers.
- **The increase in the market share of flights for VFR purpose due to:**
 - **The lower cost of VFR travel** since VFR travellers generally face lower accommodation costs than people travelling for other leisure purposes
 - **The number of retired people**: the number of people of 65 years old and over will increase over all the regions of the world. In France, it will represent 1 person in 3 compared to 1 person in 5 currently . It follows that in 2025, retired people will represent a significant share of the potential air travellers as much for holidays as for Visiting Friends and Relatives (VFR) purposes. The evolution of holiday departure rates shows that people above 55 are going more and more on holiday, until they reach approximately the age of 70 (then the departure rate drops).
 - **The number of emigrated people** : a continuation or an emphasis of the current tendency for people to migrate to and from Europe as well as inside Europe, will significantly influence the demand level for air travel for VFR purposes by 2025. The evolution of student exchanges, of job internationalization inside large firms should therefore be examined on a long term forecast.

- **The opposition of environmental issues/right to travel:** People mostly consider air travel as a right and are not fully ready to travel less only by ecological conscience. In this case behaviour would significantly change only if spurred on by governments or politicians (legislations). However, the ecological conscience may be more marked for the young generation that will be adult in 2025. Although such future behaviour can be difficult to forecast nowadays, we can guess that it could have a non negligible impact on future air travel demand features.

Moreover, the DEMAND 2025 study also provides useful information on the usefulness of projections in long-term demand analysis :

- **Projections made by experts from different disciplines:** in complement to air transport experts projections, projections made by experts in other domains than air transport and other disciplines (e.g. philosopher, political scientist, psychiatrist) appear to be very useful to imagine people's future behaviour which would influence their future demand for leisure travel.
- **Compared to 'travellers', 'experts' can more easily deal with long term projections** without feeling emotionally involved :
 - Experts are used to considering evolution as a logical continuum. However, it is important to underline that the more the experts had been in contact with travellers in their work, the more capable they were of taking into account the more or less clearly expressed expectations of those travellers in their own thoughts and professional forecasts. However, it is interesting to note that experts are reluctant to edict statements out of their domain of expertise, because they do not want to put forward certainty that they cannot support.
 - Projections made by travellers, on the other hand, have more revealed their needs now than drawn a picture of tomorrow. This can be explained in two ways: first of all, to project oneself in 20 years time, presupposes considering many parameters that travellers do not master today (health, technology, economy, etc.). Secondly, travellers are today swamped with consumer services and products. Their capacity to imagine new services and new products is saturated. For new long-term demand analysis it could be interesting to develop projective techniques based on tools to be defined (visual aids, specific environment...) and to spread the work done with travellers over time.

Finally, the DEMAND 2025 study has highlighted the lack of understanding of current leisure demand features and the expectations of potential travellers. Although behaviour can evolve in the future, good knowledge of the current situation would be a firm starting point for long-term demand analysis.

5. APPLICABLE AND REFERENCE DOCUMENTS

5.1 European and international references

Ref 1	Airbus (2005) "Global market forecast: the future of flying 2006-2025"
Ref 2	Airline Business, (2007) "Special Report "low cost and regional" May 2007
Ref 3	World Bank, (2003) "Global Economic Prospect and the Developing Countries", 2003, Washington
Ref 4	Bauer A (2005) "L'individualisation des sensibilités et des comportements : impacts touristiques », Ministère délégué au tourisme, Rapport de synthèse, March 2005
Ref 5	Bernard Baumohl, (2004) "Secrets of Economic Indicators", 2004
Ref 6	Boeing (2006) "Current market outlook 2006", http://www.boeing.com/commercial/cmo/pdf/CMO_06.pdf
Ref 7	Button Kenneth (2004), "Wings across Europe", Ashgate
Ref 8	Calder Simon (2002), "No frills, the truth behind the low cost revolution in the skies", Virgin Books limited.
Ref 9	Cambridge Systematics (2001) "Land use and travel demand forecasting models: Review of the literature and operational models", Final report prepared by Puget Sound Regional Council, University of Washington, Cambridge Systematics INC., Chandra Bhat
Ref 10	Conti G, Perelli C (2005) « Traditional mass tourism destinations : the decline of Fordist tourism facing the rise of vocational diversification »
Ref 11	DATELINE (2003) "Design and application of a travel survey for European long-distance based on an international network of expertise: D7 data analysis and macro results", European Commission, 5 th Framework programme competitive and sustainable growth, July 2003
Ref 12	David W. Gillen, William G. Morrison, Christopher Stewart (2004) "Air Travel Demand Elasticity: Concepts, Issues and Measurement", Final report, Ministry of Finance Canada
Ref 13	Energy Information Administration, (2007) "Annual Energy Outlook 2007, with projections to 2030"
Ref 14	EUROCONTROL (2006) "Long-term forecast: IFR Flights movements 2006-2025", STATFOR, DAP/DIA/STATFOR Doc216
Ref 15	EUROCONTROL (2005) "Scenarios for the long-term forecast (2010-2025), DIA/STATFOR
Ref 16	European Commission (2001) "European aeronautics: a vision for 2020", report of the group of personalities, January 2001
Ref 17	European Commission (2004) "The European tourism industry : a multi-sector with dynamic markets, structure, developments and importance for Europe's economy", Rüdiger Leidner, March 2004
Ref 18	European Commission (2007) "The European tourism industry in the enlarged Community: gaps are potentials and opportunities", Rüdiger Leidner, January 2007
Ref 19	European Commission Joint research centre , Institute for prospective technological studies (JRC IPTS) "Online foresight guide" (http://forlearn.jrc.es/guide/0_home/index.htm)
Ref 20	Eurostat (Officie Statistique de la Communauté Européenne) See : http://epp.eurostat.ec.europa.eu
Ref 21	Future Foundation (2005) "The world of travel in 2020", Cendant, Autumn 2005
Ref 22	Gillen David W., Morrison William G., Stewart Christopher (2004) "Air Travel Demand Elasticity: Concepts, Issues and Measurement", Final report, Ministry of Finance Canada.
Ref 23	Glenn J.C, Gordon T. (2003) "Future research methodology Version 2.0", ISBN: 0-9722051-1-X, August 2003 Library of Congress Control Number: 2003107815

Ref 24	GRAHAM A ; (2006) « Have the major forces driving leisure airline traffic changed ? », journal of air transport management, vol12, pp14-20
Ref 25	Henley Centre Headlight Vision in partnership with Amadeus,(2002) “ Future Travellers Tribes 2020”, Report for the Air Travel Industry
Ref 26	ICAO (2004) “Outlook for Air Transport in the year 2015”, CIR 304 AT/127
Ref 27	Kuoni (2006) “The future of leisure travel – Trend study”, GDI for economic and social studies
Ref 28	Lohman M (2004) “New demand factors in tourism”, Institut für tourismus und Bäderforschung in Nordeuropa GmbH, paper presented to the European Tourism Forum in Budapest/Hungary, October 15 2004
Ref 29	May G.H. (2006) “Scenario planning – future skills”, Ilkley, UK, UNIDO Technology Foresight for Corporation, Bratislava, Slovakia, 14 – 17 March 2006
Ref 30	Nenad Njegovan (2006) “Elasticity of demand for leisure air travel: A system modelling approach”, Journal of Air Transport Management 12 (2006) 33–39
Ref 31	OECD (2003) « OECD Conference on innovation and growth in tourism », Lugano Switzerland, 18-19 September 2003
Ref 32	ONU, Division of the population, on www.unfpa.org/swp/2004/francais/ch1/page7.htm#1
Ref 33	OPEC (Organization of Petroleum Exporting Countries), (2007) “Monthly oil market report”, February 2007
Ref 34	Quarmby D, Buchanan C and partners Ltd (2006) “Tourism for transport professionals or “what you hadn’t realised you didn’t know about tourism”, Association for European transport and contributors
Ref 35	Sterman, J. D. (2000), System Dynamics, McGraw Hill Higher Education, 1 st December 2000), ISBN-10: 0071179895 , ISBN-13: 978-0071179898
Ref 36	Sterman, J. D. (2001), “Systems dynamics modeling: tools for learning in a complex world”, California management review, Vol 43 no 1, Summer 2001
Ref 37	U.S. Bureau of the Census (2000), on www.unfpa.org/swp/2004/francais/ch2/page5.htm
Ref 38	Werthner H (2006) “e-Tourism: impact of new technologies”, Vienna University of technology and electronic commerce competence centre
Ref 39	World Christian Trends, (2001) “Status and trends in global mission as revealed by the annual Christian megacensus”, AD 1800-AD 2025. Barrets & Johnson, William Carey Library, 2001, page 384

5.2 French references

Ref 40	Alexandre Adler (2005) « Le rapport de la CIA: comment sera le monde en 2020 ? », Éditions Robert Laffont, S.A., Paris 2005
Ref 41	Bulletin de l’Ordre des Médecins, n°8 (2004) « La qualité de l’environnement, clé de notre santé », Arriette Chabrol, October 2004
Ref 42	CEPII (Centre d’Etudes Propectives et d’Information Internationale), on www.cepii.fr/francgraph/club/reunions/reunions/2000/280900.htm
Ref 43	CITEPA, (2006) « Inventaire des émissions polluants atmosphérique en France » – Séries sectorielles et analyses étendues SECTEN, February 2006
Ref 44	Commissariat Général au Plan,(2005) « Avenir et métiers, Avec l’industrie mon aventure commence-2001-Bercy », 15 November 2005
Ref 45	Commissariat général du Plan, (1998) rapport « Énergie 2010-2020 », 1998, Pierre Boisson

Ref 46	Conseil Économique et Social, (2004) « L'attractivité de l'Île-de-France à l'horizon 2025 », Rapport présenté au nom de la section de la prospective et de la planification par Monsieur Claude Floret, Région Île-de-France, 27 May 2004
Ref 47	DAEI/SES-INSEE (2002) « Les comptes des transports en 2001 », September 2002
Ref 48	DAEI-SES (Direction des Affaires Economiques et Internationales, Services Economique et Statistiques), (2004) « La demande de transport en 2025 », October 2004
Ref 49	DGAC (2006) "Observatoire de l'aviation civile 2005-2006, Tome 2 données statistiques, December 2006
Ref 50	DGAC (2007) "L'utilisation du transport aérien: enquête sur le taux de pénétration du transport aérien en France », Direction des affaires stratégiques et techniques, July 2007
Ref 51	Direction des Affaires Economiques et Internationales (2004) « La demande de transport en 2025 – Projections des tendances et des inflexions », September 2004
Ref 52	Direction des Transports Aériens (2003) "Qui prend l'avion en France?", Le Note de Synthèse et d'Actualité, N°14, July 2003
Ref 53	Direction des Transports Aériens, (2003) « Aviation et effet de serre: Etat des lieux et projets de limitations des émissions », June 2003
Ref 54	Direction Générale de l'Énergie et des Matières Premières, Ministère de l'Économie, des Finances et de l'Industrie,
Ref 55	Direction Générale de l'Énergie et des Matières Premières. Observatoire de l'Énergie Bilan énergétique de l'année 2005 en France
Ref 56	Direction des Transports Aériens, SDEEP "Qui prend l'avion en France?", Note de synthèse et d'actualité N°14, July 2003
Ref 57	Direction des Transports Aériens, SDEEP , (2003) « La note de synthèse et d'actualité: Qui prend l'avion en France », n°14, July 2003
Ref 58	Économie et Statistique n°355-356, (2002) « La population de la France métropolitaine en 2050: un vieillissement inéluctable », Chantal Brutel, 2002
Ref 59	Entretien avec Nathalie Kosciusko-Morizet, députée UMP, présidente du groupe d'étude "santé et environnement" de l'Assemblée nationale, La pollution environnementale, un problème de santé publique, (see: www.n-k-m.com/article.php?ref=425)
Ref 60	Futuribles (2002) « Étude rétrospective et prospective des évolutions de la société française (1950-2030) »
Ref 61	Godet M. (2004) « Manuel de prospective stratégique » Tomes 1 et 2, 2ème éd. Paris : Dunod, 2004
Ref 62	IFRI (Institut Français des Relations Internationales),(2003) Le commerce mondial au XXIe siècle, Sous la direction de Philippe Colombani,
Ref 63	INRETS (2003) "Exclusions et inégalités d'accès aux loisirs et au tourisme", POTTIER F., ZEGEL P., Rapport sur convention PUCA, lettre de commande n°F01101, November 2003
Ref 64	INSEE - EducNet: www.educnet.education.fr/insee/cons/quoi/tendanceslongues.htm
Ref 65	INSEE (2002) "La consommation des ménages depuis 40 ans", INSEE Première, N°832, February 2002
Ref 66	INSEE (2004) "La consommation des ménages en 2003", INSEE Résultats N°32, July 2004
Ref 67	INSEE (2004) « 40 ans de services culturels et récréatifs », INSEE première n° 983, August 2004
Ref 68	INSEE (2004) « Le budget des familles en 2001 », INSEE Resultats Société, N°29, April 2004
Ref 69	INSEE (2005) "Le budget transport des ménages depuis 40 ans", INSEE Première, N° 1039, September 2005

Ref 70	INSEE (2005) "Le budget transports des ménages depuis 40 ans", INSEE Première N°1039, September 2005
Ref 71	INSEE Antilles-Guyane (2007) "Le budget des ménages en Guadeloupe en 1995 », Premiers résultats, 2 February 1997
Ref 72	INSEE Première n°1096, (2006) « La consommation soutient toujours la croissance en 2005 », August 2006
Ref 73	INSEE Première, (2006) « Des ménages toujours plus petits. Projection de ménages pour la France métropolitaine à l'horizon 2030 », Alain Jacquot. October 2006
Ref 74	INSEE Première, N° 767, (2001) « Les déplacements domicile-travail - De plus en plus d'actifs travaillent loin de chez eux », Talbot Julien. April 2001
Ref 75	INSEE Première, n°1092, (2006) « Projections 2005-2050, Des actifs en nombre stable pour une population âgée toujours plus nombreuse », Élise Coudin. July 2006
Ref 76	INSEE Première, numéro 805, (2001) « Projections régionales de population pour 2030: l'impact des migrations », Laure Omalek., September 2001
Ref 77	INSEE, (2006) « Bilan démographique 2006: un excédent naturel record »
Ref 78	INSEE, (2006) « Évolution en volume du PIB dans les principaux pays de l'OCDE », notes de conjonctures et comptabilité nationale, tableaux de l'Économie Française., Édition 2006
Ref 79	INSEE, (2006) « Projection de la population 2005-2050 pour la France métropolitaine », Isabelle Robert-Bobée, 2006
Ref 80	INSEE, (2006) « tableau de l'Économie française, Édition 2006, Natalité et fécondité dans divers pays du monde »
Ref 81	Institut National du Cancer, (2006) « Alcool en France: un état des lieux », 13 September 2006
Ref 82	Institut National du Cancer, (2006) « Le tabac, première cause de cancer évitable en France », 12 October 2006
Ref 83	L'Internaute Voyager, (2006) « Ce qu'il faut savoir sur les compagnies « Low cost » ». April 2006
Ref 84	La Tribune (2007) " CO ₂ : l'aérien sous pression", June 14, 2007
Ref 85	La Tribune, (2007) « Le tourisme bat des records et voit la Chine en plein essor », 29 January 2007
Ref 86	La Tribune.fr, (2005) « Un baril à 300 dollars », par Patrick Artus, Directeur de la recherche de Ixis CIB, 02/12/2005
Ref 87	Le Magazine Info, (2006) « Mal de vivre, mal du siècle », Thomas Vincent, April 2006
Ref 88	Le Monde, (2000) « La France se prépare à un éventuel retour de la grippe aviaire », article du 4 February 2000
Ref 89	Le Monde, (2003) « 2025: l'humanité est contrainte à partager l'eau », Gaëlle Dupont. 22 January 2003
Ref 90	Le Monde, (2003) « Besoin d'étrangers », 7 November 2003

Ref 91	Les Echos (2007) "les companies "low cost" cherchent à rattraper leur retard en France », April 30, 2007
Ref 92	Les maladies mentales deuxième cause de mortalité en 2020: see www.doctissimo.fr/html/sante/mag_2001/mag0223/ps_3419_mortalite_troubles_mentaux.htm
Ref 93	Lettre de l'OFCE (Observatoire Français des Conjonctures Economiques), (2000) « Une dette publique nulle en 2020 ? Perspective d'évolution de la dette publique française », Observations et diagnostics économiques. N°197, 13 July 2000
Ref 94	Libération, (2006) « La route, nouveau fléau mondial », 05 May 2006
Ref 95	Libération, (2007) « Envie de la vie: une semaine pour la prévention du suicide », Alexis Danjon, 5 February 2007
Ref 96	Mémoire de géopolitique du commissaire principal de la marine, (2004) « La France multiethnique de 2030: force ou faiblesse géopolitique? », Florian Chardès dans le cadre du séminaire « Géopolitique de la France », Directeur: professeur Christophe Réveillard, March 2004
Ref 97	Ministère de l'Economie, des Finances et de l'Industrie, (2004) « Analyses Economiques: la croissance potentielle de l'économie française de moyen-long terme », n°48, September 2004
Ref 98	Ministère de l'Economie, des Finances et de l'Industrie, (2005) « Evolution des cours du Brent en dollars par baril », 2005
Ref 99	Ministère de l'Économie, des Finances et de l'Industrie, Ministère de l'Écologie et du Développement Durable, (2006) « Division par 4 des émissions de gaz à effet de serre de la France à l'horizon 2050 » Christian de Boissieu, August 2006
Ref 100	Ministère de l'équipement du tourisme et de la mer (2007) « Les voyages à longue distance des français en 2005 », SESP Infos rapides, N°318 May 2007
Ref 101	Ministère des Transports de l'Équipement, du tourisme et de la mer (2006) "Démarche prospective transports 2050 – Eléments de réflexion, CGPC les rapports, N° 2006-0036-01, March 2006
Ref 102	Ministère des Transports, (2006) « Projections de la demande globale de transport en France à l'horizon 2025 », Jean-Claude Méteyer, 6 March 2006
Ref 103	Ministère des Transports, de l'Équipement du Tourisme, et de la Mer, (2005) « Le tourisme dans l'union européenne », February 2005
Ref 104	Ministère des Transports, de l'Équipement, du Tourisme et de la Mer, Conseil Général des Ponts et chaussées, Service Economie, Statistiques et Prospectives (2006) « Démarche prospective transports 2050. Problématique des flux de transport: Mobilité Loisir-Tourisme », Note de travail, Françoise Potier, March 2006
Ref 105	Ministère des Transports, de l'Équipement, du Tourisme et de la Mer, Conseil Général des Ponts et chaussées, Service Economie, Statistiques et Prospectives (2004) « Ralentissement probable de la demande des transports intérieurs dans les 20 prochaines années », December 2004
Ref 106	Ministère des Transports, de l'Équipement, du Tourisme et de la Mer, (2007) "Les transports en 2006", March 2007
Ref 107	Opération Futuris, Recherche-Innovation-Société, La croissance mondiale, January 2004 (see: www.futuris-village.org/FV-jalons/7-fiches-variables/fiches/1B.pdf)
Ref 108	Organisation Mondiale de la Santé (OMS), (1998) « Le Rapport sur la Santé dans le Monde, 1998: La vie au 21è siècle - une perspective pour tous », publié le 11 May 1998
Ref 109	Oséo, (2005) « La tendance du low cost: l'achat utile au plus bas prix ». Sunday 5 June article, June 2005

Ref 110	Projet SNCF, (2005) « Imaginez le transport public de 2025 », Université de Marne-la-Vallée, Master de Génie Urbain, 2005-2006
Ref 111	Rapport de l'Office Parlementaire d'Évaluation des choix scientifiques et technologiques, (2002) « L'évaluation de l'ampleur des changements climatiques, de leurs causes et de leur impact prévisible sur la géographie de la France à l'horizon 2025, 2050 et 2100 », Rapporteur M. Marcel Deneux, Sénateur. 30/1/2002 (see: www.senat.fr/rap/r01-224-1/r01-224-140.html)
Ref 112	René Trégouët, sénateur du Rhône, (2003) « Édito: l'obésité: un fléau social majeur », January 2003
Ref 113	Rapport de l'Office Parlementaire d'Évaluation des choix scientifiques et technologiques , (2006) « Changement climatique, transition énergétique: dépasser la crise », Office Parlementaire d'évaluation des choix scientifiques et technologiques, Résumé du rapport de M. Pierre Laffitte et M. Claude Saunier, sénateurs. 2006
Ref 114	Réseau Action Climat France, (2005) « Agriculture, effet de serre et changements climatiques en France », 2005
Ref 115	Revue Futuribles, Étude rétrospective et prospective des évolutions de la société française (1950-2030)
Ref 116	Experian, (2006) « Le monde du voyage à l'horizon 2020, Inventer un nouveau tourisme pour les voyageurs de demain ». « Vision : la lettre client d'Experian en France », Societal study, spring 2006, http://www.experian.fr
Ref 117	www.diplomatie.gouv.fr
Ref 118	www.inpes.sante.fr/CFESBases/equilibre/pdf/Lettre5.pdf and www.doctissimo.fr/html/dossiers/alzheimer/sa_5919_alzheimer_journee_mondiale.htm

5.3 Work-package references

Ref 119	ELYSEES CONSULTING (2007) "DEL3.2: Sociological analysis of future leisure air transport demand", EUROCONTROL project: DEMAND 2025
Ref 120	M3 SYSTEMS, ELYSEES CONSULTING, ENAC (2007) "DEL1 : Definition of the study", EUROCONTROL project: DEMAND 2025
Ref 121	M3 SYSTEMS, ELYSEES CONSULTING, ENAC (2007) "DEL4.1 Study of air transport demand: Final report", EUROCONTROL project: DEMAND 2025
Ref 122	M3 SYSTEMS, ENAC (2007) "DEL2.2: Economic analysis of future leisure air transport demand", EUROCONTROL project: DEMAND 2025