

**Draft highlights of TF1 of the European Observatory on airport capacity and quality: Economic impact of unaccommodated demand and environmental variables influencing airport capacity**

**Brussels, 23 October 2014**

**1. Introduction and tour de table**

The purpose of the exercise was recalled by the two co-chairs, Morgan Foulkes (ACI EUROPE) and Léa Bodossian (ARC): collective intelligence is the goal, through exchanging views and different approaches, in order to present our joint assessment early next year.

Simon Brain (DG MOVE) took stock of the recent work done by the European Observatory on airport capacity and quality and its three Task Forces:

- This Task Force, TF1, is analysing “Economic and social impact of unaccommodated demand and environmental variables influencing airport capacity”. It is co-chaired by ARC and ACI EUROPE. Both were thanked for their efforts and work through the summer period.

- Task Force 2 is addressing “Delays – methods of measuring, reporting and analysing”, and is co-chaired by IATA and Eurocontrol.

- Task Force 3 is dedicated to “Learning from national strategies on airport capacity”. It is chaired by David McMillan (Eurocontrol).

The final reports of the taskforces should be presented at the next plenary meeting of the Observatory in the 1<sup>st</sup> half of 2015.

**2. Update on the comments received on the Terms of Reference**

No comments were made on the highlights of the first meeting. Only ERA sent comments on the ToR, these were addressed bilaterally with the Chairs. The ToR circulated to members ahead of the meeting are thus endorsed by the group. TF1 will operate strictly within the scope of the mandate granted by the European Commission.

Morgan stressed that, in view of the plenary meeting in the 1<sup>st</sup> half of next year, TF1 would be working along three main streams of work. These will form the basic structure of the final report:

1) Mapping out environmental regimes at the 10 airports selected by the group (typology of restrictions). This would allow the identification of the main trends along with conclusions and possible recommendations;

2) An estimate of the economic & social impact of not being able to accommodate airport capacity demand by 2030-2035 in line with the Challenges of Growth report;

3) Mapping/listing of existing studies documenting the environmental costs of air transport.

→ All members agreed with this approach, and the work done so far falls within these areas of work.

→ Panos Spiliotis (ACI EUROPE) presented the contributions received for the environmental tables. Information for 8/10 airports. Almost all airports reported restrictions/night curfews. Mitigation measures are in place at many airports. Luke Wells (UK Dept of Transport) will provide information on London Heathrow and Dominique Lazarski (UECNA) on Arlanda (Sweden).

### **3. Presentations on the economic impacts of air transport**

**a. Val d'Oise cancelled its participation. Will assess the feasibility of a presentation at next meeting.**

**b. IATA presentation on its draft methodology on the economic benefits of aviation**

George Anjaparidze (IATA) presented their "Methodology on economic impact of air transport", an analysis carried out in association with Oxford Economics ("Benefits of Aviation" studies).

The issue is studied through different angles, at macro-level:

→ economic footprint: GDP, jobs (direct, indirect, induced), tax contributions;

→ consumer benefits (i.e. additional value that people get from using aviation);

→ wider economic benefits: productivity gains from increased productivity and catalytic effects => facilitated FDI, agglomeration effects.

Furthermore, he presented a proposal for a complementary approach: cost-benefit analysis (CBA), to assess individual cases, projects, programmes.

Through the discussion that followed, we understood that CBA is the most appropriate way to analyse specific cases, and to integrate other factors, such as environmental and health elements. The macro-economic and the CBA approaches are complementary, they don't substitute each other! The former is necessary to establish reference points and measure totals, while the latter complements it using knowledge from local communities to assess individual cases (suggestion is not to do this analysis on a pan-European level). CBA is a well-established way to evaluate specific cases and is necessary to plan infrastructure investment projects.

UECNA cautioned the suitability of modelling air transport. Need to be careful how politicians use data and analyses. Different models serve different purposes.

Pawel Zagrajek (Polish Civil Aviation Authority) concluded that models are not 100% satisfactory but necessary, they all have drawbacks that need to be acknowledged. But without them we would probably be worse off. Pasquale Proietti (ENAC) noted that citizens want information on the positive impact of airports, while Luke Wells stressed the usefulness of having a range (high end and low end). This allows the public to understand that the UK Gvt typically takes the mid range scenario. *Modelling allows informed decision making.*

Frédéric Lagneaux (DG MOVE) added that DG MOVE would soon launch an update of their study on employment and working conditions in air transport and airports, where direct and indirect employment would be calculated (raising the same question on where to draw the line), and working conditions assessed.

**c. ACI EUROPE Economic Impact Study**

Donagh Cagney (ACI EUROPE) presented their "Economic Impact of Aviation", a methodological approach, that focuses on airports. The study is work in progress, carried out in partnership with InterVistas. ACI is looking for something transparent that people can understand.

He addressed the context: healthy debates on many issues affecting aviation's future, incl. the European airports' capacity crunch and the scepticism that prevails when it comes to various analyses of economic impact of aviation (especially for induced and catalytic effects).

Donagh then presented the approach followed in their analysis. It also addresses direct, indirect and induced effects (i.e. the economic footprint), to which catalytic effects were added. The latter (productivity gains, etc.) is what distinguishes aviation from many other sectors (activity facilitated by the aviation sector).

This approach has advantages (clear, comparable, well-established, etc.) and limitations (not all elements are captured, such as gains in travel time or social costs of noise). 96 airports have been surveyed, accounting for 70% of passengers carried in the EU. He gave some details about the methodology (extrapolations, I/O tables, calculation of average wages, etc.).

On catalytic effects, they measured that, *ceteris paribus*, 10% increase of connectivity translates into 0.5% increase in GDP/capita. Caution advised with: Eurocontrol forecasts, number of jobs per mln PAX, assumptions behind catalytic impact (efficiency gains), etc.

Questions concerned the way to measure connectivity (ACI index vs. WB index), the "chicken-and-egg" phenomenon (correlation does not mean causality!). Pawel Zagrajek referred to their study on connectivity and will inform Donagh on their findings (incl. analysis of outliers). There too, connectivity can be seen from different angles, depending on destination (hub vs. small airport) and type of traffic (leisure vs. business).

UECNA stressed the difficulty to use macro-level findings to analyse micro-level/specific situations at airports (e.g. Beauvais). Happy that ACI EUROPE is adapting its model to take account of airport sizes. L. Wells stressed the need for a narrative on catalytic effects: the catalytic effects may be the most vague but also the most valuable. The catalytic impact is an important factor for companies deciding to locate a new HQ in a given region. The justification for an airport is not done based only on its impact on direct jobs!

Léa concluded by saying we need a large-scale vision, while CBA provides a more accurate approach for social and environmental costs analysis at local level. The latter element is our big gap so far. On direct/indirect/induced, where to put the boundaries is an important question.

#### **4. Presentations on the environmental impacts of air transport**

##### ***a. Bernard Berry and Diana Sanchez Barajas to present "The economic and social value of aircraft noise effects: A critical review of the state of the art"***

The first presentation (by B. Berry) focused on the way environmental noise affects human health. The study analyses the way different factors interact: noise > stress >

risk factors > manifest disorders... The question of severity of effects was also raised. According to statistics annoyance has significantly increased since the 1990s, but it is to a large extent associated with the amendment of the methodology. Unlike carbon, noise does not have a market price but it has a value. The question is how much do people value noise and how does this translate into costs?

The second presentation (by D. Sanchez) addressed quantification and monetisation of the effects. This dimension has taken on significance as a major field of study with important implications in policy making and business management. The following questions were raised: (\*) what is the economic value ( $\neq$  price) of noise and is it possible to value noise?; (\*) why is it important? (ref. to UK airports commission, through CBA); (\*) how to undertake monetisation?

On the latter, various steps need to be undertaken: association > causality > monetisation > interpretation > €. Reliability of the methodologies is an issue: Numbers can be produced but what do they mean (correlation does not mean causality) and how are they used?

Approaches include DALY (disability-adjusted life years) and social preference (willing to pay WTP vs. willing to accept WTA). Various diseases are considered: acute myocardial infarction, hypertension, sleep disturbance and annoyance.

#### *Conclusion:*

-> No universally accepted methodologies to assess impact of noise on health. Not possible to have an absolute cost of the impact of air transport on health

-> lack of pan-European data, methodology and research on the noise and emissions and its impact on society

-> very difficult to monetise noise effects and risk of double-counting when the effects are summed. Instead monetisation should be used to enhance understanding of the trends and provide input for decision making

-> no need 100% evidence to act: precautionary principle, need to deliver responsible airport operations.

This presentation triggered an interesting debate:

- UECNA pointed out that absolute levels of noise are equally important as average noise levels, and air quality linked to it should be taken on board. Health and environment are closely linked and should be analysed together: "environmental capacity of airports" is what we need to assess (re: overflowed population X nb of movements).

- ACI EUROPE stressed the importance of the non-acoustic factors of noise.

- Pawel Zagrajek said noise is not only to be related to airports, but more generally to traffic management as a whole. He also noted the trade-off between noise and emissions.

- UK airports commission is looking at today's situation and tries to address all those dimensions. It's interesting to note that many complaints come from populations sometimes living very far away from airports. UK airports Commission will publish numbers on the cost of noise but there are too many uncertainties associated with these numbers.

- Wrap-up (Léa): The methodology for economic impact studies is driven by industry and this methodology has flaws (see above). The methodology to assess the cost of environmental impacts is even more uncertain and there is no way to live with the flaws.

This does not mean we can disregard that dimension in our global assessment but there is a need for a methodology allowing for comparisons.

***b. Eurocontrol presentation on how the environmental impacts of aviation have been factored into the development of the Challenges of Growth scenario – David Marsh***

D. Marsh (Eurocontrol) presented the main findings of the CoG 2013 report: summary and 7 reports – environment cuts across all of them), its four scenarios (global growth; regulated growth; happy localism; fragmented world) and the respective air traffic forecasts. In the case of regulated growth or happy localism, we may encounter a 1.9 flights gap by 2035. Solutions include increasing capacity, operational efficiency, size of aircraft, load factor, but still increasing CO2 emissions – alternative: high-speed train?

He then turned to the environmental question in the forecasts. Environmental sustainability in terms of CO2, noise, climate resilience, mitigation measures, etc. The sooner we act on mitigating the negative effects of aviation and other transport modes, the less costly / difficult it will be for our communities.

D. Marsh said that Eurocontrol has justified impression that environmental limitations were not always perceived as such by airport operators and that noise limitations (such as noise curfews) were captured as “physical limitations” or simply by stating the operating hours of the airport. Environmental restrictions were not always accounted for in the questionnaire but they were factored in the answers and the overall projections. The questionnaire sent to airports did not aim at documenting environmental restrictions at airports but rather to identify factors impacting airport capacity.

- Léa & Morgan sought confirmation that at least part of the environmental question was already embedded in this analysis and any double counting avoided.

- George (IATA) stressed the importance of forecasting the number of passengers and flights to assess the gap between available capacity and needed capacity, comparing constrained and unconstrained environments.

***c. French DGAC report on operating restrictions resulting from the environmental regulations at CDG and Orly Airports - Philippe Ayoun – → postponed to next meeting***

***d. UECNA presentation on the studies aimed at assessing the costs of the environmental impacts of air transport***

Dominique Lazarski (UECNA) was representing local populations. A difficult task to defend their interests, in a period of recession when the only thing that matters is growth and jobs...

Some comfort can be found in the UK example, striking a balance between positive impacts of air transport and need to limit its negative social and environmental impact.

Beside noise, air quality is a crucial issue (CO2 but also NOx). More and more people affected by noise and poor air quality (asthma, bronchiolitis, heart diseases, cancer...). Public financing is a response to these health problems. Air transport should contribute to that financing too. In France "Pour un plan coeur" scheme (2014) revealed that € 25 billion were spent every year in France on heart and vessels diseases.

Conclusion: Need to assess all negative impacts if we aim to carry out a fair analysis; feelings and expectations of overflowed populations must be taken into account; public authorities must assume their responsibilities; polluter-pays principle must apply.

The discussion went on, pointing at the lack of figures on the cost of air pollution at EU level. On noise, UECNA uses the European Aircraft Noise Management System, that relies on 600 noise measurement stations across Europe, giving information 24x7 on the internet.

On adopting DALY or WTP/WTA approaches, the former is well-established (WHO concept) and is the only way to support the precautionary principle. D. Sanchez pointed out that both measures do not necessarily address the same problems and are to some extent complementary. However their results cannot be easily combined. Léa had some doubts though as there is no agreed methodology to assess environmental impacts. DALY is very sensitive politically... The point was made about the need for good land-use planning policies in Europe as people continue to build houses around airports and want to live there. Morgan referred to ultrafine particles (although not only an aviation issue) as a key issue in years to come. UECNA pointed out that measures are in place for road transport and the same should apply for air transport. L. Wells noted that when it comes to addressing air quality limit problems at the airport, it can be more effective to decarbonise the motorway around the airport as opposed to the airport itself.

## 5. Conclusions

- A busy day, full of interesting presentations and discussions. The work of TF1 is really moving forward!
- Economic analyses: no methodology is perfect, shortcomings in every of them. Donagh and George will pursue their dialogue and continue to exchange information on their respective studies.
- Presentations to be circulated with the highlights of the meeting.
- Additional information on noise and air quality will be collected for Arlanda (UECNA) and London Heathrow (UK DoT). Once all data is received and complete, the environmental tables will be circulated to members.
- The table on economic approaches should be filled-in soon. The European Commission would like this table to be circulated and filled-in by a larger number of members (Donagh and Frédéric).
- **Next meeting: tentatively Friday 12 December 2014 at ARC offices** (and subsequently February 2015).

Léa & Morgan (co-chairs)

A big thank you to Frédéric Lagneaux for his notes !

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