ICAO-ACI/LAC Seminar for the Americas

Airport Environmental Impact Assessments

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Good morning and thank you for inviting me to speak regarding Airport Environmental Impact Assessments.

As we all put forward and implement major capital improvements at our airports, it will be ever more critical that those programs take into account the potential environmental impacts that may result either from the program's actual construction, or from the future operation of the proposed improvement. To not do so is to risk: continued and costly legal battles with our airport's neighbors; having to implement costly measures to correct environmental problems, and; irreversible damage to our country's natural and man-made resources.

Background in the United States

In discussing an approach to analyzing the environmental impacts of a proposed action, I will be using the model employed in the United States for discussion purposes. While many of the specific problems and impediments to development that exist in the United States may have little or no applicability to your own situation, the principal issues with airport development remain the same around the world, i.e., impact of aircraft noise on our airport's neighbors, the effect of air pollution resulting from aircraft and vehicles travelling to and from our airports, and the impact of the airport facilities on our water and other natural and man-made resources.

The study of the environmental impacts associated with major projects began in earnest in the United States with the passing of the National Environmental Policy Act (NEPA) in 1969. Generally, that federal law mandates that, whenever a federal agency has to take an action in approving a plan or approving federal funding for a project, the agency must assess the environmental impacts that may result from that action in determining whether or not to approve it. The principal has been well-established in the United States and has subsequently been adopted for actions by State and Local agencies as well. If an action requires approvals at two or more levels, the review and approval of the higher governmental entity will typically govern.

The federal agency responsible for regulating the aviation industry in the United States, the Federal Aviation Administration, has promulgated a set of guidelines for airport operators to use in conducting environmental assessments. These guidelines are included in FAA Order 5050.4A, the Airport Environmental Handbook. In summary, the environmental review process is initiated by the proponent of the action - the "Sponsor" - with the appropriate governmental agency evaluating the studies conducted and rendering an evaluation that will allow the project to move forward or not.

Environmental Action Choices

The guidelines established by NEPA for the federal agencies set three levels of review and potential action by the agencies. A Categorical Exclusion can be issued for a project, indicating, in effect, that the proposed action has been proven in the past to have benign effects on the environment. If an action is not categorically excluded, it will typically be subjected to an Environmental Assessment. An Environmental Assessment study is a general review of the potential environmental impacts of a proposed action to establish if the action merits further study in an Environmental Impact Statement (EIS) study, or if the action is found to have no significant impact (FONSI, or Finding of No Significant Impact) and may proceed. An EIS study is a detailed analysis of the potential impacts of the proposed action, focusing on those areas already established through an EA study as being likely to result in a significant impact. An EIS will result in a Record Of Decision (ROD) permitting the action to proceed with – possibly - certain restrictions, or it may establish that the impacts are irreversible and not justified by the proposed action, in which case the action may not proceed. I will discuss each of these in turn and provide examples.

Categorical Exclusions

From experience, the FAA has established that certain actions are likely to result in an impact on the environment and should be studied closely in either an EA or an EIS. All other projects are categorically excluded unless there are extraordinary circumstances associated with the project (i.e., it is likely to have an effect on properties protected by the Federal government, such as for Historic Preservation or farmlands; it is highly controversial on environmental grounds; it is likely to have a significant impact on

natural, ecological, cultural, or scenic resources of national, state or local significance, etc.) or the action is likely to have a significant cumulative impact when taken into consideration with the consequences of subsequent related actions.

As examples, a routine overlay of a runway to restore its original design strength would typically be considered a categorical exclusion. An overlay to allow the use of larger aircraft that would significantly increase the noise levels around the airport would typically not be categorically excluded; it would require an Environmental Assessment Study, at a minimum.

EA Leading to FONSI

The FAA requires that an Environmental Assessment study be conducted for most projects that are not readily classified as Categorical Exclusion. The EA study is typically conducted by the Airport Operator or his consultant. The requirements of the study are delineated in the Airport Environmental Handbook and include:

- A Purpose and Need Section.
- An identification of alternatives to undertaking the proposed action, including a "Do-Nothing" scenario.
- An analysis of the specific environmental impact of the proposed action and each alternative in twenty areas of study, including: noise; compatible land use; air quality; water quality; socio-economic impacts; historic, architectural, archeological, and cultural resources; endangered and threatened species of Flora and Fauna [1], and; construction impacts.
- A listing of preparers, agencies and persons consulted and their responses, and a summary of citizen involvement, including evidence of the opportunity for a public hearing as well as of issues raised at any public hearings.

Upon review of the Environmental Assessment, the FAA will reach either a Finding of No Significant Impact (FONSI) or determine that additional study is called for in one or more areas in an Environmental Impact Statement (EIS). A few examples of EAs that resulted in FONSIs follow.

[1] A complete listing of the Environmental Consequences Impact Categories is provided in Appendix 1.

JFK 2000 Program

In the mid 1980s, the Port Authority of New York & New Jersey initiated a program they called JFK 2000 which had as its goal a series of landside improvements at John F. Kennedy International Airport (JFK) to allow the airport to handle projected traffic growth at an acceptable level of service. At that time, the Airport was served by a series of internal roadways and one major highway. The JFK 2000 program called for the construction of a new transportation center in the middle of nine terminals, serving as an entry and distribution point for passengers coming to the Airport on buses and other high-occupancy vehicles, and allowing for transfers from one terminal to another. The Environmental Assessment for this massive project resulted in a FONSI. Although the program represented one of the largest undertakings by an airport operator in the late-1980s, the FAA concluded - upon review of the supporting documentation – that the program would have little or no impact on the environment. In fact, by reducing the number of gasoline-powered vehicles circulating on the roadways at JFK, the impacts on air quality would be slightly improved. The approval cleared the way for the Program to commence although subsequent opposition by the airlines has resulted in the Program being scaled back and the transportation center being eliminated.

USAir Terminal At LaGuardia Airport

At another airport operated by the Port Authority of New York & New Jersey – LaGuardia Airport in New York – the agency put forth plans in the late 1980s for a new terminal to be located at the east end of the airport. This new terminal would add ten additional gates to the Airport. However, the Port Authority proposed to simultaneously reconfigure an existing terminal to convert the number of narrow-body gates to a lesser number of wide-body gates, thereby reducing the number of gates at that terminal by nine. The two projects would result in a net gain of only one gate position. In addition, by introducing more wide-body, Stage III aircraft into the mix at LGA, the overall noise contour for the Airport would actually be reduced, while the airport served more passengers. The FAA's acceptance of these analyses allowed the project to move forward.

Environmental Impact Statements (EIS)

An Environmental Impact Statement is the most detailed study conducted of the potential impacts resulting from a proposed action. The study may determine whether or not a project will ever move forward or, if it does, how the potential impacts will need to be mitigated.

An EIS typically begins after the studies conducted in an EA indicate that one or more areas require detailed analyses and evaluation, however, that is not always the case. The FAA will require an EIS if they are approving an airport layout plan or location for the first time for a commercial service airport in a metropolitan area. They will also require an EIS for the federal financing participation in, or approval for, a new air carrier runway at a commercial airport in a metropolitan area.

An EIS is normally the highest level of environmental scrutiny to which a governmental action is subjected in the United States. The EIS process has three distinct phases:

- Scoping. During this phase, the FAA solicits input from all interested agencies and other parties regarding which issues are to be analyzed in depth and establishes who will be responsible for inputs to the EIS
- Draft EIS. The issues identified in the Scoping phase are studied in depth and issued in a draft document that includes the following elements:
    - Purpose and Need for the Action
    - Alternatives, Including the Proposed Action
    - A description of the Affected Environment
    - Environmental Consequences, identifying – among other things - the direct and indirect effects of the proposed actions and alternatives - and their significance - as well as the means to mitigate adverse environmental impacts.
    - Adverse Impacts Which Cannot Be Avoided, Short-Term Uses And Long-Term Productivity, And Irreversible And Irretrievable Commitments Of Resources
    - List of Preparers, List of Parties to Whom Sent

  - Index and Appendices
- Final EIS. The Draft EIS is used as a basis for soliciting input prior to rendering a final decision. This last phase includes the following steps:
  - Distribution for Federal Reviews of Draft EIS
  - Comments on the Draft EIS
  - Preparation and Review of Final EIS
  - Approval of Final EIS
  - Notification and Distribution of Approved Final EIS
  - Decision
  - Implementation of Environmental Commitments

An EIS allows for the objective evaluation of the various impacts – both positive and negative – which are likely to result from the implementation of a proposed action. In the end, the Federal Agency is responsible for the accuracy and thoroughness of the analyses conducted in support of the final decision made on the EIS. An example may help demonstrate these aspects of an EIS.

New Runway at Lambert-St. Louis International Airport

St. Louis, Missouri is served predominantly by one air carrier airport, Lambert-St. Louis International Airport (STL). The city and airport are close to the geographical center of the United States and, as such, the primary carrier – TWA – has developed a hub that serves a good number of transferring passengers for transcontinental flights. The Airport's two primary runways are parallel and spaced at 400 meters, too close to one another to allow simultaneous departures or arrivals during inclement weather, resulting in a single runway operation during IFR conditions. Because the airport itself and the area surrounding STL are fully developed, a new runway would require the acquisition of either commercial, industrial, or residential properties, or perhaps all three.

A Master Plan for the Airport recommended a series of improvements at STL, including the construction of a new parallel Runway, spaced at 1,250 meters from the existing Runway 12L/30R and to the west of the current airport in a residential neighborhood. An EIS was conducted in the late 1990s and a Record of Decision was issued in fall of

1998, approving the acquisition of almost 2,000 residences and businesses that would be directly in the area to be developed for the new runway. In conducting its analyses, the FAA noted that continued demand at the airport would be subject to ever-increasing delays. With the construction of the new runway, these delays would be reduced and generate annual savings to the airlines and passengers of as much as $100 million in 2005, rising to almost $300 million by 2015. Of interesting note was the FAA's assertion that the new runway would also have a beneficial effect on the entire air traffic system in the United States, generating total savings of up to $15 billion by 2015. The runway is estimated to cost close to $1 billion owing to the land acquisition required and the large amount of earth movement involved in its implementation. In issuing the ROD the FAA started that, although the proposed action was not the environmentally preferred one, it met the purpose and needs identified for the Airport and the community it serves.

Conclusion

The environmental impacts of major airport improvement programs are beyond question, particularly when dealing with the expansion or other modification of an existing facility. Opening up these programs to analyses and reviews by outside parties will always run the risk of generating negative criticism of the work, possibly jeopardizing the work due to technical as well as non-technical considerations, including politics. However, an objective analysis of the environmental consequences of a proposed action can help establish and quantify the benefits of the action as well, helping the airport operator in rebutting negative criticism and generating the financial and political support that may be required to ensure the project's implementation. And ultimately, an environmental impact analysis can help identify potentially adverse impacts on the environment before they occur, opening up the opportunity to mitigate the impact and avoid irreversible damage to our natural and man-made resources. The approach taken in the United States is but one model of how this can be accomplished and I hope this brief introduction to that approach was of benefit. If you have any questions, I will be happy to answer them.

Appendix 1

Environmental Consequences Specific Impact Categories[2]

1. Noise
2. Compatible Land Use
3. Social Impacts
4. Induced Socioeconomic Impacts
5. Air Quality
6. Water Quality
7. Department of Transportation Act, Section 4(f) [3]
8. Historic, Architectural, Archeological, and Cultural Resources
9. Biotic Communities (including both flora and fauna)
10. Endangered and Threatened Species of Flora and Fauna
11. Wetlands
12. Floodplains
13. Coastal Zone Management Program
14. Coastal Barriers
15. Wild and Scenic Rivers
16. Farmlands
17. Energy Supply and Natural Resources
18. Light Emissions
19. Solid Waste Impact
20. Construction Impacts

[2] Source: Airport Environmental Handbook, FAA Order 5050.4A
[3] Section 4(f) relates to – among other things - publicly owned lands used for parks, recreation areas, wildlife or waterfowl refuges, etc.