



Approaches to Integrating Airport Development and Federal Environmental Review Processes

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ACRP SYNTHESIS 17

**Approaches to Integrating
Airport Development and
Federal Environmental
Review Processes**

A Synthesis of Airport Practice

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Airports are vital national resources. They serve a key role in transportation of people and goods and in regional, national, and international commerce. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the airport industry. The Airport Cooperative Research Program (ACRP) serves as one of the principal means by which the airport industry can develop innovative near-term solutions to meet demands placed on it.

The need for ACRP was identified in *TRB Special Report 272: Airport Research Needs: Cooperative Solutions* in 2003, based on a study sponsored by the Federal Aviation Administration (FAA). The ACRP carries out applied research on problems that are shared by airport operating agencies and are not being adequately addressed by existing federal research programs. It is modeled after the successful National Cooperative Highway Research Program and Transit Cooperative Research Program. The ACRP undertakes research and other technical activities in a variety of airport subject areas, including design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration. The ACRP provides a forum where airport operators can cooperatively address common operational problems.

The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. The primary participants in the ACRP are (1) an independent governing board, the ACRP Oversight Committee (AOC), appointed by the Secretary of the U.S. Department of Transportation with representation from airport operating agencies, other stakeholders, and relevant industry organizations such as the Airports Council International-North America (ACI-NA), the American Association of Airport Executives (AAAE), the National Association of State Aviation Officials (NASAO), and the Air Transport Association (ATA) as vital links to the airport community; (2) the TRB as program manager and secretariat for the governing board; and (3) the FAA as program sponsor. In October 2005, the FAA executed a contract with the National Academies formally initiating the program.

The ACRP benefits from the cooperation and participation of airport professionals, air carriers, shippers, state and local government officials, equipment and service suppliers, other airport users, and research organizations. Each of these participants has different interests and responsibilities, and each is an integral part of this cooperative research effort.

Research problem statements for the ACRP are solicited periodically but may be submitted to the TRB by anyone at any time. It is the responsibility of the AOC to formulate the research program by identifying the highest priority projects and defining funding levels and expected products.

Once selected, each ACRP project is assigned to an expert panel, appointed by the TRB. Panels include experienced practitioners and research specialists; heavy emphasis is placed on including airport professionals, the intended users of the research products. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, ACRP project panels serve voluntarily without compensation.

Primary emphasis is placed on disseminating ACRP results to the intended end-users of the research: airport operating agencies, service providers, and suppliers. The ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties, and industry associations may arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by airport-industry practitioners.

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FOREWORD

Airport operators, service providers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to the airport industry. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire airport community, the Airport Cooperative Research Program authorized the Transportation Research Board to undertake a continuing project. This project, ACRP Project 11-03, "Synthesis of Information Related to Airport Practices," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute an ACRP report series, *Synthesis of Airport Practice*.

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

PREFACE

*By Gail Staba
Senior Program Officer
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Research Board*

This synthesis study is intended to inform airport operators, including planners and environmental documentation managers, about successful practices used to integrate airport development and federal environmental review processes.

Experience shows that when an airport sponsor fails to consider environmental issues during the airport planning process, delays in the FAA environmental decision-making processes often occur. Those delays occur because the FAA is unable to meet its National Environmental Policy Act (NEPA) obligations based on the data available. This may result in the FAA having to commission additional evaluation because:

- While the primary project was identified, the projects that were necessary to enable the primary project were not identified;
- Insufficient information is available to support the need for the project; and
- Impacts to resources protected by special purpose laws (i.e., wetlands, floodplains, parklands, historic resources, etc.) were not known and thus alternatives were not explored that would avoid affecting the resources.

These issues are often referred to as a "disconnect" between the NEPA process and the steps that precede it. The airport community and the FAA have attempted to address the disconnect with improvements to the guidance and conferences to discuss the guidance and remaining issues. However, disconnect-related issues have continued to persist. In 2008, interested parties presented a synthesis project request to ACRP to examine this disconnect, which resulted in this project research. Seventeen case studies were collected and reported.

The surveys and case studies identified activities that airports performed to integrate planning and environmental review processes of projects at airports throughout the United States. Seven general themes can be drawn from the survey work:

- Early Coordination and Consultation
- Knowing Your Airport (*know the on-site environmental features*)
- Appropriate Range of Alternatives
- Good Lines of Communication
- Public Involvement Strategy
- Coordinating State and Federal Environmental Review Processes
- Funding an FAA Position.

Donald G. Andrews, Reynolds Smith and Hills, Inc., Houston; David J. Full, Reynolds Smith and Hills, Inc., San Francisco; and Mary L. Vigilante, Synergy Consultants, Inc., Seattle, collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

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APPROACHES TO INTEGRATING AIRPORT DEVELOPMENT AND FEDERAL ENVIRONMENTAL REVIEW PROCESSES

SUMMARY

As the lead federal agency for airport projects, the FAA complies with the National Environmental Policy Act (NEPA) for all federal actions. To aid in compliance with NEPA, the FAA has issued guidance in FAA Order 1050.1E (Federal Aviation Administration, Order 1050.1E, *Environmental Impacts: Policies and Procedures, Change 1*, March 20, 2006), FAA Order 5050.4B [Federal Aviation Administration, Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 26, 2006] and the associated *Environmental Desk Reference for Airport Actions* (October 2007), and the *Desk Reference for Airport Actions*. In completing its agency duties, the FAA is responsible for:

- Determining if an airport action is a categorical exclusion under NEPA,
- Reviewing environmental assessments prepared by airport sponsors or their consultants,
- Ensuring that the environmental assessments meet FAA requirements, and
- Preparing environmental impact statements.

The FAA consults with the airport sponsor concerning proposed improvements to airport facilities. It is the policy of the FAA that airport sponsors, as owners and operators of the nation's airports, are responsible for careful and thorough planning of their respective facilities. For purposes of this synthesis project, planning is a catch-all term to describe all efforts used to develop the concept and details of a proposed airport improvement. Planning may be a traditional Airport Master Plan, Airport Layout Plan Update, or it may be a series of tasks used to identify the need and scope of a project.

Experience shows that when an airport sponsor fails to consider environmental issues during the airport planning process, delays in the FAA environmental decision-making processes often occur. Those delays occur because the FAA is unable to meet its NEPA obligations based on the data available. This may result in the FAA having to commission additional evaluation because:

- Although the primary project was identified, the projects that were necessary to enable the primary project were not identified;
- Insufficient information is available to support the need for the project; and
- Impacts to resources protected by special purpose laws [i.e., wetlands, floodplains, departments of transportation 4(f) lands, etc.] were not known and thus alternatives were not explored that would avoid affecting the resources.

These issues are often referred to as a “disconnect” between the NEPA process and the steps that precede it. The airport community and the FAA have attempted to address the disconnect with improvements to the guidance and conferences to discuss the guidance and remaining issues. However, disconnect-related issues have continued to persist. In 2008, a synthesis project request was presented to the ACRP to examine this disconnect, which resulted in this project study.

This synthesis project is an examination of why this disconnect occurs. This report focuses on identifying practices, both good and bad, that airport sponsors and FAA planners

and environmental specialists have used to integrate the sponsor's airport planning efforts and the FAA's environmental review processes.

For purposes of this synthesis report, "airport planning" includes any combination(s) of the following efforts that precede the start of the environmental review process:

- Airport Master Plan, Master Plan Update, or Airport Layout Plan Update;
- Airport facility inventories;
- Modeling to determine operational efficiency of airport facilities;
- Aviation forecasting;
- Facility needs evaluations, including demand/capacity evaluations;
- Project formulation and justification; and
- Analysis of alternatives that would achieve the airport sponsor's proposed goals.

For purposes of this synthesis report, the "environmental review process" includes all efforts to comply with NEPA and other federal environmental laws, regulations, executive orders, and department of transportation orders that may apply to a proposed project. (For a compilation of these requirements, see FAA Order 5050.4B and the 2007 *Environmental Desk Reference for Airport Actions*: http://www.faa.gov/airports_airtraffic/airports/environmental/environmental_desk_ref/media_ref.pdf).

The surveys and case studies identified activities that airports performed to integrate planning and environmental review processes of projects at airports throughout the United States. Seven general themes can be drawn from the survey work:

1. Early Coordination and Consultation
2. Knowing Your Airport (*know the on-site environmental features*)
3. Appropriate Range of Alternatives
4. Good Lines of Communication
5. Public Involvement Strategy
6. Coordinating State and Federal Environmental Review Processes
7. Funding an FAA Position.

DATA COLLECTION PROCESS

This section of the synthesis report provides an overview of the data collection process that was completed for the synthesis project.

SCOPE OF WORK

The consultant team prepared the draft work plan that was reviewed by the Topic Panel and the TRB representative. Comments on the draft work plan were received and a final work plan was developed that responded to these comments.

LITERATURE REVIEW

No literature on integrating the airport planning and environmental review processes was identified. As a result, no literature review was conducted as part of this synthesis project. Data were gathered through direct contact with the FAA and airport sponsors.

COORDINATION WITH FAA

The consultant team, along with the TRB representative, set up a series of conference calls with FAA Regional Environmental Specialists. Each conference call involved from one to three FAA Regional Environmental Specialists and was intended to solicit information regarding which projects are the subject of additional review through a detailed survey. For purposes of this synthesis report, a full complement of airport projects in each region would have included three airport projects that were the subjects of Environmental Impact Statements (EISs), three airport projects that were the subjects of Environmental Assessments (EAs), and three airport projects that were subjects of Categorical Exclusions (CatExs). In some instances, FAA Regional Environmental Specialists were unable to identify a full complement of airports to receive the survey, as either the region had not had three EISs conducted in the last five years or the Regional Environmental Specialist may not have participated in EAs or CatExs.

SURVEY OF FAA

As part of the conference call, the FAA Regional Environmental Specialists were also interviewed to identify the issues associated with each of the integration efforts at the airports that received a survey. Although the original scope

of work would have had the FAA Regional Environmental Specialists complete a survey for each airport they identified during their respective conference calls, it was decided (with input from FAA headquarters and TRB) that the FAA Regional Environmental Specialists would be interviewed to gather the information that the survey was intended to provide. Given the workload of the Environmental Specialists, this approach was taken to maximize input.

The conference calls with the FAA Regional Environmental Specialists were candid and provided insight into the issues associated with the integration of the planning phase and the NEPA documentation phase of an airport improvement project.

SURVEY OF AIRPORT SPONSORS

A total of 46 surveys were distributed to airports throughout the United States. The survey instrument, which is presented in Appendix A, was developed to have airport sponsors provide candid responses to describe their experience in integrating their planning efforts with the environmental review process. As with all survey instruments that have open-ended questions, interpretation of the questions resulted in some inconsistencies in terminology and, correspondingly, in some value judgments. A summary matrix was developed to provide a comparison of responses by the airport sponsors. This summary matrix, which is presented in Appendix B, was developed as an overview of the responses. The categories presented in this matrix correlate to topics included in the survey instrument. In preparing the summary matrix, an attempt was made to “standardize” responses to allow for comparisons among the survey respondents. Some of the information contained in the summary matrix cannot be standardized because it is not possible to make direct comparisons among the information received from the airport sponsors. For example, the responses regarding the “Cost of NEPA” vary greatly—some airport sponsors provided the actual cost paid to the contractor to prepare the National Environmental Policy Act (NEPA) document, whereas other airport sponsors factored in the time that airport sponsor staff took to manage the consultant and/or the cost of implementing mitigation measures. Therefore, the summary matrix is presented not as a tool for determining conclusions associated with this synthesis project, but as a means for providing a quick comparison of the responses provided by the airport sponsors.

Initially, seven airports responded to the survey. To increase the number of survey respondents, representatives at each of the remaining 39 airports were contacted to request their participation. The time period in which surveys could be received was extended to provide potential survey respondents with additional time to complete the survey. At the conclusion of the outreach, a total of 17 project survey responses were received.

The 17 airports represented by the survey respondents range from large hub airports to general aviation airports. Thus, the survey has a fairly wide range of respondents to represent the experiences of sponsors in integrating the planning phase and the NEPA documentation. Presentation of the matrix (and the case studies) has been done in such a way to preserve anonymity among the survey respondents. Of the 17 responses, two were about airport projects that were subjects of CatExs, five were about airport projects that were subjects of EAs, and ten were about airport projects that were subjects of EISs.

Survey responses were received from at least one airport sponsor from each of the nine FAA Airports Office regions. The amount of detail provided by the survey respondents ranged from very detailed to minimal (as can be noted when comparing case study 5 to case study 16).

Some of the survey responses reinforce the concept that there is no common understanding of the NEPA process requirements and the steps available to streamline the process. Examples of apparent misunderstandings, which focus on the roles and responsibilities of various parties, were found in several of the survey responses. Examples of areas needing improved understanding include:

- Council on Environmental Quality regulations require that EISs be prepared by a federal agency. It is assumed that some airport sponsors responded as if they were preparing EISs because the airport sponsors fund the consultant effort, which is then managed by the federal agency. In some cases, owing to FAA staffing levels,

airport sponsors have funded a staff position at the FAA to oversee EIS work.

- Federal agencies are required to conduct certain agency coordination efforts, such as compliance with Section 106 of the National Historic Preservation Act, tribal coordination, and consultation in compliance with Section 7 of the Endangered Species Act. FAA offices often involve airport sponsors in those meetings owing to the unique understanding that airport sponsors have for their airports and proposed projects; however, the FAA has sole compliance responsibility.
- The roles of the various parties in advocating for projects and selecting alternatives to be implemented are specified in various sections of FAA Order 1050.1E and 5050.4B.
- The FAA is not a proponent of projects. The FAA, in compliance with its responsibility under NEPA, takes an unbiased, objective view of projects brought forward by an airport sponsor.
- Actions on projects can occur only after the FAA has issued a Finding of No Significant Impact or a Record of Decision in compliance with NEPA.

Industry groups, such as ACI-NA and AAAE, have sponsored workshops that are designed to improve the understanding of the requirements of NEPA and to build better relationships between FAA regional and airport district offices.

SELECTION OF PROJECTS FOR CASE STUDIES

The consultant team included all 17 responding airports as case studies for this synthesis project. As a result, each airport sponsor that responded to the survey was re-contacted to gain additional information and insight into the issues that were identified in the survey by the airport sponsor. Some of the responses were modified to ensure that consistency in terminology was used in this synthesis report and that there was a clear understanding of the roles and responsibilities associated with each project. However, these modifications were not intended to alter the conclusions provided by the airport sponsor.

CASE STUDIES

This chapter presents the case studies for the 17 projects identified through the survey. Each case study includes a description of the proposed project, an identification of the key planning and environmental issues associated with the proposed project, the strategies that were used to integrate the planning and environmental review processes, and a discussion of the strategies used and other factors that would better integrate the planning and environmental review processes. The case studies presented in this chapter were prepared based on written survey responses and phone interviews to acquire additional information and insight into issues identified in the survey responses. As much information as possible was preserved from the telephone interviews that were conducted with each airport sponsor; however, some of the airport sponsor's responses have been modified for consistency. In addition, some of the telephone interviews resulted in modifications to the information provided in the survey. Therefore, some inconsistencies will be noted between the case studies and the matrix presented in Appendix B, the result of not modifying the initial survey responses provided by the airport sponsor.

CASE STUDY 1

Non-Hub Airport Runway Safety Area Improvements Categorical Exclusion

Project Description

The FAA required the Proposed Project to enable the airport to comply with Runway Safety Area (RSA) requirements. The main driver behind the Proposed Project was the need to meet grant assurances requiring RSA compliance. The airport sponsor's planning and operations offices were responsible for the planning and initiation of the Proposed Project, whereas the design and environmental offices were responsible for the environmental review.

According to the sponsor, the FAA also acted as a key project proponent throughout the action. Additionally, future grants were awarded through the FAA and were based on the airport sponsor meeting the RSA requirements. To complete the project, the airport sponsor was also obligated to acquire the appropriate permits.

Key Planning Issues

The Proposed Project was part of the Airport Master Plan and was identified as a precondition by the FAA for other grants. A planning document was also produced that supported both the need and timing of the Proposed Project. Furthermore, the forecast and airfield modeling data and analysis were current at the time of the environmental disclosure and analysis.

There were no key planning issues that concerned the participating agency and the affected public. The public showed limited interest in the Proposed Project, with few questions and comments throughout the process. Although no objections to the Proposed Project were received, the airport sponsor sent out newsletters, held public meetings, and communicated with local officials to keep the public aware of the actions taking place. Involving the public is a practice that provided the public with knowledge about the Proposed Project and allowed the public to participate in the planning process.

Key Environmental Issues

Environmental issues were considered as part of the planning process. The environmental process identified steps to minimize or avoid impacts by:

- Developing wetland mitigation,
- Developing mitigation of anadromous fish (fish that migrate from salt water to spawn in fresh water, such as salmon) stream impacts, and
- Avoiding known hazardous waste contamination areas.

The environmental issues were addressed without any public opposition or litigation. According to the airport sponsor, the public showed only slight interest in the Proposed Project, with no controversy identified or negative public comments.

The Proposed Project was coordinated with the following agencies: state environmental department, U.S. Army Corps of Engineers (USACE), state coastal zone department, U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service. The airport sponsor coordinated with these agencies through several meetings with the state environmental department. The sponsor worked with the state to resolve culvert- and stream-related issues. The airport sponsor reduced the environmental impacts from the Proposed

Project by adjusting the usable runway length and the aircraft approach angles. This enabled the preparation of a documented CatEx, because no extraordinary circumstances would occur as a result of the implementation of the project

Strategies Used to Integrate Planning and Environmental Review Processes

NEPA compliance was accomplished for the Proposed Project under a documented CatEx. Additionally, the environmental review process was expedited by using the following methods:

- Redesigning the Proposed Project to minimize impacts,
- Coordinating early consultation with agencies and the public, and
- Addressing agency concerns early in the planning process.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The above-mentioned strategy of thorough communication among the involved parties led to the desired, uneventful, and successful integration between planning and the environmental review process. Environmental considerations in the planning phase allowed for issues to be discovered and resolved before the formal environmental review process was initiated, thus expediting the process.

CASE STUDY 2

Non-Hub Airport Runway Safety Area Improvements Environmental Impact Statement

Project Description

The FAA required the Proposed Project to enable the airport sponsor to meet RSA standards. The airport sponsor was made aware of the RSA deficiencies through the Airport Master Plan and Airport Layout Plan (ALP) updates, and certification inspections done at the airport. The airport sponsor requested approval of non-standard RSA conditions. The FAA recognized the Proposed Project as an opportunity to address a matter of national priority. For the Proposed Project to be implemented, permits under Section 10 of the Rivers and Harbors Act and Sections 401/404 of Clean Water Act were required.

The airport sponsor's planning group and a citizen-based project evaluation review committee were responsible for the planning of the Proposed Project. Although the use of such a committee can assist in reducing opposition to a Proposed Project, the airport sponsor did not indicate whether the use

of such a committee had that affect. In addition, the airport sponsor was responsible for coordinating with the FAA to initiate the environmental review process. Furthermore, the airport sponsor's environmental staff was responsible for providing data for use in the environmental review of the Proposed Project.

Key Planning Issues

The forecast prepared for the Proposed Project was consistent with that of the Terminal Area Forecast (TAF), as well as the forecast in the Airport Master Plan Update. The few differences among the three forecasts were considered minor and insignificant; therefore, no issues occurred with respect to the forecasts. The Proposed Project was not necessarily part of the Airport Master Plan Update; however, many of the same issues and solutions were recommended in both the Airport Master Plan Update and in the NEPA documentation.

Public opposition was expected to occur as a result of environmental issues (i.e., wetlands impacts, effects on the placement of fill material, and wildlife impacts) that would result from the Proposed Project. The EIS contractor developed several programs and opportunities to communicate with the public. These outreach mechanisms included workshops, focus groups, study committees, newsletters, a website, presentations of process elements, press releases, and newspaper articles.

Numerous outside agencies were involved with the Proposed Project. The participating agencies included the EPA, FWS, National Marine Fisheries Service, state department of fish and game, and two state environmental departments.

Key Environmental Issues

The key environmental issues are related to the fact that the airport is tightly constrained by natural features. As a result of these factors, the practical solution to the non-standard RSA included the placement of a large amount of fill material that may potentially affect an estuary and its fisheries and Section 4(f) resources. The estuary is used by the surrounding community for subsistence and recreation purposes; therefore, public opposition to the placement of fill material was expected.

The environmental review process resulted in the need to do original research on a variety of natural resources, including population inventories for marine, estuarine, and palustrine species of fish, avians, and mammals. In addition, detailed physical inventories of terrain and bathymetry were obtained for the Proposed Project.

A key agency involved with the EIS was the FWS, which had a written agreement with the FAA for the reimbursement of expenses incurred through a survey conducted for the EIS.

Strategies Used to Integrate Planning and Environmental Review Processes

Despite the knowledge that the project was bound on one side by a department of transportation (DOT) 4(f) resource and on the other by a river, both of which are governed by Special Purpose laws, the Master Plan did not examine alternatives designed to avoid impacts to these resources or to minimize effects. Further, during the EIS process, it was shown that the critical aircraft upon which the Proposed Project was based was not projected to be used at the airport. Thus, although the need for RSA correction was clear, the basis for selecting the airport sponsor's proposed action was not adequately documented. As a result, substantial replanning was conducted during the EIS process to reconsider all possible alternatives and to coordinate the alternatives with agencies and the public.

Because the Master Plan provided little foundation for the Proposed Project, substantial delays were incurred in the environmental review process to reevaluate alternatives. Additionally, the lengthy and detailed studies included in the environmental review process delayed the initial review of the EIS.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The Proposed Project could have been improved if prior research and data had been used rather than performing multiple analyses that repeated earlier research. Funding availability for the EIS was an issue throughout the environmental review process and acted as a primary concern for the airport sponsor and the FAA. Some of the budget strain could possibly have been eliminated if, again, repetitive analyses did not occur.

CASE STUDY 3

Medium Hub Airport Business Park Environmental Assessment

Project Description

The airport sponsor recommended the Proposed Project to encourage economic development on unused airport property. Economic development is a priority for the airport sponsor; thus, the business park (i.e., the Proposed Project) was highly sought. For the Proposed Project to be approved, obtaining permits in compliance with Section 404 of the Clean Water Act was required; therefore, coordination with USACE was necessary. Coordination with USACE was initiated before the start of the environmental review process.

Key Planning Issues

The airport sponsor's forecast was consistent with that of the TAF and current at the time of the preparation of the NEPA document. Consistency with the TAF was important for the Proposed Project because the business park included users that rely on air cargo operations. In addition, the planning documents of the airport sponsor supported the need and timing of the Proposed Project.

The airport sponsor considered environmental resources as part of the planning effort and used the information to design the conceptual layout of the business park. The intent behind the conceptual layout was to minimize impacts to natural and environmental resources.

Key Environmental Issues

Environmental features were considered in the planning document and included wetlands, streams, floodplains, and surface traffic. The same issues were the focus of the NEPA documentation.

A significant amount of public opposition to the Proposed Project was not anticipated (nor actually experienced); however, precautionary measures and coordination with the involved agencies were taken. These included early coordination, scoping, public hearings, and workshops. The following agencies were involved with the Proposed Project: state historic preservation officer, EPA, state environment department, USACE, National Resources Conservation Service, state DOT, FHWA, U.S. Department of Agriculture, various city and county departments, a local land trust agency, U.S. Department of the Interior, state clearinghouse, Federal Emergency Management Agency, state conservation department, a federally recognized tribe, National Park Service, and the regional planning council [metropolitan planning organization (MPO)]. Of the above-mentioned agencies, no opposition was anticipated or apparent toward the Proposed Project.

The airport sponsor proposed changes to the conceptual layout of the Proposed Project after the start of the environmental review process to accommodate the potential tenants of the business park. The changes to the Proposed Project delayed the environmental review schedule by three to four weeks as these changes in the conceptual layout were made. However, the revised conceptual layout did not result in any changes to the environmental impacts of the Proposed Project. Therefore, although the schedule was affected by this change in conceptual layout, no adjustment to the cost of the environmental review was warranted.

Strategies Used to Integrate Planning and Environmental Review Processes

Several significant strategies contributed to the successful project. Team communication, coordination with the FAA

and concurrent internal team reviews all took place between the airport and involved agencies. As mentioned earlier, required permits were obtained from USACE as part of the environmental review process, which helped keep the Proposed Project moving forward. Thus, a practice to work with other federal agencies to incorporate their needs into the NEPA document so that the other federal agency can adopt the FAA-led NEPA document was used to integrate airport development and the environmental review.

Another practice used for this Proposed Project was to integrate environmental considerations into the planning process. The airport sponsor used information on environmental resources to design the business park to minimize impacts to wetlands, streams, and floodplains. This approach helped streamline of the NEPA document and avoid environmental issues.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The NEPA documentation was successfully completed with few public or agency comments. The communication and coordination, both before and during the environmental review process, contributed to the completion of the Proposed Project. Additionally, both the interested public and the various agencies had little or no opposition to the Proposed Project.

The change to the conceptual layout of the business park to accommodate the desires of the proposed users resulted in a delay in the review schedule. However, this delay was deemed to be acceptable because it did not result in any change in impacts to environmental resources and it was implemented to accommodate potential tenants of the business park.

CASE STUDY 4

Non-Hub Airport Runway Safety Area Improvements Environmental Assessment

Project Description

The Proposed Project was needed to bring the RSA into compliance with FAA standards and was required by the FAA grant assurances. The nonstandard RSAs were brought to the attention of the airport sponsor through recommendations from the Airport Master Plan update and FAA's compliance inspection. The state aviation department (which is a separate department and is not the airport sponsor) was the key project proponent, with the airport sponsor's planning and engineering offices being responsible for the project initiation and environmental review.

Key Planning Issues

At the time of the environmental disclosure and analysis, the forecast and airfield modeling data and analysis were current, and the airport sponsor's forecast was consistent with the TAF. Thus, there were no planning issues in relation to the forecasts.

The two agencies involved with the Proposed Project were the levee district and USACE. As a result, the airport sponsor arranged for meetings that included the FAA, the levee district, and USACE. The coordination and communication associated with the levee district and USACE took place before the start of the environmental review process and throughout the preparation of the EA. The airport sponsor also took precautionary measures to satisfy the interested public. This included public hearings, workshops, a website with draft materials, press releases, newspaper articles, meetings with USACE and levee districts, and meetings with corporate aircraft users groups. These steps were all initiated, and meetings held, before the start of the EA and continued throughout the preparation of the EA. This is a practice that was used to involve agencies throughout the entire planning and NEPA documentation process. Of the involved and interested parties, a minor amount of opposition occurred but was addressed before becoming an issue.

Key Environmental Issues

The key environmental issues considered before the start of the environmental review process included floodplain and floodways, noise, water quality, waters of the United States, and environmental justice. The primary issue encountered during preparation of the EA was associated with floodplains and there was intense opposition from the levee districts.

A change to the Proposed Project occurred, as the project was selected before FAA acceptance of the Engineered Material Arresting System (EMAS) as an alternative for addressing RSA compliance. The Proposed Project was revised to reflect the various refinements to the FAA RSA guidance associated with the EMAS. The revised Proposed Project called for the use of the EMAS to avoid floodway impacts as anticipated by the sponsors' consultant. The changes made to the Proposed Project affected the schedule of the environmental review, but in a positive way, because it resulted in a Proposed Project that could be implemented without significant environmental effects. This is a practice that was used to review the entire range of reasonable alternatives to determine which alternative would result in the least environmental impact while meeting the purpose and need of the proposed action.

The FAA, with the airport sponsor's agreement, initiated a change to the environmental review process. The change was the addition of two hydraulic analyses to address concerns expressed by the levee districts; as with the availability of the EMAS, an alternative was found that would avoid or

minimize effects to the levee. This change delayed the environmental review process by approximately two years. This delay could not have been avoided because the EMAS was not an accepted technological alternative during the earlier timeframe. Thus, the unique circumstances of the timing of the project were affected by outside influences of technological development.

Strategies Used to Integrate Planning and Environmental Review Processes

Strategies used to integrate planning and the environmental review processes incorporated communication and coordination among involved agencies before the commencement of the Proposed Project. The intensive agency coordination done in the planning and environmental review processes expedited the environmental review and approval process.

The changes and delays that occurred in the Proposed Project as a result of the need for acceptance of the EMAS, first by the FAA and then by the airport sponsor, were unavoidable. The information with regard to the EMAS was not available at the commencement of the environmental review process; however, the later inclusion of the EMAS shows the benefit of that process of identifying alternatives to minimize impacts. Therefore, this Proposed Project resulted in enhancing aviation safety while minimizing environmental effects.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

Coordination and communication among the FAA, the airport sponsor, involved agencies, and the public were key strategies that were used throughout the planning and NEPA documentation processes. This moved the Proposed Project along and allowed for issues expressed by the public and the levee district to be addressed and resolved without litigation. This interaction also enabled the FAA to meet its mission to enhance aviation safety while minimizing environmental effects.

The change to the environmental review process was the result of the evolution of a technology that became available at the time of the Proposed Project that could eliminate impacts to the levees. The use of the EMAS had not been approved by the FAA at the time of the start of the planning process for the Proposed Project. Had the EMAS been an option at the beginning of the planning process, the two-year delay might have been avoided. Although this is a timing issue, the lesson to be learned from this project is research what options (including evolving technologies) are available and how alternatives can be designed to avoid environmental impacts. This requires constant vigilance in working with the FAA to identify any potential revisions to design standards that the FAA may be considering.

CASE STUDY 5

Large Hub Airport New Runway and New Terminal Building Environmental Impact Statement

Project Description

The Proposed Project was identified through the Airport Master Plan process, and the timing was in response to the forecast growth. The Proposed Project included new runways, a terminal facility, and related facilities. The additions were desired to allow the airport to safely and efficiently accommodate future activity without incurring unacceptable aircraft operational delay.

The airport sponsor's engineering and planning offices were instrumental in initiating the Proposed Project. The planning group was responsible for planning and project initiation, and for providing data for the environmental review. The FAA independently reviewed the data for inclusion in the EIS. Processes related to the Proposed Project underway at the same time consisted of the project design and wetland permitting.

Key Planning Issues

A planning document was produced for the Proposed Project that supported both the need and timing for the project. The forecast and airfield modeling data and analysis were current at the time of environmental disclosure and analysis. The forecast was consistent with that of the TAF because it was within 10% of the TAF and, therefore, approved by the FAA for use in the NEPA documentation [see FAA Order 5050.4B, paragraphs 706.b(3)(a)–(c) for information regarding the use of forecasts that are different from the TAF]. Environmental features were considered throughout the planning phase.

The FAA was responsible for a significant number of the federal actions, decisions, and determinations that took place before the commencement of the Proposed Project. Other agencies involved with the EIS were USACE, EPA, FWS, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Agriculture, FHWA, a variety of state departments, several county departments, area transit authority, and state regional park authority. Advance meetings regarding wetland mitigation and wetland permitting applications were held between the airport sponsor and USACE, state environmental department, and county departments.

The FAA required a change to the original planned runway separation for the Proposed Project. It was initially 4,000 ft; however, the change increased the separation to 4,300 ft. The change was the result of the FAA's requirement to have at least 4,300 ft of separation between the centerlines of parallel runways. This separation is required to enable

independent operations under instrument meteorological conditions. The extended separation was not considered in the first stages of planning because the FAA's policies on independent operations were emerging at the outset of the environmental review process.

Key Environmental Issues

The runway separation revision affected the schedule of the environmental review by delaying the preparation of the draft EIS by approximately three months. This change also resulted in the need to acquire additional land for the Proposed Project, which required a modification to the project being studied in the EIS. The airport sponsor and the FAA jointly originated the change to the Proposed Project and agreed that the change was necessary for the completion of the project.

Several key environmental features were considered before the start of the EIS, including noise, wetlands, and historic and archeological resources. Environmental issues specifically encountered during the preparation of the NEPA document included stream impact mitigation, stormwater management, and the relocation of the National Oceanic and Atmospheric Administration's National Weather Station (NOAA-NWS) facilities. The stream mitigation issues and the relocation of the NOAA-NWS facilities were not anticipated and had an effect on the schedule of the NEPA documentation effort.

During the preparation of the EIS, the state environmental department and USACE introduced a new policy that required stream impacts to be mitigated separately from wetland impacts. This policy was not finalized until after the Record of Decision; therefore, these mitigation strategies were not initially included in the stream mitigation step in the planning phase. The relocation of the NOAA-NWS facilities was another unexpected change that occurred during the preparation of the EIS. At the outset of the EIS, the Proposed Project would not have required substantial land acquisition. The changes in the FAA policy on runway separation for independent operations of parallel runways led to a redefinition of the Proposed Project and the need to acquire land from both NOAA and private parties. Although the private parties were willing to sell land for the Proposed Project, coordination of the transfer of NOAA land was complex and time consuming.

Public opposition toward the Proposed Project was present and based on concerns with noise issues. Several mechanisms were used in public outreach, such as hearings, workshops, newsletters, a website with draft materials, and press releases.

Strategies Used to Integrate Planning and Environmental Review Processes

The airport sponsor took a significant number of steps before beginning the environmental review process to expedite the

process and to allow for a smooth transition between phases. The actions taken included the following:

- Completing a Part 150 noise study for ultimate development of the airport.
- Working with the surrounding counties to urge them to incorporate land use plans and zoning regulations that restrict noise-sensitive land use near the airport.
- Adding an environmental engineer to the planning department to provide a full-time employee to act as liaison to the FAA during the preparation of the EIS.
- Completing aviation activity forecasts and obtaining approval from the FAA for the non-TAF forecasts to be used in NEPA documentation.
- Briefing the FAA Airport District Office and the Region Office on the Capital Construction Program as soon as it was approved by the sponsor's board of directors.
- Working with the FAA Airport District Office, region, and headquarters to develop a comprehensive approach to environmental review processing for the entire Capital Construction Program.
- Performing airport-wide wetland delineation.
- Obtaining wetland mitigation credits sufficient to offset the anticipated project impacts to wetlands.
- Performing two years of airport-wide surveys of rare, threatened, and endangered species.
- Acquiring sufficient land for the Proposed Project.
- Performing inventories of on-airport archaeological and historic resources.
- Working closely with the FAA to establish a programmatic memorandum of agreement among the state historic preservation office, the Advisory Council on Historic Preservation, and the airport sponsor regarding Section 106 processing for airport projects.
- Working with the state air agency and the MPO to ensure that the State Implementation Plan for ozone included the project-related construction emissions, which was critical to the successful completion of the General Conformity Analysis and FAA's General Conformity Determination.

The Proposed Project could have better transitioned between the planning and environmental review processes had the airport sponsor conducted the archaeological surveys and wetland delineations for off-airport property before the start of the environmental review process. The need to acquire the off-airport land did not emerge until after the environmental review process had begun; thus, the airport sponsor had no way of knowing the information would be needed.

For archeological surveys and environmental due diligence surveys for hazardous materials to be conducted, the airport sponsor, with approval from the FAA, used an on-call task order contract. These surveys expedited the environmental review. The environmental review process was slowed because there was no scoping response from NOAA-NWS. With the redefinition of the Proposed Project based on a

4,300-ft runway separation, it became necessary to acquire property from NOAA adjacent to the airport.

Finally, the two counties in which the airport is located submitted extensive comments both on the draft EIS and on the wetland permit application. Numerous meetings with the counties were needed to resolve the comments, which also affected the time the FAA needed to complete the draft and final EISs.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

A significant amount of work and planning took place before the start of the NEPA documentation. This resulted in a positive effect on the successful completion of the NEPA documentation and the schedule for the environmental review process.

CASE STUDY 6

Large Hub Airport New Runway, Terminal Development, and Support Facilities Environmental Impact Statement

Project Description

The Proposed Project was developed to meet the future capacity needs of the airport and was driven mainly by the airport sponsor's executive office. The airport sponsor's planning and construction offices were responsible for the planning, project initiation, and for providing data for use in the EIS. The Proposed Project was part of the Airport Master Plan and identified in an adequacy study prepared for the airport sponsor and in a separate airport planning process.

The state's environmental policy process was underway at the same time as the environmental review process. This process requires separate state approval of the Proposed Project.

Key Planning Issues

The forecast and airfield modeling data and analysis were current at the time of the Proposed Project and within acceptable variation of the TAF. A planning document was produced with adequate justification in planning for the design aircraft and planning documents that support the Proposed Project's need and timing.

Key Environmental Issues

The Proposed Project went forward without any design changes from the airport sponsor or the FAA. The approach to the environmental review process was approved by the

FAA and the state's environmental department before initiation, and no issues occurred thereafter.

All environmental issues identified by the state and federal agencies were considered during the environmental review process. Two of these issues were key to the completion of the NEPA documentation: community noise issues and wildlife refuge impacts. As a result of the analysis of the impacts to the wildlife refuge, additional surveys and coordination were necessary to fully address the issue. This resulted in additional time and cost associated with the completion of the analysis of wildlife refuge impacts.

All federal, state, and local agencies participated in the environmental review process, and had no concerns or objections. The steps taken to coordinate with these interested agencies included technical advisory committees, agency-specific involvement in analyses, Memorandum of Understanding development and execution, and extensive analysis coordinated with the FWS and state historic preservation officer. The sponsor also coordinated with the state environmental department officials.

The Proposed Project did receive a significant amount of public opposition, specifically from individual citizens, citizen groups, and elected officials. The focus of the opposition was on the environmental review process (both federal and state) and aircraft noise issues. Litigation was anticipated and did occur.

The following mechanisms were used in the planning and environmental review process for public outreach:

- Hearings,
- Workshops,
- Study committees,
- Newsletters,
- Press releases,
- Newspaper articles, and
- Peer review groups.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned well from the planning process into the environmental review process as a result of the environmental approvals being given for each step of the process. This was an integral part of the planning and decision-making phase. In addition, state approval of the Proposed Project was accomplished on a timeframe that was concurrent with the environmental review process. The airport sponsor coordinated with the FAA to ensure that the state environmental review process and the federal environmental review process were coordinated as much as possible and that duplication of effort in preparation of environmental review was minimized. This required the lead agency for the state environmental review process and the FAA to work together in identifying

issues, resolving documentation strategies, and making key decisions on environmental analysis issues.

Another key strategy used to expedite the environmental review process was that the sponsor funded an FAA employee to process the NEPA documentation. This enabled the airport sponsor to ensure that there was a dedicated person at the FAA who was tasked with completing the environmental review process. The airport sponsor had the internal mechanisms to fund such a position; therefore, this practice was used for the environmental review process on this controversial and complex project.

In addition, the environmental review process was focused because prior steps in the airport planning process were used to eliminate numerous alternatives during the planning and environmental review processes. This focusing practice was used for ensuring that all reasonable alternatives were identified and addressed in the NEPA document.

The Proposed Project could have transitioned better between the planning and environmental review processes had less time been spent on steps in the planning process that did not move the project forward (e.g., development of alternatives that did not meet the purpose and need of the project). Also, the environmental review process was slowed owing to the FAA internal review process, litigation and the threat of litigation, the need to develop additional information with respect to the wildlife refuge, and inter-agency coordination and agreements.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The completion of each step of the environmental review process resulted in no changes to the Proposed Project once the NEPA documentation was started, which allowed for a timely conclusion of the environmental review process. The environmental review process was slowed by the amount of public opposition, the litigation that occurred, and the anticipated continued threat of litigation. The public opposition required additional noise-related studies and additional studies on the impacts to the wildlife refuge, which resulted in some delay to the environmental review process. Had there been no environmental opposition, the Proposed Project timeline would have been completed with little delay.

CASE STUDY 7

Medium Hub Airport Runway Safety Area Improvements Environmental Assessment

Project Description

The Proposed Project was needed to improve the RSA at the airport. While conducting the Airport Master Plan Update, the

airport sponsor was made aware that improvements to the RSA were needed. The key drivers behind the Proposed Project were the airport sponsor's planning and engineering offices. These offices were responsible for the planning and environmental review of the Proposed Project. Interpretation of FAA guidance encouraged the airport sponsor to pursue the Proposed Project.

Several other processes related to this project were underway at the same time. These included all the required permitting for the Proposed Project, land acquisition, and project design.

Key Planning Issues

The Proposed Project was part of the Airport Master Plan Update. The airport sponsor prepared a planning document that supported the Proposed Project purpose and need, and identified the timing for implementation during the preparation of the Master Plan Update. In addition, the forecast and airfield modeling data and analysis were consistent with the TAF.

For the airport sponsor, the planning phase of the Proposed Project was straightforward, without disruptions or changes. The public in the vicinity of the airport showed slight interest in the Proposed Project, but no organized opposition to the project occurred. The airport sponsor held hearings and released newspaper articles to inform the interested public about the Master Plan Update. In addition to the public, USACE and state environmental departments were also interested in the Proposed Project. The airport sponsor held resource agency meetings to coordinate with these agencies.

Key Environmental Issues

The key environmental issues considered before the commencement of the environmental review process were wetlands and noise. Wetlands was the predominant issue encountered during the environmental review process. The airport sponsor proposed to mitigate the impacts to wetlands by acquiring nearby lands that would be used to reestablish the disturbed wetlands. There were no other environmental issues encountered as part of the NEPA documentation.

The community in the vicinity of the Proposed Project showed some interest with questions and a few comments on the draft EA. However, public involvement and agency consultations indicated no opposition to the environmental process or the environmental effects that would result for the Proposed Project.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned well from the identification and definition of the project into the environmental review

process through ongoing discussion with the FAA and all resource agencies. The practice to establish communication among all parties early in the planning process and to keep all parties informed was used throughout the planning and environmental review processes. The Proposed Project was a success and no negative comments regarding the planning or environmental review processes were received by the airport sponsor.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

As a result of the coordination and communication that took place among the involved agencies during the planning process, the Proposed Project was accomplished without changes or the addition of any alternatives. This allowed for the environmental review process to be completed in an efficient and timely manner.

CASE STUDY 8

Medium Hub Airport Master Plan Projects Environmental Impact Statement

Project Description

The Proposed Project reflected the periodic update of the Airport Master Plan. The airport director was the compelling force behind the Proposed Project, whereas the airport sponsor's engineering and planning offices were responsible for the initiation and the provision of data for the environmental review of the Proposed Project. Furthermore, interpretation of FAA guidance encouraged the airport sponsor to pursue the Master Plan projects. The FAA assisted the airport sponsor in the identification of the need for the various Master Plan projects.

At the start of the environmental review process, the airport sponsor did not identify any specific permits that would be required for the implementation of the Proposed Project.

Key Planning Issues

The Proposed Project included all of the improvements included in the Master Plan Update. Therefore, a planning document was produced that supported both the need and timing of the Proposed Project. The forecast and airfield modeling data and analysis were current at the time of the environmental disclosure and analysis, and the forecast was consistent with that of the TAF.

The airport sponsor worked with several agencies during the planning process to identify issues, including USACE,

state environmental departments, FWS, state historic preservation officer, and state fish and game. The airport sponsor held study advisory committees and regulatory agency meetings to coordinate with these agencies. The airport sponsor also communicated and coordinated with the regulatory agencies before submitting the Proposed Project to the FAA and continued to do so throughout the planning process.

Key Environmental Issues

All required environmental issues were considered as part of the Master Plan. Later, during the environmental review process, wetlands, air quality, archaeological and historical sites, endangered species, and noise were all specifically identified as key issues. All of these issues were expected because the information was gathered as part of the Master Plan process. However, during the environmental review process, it was determined that additional information with regard to the archaeological and historical sites, beyond what was already available, was needed.

There was public opposition to the Proposed Project primarily owing to concerns over airport noise and property acquisition issues. The opposition was not widespread and came primarily from individual citizens and environmental groups. Although the threat of litigation was present during the environmental review process, no litigation occurred because the concerns were addressed. The communication techniques used by the airport sponsor during the planning process (e.g., workshops, focus groups, study committees, press releases, and newspaper articles) continued during the environmental review process. The community became acclimated to being informed about the Proposed Project through these communication efforts.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project progressed well from the identification and definition phase to the environmental review process owing to close coordination with the FAA and all the regulatory agencies involved, particularly USACE. This close coordination among the involved agencies expedited the environmental review as well.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

As mentioned earlier, the successful integration of the planning and environmental review processes was attributed to the proactive communication and coordination among the agencies. This proactive communication and coordination is a practice that allowed for the planning and environmental review processes to move forward. The integration might have been improved still further had all the archeological and historical

data that were needed been available. This was a minor issue, but could have enhanced the process.

CASE STUDY 9

Non-Hub Airport Replacement Airport Environmental Impact Statement

Project Description

The Proposed Project was required because the existing airport did not meet FAA Airport Design Standards, could not satisfy future aviation needs, and did not meet weather reliability requirements. The airport sponsor elected to replace the existing airport with a new airport that would meet the standards, satisfy future aviation needs, and meet the weather reliability requirements. The airport sponsor requested federal grants to fund a portion of the new replacement airport.

The airport sponsor was the main driver behind the Proposed Project, and FAA guidance encouraged the airport sponsor to pursue the project.

Key Planning Issues

The Proposed Project was part of the Master Planning Process after it became apparent that no acceptable alternatives to achieve FAA Airport Design Standards inside the property boundaries were available at the existing airport. The forecast and airfield modeling data and analysis were current at the time of the environmental analyses, but were based on the constrained airport configuration. The same is true with the TAF; the airport sponsor's forecast was consistent with the TAF, but was based on the constrained airport environment.

The airport sponsor anticipated a large amount of public opposition to the Proposed Project. The opposition was primarily the result of the current airport users' concerns with moving the location of the airport, which was considered to be an inconvenience (the existing airport is centrally located within the community). Another concern of the surrounding community was that the development of a replacement airport would have a negative effect on the economy of the local area. As a result of this concern, the airport sponsor initiated and facilitated open communication among the interested parties.

Key Environmental Issues

Several key environmental issues were encountered in the environmental review process, including impacts to wetlands, waterfowl, and water quality. The airport sponsor initiated changes to the layout of the replacement airport on the proposed site to minimize the impacts that the replacement airport would have on wetlands, waterfowl, and water quality. In

addition, the airport sponsor identified a strategy to mitigate the impacts to wetlands.

The airport sponsor anticipated widespread public opposition to be focused on the environmental impacts of developing the replacement airport. However, at the time of this report, the environmental review process was underway and the magnitude of public opposition was not reportable because the draft EIS has not been published for public review.

Strategies Used to Integrate Planning and Environmental Review Processes

The airport sponsor has specifically made the planning documents and information gathered during the planning process available to the community and interested public. This strategy has been a success and a great asset in providing the public with information regarding the Proposed Project. The airport sponsor has indicated that it hoped that the FAA would continue the public involvement process that was started with the planning process and build on the efforts that have occurred to date during the environmental review process.

The integration was difficult in the sense that the delays between draft planning documents and final planning documents caused public concerns because they were not able to see the progress. The airport sponsor reported that if the delays had been limited the concerns might not have been as intense.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The Proposed Project was integrated somewhat smoothly with several delays in regard to the draft planning documents. Additionally, the airport sponsor believes that the Proposed Project, which is on a strict timeframe, has been hindered by the environmental review process. Furthermore, the cost of the environmental review process has greatly increased the overall cost of the Proposed Project.

CASE STUDY 10

Large Hub Airport New Runway and Master Plan Projects Environmental Impact Statement

Project Description

The Proposed Project was desired to address specific operational issues at the airport and was identified through the Airfield Capacity Enhancement Plan. The main driver behind the Proposed Project was the airport sponsor's planning group, with widespread regional support. The airport sponsor's planning group was responsible for the planning and project initi-

ation efforts and the airport sponsor's environmental staff was responsible for supporting the environmental review.

Several processes related to the Proposed Project were initiated at the same time: the airport sponsor initiated an Airport Master Plan, which was soon followed by the FAA EIS process and a preliminary engineering study to produce more refined engineering information about the runway project. Wetland permitting was initiated toward the end of the EIS. The EIS served as a document to meet the NEPA and state mini-NEPA process. A benefit–cost analysis was completed at the same time as the NEPA documentation and was a prerequisite before the FAA would issue the environmental finding.

Key Planning Issues

The forecast and airfield modeling data and analysis were current at the time the EIS was initiated and were consistent with that of the TAF. The Master Plan Update documentation supported both the need and timing of the Proposed Project. Owing to the length of time necessary to complete the EIS (two years) and unexpected growth in air travel at the time, before the FAA issued its final EIS, the master plan forecasts no longer met the FAA policy for compatibility with the TAF. As a result, the FAA required the preparation of a supplemental EIS to address the effects of the higher level of activity on the Master Plan projects.

Because of concerns with the Proposed Project, a regional effort was undertaken before the Master Plan to identify expansion possibilities at other airports or the possibility of building a new airport for the region. As a result, extensive public and agency coordination was conducted before the Master Plan was initiated. This regional coordination led to support by regional elected officials, as well as a regional resolution calling for the project and a timetable for the project.

During the EIS, extensive coordination was conducted with agencies with special expertise. The regulatory agencies involved with the Proposed Project were the city, USACE, regional council (MPO), state DOT, and regional air agency. The state environmental department would not actively participate in the environmental review.

As the primary public and agency interest in the Proposed Project focused on the runway, lesser detail concerning needed terminal and landside projects was conducted in the Master Plan. As a result, during the EIS, additional planning detail was requested of the airport sponsor concerning these facilities. As the planning, engineering, and environmental review processes were conducted concurrently, minor delays were incurred. To minimize these delays, the airport sponsor conducted bi-weekly meetings between the airport staff, FAA, and the contractors conducting the parallel efforts.

Key Environmental Issues

Environmental conditions were considered in the planning document and included noise, air quality, and land acquisitions. These conditions were encountered, in addition to social equity, wetlands, and construction during the environmental review process. The only unexpected environmental issue encountered was associated with wetland impacts, because litigation initiated at about the time of the EIS prevented access to lands to be acquired to survey for wetlands.

The wetlands issue led to a change in the Proposed Project. The change affected the schedule, causing a delay of about six months. Without access to the lands to be acquired, the EIS evaluated wetlands based on an estimate of those likely to be present. Thus, the draft EIS considered about half of the wetlands actually present and also underestimated the location of a nearby creek that was slated to be relocated.

As noted earlier, the Master Plan forecast was compatible with the TAF when the EIS was initiated. However, by the time the final EIS was to be produced, actual activity had increased and the TAF was revised substantially higher than the Master Plan. Thus, the FAA required a supplemental EIS, which further delayed the final environmental finding by about one year. Although the airport sponsor resisted the change, it did agree that the change was necessary for the completion of the EIS process.

A significant amount of public opposition was expressed toward the new runway and caused some delay. The community expressed great interest and undertook detailed scrutiny of the Proposed Project. The airport sponsor characterized the opposition as intense, vigorous, and widespread. The concerns, which were based on environmental grounds, led to litigation. The FAA and the airport sponsor prevailed in all court cases. The airport sponsor tried several strategies to communicate with the public. These included workshops, focus groups, study committees, newsletters, a website, and newspaper articles. In addition to the public, USACE participated in the environmental review.

Pressure for extended public participation periods was not fully anticipated and added significant time to the previously set schedule.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned well from the planning phase to the environmental review process as a result of the airport sponsor forming an internal preliminary runway planning and engineering group that consisted of airport staff, FAA, airport consultants, and FAA consultants. The Master Plan and the Airport Capacity Enhancement Plan also assisted in moving the Proposed Project and the environmental review process forward.

The Proposed Project may have transitioned better had the FAA planning staff been more engaged and had access to needed lands been available. As the Master Plan Update focused on the runway, additional time was also spent in the environmental review process defining the terminal and land-side projects. Additionally, construction of the Proposed Project was delayed owing to litigation and complications that arose during the permitting process. Satisfying the data needs of all regulatory agencies as part of the environmental review process allows permitting activities to move forward in an efficient manner.

Although delays were encountered in the process, it was completed within the average duration for a NEPA document.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The Proposed Project integrated well owing to the concurrent nature of the planning, environmental, and preliminary engineering processes. However, the changes and delays with regard to the wetlands and public opposition might have been eliminated had they been anticipated in the planning stages of the runway project. The Proposed Project might have benefited from additional FAA involvement during the planning process and from more effective communication with the surrounding communities and agencies. This would have enabled the airport sponsor to resolve the issues before they became a concern. Therefore, a practice to ensure that involvement from the FAA and communication with all stakeholders was established early in the planning process and used effectively throughout the planning and environmental review processes.

CASE STUDY 11

Non-Hub Airport Changes to Airport Layout Plan as a Result of Wildlife Hazard Management Plan Environmental Assessment

Project Description

The Proposed Project was considered necessary to alleviate wildlife hazards, specifically collisions between aircraft and birds, which had occurred on the airfield. The airport sponsor's operations department was the key driver behind the Proposed Project, with the airport sponsor being responsible for the planning and initiation of the project.

The need for the Proposed Project was identified after pilots reported repeated bird strikes. The airport sponsor indicated that this was probably the result of increased populations of both seasonal migratory and year-round bird species at the airport. The airport sponsor completed studies and identified an initial wildlife hazard management concept. Follow-

ing the U.S. Supreme Court wetland ruling that would make it easier for the airport sponsor to fill isolated wetlands, which were habitat for many of the bird species, the airport sponsor began to actively pursue the Proposed Project. The airport sponsor completed a Wildlife Hazard Assessment approximately one year after the U.S. Supreme Court decision. In addition, several processes related to the Proposed Project were underway at the same time and included USACE and state joint wetland fill permit application review, and other state and local approvals.

Key Planning Issues

The Proposed Project was not part of a Master Plan. Thus, documents, such as the Wildlife Hazard Management Plan and Airport Master Drainage Plan were produced as separate planning documents. The forecast and airfield modeling data and analysis were current and the forecast was consistent with the TAF.

The airport sponsor conducted meetings to coordinate with federal, state, and local agencies and stakeholders to inform them of the planning process.

Key Environmental Issues

Key environmental features considered before the commencement of the environmental review process were wetlands and waterways. In addition to the wetlands and waterways, water quality, and threatened and endangered species were encountered during the preparation of the EA. Of these, the threatened and endangered species were unexpected environmental issues that required additional research and analysis.

The Proposed Project was changed during the environmental review process, and was initiated by the airport sponsor and regulatory agencies to avoid or minimize effects on environmental features. The motivation for the change was the discovery of a federally listed endangered plant species. The change entailed the reduction in wetland fill area owing to the presence of endangered plant populations within the grading limit. In addition, a five-year monitoring program was established to determine the effects of the wetland fill on the endangered plant species. The grading limits were also revised in other wetland fill areas to avoid additional plant populations. These changes to the Proposed Project delayed the proposed schedule of the review process by approximately five months. Most of the delay, three to four months, was attributed to having to wait for the plant species bloom cycle to complete the assessment and identification.

The environmental review process for the Proposed Project experienced delays owing to the need for an endangered plant survey. The FWS requested the survey and the sponsor agreed. Because the FWS was not one of the agencies involved in the

planning process, the changes to the Proposed Project occurred during the environmental review process. The endangered plant survey materially changed the cost of the environmental review and delayed the review process by approximately five months.

The surrounding public showed some interest in the Proposed Project and provided a few questions and comments on the draft EA; however, no significant concern or opposition was expressed. A website with draft materials and press releases was made available to the public to both communicate with and reach out to those interested.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned well between the planning and environmental review processes as the preparation of studies for the Proposed Project included environmental considerations such as wetlands and waterways. This helped lead to a smooth transition between the planning and environmental review processes. However, the integration could have been improved had the environmental considerations included the threatened and endangered species that later resulted in changes to the Proposed Project.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The coordination and communication with various agencies aided in the integration between planning and environmental review processes. The one agency not involved in the planning process (the FWS) initiated the major change to the Proposed Project. Had they been involved before NEPA was initiated, the change and delay to the schedule might have been avoided. Thus, the lack of information on the endangered plant species shows the importance of an environmental inventory at an airport. As noted in FAA Advisory Circular 150/5070-6B, Chapter 5, conducting a resource inventory of the airport's environmental setting during or before the planning process facilitates the integration of the planning and environmental review processes in this case.

CASE STUDY 12

Medium Hub Airport New Runway Environmental Impact Statement

Project Description

The Proposed Project, a new runway, was needed to accommodate existing and future aviation demand and to maintain a high level of passenger convenience at an acceptable level of

delay. The Proposed Project was identified through the Airport Master Plan, state DOT, and FAA studies and airport observations, but was officially conceived through the Master Plan.

The airport sponsor's planning office was the key driver behind the Proposed Project. It was also responsible for providing planning and environmental data for the completion of the NEPA document. Interpretation of FAA guidance encouraged the airport sponsor to undertake the Proposed Project.

Numerous other processes related to the Proposed Project were underway at the same time, including the Conceptual Stormwater Management Master Plan, the state environmental permit application, the benefit–cost analysis, and the Letter-of-Intent.

Key Planning Issues

The Proposed Project was part of a Master Plan. The planning document supported the need and timing of the Proposed Project as well. The forecast and airfield modeling data and analyses were current at the time of the preparation of the EIS and the forecast was consistent with the TAF.

The airport sponsor approached the FAA about NEPA compliance needs more than a year before the process started. The proactive approach and coordination with the FAA allowed the planning process to be completed without any changes occurring before the start of the Proposed Project. Staff reported that involving the FAA as early as possible in the planning process to discuss the Proposed Project and to identify the requirements was key.

Key Environmental Issues

Environmental issues were not considered before the environmental review process. The following issues were considered by the airport sponsor to be the key issues encountered during the environmental review process: noise, air quality, and historic resources.

The airport sponsor reported that changes were initiated after the environmental review process began and that these changes were originated by the FAA. The reason for the changes was that the FAA indicated a need for additional public involvement during the environmental review process (however, given that this was an EIS, the FAA was managing the environmental review process and the airport sponsor was not in a position to conduct the public involvement aspect of the environmental review process). It is noted that a new runway is one of three project types that require the airport sponsor to offer an opportunity for a public hearing and conduct such a hearing if the public desires that the meeting occurs. The airport sponsor also indicated that the FAA instituted focus group meetings and additional public workshops and outreach programs. The airport sponsor did not agree with

the changes and expressed moderate opposition. These changes added nearly \$1.33 million to the environmental review and delayed the schedule by at least six months.

Public opposition was expressed toward the Proposed Project and was based on environmental grounds. The opposition was not widespread but was moderately intense. The opposed parties included individual citizens, citizen groups, communities, homeowner associations, and elected officials. The issues were focused on the need for the Proposed Project. The airport sponsor provided information on the Proposed Project to the public and associated agencies through workshops, focus groups, websites, newspaper articles, and briefings to various groups.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned successfully from the planning process to the environmental review process. This was largely the result of excellent communication between the airport sponsor's planning team and the FAA. In addition, there was a clear understanding of the purpose and need of the Proposed Project by both the sponsor and the FAA. The airport sponsor indicated that the environmental review could have been expedited because all the planning was completed before initiating the environmental review process. However, the airport sponsor believed that the need to engage in more public outreach and the iterations of internal FAA review slowed down the environmental review process.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The open communication, coordination and, specifically, the focus groups, acted as successful strategies in the integration of the planning and environmental review processes. This practice was used to actively engage the stakeholders throughout the planning and environmental review processes. The airport sponsor noted that few changes were made to the Proposed Project and the changes that did occur were initiated by the FAA with legitimate reasons. The airport sponsor considered the integration of the planning and environmental review processes to be "average to better than most."

CASE STUDY 13

Large Hub Airport New Runway and Associated Projects Environmental Impact Statement

Project Description

The Proposed Project, a new runway, was needed as the airport was consistently experiencing delays. It was identified

through measurements of the annual total delay at the airport. The new runway was also considered the key project in the recently completed Airport Master Plan. The original project was a 6,000-ft-long new runway and a NEPA document was prepared that analyzed the impacts associated with that Proposed Project. However, the 6,000-ft runway was not constructed. Subsequently, an environmental review process for a 9,000-ft-long runway was then initiated. The NEPA document focused on the Proposed Project as a new 9,000-ft runway and not a 3,000-ft extension to the 6,000-ft runway that was previously the subject of a NEPA document. There were no other processes related to this Proposed Project underway at the same time.

The airport sponsor's aviation director was the key driver behind the Proposed Project. The airport sponsor's planning group was the responsible department for the planning and initiation of the Proposed Project, as well as for providing data for the environmental review of the Proposed Project.

Key Planning Issues

The Proposed Project was part of the Master Plan. In addition, numerous internal planning documents were produced concerning the need for airfield capacity. However, none of these planning documents took into account the environmental conditions or the probable impact of the Proposed Project on local environmental conditions. The forecast and airfield modeling data and analysis were current at the time of the planning process. The forecast was also consistent with that of the TAF.

Key Environmental Issues

The airport sponsor approached the FAA about the environmental review process less than one year before the expected construction start date. The FAA did not suggest or require any changes to the Proposed Project before the start of the environmental review process.

Environmental conditions were not considered in the Master Plan. During the environmental review process, air quality was the biggest environmental issue expected by the airport sponsor. However, the air quality impacts were not significant and no mitigation measures were required.

Two regulatory agencies were involved with the Proposed Project: the FHWA and the state environmental department. The airport sponsor and the FAA met with both agencies, informed the agencies how the Proposed Project had changed since the start of the planning process, and listened to their ideas. Before the start of the environmental review process, the airport sponsor coordinated with the state environmental department. The FHWA served as a cooperating agency on the EIS, subject to a written agreement signed by the FAA and FHWA.

Public opposition was expressed toward the Proposed Project. The opposition was not widespread (consisting of local jurisdictions and various citizens) and consisted of questions and a few comments, but did not lead to litigation. The concerns were focused in communities near the airport and were based on environmental grounds (primarily air quality).

The EPA-requested changes to the NEPA documentation focused on how the project was characterized and the alternatives to be considered. The original description of the Proposed Project was an extension to the 6,000-ft-long runway that had been the subject of a previous NEPA document; however, this 6,000-ft runway was never constructed. The EPA requested that one of the alternatives be a 9,000-ft-long runway, rather than a 3,000-ft extension to a runway that did not yet exist.

Strategies Used to Integrate Planning and Environmental Review Processes

The airport sponsor was involved throughout the entire integration of the planning and environmental review processes and the transition went well. The environmental review was expedited owing to the FAA, its EIS consultant, and the airport sponsor's staff working closely and well together. The environmental review process could have been further enhanced if the environmental issues had been considered during the planning process. Thus, this relationship among the FAA, its EIS consultant, and the airport sponsor was considered "new" at the time. An effective practice was to have the FAA planners and environmental protection specialists involved during the airport sponsor's planning process to allow for the smooth transition between the planning and environmental review processes.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

As mentioned previously, the planning and environmental review processes were integrated successfully by the coordination and communication among the involved parties. The airport sponsor also took a proactive approach to the Proposed Project and contacted the FAA during the planning process.

CASE STUDY 14

Non-Hub Airport New Crosswind Runway Environmental Assessment

Project Description

The Proposed Project was identified by the airport sponsor to allow aircraft to safely operate under crosswind conditions. It was identified through an Airport Master Planning process.

The local chief executive officers were the main drivers behind the Proposed Project, and the city (which is the airport operator) was responsible for the initiation and environmental review of the project. The FAA was active in the origination of the Proposed Project and encouraged the airport sponsor to undertake it.

All processes related to the Proposed Project were put on hold while the environmental review process was completed. The land acquisition, project design and, ultimately, construction were specifically held up until completion of the environmental review process.

Key Planning Issues

The Proposed Project was identified through the Master Planning phase and was part of the Airport Master Plan. A planning document was produced that supported both the need and timing of the Proposed Project. The forecast and airfield modeling data and analysis were current at the time of the environmental disclosure and analysis. The forecast was also consistent with that of the TAF.

Environmental conditions were not considered in the planning phase; however, an EA was developed for the Proposed Project separate from the Master Plan. The airport sponsor approached the FAA about NEPA compliance needs six months in advance of starting the process. In addition to the FAA, several other agencies were contacted by the airport sponsor before submitting the ALP for initial review to the FAA: the state DOT, state historic preservation office, state environment department, FWS, USACE, and the state department of game and fish. Letters and public information workshops were presented to coordinate with these agencies.

Key Environmental Issues

Environmental issues were not considered in the planning phase. A cultural resource was unexpectedly found during the preparation of the EA, which ultimately resulted in a change to the alignment of the crosswind runway. The FAA, city, and state historic preservation officer required that the change be made to avoid adverse impacts to cultural resources. The airport sponsor agreed that the change was necessary to avoid the cultural resources and revised the alignment of the Proposed Project. The change took place after the environmental review process had begun; therefore, additional planning was required as part of the environmental review process, extending the environmental review process by one month.

There was slight opposition from the public toward the Proposed Project; however, it was not widespread and was resolved without litigation. Community participation in the environmental review process was limited. Some members of the public asked questions and commented on the draft

EA. The airport sponsors conducted workshops and provided draft material to the public to communicate and reach out to those who might be interested.

Strategies Used to Integrate Planning and Environmental Review Processes

The transition of the Proposed Project from the planning process to the environmental review process was not considered by the airport sponsor to be a good transition. The airport sponsor indicated that the FAA took approximately eight months for their review of the draft EA. The airport sponsor reported that no reason was given for the lengthy review. Other than this issue, the airport sponsor indicated that the environmental review process went well and it had no complaints or recommendations for improving the process.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The communication and coordination between the airport sponsor and the involved agencies before the commencement of the environmental review process was useful; however, the lack of information with regard to the presence of the cultural resources added what the airport sponsor believed was a significant amount of time to the environmental review process. The airport sponsor reported that the FAA spent additional time in its reviews, which delayed the environmental review process. The airport sponsor indicated that further communication and coordination throughout both the planning process and the environmental review process instead of just in the planning phase might have resulted in a more successful project. A more effective process might be to establish and maintain the lines of communication throughout both the planning and environmental review processes.

CASE STUDY 15

Large Hub Airport Terminal Building Modernization Environmental Assessment

Project Description

The Proposed Project was developed to accommodate new foreign flag entrants into the market using wide-body aircraft. There was a need for more gate frontage space, hold-room capacity, and concessions to serve an increasingly diverse customer base. The Proposed Project was identified through the Airport Master Plan process. The need for the Proposed Project was confirmed by a facilities exercise that was based on increased demand over and above the Master Plan expectations.

The airport sponsor's planning group was the main driver behind the Proposed Project. The airport sponsor was also

responsible for the initiation and environmental review of the Proposed Project. No other related processes were underway at the same time as the Proposed Project; therefore, it was the focus of the airport sponsor.

Key Planning Issues

The Proposed Project was identified through the master planning process and was part of the Airport Master Plan. A planning document was produced and was advanced to support the need and timing of the Proposed Project by the means of supplemental planning. The forecast was current at the time of the environmental analysis, but the airfield modeling was not current. Furthermore, the forecast was not technically consistent with that of the TAF, as it was completed before the TAF [see FAA Order 5050.4B, paragraphs 706.b(3)(a)–(c) for information regarding the use of forecasts that are different from the TAF].

The Proposed Project was part of the Passenger Facility Charge application. Therefore, the airport sponsor approached the FAA about NEPA compliance needs a year before the environmental review process began in order to impose the Passenger Facility Charge. The FAA did not suggest or require changes to the Proposed Project before the beginning of the environmental review process.

In addition to coordination with the FAA several other agencies were involved, including the EPA, USACE, FWS, and the state council on environmental quality. The airport sponsor contacted these agencies and received input on the Proposed Project before submitting it to the FAA.

Key Environmental Issues

Environmental conditions were considered in the planning of the Proposed Project and included an air quality analysis. This was the only notable environmental issue encountered in the Proposed Project and no unexpected issues occurred. Without any environmental issues occurring as a result of the Proposed Project, no changes were suggested or required throughout the environmental review process.

No public opposition was expected nor did any occur throughout the environmental review process. The public expressed little interest and had no comments or questions about the Proposed Project. The majority of the airport sponsor's aviation users supported the Proposed Project, which included all airlines but one. The airport sponsor coordinated with the airlines and potential tenant airlines during the planning process.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project progressed well from the planning process to the environmental review process. This was the result of the preliminary definition document being used as

the basis for the NEPA document. The airport sponsor did not identify any steps that could have been done to better transition the Proposed Project from the planning process to the environmental review process.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The good working relationship between the airport sponsor and the FAA led to a smooth integration of the Proposed Project from the planning process to the environmental review process. The planning and environmental review processes were uneventful and underwent no changes. This was partially the result of not having any unexpected environmental concerns or any opposition to the Proposed Project, but also the result of coordination and communication between the involved parties and agencies.

CASE STUDY 16

Non-Hub Airport Apron Improvement Project Categorical Exclusion

Project Description

The Proposed Project was needed because the existing condition of the apron pavement did not meet the needs of its users. The airport sponsor was the key driver behind the Proposed Project. The Airport Master Plan provided directions for the initiation of the Proposed Project, for which the commission then assumed responsibility. The airport sponsor's consultant prepared the CatEx for FAA review. The airport sponsor did not anticipate any permits or state requirements for the Proposed Project.

Key Planning Issues

The Proposed Project was identified by the consultant as part of the Master Plan process. A planning document that supported both the need and timing of the Proposed Project was produced. Additionally, the forecast and airfield modeling data and analysis were consistent with that of the TAF.

The Proposed Project was basic in nature and did not raise any concerns or opposition from the surrounding community and general public. Outside agencies, other than the FAA, were not involved with the process. The FAA did not have any suggested or required changes to the Proposed Project.

Key Environmental Issues

Environmental conditions were considered in the Master Plan and included all the environmental resource categories outlined in FAA Order 1050.1E. The Proposed Project was

simple in concept and did not raise concerns from the public or agencies with regard to environmental issues. Unexpected environmental concerns were not encountered during the environmental review process; therefore, no project changes were initiated.

Strategies Used to Integrate Planning and Environmental Review Processes

The Proposed Project transitioned well from the planning process to the environmental review process. Specific strategies were not used in the integration.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

Specific strategies were not used nor did the airport sponsor provide any recommendations to better integrate the planning and environmental review processes.

CASE STUDY 17

Medium Hub Airport Runway Relocation Environmental Impact Statement

Project Description

The Proposed Project was found to be necessary by the airport sponsor to handle capacity needs and was identified during the Airport Master Plan process. The airport sponsor's planning staff was the key driver behind the Proposed Project. That group was responsible for the initiation and the preparation of data for use in the environmental review of the Proposed Project. Interpretation of FAA guidance also encouraged the airport sponsor to undertake the Proposed Project. The ALP update was also underway at the same time as the Proposed Project.

Key Planning Issues

The Proposed Project was identified during the Master Plan process and was part of the Airport's Master Plan. A planning document was produced and the airport sponsor believes it supported the need and timing of the Proposed Project. Furthermore, the forecast and airfield modeling data and analysis were consistent with the TAF.

The airport sponsor approached the FAA about NEPA compliance needs approximately one year before starting the environmental review process (i.e., during the planning process). The FAA had suggested and required changes to the Proposed Project during the planning process to avoid and mitigate adverse environmental conditions associated

with land acquisition. The airport sponsor was unable to purchase property from the military for the original runway relocation. The alternate runway relocation experienced environmental impacts that were not originally expected. The changes affected the schedule of the Proposed Project and resulted in a delay of approximately one year while additional planning was completed.

Key Environmental Issues

The FAA initiated another change to the Proposed Project after the start of the environmental review process. During the preparation of the preliminary/administrative draft EIS, the FAA region office indicated that further planning was necessary to better support the Purpose and Need. The airport sponsor agreed that the change was necessary, which delayed the process by approximately one year.

Several agencies were involved with the planning and EIS process, including the city, county, local federally recognized tribe, EPA, USACE, FWS, National Park Service, state environmental department, state historic preservation officer, state game and fish department, county environmental department, and U.S. Department of Defense (military). The airport sponsor believes it took significant steps to coordinate with these agencies through meetings during the planning process. These meetings included focus group meetings and individual communications with some of the agencies. In addition, the airport sponsor coordinated with the FAA and the Transportation Security Administration as part of the planning process.

The most significant issue encountered in the EIS was the FAA's evaluation of the removal of buildings that were eligible for the National Register of Historic Places, which would penetrate the Part 77 airspace of the proposed relocation of the runway. This evaluation was conducted in compliance with Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act. The historic buildings were unexpected and unaccounted for in the

planning phase; therefore, further analysis of possible runway locations and configurations were conducted once the NEPA was initiated.

The surrounding public had very little interest in the Proposed Project and expressed no opposition to it. The airport sponsor advertised public meetings to coordinate with the public and the EIS contractor maintained a public website with information regarding the Proposed Project. The airport users also supported the Proposed Project.

Strategies Used to Integrate Planning and Environmental Review Processes

The airport sponsor indicated that the Proposed Project progressed well from the planning process to the environmental review process. The initial support and a good working relationship with the FAA resulted in a smooth transition. Another asset to the integration of the phases was the availability of the current Master Plan and its data.

The Proposed Project may have transitioned better had the land acquisition issues been identified earlier. The concerns of the FAA and issues resulting from the impacts to cultural resources also caused delays. A more effective practice would be to identify all issues as early as possible in the planning process to develop a Proposed Project that avoids or minimizes the impacts.

Discussion of Strategies Used and Other Factors That Would Better Integrate Planning and the Environmental Review Processes

The airport sponsor indicated that the transition between the planning and environmental review processes might have been improved if the historic buildings and land acquisition issues had been discovered and evaluated earlier. The airport sponsor also indicated that the smoothness of the integration, even given these issues, was good because of the support and great relationship between the airport sponsor and the FAA.

CONCLUSIONS

The surveys and case studies identified activities that airports performed to integrate planning and environmental review processes of projects at airports throughout the United States. Seven general themes can be drawn from this synthesis report.

- Early Coordination and Consultation
- Knowing Your Airport (*know the on-site environmental features*)
- Appropriate Range of Alternatives
- Good Lines of Communication
- Public Involvement Strategy
- Coordinating State and Federal Environmental Review Processes
- Funding an FAA Position.

EARLY COORDINATION AND CONSULTATION

Early coordination and consultation among the airport sponsor, the FAA, and agencies having special expertise was identified in case studies as proven to provide a good framework between the planning and environmental review processes. In case studies, “early” is intended to mean as soon as the process has identified an issue of potential concern or significance. In case studies where possible wetland effects were identified, contact with the agencies with special expertise (i.e., U.S. Army Corps of Engineers and state environmental agency) was quickly initiated. In almost every instance, airport sponsors and the FAA indicated that such coordination and consultation helped to improve the transition from the planning process to the environmental review process and made initiation of construction easier.

Case studies also identified that when the airport sponsor has enough information about a project to analyze environmental effects, the most effective airport sponsors serving as case studies quickly alerted the appropriate FAA office about special purpose laws for which FAA has sole compliance responsibility [e.g., Section 106 of the National Historic Preservation Act, General Conformity Requirements, and Section 4(f) of the Department of Transportation Act]. This early coordination assisted the FAA in complying with those laws in a timely manner.

Case studies identified early coordination and consultation with the FAA and other special expertise federal agencies improved the ability of the National Environmental Policy Act (NEPA) document to incorporate information so that the other

federal agency can adopt the FAA-led NEPA document. An example of this practice occurred in Case Study 5. For that project, the airport sponsor worked closely with the FAA to establish a programmatic Memorandum of Agreement among the state historic preservation office, the Advisory Council on Historic Preservation, and the airport sponsor regarding Section 106 processing for airport projects. In addition, the airport sponsor worked with the state air agency and the metropolitan planning organization to ensure that the State Implementation Plan for ozone included the project-related construction emissions. This approach was identified as being critical to the successful completion of the General Conformity Analysis and FAA’s General Conformity Determination. In both instances, the airport sponsor implemented the ideas associated with early coordination and consultation to better integrate the planning and environmental review processes.

Additionally, some case study participants identified early coordination and consultation as necessary to ensure that the needs of all regulatory agencies are addressed as part of the environmental review process so that permitting activities can be accomplished in an efficient manner. Early coordination and consultation was reported as key to meeting the needs of the regulatory agencies.

Case studies also provided information that early coordination and consultation can also successfully involve both the FAA planners and the FAA environmental protection specialists during the airport sponsor’s planning process. This provided the airport sponsor with insight and information during the planning process that resulted in a Proposed Project that met FAA requirements and design standards and minimized environmental impacts. This strategy worked well for case study participants and resulted in a smooth transition between the planning and environmental review processes.

KNOWING YOUR AIRPORT (KNOW THE ON-SITE ENVIRONMENTAL FEATURES)

Case study interviews revealed that it is critical for the airport sponsor to understand the presence of environmental features and the relationship of the proposed projects to those features as early as possible in the planning process. Several of the case studies revealed that those projects where “unexpected” environmental issues occurred resulted in delays in either the planning process, the environmental review process, or the permitting process. In addition, the cost associated with the planning

and/or environmental review processes increased as a result of the discovery of these unexpected environmental issues.

As noted in FAA Advisory Circular 150/5070-6B, Chapter 5, conducting a resource inventory of the airport's environmental setting during or before the planning process facilitates the integration of the planning and environmental review processes. This provides the airport sponsor with the information needed to avoid those unexpected environmental issues. For example, Case Study 5 performed airport-wide wetland delineations, surveys of threatened and endangered species, and surveys of cultural resources early in the planning process. This information was useful in developing alternatives for the Proposed Project.

Case study interviews indicated that the airport sponsors that are knowledgeable about existing planning and environmental data used that information to streamline the environmental review process. Updates and field checking of existing data to validate that data are current and have been independently reviewed by the FAA for use in the NEPA documentation.

APPROPRIATE RANGE OF ALTERNATIVES

Case studies identified that having an environmental inventory is useful during the planning process because it provides information that will help shape the possible alternatives for a project. A streamlined environmental review includes identifying alternatives that would affect resources protected by special purpose laws to then develop reasonable alternatives to avoid these effects. This helped airport planners know what options were available and how to develop alternatives to minimize environmental impacts.

For example, in Case Study 6, the environmental review process was focused because prior steps in the airport planning process were used to eliminate numerous alternatives during the planning and environmental review processes. Thus, the airport sponsor examined the entire range of reasonable alternatives to determine which alternative would result in the least environmental impact while meeting the purpose and need of the proposed action. This practice ensured that all reasonable alternatives were identified and addressed and can be reported in the NEPA document.

NEPA requires the consideration of the No Action alternative and a range of reasonable alternatives, and case study participants considered them in the planning process to avoid the need for new information later in the process.

GOOD LINES OF COMMUNICATION

Almost every case study reported on the importance of establishing and maintaining good lines of communication throughout the planning and environmental review processes.

Beneficial forms of communication that were reported included interactions between the sponsor and the FAA, the sponsor/FAA and environmental agencies, the sponsor and tenants, the sponsor/FAA and the local elected officials, etc. In addition, having a good working relationship between the sponsor and the FAA was cited numerous times as essential to the efficient completion of both the planning and the environmental review processes. The mechanics for building that relationship will differ by location and the personnel involved.

As reported in Case Study 8, the successful integration of the planning and environmental review processes was attributed to the proactive communication and coordination among the agencies. This proactive communication and coordination was considered to be instrumental in allowing for the planning and environmental review processes to move forward. The case studies show that having a communications plan or protocol and following that communications plan or protocol throughout the planning and environmental review processes is a good tool to use to ensure that all parties are kept up-to-date and informed on a Proposed Project.

PUBLIC INVOLVEMENT STRATEGY

Case studies reported that communications involving the public are integral to the success of the planning and environmental review processes. Implementing a public involvement strategy provides the public with knowledge about the Proposed Project and allows the public to participate in both the planning and the environmental review processes. This practice enables the airport sponsor to keep the public informed about what the Proposed Project included and what it does not include, the needs of the airport, the environmental effects of the Proposed Project, and a variety of other important elements associated with the Proposed Project. Effective public involvement strategies provided an opportunity for the airport sponsor to educate the public about the airport, how the airport operates, and the purpose and need for the Proposed Project, as well as transparency in decision making and aid in reducing the level of controversy associated with any Proposed Project.

As evident in the case studies, there are a variety of methods that have successfully been used to implement a public involvement strategy. Case study participants reported that it is important for the airport sponsor to find what strategy works for their community and to consistently use the strategy.

COORDINATING STATE AND FEDERAL ENVIRONMENTAL REVIEW PROCESSES

Some case study participants reported that their state has mini-NEPA regulations (i.e., state regulations that require state environmental review for proposed actions). In such cases, the airport sponsor reported that additional coordi-

nation activities were accomplished on a timeframe that is concurrent with the FAA environmental review process. The airport sponsors that participated as case studies aimed to facilitate coordination so that state and federal environmental review processes minimize duplication of effort. Practices reported by case study participants that were successful will include requesting that the state lead agency and FAA work together in identifying issues, resolving documentation strategies, and making key decisions on environmental analysis issues. Understanding the efforts involved in coordinating the federal and state environmental review processes was reported as critical during the planning process so that issues can be resolved early in the process and to ensure that all regulations and guidelines for both the state and federal environmental review processes are met.

FUNDING AN FAA POSITION

This strategy was used to a limited extent by some case study participants to expedite the environmental review process. It included the airport sponsor funding an FAA environmental specialist position to assist the FAA in processing the NEPA document. This enabled the airport sponsor to ensure that there was a dedicated person at the FAA who was tasked with completing the environmental review process. This approach was reported to work well if the funded position is in place as early in the planning process as possible. That allowed for consistency during the planning and environmental review processes. This approach only worked in case study locations where the airport sponsor had the internal mechanisms to fund such a position and the local FAA office was willing to accept this arrangement.

GLOSSARY OF TERMS

ALP— Airport Layout Plan

CatEx— Categorical Exclusion

DOT— Department of Transportation

EA— Environmental Assessment

EIS— Environmental Impact Statement

EMAS— Engineered Material Arresting System

FWS— U.S. Fish and Wildlife Service

MPO— Metropolitan Planning Organization

NEPA— National Environmental Policy Act

NOAA— National Oceanic and Atmospheric Administration

NOAA-NWS— National Oceanic and Atmospheric Administration's National Weather Service

RSA— Runway Safety Area

TAF— Terminal Area Forecast

USACE— U.S. Army Corps of Engineers

APPENDIX A
Survey

AIRPORT COOPERATIVE RESEARCH PROGRAM SYNTHESIS
S02-04 APPROACHES TO INTEGRATING AIRPORT
DEVELOPMENT AND FEDERAL ENVIRONMENTAL REVIEW PROCESSES

FAA Region _____ FAA Representative:

Airport	Project Name	NEPA type (EIS, EA, CE)
		EIS
		EIS
		EIS
		EA
		EA
		EA
		CE
		CE
		CE
		CE

For each project please answer the following questions:

Identify the project: _____

Why did the sponsor say the project is needed? _____

Who at the sponsor (individual or department, company) was the driver behind the project? _____

What department/business/function is responsible for planning or project initiation efforts at the sponsor? _____

What department/business/function is responsible for environmental review at the sponsor? _____

Did the FAA originate the project or encourage the sponsor to undertake the project? Y/N

When was the first project conceived? _____

Identify all of the federal actions for which the FAA is responsible (AIP/PFC funding, ALP approval, air traffic, etc.):

How was project need discovered/identified? _____

Was project part of a Master Plan? Y/N Date: _____

Was a planning document produced? Y/N Date: _____

Were forecast and airfield modeling data and analysis current at the time of environmental disclosure and analysis? _____

Was forecast consistent with the TAF? _____

Was there adequate justification in planning for the design aircraft? _____

Do the planning documents support project need and timing? _____

Was the proposed development subject to airspace review to determine if it was safe and has utility? _____

Were environmental conditions considered in the planning document? Y/N

Which environmental features were considered? _____

How far in advance of starting NEPA did the sponsor approach the FAA about NEPA compliance needs? _____

Characterize FAA relationship with the sponsor (1 = less than average, 2 = average, 3 = better than average) _____

Date on which FAA first heard of the project: _____

Date of first environmental review contact with FAA on the project: _____

If an EIS, date of Notice of Intent: _____

If an EA or CE, date of initiation of formal environmental review by FAA of a document submitted by the sponsor: _____

Date of issuance of environmental document: _____

Date of FAA order allowing project to proceed: _____

Cost of NEPA effort: \$_____ Did project experience changes during NEPA? Y/N

Did the sponsor change the project after the environmental review process began? Y/N

Did the FAA suggest or require project changes prior to or during the environmental process? Y/N

Were project changes intended to avoid or mitigate adverse environmental impacts? Y/N

If not, what was the motivation for the change? _____

Describe project changes, why changes were experienced, and the proposer of the changes (e.g., sponsor, FAA, other regulatory agency, public, carriers): _____

Did project changes affect the schedule of environmental review? Y/N

By how much time, if at all, was the environmental review delayed as a result of project changes? _____

Identify changes in the environmental review process that were made after it began and explain why these changes occurred:

Who originated these changes? _____

If the FAA, or another regulatory agency originated the changes, did the sponsor agree that the change was necessary? Y/N

Did the sponsor resist the change? Y/N

Did the change materially change the cost of environmental review? Y/N

How much delay, if any, did these changes cause in the environmental review process? _____

Could these changes have been avoided by anticipating them in the pre-environmental review project planning or development process? Y/N

What steps were taken that transitioned this project well from the identification/definition of the project into NEPA?

What could have been done better to transition the project? _____

What was done in the NEPA process to expedite the environmental review? _____

What in the NEPA process slowed the review? _____

What other processes related to this project were underway at the same time (i.e., permitting, state NEPA, BCA, etc.)?

What other federal, state, and local regulatory agencies participated in the environmental review process? _____

During the NEPA process, what additional information, if any, about the project was needed that was not already available?

Could the need for this information have been anticipated prior to the start of environmental review? Y/N

Identify the key environmental issues that were encountered (refer to the Desk Reference to identify issues):

Were unexpected environmental issues encountered? Y/N Describe: _____

Was there public opposition to the project? Y/N

If so, was public opposition widespread? Y/N

Rate intensity of public opposition on a scale of 1–10 (1 = none, 10 = vigorous and intense): _____

Was public opposition focused in communities near the airport or affected by noise? Y/N

Was public opposition based on environmental grounds? Y/N

Did the sponsor's aviation users support the project? Y/N

Identify steps taken to coordinate with interested agencies: _____

Did the sponsor coordinate with other regulatory agencies before submitting the project to the FAA? Y/N

Which ones? _____ How long before the FAA environmental process did that coordination occur? _____

Was participation of any other agency the subject of a written agreement with FAA or the sponsor? Y/N

Was a formal schedule for environmental processing established by FAA? Y/N

If so, at what stage of the environmental review process was the schedule established? _____

Characterize opposition to project (1 = litigation, 2 = small but addressed, 3 = none) _____

Could the need for this information have been anticipated prior to the start of environmental review? Y/N

Identify parties opposed (agencies, individual citizens, citizen groups, environmental groups, communities, elected officials, others: _____)

Was litigation anticipated with respect to the environmental process? Y/N

Did litigation occur? Y/N What was the outcome? _____

Mechanisms used in public outreach (none, hearing, workshops, focus groups, study committees, newsletters, web with draft materials, press releases, newspaper articles, others: _____)

What specific techniques of environmental processing were used that are either new, or comparatively uncommon, in environmental processing by FAA? _____

Was the initial choice (CatEx, EA, EIS) the correct choice for what was ultimately processed? Y/N

Characterize the NEPA process for this project (1 = better than most, 2 = average, 3 = lessons need to be learned): _____

APPENDIX B
Matrix of Projects

Appendix 2: Matrix of Projects
Airport Cooperative Research Program
Synthesis S02-04
Approaches to Integrating Airport Development
and Federal Environmental Review Processes

	Case Study 1	Case Study 2	Case Study 3	Case Study: 4	Case Study 5
FAA Designation (LH, SM, NH, etc)	Non-Hub	Non-Hub	Medium Hub	NA	Large Hub
2007 Total Ops	36,000	35,000	195,000	93,000	420,000
2007 Total Pax	42,000	82,000	5,800,000	1,500	12,000,000
Project	Runway Safety Area (RSA)	Runway Safety Area (RSA) Expansion	Intermodal Business Centre (IBC)	Runway Safety Area (RSA) Improvements	New Runways, Terminal and related facilities
Urgency	None Reported	None Reported	None reported	None reported	Some urgency
P&N Category (capacity, safety, support, other)	Safety Area Compliance	RSA deficiencies	Economic Stimulus	Safety	Safety
Project Driver(s)	Aviation Design Section	FAA request	Economic Stimulus	Sponsor Requirement	Airport Authority
Project champions	Planning, Design, Maintenance & Operations, Environmental (divisions at the airport)	Planning and Environmental Sections	Director of Aviation	Planning and Engineering Divisions	Planning department
NEPA type	Categorical Exclusion (CatEx)	Environmental Impact Statement (EIS)	Environmental Assessment (EA)	Environmental Assessment (EA)	Environmental impact Statement (EIS)
NEPA duration (months)	3 months	Still in process	8 months	Not provided	3 years
Cost of NEPA	\$100,000	\$5 million	Not Available	\$400,000	\$5.58 million
Parallel Processes (ie, permits, mini-NEPA, design)	Permits	Permit applications for Sect. 10 Rivers and Harbors Act, Sect. 401/404 Clean Water Act	Sect. 404 Permitting	Approval from stakeholders: USACE, levee districts	Archaeological survey
Key environmental issues	Wetlands, fish habitats, hazardous materials	Constrained by natural features: mountains, ocean and a river.	Wetlands and Streams	Floodplains, noise, water quality, U.S. waters, environmental justice	Noise, wetlands, historic and archaeological resources
Mitigation measures	Minimize, avoid, and mitigate wetlands, fish stream and avoid contamination	Marine fills that affect estuary and fisheries	None	Use of EMAS to avoid floodway impacts	Wetlands impacts, stream impact mitigation, storm water management, noise, relocation of NOAA-NWS facilities
Were unexpected environmental issues encountered?	Not Available	No	None	Additional hydraulic analysis	Stream Mitigation, relocation of NOAA-NWS
Public reaction	None	Some issues expected to be controversial	Not expected	Opposition	Opposition
Agency reaction	None	Regulatory agency did not agree with the Purpose 7 Need or the alternatives	None	None	In favor
Steps taken to facilitate project delivery/whom	FAA contact, obtained permits, agency scoping, reviews with State Department of Natural Resources	FAA identified as funding source, public involvement, permits obtained	Coordination with FAA, Obtained permits, scoping, and public hearings	Involvement of FAA, use of EMAS, hydraulic analysis, obtain permits, public hearings, workshops, meetings with interested and involved	FAA involvement, Coordination with outside agencies, agreement with SHPO and ACHP, meetings with interested and involved
Issues encountered	None	Lengthy and detailed studies caused delays	None	Opposition by local governments	Runway length change delayed 3 months
Status of project before start of NEPA	None required by FAA for grants	Submission of ALP update approval request	Just beginning	Revision stage of Master Plan	Approval stage of project by FAA
Sponsor's characterization	Better than most	Average	Better than most	Better than most	Better than most
FAA's characterization	Not Available	Lessons to be learned	Average	Average	Better than most
FAA Comments	Not Available	FAA was concerned with the sponsor's alternative	Not Available	None	Good project

	Case Study 6	Case Study 7	Case Study 8	Case Study 9	Case Study 10	Case Study 11
FAA Designation (LH, SM, NH, etc)	Large Hub	Medium Hub	Medium Hub	Non-Hub	Large Hub	Non-Hub
2007 Total Ops	450,000	92,000	92,000	47,000	350,000	36,000
2007 Total Pax	17,000,000	2,000,000	2,000,000	67,000	15,000,000	29,000
Project	New Runway	Runway Safety Area Improvements	Master Plan Update	Replacement Airport	New Runway and Master Plan Update Projects	Wildlife Hazard Management Plan
Urgency	Some Urgency	None Reported	Some Urgency	Some Urgency	Some Urgency	None Reported
P&N Category (capacity, safety, support, other)	Capacity Needs	Safety	Not Available	Capacity and Safety Needs	Capacity	Safety
Project Driver(s)	Deputy Executive Director	Engineering and Planning	Airport Director	City and County, Owners	Aviation Planning	Airport Operations Manager
Project champions	Planning and Airport Development	Engineering and Planning	Engineering and Planning	The Airport	Aviation Project Management and Environmental Programs	Airport Department
NEPA type	Environmental Impact Statements (EIS)	Environmental Assessment (EA)	Environmental Impact Statements (EIS)	Environmental Impact Statements (EIS)	Environmental Impact Statements (EIS)	Environmental Assessment (EA)
NEPA duration (months)	3 years	16 months	5 years	Ongoing	3 years	9 months
Cost of NEPA	\$10 million	\$200,000	\$200,000	\$1,700,000 (Phase 1)	\$4.2 million	\$50,000
Parallel Processes (ie, permits, mini-NEPA, design)	State Environmental Review Process	Permitting, land acquisition, design	Permitting	None	State mini-NEPA process, BCA	USACE and DSL joint wetland fill permit application review, Bureau of Reclamation approvals, Irrigation District coordination
Key environmental issues	Community noise issues, National Wildlife Refuge impacts	Wetlands	Wetlands, air quality, archaeological and historic preservations, endangered species, noise	Wetlands, water fowl, and water quality	Noise, air quality conformity, land acquisition, social equity, wetlands and construction	Water quality, wetlands and waterways, threatened or endangered species
Mitigation measures	More detailed analysis of impacts of National Wildlife refuge	None	Additional information on archaeological and historic preservation, and further analysis	Sites were moved a bit	Activities rearranged to accommodate the wetland mitigation	Endangered species/plants locations,
Were unexpected environmental issues encountered?	None	None	None	None	Unanticipated wetland impacts	Endangered plant species
Public reaction	High Opposition	None	Concerns with noise issues	Great amount of opposition	High opposition	None
Agency reaction	In favor	In favor	Support	None reported	Mixed reaction	Good
Steps taken to facilitate project delivery/whom	FAA involvements, Technical advisory committees, agency involvement in analysis, coordination with U.S. Fish and Wildlife service and State historic Preservation	Discussion with FAA and resource agencies, permitting, hearings	Coordination with FAA and regulatory agencies, USACE	Coordination with FAA	Scoping, FAA involvement, put together a preliminary runway, engineering, and planning group	Meetings with stakeholders, scoping, timeline, FAA involvement, permits
Issues encountered	FAA internal review, litigation threat, additional information, inter-agency coordination and agreements	None	None	None	Changes to accommodate wetland mitigation, FAA disengaged	Changes to scope due to plant species assessment and identification
Status of project before start of NEPA	Adequacy Study	Not Available	Periodic update	Master Planning process	Capacity analysis, Master Plan and Airport Layout Plan Updates	None
Sponsor's characterization	Better than most	Better than most	Better than most	Lessons to be learned	Better than most	Lessons to be learned
FAA's characterization	Better than most	Average	Better than most	Not going well	Better than most	Average
FAA Comments	Good example of integration of planning and NEPA	None	Agencies work well together. EIS done in 1997 and the development program have gone like clockwork.	Political decision on the siting for the new airport. Good – sponsor did not have political cover with respect to what was best for aviation and FAA took role of providing the coverage for that process.	Methodical process regarding the integration between planning and NEPA. Good – provided enough information and data to make tough decisions.	None

	Case Study 12	Case Study 13	Case Study 14	Case Study 15	Case Study 16	Case Study 17
FAA Designation (LH, SM, NH, etc)	Medium Hub	Large Hub	Non-Hub	Large Hub	Non-hub	Medium Hub
2007 Total Ops	190,000	1,000,000	Not provided by airport sponsor	600,000	Not provided by airport sponsor	260,000
2007 Total Pax	3,500,000	43,000,000	Not provided by airport sponsor	21,000,000	Not provided by airport sponsor	2,000,000
Project	Runway	New 9,000-foot runway and associated projects	Crosswind Runway	Terminal Building Modernization	Apron Project	Runway Relocation
Urgency	None reported	None reported	None reported	None reported	None reported	Some Urgency
P&N Category (capacity, safety, support, other)	Capacity	Capacity and delay	Safety	Capacity	Safety	Capacity
Project Driver(s)	Department of Airport/Planning and Development	Aviation General Manager	Mayor and Council	Airport System, Planning, Design and Construction	Commission and Consultants	Planning and Development Department
Project champions	Planning and development	Department of Planning and development, and Environmental and technical service division	City	Airport System, Planning, Design and Construction	Engineers and Commission	Planning and Development Department
NEPA type	Environmental Impact Statement (EIS)	Environmental Impact Statement (EIS)	Environmental Assesment (EA)	Environmental Assesment (EA)	Categorical Exclusion (CatEx)	Environmental impact Statement (EIS)
NEPA duration (months)	Not Available	3 years	18 months	1 month	Not provided by airport sponsor	Not Available
Cost of NEPA	\$4.2 Million	\$5.4 Million	\$65,000	\$31,000	Not provided by airport sponsor	\$1.2 Million
Parallel Processes (ie, permits, mini-NEPA, design)	Conceptual Stormwater Management Master Plan prep and Environmental Resource Permit application prep, benefit-Cost analysis/Letter of Intent	Not Available	None, land aquisition was held up as well as project design and construction	None	Not provided by airport sponsor	ALP update
Key environmental Issues	Noise, air quality, historic resources	Air quality	None prior to the project	Air Quality	Not provided by airport sponsor	4f/SHPO, historic preservation, land acquisition
Mitigation measures	None	Not Available	None	Air Quality Analysis	Not provided by airport sponsor	Alternate runway placement
Were unexpected environmental issues encountered?	None	None	Cultural site required additional field investigation	No	Not provided by airport sponsor	Yes, FAA opposition to removal of historic registry-eligible buildings
Public reaction	Slight opposition	Some opposition	Some opposition	Unopposed	Not provided by airport sponsor	Little opposition
Agency reaction	Supported	Support	support	Slight opposition from one airline	Not provided by airport sponsor	Not Available
Steps taken to facilitate project delivery/whom	FAA approval and funding, outside agency involvements, public outreach	FAA involvement, communication with DOA and EPA,	FAA approval, field studies, outside agency coordination,	Airline coordination and communication, FAA involvement, Coordination with outside agencies	NPIAS Airport Requirements	FAA coordination, Coordination with City, State, County, Tribal, EPA, USACE, USFWS, State DEQ, NPS, SHPO, County DEQ, State Game and Fish Dept, USAF, State Air National Guard
Issues encountered	FAA specified need for more public involvement which in turn added \$1.33 million to budget	Change in original idea of runway extension to entirely new 9,000-foot runway	Cultural site	None	Not Available	None
Status of project before start of NEPA	Master Planning stage	Planning stages	Master planning stage	Master Planning	Master Planning	Master Planning
Sponsor's characterization	Better than most and average	Excellent	Lessons to be learned	Better than most	Good	Lessons to be learned
FAA's characterization	Average	Average	Average	Average	Not Available	Average
FAA Comments	FAA chose consultants. Airport did a good job on master plan. Communication is "so-so". Started as an EIS	Political issues required changes to the Proposed Action.	None	None	Not Available	None

Abbreviations used without definitions in TRB publications:

AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI-NA	Airports Council International-North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	Air Transport Association
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation