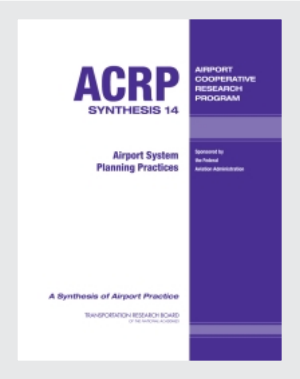

Airport System Planning Practices

DETAILS

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AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP SYNTHESIS 14

Airport System Planning Practices

A Synthesis of Airport Practice

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SUBJECT AREAS
Aviation

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AIRPORT COOPERATIVE RESEARCH PROGRAM

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 administrators, engineers, 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,
Transportation
Research Board

This synthesis study is intended to inform state aviation agencies, airport operators, stakeholders, and policy makers about Airport System Planning Practices.

The report reviews literature and provides results of surveys of state aviation agencies and regional planning organizations to determine the extent to which they are involved in airport system planning, the type of studies they perform, and how successful their efforts have been in meeting the process objectives.

Barbara Fritsche, Wilbur Smith Associates, Cincinnati, Ohio, 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.

CONTENTS

AIRPORT SYSTEM PLANNING PRACTICES

SUMMARY

Airport system planning is a tool used by both state and metropolitan planning agencies charged with advising, developing, or planning for multiple airport systems. Airport system plans have their roots in Federal Law 49 USC 47102(8). As this law indicates, airport system plans are designed to provide information and guidance on the extent, kind, location, and timing for public airports that are needed to provide a viable, balanced, and integrated air transportation system. Airport system planning is not a new concept, but the importance of system-wide analysis for many public agencies is increasing.

Faced with funding limitations, agencies find they benefit from decision-making tools, such as airport system plans, that help them ensure that those airports and those projects that are most essential to the success of their airport system are identified. When the FAA released *Advisory Circular 150/5070-7—The Airport System Planning Process,* in November 2004, it re-affirmed the important role airport system planning plays in helping to ensure the viability of the national air transportation system. Recognizing that airport system plans represent significant investments in time and money, this synthesis study documents the state of current airport system planning practices.

The focus of this synthesis is on how airport system plans are now being conducted and used. The synthesis collected information on each of the following: (1) general background information including the plan's funding source, number of airports analyzed, and ownership of system airports; (2) interface of the planning effort with the National Plan of Integrated Airport Systems (NPIAS); (3) coordination and other outreach efforts that characterize the planning process; (4) various elements or special studies included in the planning effort; and (5) ways that plans are being used and implemented. All 50 state aviation directors, as well as the directors from Guam and Puerto Rico, were surveyed to collect information on their current airport system planning practices. This report also presents several case studies that focus on multi-state and metropolitan or regional aviation system plans. This synthesis reports on current airport system planning practices based on survey results, case studies, and a literature review.

Since 2004, airport system planning has been guided by *FAA Advisory Circular 150/5070-7* (www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/media/150-5070-7/150_5070_7.pdf). The FAA, in issuing its updated advisory circular on airport system planning, provides considerable flexibility as to how to approach and prepare system plans. Generally speaking, airport system plans consider and are consistent with, as appropriate, other state and regional transportation, land use, and environmental objectives. Elements within an airport system plan, and the relative emphasis given to individual elements within the plan, vary based on the specific needs of the sponsor for the plan. In its advisory circular, the FAA notes the following elements for inclusion in an airport system plan:

- Exploration of issues that impact aviation in the study area;
- Inventory of the current system;
- Identification of air transportation needs;
- Forecast of system demand;

- Consideration of alternative airport systems;
- Definition of airport roles and policy strategies;
- Recommendation of system changes, funding strategies, and airport development;
- Preparation of an implementation plan; and
- Strategic planning.

Incorporating these elements in the planning process helps to ensure a systematic approach to identifying and addressing the needs of the airport system.

Each airport system is unique and, as a result, airport system plans are often individualized to reflect not only the specific circumstances of the system the plan is prepared for but also to recognize the needs of the sponsor in terms of how the plan will be used.

The survey for this synthesis was distributed both electronically and by mail to 52 agencies. Surveys were sent to all members of the National Association of State Aviation Officials, because they are the primary implementers of airport system plans. A total of 43 agencies returned surveys. Surveys were received from a wide cross section of states, representing both large and small airport systems.

In addition, phone interviews were conducted to support the system planning case studies presented in this synthesis. These case studies focused on multi-state and regional and metropolitan aviation system plans. Case studies were used to contrast and compare statewide aviation system plans to larger multi-state efforts and to more targeted metropolitan and regional system plans.

Among those state agencies participating in the primary survey effort for this synthesis, 67% reported that their most current plan was developed before 2004 when FAA's most recent advisory circular on airport system planning was released. Recognizing the availability of more current FAA guidance on airport system planning, 76% of the respondents indicated that they plan to update their state airport system plan between now and 2010. Only 52% of the respondents indicated that their state has an actual policy related to updating their state airport system plan.

Survey respondents indicated that 83% of the plans represented in this synthesis were prepared primarily with FAA funding, and 68% of the respondents noted that the lack of FAA "set aside" funding for system planning has not, up to this point in time, had an impact on their ability or their decision-making process as it relates to undertaking updates to their plan.

Fifteen percent of the survey participants reported that they consider only small commercial service airports in their airport system plan. Seventy percent include all commercial service airports in their plan, and 15% consider only general aviation airports in their plan. For general aviation airports, 88% of those responding consider all public airports, both NPIAS and non-NPIAS; however, 12% indicated they restrict their plans to only general aviation airports included in the NPIAS.

Within most airport systems represented in this synthesis, 66% of the airports are publicly owned by either a city or a county. On average, authority and private owners each account for 14% of the ownership of airports for systems represented by survey results. Most states still have some state-owned airports, and most states reported that they include privately owned airports that are open to the public in the airport systems they plan for. Among agencies participating in the survey, 62% indicated that it is their belief that the ownership composition of their airport system does not affect their ability, either in a positive or a negative way, to implement study recommendations.

Only 64% of the respondents revisited NPIAS eligibility criteria to determine if airports in their state system, now included in the NPIAS, continue to meet NPIAS entry criteria.

Although only 12% of the respondents used their plans to identify airports to be removed from the NPIAS, 60% stated that they used their most current plan to identify additional airports to be included in the NPIAS. Twelve percent of the respondents noted that their most current state system plan is reflected in the most current NPIAS; for the remaining respondents, they are either unsure or they noted that their state plan and the NPIAS are inconsistent.

Forty-one percent of those responding to the synthesis survey involve metropolitan planning organizations in the development of their state airport system plan, 95% involve individual system airports, and 83% involve the FAA in some way other than just funding.

Ninety percent of survey respondents indicated that their plans include a comprehensive forecasting element, 88% of the plans have assigned airports to system roles, and 67% of the plans considered ground access or intermodal connectivity.

Only 60% of those participating in the survey reported that they use their system plan to make actual funding decisions for development at system airports. Lack of federal, local, and state funding, in that order, were noted as the top three obstacles to plan implementation. Based on their objectives for their individual plans, 28% of the respondents rank their plans as being very effective and 43% rank their plans as being effective. The remaining 30% rank their plans as being somewhat effective or not effective.

CHAPTER ONE

INTRODUCTION

BACKGROUND

This synthesis documents how airport system plans are carried out today and provides information on how system plans are being conducted, coordinated, and used. This chapter reviews and summarizes underlying principals for airport system planning.

Airport system plans are different from airport master plans (*1*). However, airport master plans are often one of the primary resource documents for airport system plan preparation. Airport master plans provide far more airport-specific detail on demand outlooks and related facility needs. Recommendations from airport master plans are often considered in the airport system planning process, and recommendations from the state airport system plan are typically reviewed when an airport is updating its individual airport master plan.

The underlying objective of this report is to capture information on current airport system planning practices, determine how these practices vary among states, review generally how current planning practices follow FAA guidelines, and note how multi-state and metropolitan/regional airport system plans differ from state airport system plans. Until the FAA released a revised advisory circular on airport system planning in 2004, it had been almost 20 years since the FAA updated its guidance on airport system planning. In the interim, state airport system planning evolved based on system and sponsor needs. This synthesis helps to summarize the current state of airport system planning and highlights consistencies and inconsistencies.

The synthesis relied primarily on surveying efforts that are described in more detail in subsequent sections of this report. Case studies were developed to contrast and compare statewide system planning efforts with multi-state and metropolitan/regional plans. Surveys and interviews conducted to support the synthesis are supported to a lesser extent by a literature review. Findings from all data collection efforts are summarized in the study's conclusions.

AIRPORT SYSTEM PLANNING PURPOSE, OBJECTIVES, AND RESULTS

The general purpose of an airport system plan is to review the interaction between all airports in a designated airport system. An effective airport system plan considers the interrelationship of all system airports; ultimately, this leads to an assessment or an evaluation of the system's current performance. The evaluation typically leads to related actions that are needed to address system deficiencies.

Objectives for airport system planning often vary by system and by sponsor. One underlying objective for the system planning process is maximizing the effectiveness of federal, state, and local investment in airport facilities. System plans conducted on the state and/or metropolitan/regional level may revisit system airports to ensure that they meet eligibility criteria for funding from the Airport Improvement Program (AIP). FAA Order 5100.38 outlines funding eligibility criteria (*2*). Airport system plans provide an opportunity for incorporating aviation needs into other state and regional transportation planning documents. Further, the state airport system plan is the primary vehicle for helping to align federal priorities with state and local needs.

One of the primary outputs from an airport system plan is the identification of a viable, balanced, and integrated airport system. When complete, an effective airport system plan identifies how to preserve and enhance the system to meet current and future aviation demand.

SCOPE OF AIRPORT SYSTEM PLANNING ANALYSIS

Most airport system plans identify the airports serving an individual state. However, system plans can also be conducted for multi-state study areas or for airport systems that serve particular metropolitan or regional areas. System plans are open to considering all types of facilities that accommodate flight. Although most system plans consider facilities serving traditional fixed-wing aircraft, they can also consider heliports, seaplane bases, and spaceports. The FAA's advisory circular on airport system planning indicates the focus of system plans is on those airports that are part of the National Plan of Integrated Airport Systems (NPIAS) (*3*). If non-NPIAS airports are important to a state's transportation needs, they may also be incorporated into the state airport system plan.

System plans consider, as applicable, state and local aviation laws. Agency responsibilities, authority, functions, and funding responsibilities for system airports are also part of the foundation for plan development. Airport system plans can provide an opportunity for integrating aviation needs into

broader transportation, land use, and environmental objectives for a state or region.

RELATIONSHIP OF STATE AND OTHER AIRPORT SYSTEM PLANS TO NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

The NPIAS is the primary document through which the FAA balances its strategic goals for safety, efficiency, and environmental compatibility for the airports serving the nation's air transportation needs. *FAA Order 5090.3—Field Formulation of the National Plan of Integrated Airport Systems* (*NPIAS*) outlines criteria for NPIAS inclusion for airports (*4*). Generally, airports included in the NPIAS are publicly owned commercial, reliever, and general aviation airports. All airports in the NPIAS are public-use airports. Privately owned general aviation airports that are FAA-designated reliever airports are also eligible for NPIAS inclusion. Among the three principal planning documents for airports, airport master plans feed into airport system plans, and airport system plans feed into the NPIAS.

Although most airport system plans are prepared by state agencies, most often the state department of transportation (DOT), airport system plans can also be prepared for metropolitan areas or regions. Most often, metropolitan or regional airport system plans are prepared by a Metropolitan Planning Organization (MPO). Primary differences between state and MPO airport system plans rest with the state's greater ability to enforce and implement plan recommendations through legislative action, and the ability of the state to direct funding to recommended actions. MPOs rely more heavily on persuasion, leadership, and non-aviation incentives, often involving surface transportation or comprehensive plan approvals, to implement recommendations from their airport system plans.

Although examples of multi-state airport system plans are limited, these plans often include the largest airports in a particular system. By so doing, multi-state plans can be implemented by individual system airports that have the ability to address their own capacity, facility, access, and airspace needs. Ideally, both metropolitan/regional and multi-state plans are compliments to the state airport system plans.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

A literature review was conducted for this synthesis project. As part of that review, the Transportation Research Information Services (TRIS) database, the largest and most comprehensive resource on published transportation material, was used (*5*). Internet searches were also undertaken using various search engines. Suggestions from the TRB Topic Panel were also considered on literature sources to be reviewed. Bibliographies from various documents were also reviewed for the literature review.

From the literature review, it can be concluded that this is a topic for which a very limited amount of literature is available. Further, some of the literature is dated, preceding the 2004 publication of the FAA's most recent advisory circular on airport system planning (*3*). The FAA does have some advisory circulars and orders that apply to planning for airport systems. Literature reviewed for this synthesis is summarized in Appendix C.

CONCLUSIONS FROM LITERATURE REVIEW

As noted, there are a very small number of articles and publications on the topic of airport system planning. Most of the information summarized in this section comes from a TRB paper authored by Howard and Keller (*6*). From a review of literature that is available, some of the more common issues related to planning for the state and/or regional/metropolitan airport systems can be summarized as follows:

- Individual airports within any given system are often prone to proceed with projects and actions that further their own individual agendas, sometimes at the expense of the larger airport system or other elements of the regional transportation system.
- Sponsors of airport system plans often find themselves lacking in both the authority and the funding to implement key components of their plans.
- Airport system plans, given the significant amount of data and information that they contain, are often difficult to keep current, especially because aviation is such a dynamic and constantly changing industry.
- Investment in system airports is still often not tied to system recommendations or to measures that enable the sponsor to determine if investment is improving overall system performance.

Through a collaborative process, better communication and coordination efforts are needed to merge system planning objectives with individual airport desires and overall funding capabilities.

Airport systems are facing tumultuous times. Whereas new large aircraft and very light jets are changing dynamics and facility needs within some airport systems, other systems may require re-evaluation as the nation's commercial carriers continue to consolidate and cut service. In the midst of these changes, uncertainties in funding from AIP continue to challenge airport systems.

Under the auspices of the Planning Grant Program, the Airport and Airways Development Act of 1970 gave aviation systems planning a major push through dedicated funding (*7*). Funding specifically for system planning is no longer available. States and regions face a major challenge in continuing airport system planning that effectively addresses the needs of both commercial and general aviation airports.

The set aside within the AIP for airport system planning was discontinued in 2000. After that time, airport system planning became reliant on discretionary grant funding and now competes with other eligible projects that fall within the AIP. Information from the FAA was provided and reviewed to ascertain potential impacts. Information presented in Figure 1 is from a query of FAA's System of Airport Reporting. It shows FAA planning grants from 1988 through 2008. As shown following 2000, grants issued for planning declined until 2003. Grants for planning rose in 2004, declined in 2005 and 2006, and then rose again in 2007 and 2008. By 2008, grants rose above the 2000 level, but remained below the 1999 level.

Lower levels of FAA funding for planning could have an impact on the ability of state agencies to undertake airport system plans in the future.

The need for and benefits of aviation system planning are often believed to be self-evident; nevertheless, there are good reasons to document the value of airport system planning and to strive to develop effective practices for this planning discipline. Changes in federal funding for airport planning have eliminated the specific allowance for system planning. The FAA, however, still can allocate funds to system planning activities. The end result is that system planning activities

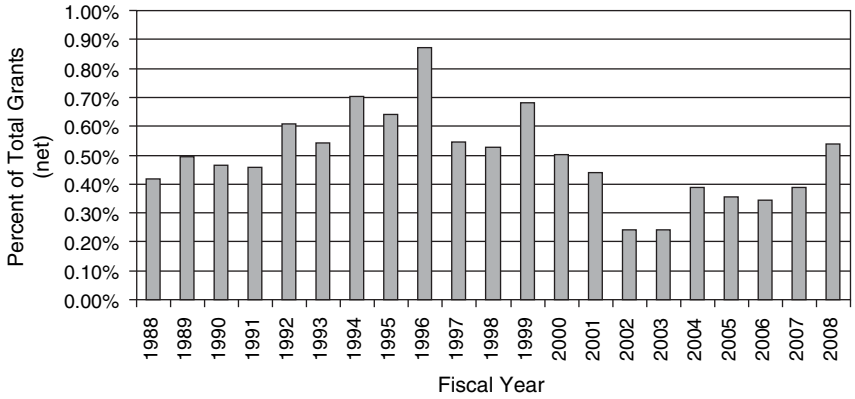

FIGURE 1 FAA planning grants.

compete against other planning needs, such as airport master plans, and in some cases against capital improvement projects. As noted from the literature review, there is a question of whether enough money is being spent on planning activities, considering the complexity of the issues and the recognition that it is important that aviation be examined within the broader, multimodal, and multi-jurisdictional context.

Literature on airport system planning indicates that failure to adequately prepare and update airport system plans for states and metropolitan areas/regions could lead to uninformed decisions or, at the least, to significant delays in implementing needed system improvements. In too many metropolitan areas and regions, airports are approaching capacity without any agreement on whether to expand, and if so, where and how expansion takes place. These are all issues that are best initially in an airport system plan. There is a need to assess the cost-effectiveness of different levels of investment in system planning and to determine how to tailor the nature and scale of system planning studies to address the issues being faced. Equally important is the need to assess the effectiveness of different system planning methods and techniques. Merely spending money on system planning is not enough if the planning process fails to resolve the issues of concern.

Individual states and the federal government have developed various metrics and measurement approaches to evaluate airport system performance. Airport system performance evaluations are usually conducted in a cyclical process, where expected changes and improvements are most often considered to determine their impacts on future system performance. Using performance measures, the airport system can be evaluated to determine which strategies to implement. Although dozens of performance measures have been used by various states to evaluate their airport systems, examples of performance measures might include:

- The percent of system airports with a published approach,
- The percent of system airports capable of serving business jets, and
- The percent of system airports with jet fuel.

After implementing the strategies, the performance of the system can be measured again, assuming a sustainable planning process is used, to determine how the performance of the system has changed. The results of this process help to support future decisions and investment.

The need for clearly defined system performance criteria is a common issue for most airport system plans. For a planning process to be sustainable, attributes of the system that can be measured serve as the best yardsticks of system performance. Factual quantitative performance assessments are needed to support sound planning decisions, and metrics selected specifically to support decisions.

The metrics that planners use to evaluate the performance of airport systems, both state and regional/metropolitan, are expected to evolve. Which metrics are emphasized, how they are calculated, and what target performance levels are established will vary by system. To plan for changes in airport systems and to measure improvement in system performance afterward, planners need to carefully select system performance measures.

In the following chapter, the current practices being used by states and metropolitan planning agencies to carry out airport system planning efforts are identified and discussed.

CHAPTER THREE

RESEARCH

SURVEY METHODOLOGY

A primary survey instrument was designed, tested, and implemented to gather information for this synthesis. Surveys were distributed to the target audience by means of mail and e-mail. Survey participants were provided with the option of filling out a hard copy of the survey and returning it by pre-paid mail or fax, or they were able to complete the survey electronically and return it by e-mail. Several reminders were distributed to those who did not initially complete the survey within the requested timeframe. The initial distribution of the survey, as well as all subsequent reminders, provided background on the ACRP program and emphasized the purpose and the importance of this particular synthesis. Questions were developed to gather responses that were both consistent and comparable. The survey was designed to gather information that would provide a sound basis for describing current airport system planning practices among the 50 states and two U.S. territories. Appendix A presents the actual survey used to collect information presented in this section of the synthesis.

In addition to the primary survey effort for this synthesis, a secondary survey was also undertaken. The secondary survey gathered comparative information for the case studies that were considered as part of this synthesis and that focused on multi-state and metropolitan and regional airport system plans (these can be found in chapter four).

Both surveys contained some similar questions so that statewide, multi-state, and metropolitan and regional airport system plans could be contrasted and compared. Statistical results from the state agency survey are presented in Appendix B, as is a list of airport system plans analyzed for this effort.

A total of 52 agencies were contacted to participate in the primary survey. Ultimately, 43 agencies returned surveys. The target response rate set for the survey was 80%, the response rate specified for ACRP synthesis studies. The response rate for this study's survey effort was 83%. Figure 2 shows the respondents to this study's primary survey effort.

STATEWIDE AIRPORT SYSTEM PLAN RESULTS

General Information About Airport System Plans

Those responding to this study's primary survey effort were asked to provide information on the date their most recent airport system plan was published. According to survey respondents, 67% of the airport system plans represented by study results were undertaken before 2004 when the FAA's most recent advisory circular on airport system planning was published.

An effective airport system plan is often characterized by a continuous planning element. Continuous airport system planning considers reappraisal, monitoring, and special studies to maintain, enhance, and update certain key elements of an airport system plan. Of the survey respondents, only 32% stated that they have undertaken some type of continuous planning since they completed their airport system plan.

A high percentage of those participating in this study's survey effort indicated they will be updating their system plan in the near-term. Indeed, 76% of the respondents reported that they plan to update their airport system plan between now (summer 2008) and 2010. Only 5% of the survey respondents indicated that they currently are uncertain of the timeframe in which they will update their airport system plan. The remaining 19% of the respondents have plans to update their airport system plan sometime after 2010.

Among survey respondents, 52% reported that by state policy they are required to conduct regular updates to their airport system plan. Among those indicating there is a policy in place to direct regular system plan updates, 44% indicated updates are to be conducted at 5- to 7-year intervals. Another 40% indicated airport system plan updates are to be completed every 10 years. For the remaining 16%, update intervals varied from annual updates to update timeframes that extended beyond 10 years.

Historically, as part of the FAA's AIP, funds for airport system planning were "set aside" specifically for the purpose of conducting airport system planning. In the 2000 reauthorization of AIP, the airport system planning set aside funding was not included. Currently, FAA funding for airport system planning is most often obtained from discretionary funding or from state apportionment funding. Survey respondents were asked if the elimination of the set aside funding influenced their willingness or their ability to conduct and update their airport system plan. Although 68% of the respondents indicated that the lack of set aside funding does not impact their ability or willingness to conduct an airport system plan, the remaining 32% noted that discontinuance of the set aside for airport system planning has influenced their ability or willingness to

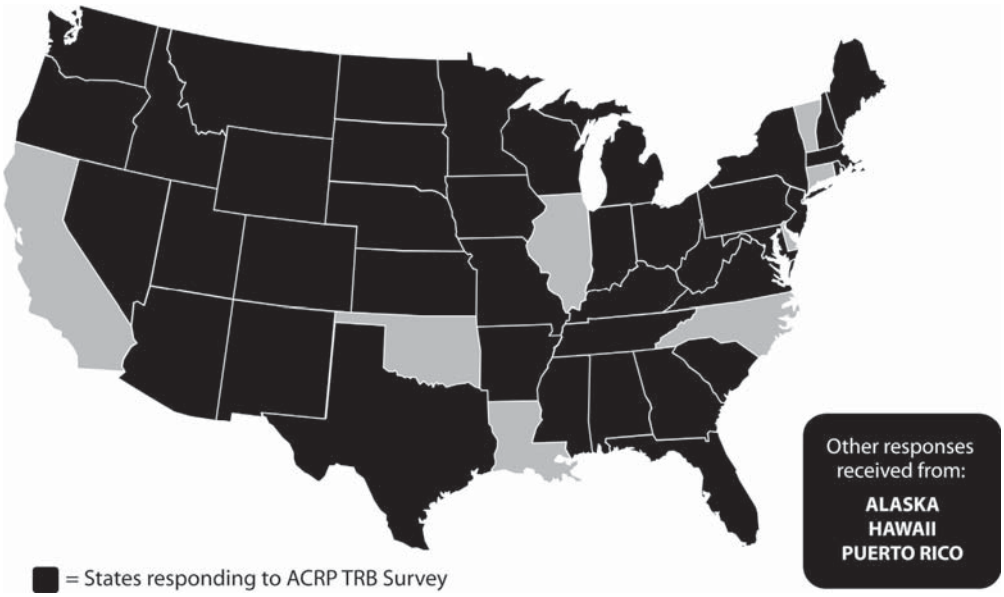

FIGURE 2 States responding to synthesis survey.

do system planning. With no set aside funding for system planning, FAA funding for these planning efforts comes from the same pool of funding used for capital improvement projects.

Survey respondents were asked to provide information on the primary source of funding for their most recent airport system plan. Although 17% of those agencies responding reported that they primarily used state funding to complete their most recent airport system plan, the remaining 83% noted that the primary funding source for their airport system plan was the FAA. It is worth noting that respondents who rely on FAA funding also often use some amount of state funding to complete their airport system plan. Figure 3 provides a graphic summary of system background information.

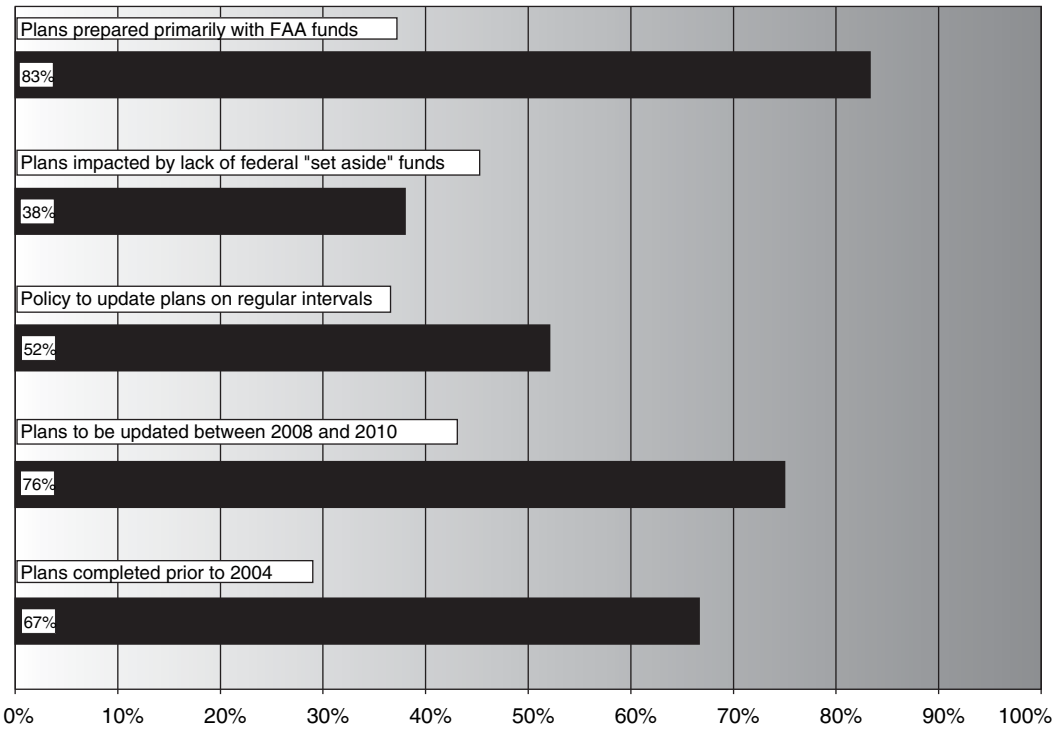

FIGURE 3 Summary of general background information.

Each state is unique in terms of its airport system and the reasons it is motivated to undertake an airport system plan. Survey respondents were asked to provide information on the types of airports that they included in their most recent airport system plan. Respondents indicated that for their plans, 70% considered all commercial airports in their system. Of the remaining respondents, 15% reported that they considered only smaller commercial airports and 15% considered only general aviation airports.

Similar information was sought on the general aviation airports that were included in each agency's most current airport system plan. For general aviation airports, 12% of the respondents indicated that they considered only general aviation airports that are included in the NPIAS. The remaining 88% of the respondents indicated they considered all publicly owned airports, both NPIAS and non-NPIAS.

Almost half, 49% of the respondents, also mentioned that if privately owned airports in their system are open to the public, these private airports are included in their plan. Only 7% of all responding agencies reported that their airport system plans consider privately owned, private-use airports. Seaplane bases are included in 20% of the system plans, as are joint-use military airfields and heliports. It is worth noting that whereas the percentages were the same for each of these types of airports, the agencies that reported they consider these types of airports in their system plans were not the same. Table 1 shows the percentage distribution, by type, for airports included in the system plans represented by this study's survey efforts.

The agencies responding to the survey for this synthesis represent a total of 3,398 airports without Alaska and 4,168 airports with Alaska. A separate total with and without Alaska is provided because of the large number of state-owned and privately owned airports that are part of the Alaska airport system. This results in an average of 85 airports per respondent without Alaska and 102 airports per respondent with Alaska.

Information was also sought on the ownership distribution for airports in each respondent's airport system plan. The most prevalent type of ownership, reported for the airports included in this study, is public ownership by either a city or a county. An estimated 67% of all system airports are publicly owned; when Alaska is considered, this percentage drops to 55%. Authority ownership accounts for 14% of all airports without Alaska and 13% of all airport ownership with Alaska.

More than half of the agencies responding reported that they still have state-owned airports that are part of their system, although the number of state-owned airports in most systems is relatively low. The highest numbers of state-owned airports for responding states excluding Alaska were reported for Oregon (27 airports), Idaho (30 airports), and Michigan (43 airports). State-owned airports account for an estimated 5% of all airports included in this analysis when Alaska is not included. When Alaska is included, this percentage increases to 10%. The Alaska system has almost 260 state-owned airports.

More than half of all agencies responding to this study's survey also indicated that they have privately owned airports, which are open to the public, included in the system of airports that they plan for and fund. These privately owned, public-use airports account for an estimated 14% of all system airports when Alaska is not included. When Alaska is included, because of the high number of privately owned airports included in its system, this percentage rises to 24%. Alaska has 500 privately owned airports in the airport system that it plans for. Table 2 summarizes the results of the information on airport ownership.

Information was also sought to determine what impact, if any, the ownership composition of an airport system has on

TABLE 1
SUMMARY OF AIRPORT TYPES INCLUDED IN AIRPORT SYSTEM PLANS

Airport Type	Included in Respondent's Plan
All commercial service airports	70%
Only smaller commercial service airports	15%
No commercial airports	15%
Only NPIAS general aviation airports	12%
All publicly owned general aviation airports, NPIAS and non-NPIAS	88%
Privately owned, public-use general aviation airports	49%
Privately owned, private-use general aviation airports	7%
Seaplane bases	20%
Joint-use military airfields	20%
Heliports	20%

TABLE 2
SUMMARY OF AIRPORT OWNERSHIP

Airport Ownership Type	Without Alaska	With Alaska
City or County	67%	55%
Authority	14%	11%
State	5%	11%
Private	14%	23%
Other	>1%	>1%

the agency's ability to implement recommendations from its system plan. The thought in seeking this information was that higher percentages of privately owned airports could potentially have a negative impact on implementing recommendations from a system plan, whereas higher percentages of state-owned and publicly owned airports might have a positive impact. Results from this question show that 62% of all respondents noted the composition of their airport system, in terms of its ownership, has no impact on the agency's ability to implement recommendations from its system plan.

Among all respondents, 28% reported that ownership composition for their system of airports has a positive impact on the agency's ability to implement system plan recommendations. The agencies that responded that system ownership has had a positive impact on their ability to implement recommendations are not responsible for systems with high percentages of state-owned airports. Only 10% of the respondents indicated that ownership of the airports in their system has a negative impact on their ability to implement system recommendations. These respondents were not agencies with a high percentage of privately owned airports in their system.

SYSTEM PLAN INTERFACE WITH NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

One of the primary functions for state airport system plans revolves around the integration of recommendations from these plans into the NPIAS. As previously noted, the NPIAS is the primary document through which the FAA identifies the nation's air transportation needs. Many state airport systems were identified during or before the 1970s when the concept of planning for state and metropolitan airport systems first started to be widespread. FAA's Field Formulation for the NPIAS has several guidelines for determining an airport's eligibility to be included in this federal document, thereby making the airport eligible to receive AIP funding. During the 1970s and throughout the 1980s, general aviation activity grew at most general aviation airports. Through the 1990s and continuing to the present, general aviation activity has contracted at many airports. These trends are reflected in FAA's annual aviation and aerospace projections (*8*). As a result, some general aviation airports that may once have qualified for NPIAS inclusion may no longer do so. As part of the study's survey effort, information was collected to help determine the current interface between state airport system plans and the NPIAS.

Those responding to the survey were asked to indicate whether or not as part of their airport system plan they considered whether all NPIAS eligible airports still meet the basic criteria for NPIAS inclusion. In response to this question, 64% of the agencies indicated that they did not revisit NPIAS eligibility for their system airports as part of their most current state airport system plan; the remaining 36% did revisit NPIAS eligibility. Only 12% of the respondents stated that they used their most current state airport system plan to suggest that airports be removed from the NPIAS.

The FAA's most current advisory circular on airport system planning clearly states that the NPIAS is to be updated based on information contained in state airport system plans. When the survey respondents were asked if their state's information in the NPIAS was updated to reflect their most recent state airport system plan, only 12% responded that it had. Another 48% indicated that the most current NPIAS does not reflect the same information as their most current state airport system plan, and 40% stated that they were unsure as to whether or not there is concurrence between the NPIAS and their state airport system plan.

Only 12% of the survey respondents reported that they used their most recent state airport system plan to suggest that airports be removed from the NPIAS. The remaining 88% did not reconsider NPIAS eligibility for system airports. Sixty percent of the respondents indicated that they used their most recent airport system plan to suggest that additional airports be added to the NPIAS. According to survey respondents, their most recent state airport system plans identified the need for three new commercial airports, 23 new general aviation airports, and one new public heliport. Figure 4 provides a summary of survey responses as they relate to NPIAS interface.

SYSTEM PLAN COORDINATION EFFORTS

State airport system plans provide an opportunity for coordination with regional and metropolitan transportation planning efforts, with individual airports within the system, and with the FAA field offices that oversee the state.

MPOs, by federal law, have the ability to conduct their own airport system plans, although most opt not to enter into planning for airport systems. More information on metropolitan/regional system planning efforts is provided in case studies discussed later in this report.

All urban areas with a population of more than 50,000 are required by law to have an MPO (*9*). There are 385 MPOs in the United States; MPOs are defined in Federal Transportation Legislation [23 USC 134(b) and 49 USC 5303(c)]. Although most MPOs are not actively involved in airport

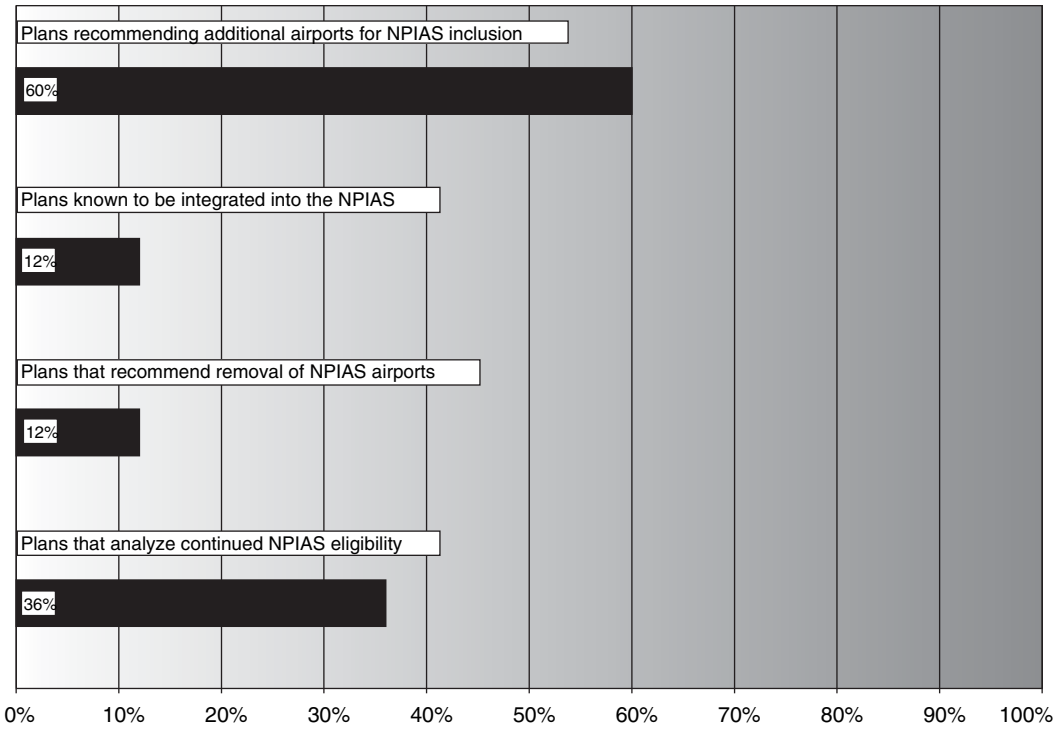

FIGURE 4 Summary of NPIAS interface.

system planning, they are involved in planning for other modes of transportation, in economic development, and in land use planning. More information on MPOs can be found at www.ampo.org (AMPO, the transportation advocate for metropolitan regions) and www.narc.org (the National Association of Regional Councils). All of these related planning efforts have a direct impact on airports. This study's survey sought information on how MPOs are most often involved in state airport system plans.

Agencies responding to the survey were asked to indicate whether or not they have involved MPOs in the preparation of their most current airport system plan. Survey responses showed that 41% of the respondents did involve MPOs in the preparation of their most current state airport system plan, but 59% did not. For those involving MPOs, Table 3 provides a summary of how state agencies included MPOs in the development of their most current state airport system plan.

Of the state agencies that responded to this study's survey, 24% reported that they have at least one MPO in their state that conducts its own airport system planning efforts. When the state respondents were asked if there is consistency between their state airport system plan and the MPO plan, 33% indicated there is consistency, 7% that the MPO airport system plan is inconsistent with the state airport system plan, and 60% that they are uncertain as to whether the state and MPO plans are consistent.

Figure 5 summarizes information on how MPOs are currently involved in state airport system planning.

State airport system plans are top down planning studies that still, in most instances, need to be implemented from the bottom up. In other words, individual airports within the state airport system need to follow through on recommendations from the state plan for that plan to be effective. A series of questions

TABLE 3
SUMMARY OF MPO INVOLVEMENT IN STATE AIRPORT SYSTEM PLANS

Type of Activity	% Only From States Reporting MPO Involvement
Development of work scope	35
Participation on advisory committee	82
Review of finding and recommendations	65
Integration of findings into metropolitan transportation plan, multi-modal plan, or transportation improvement plan	41

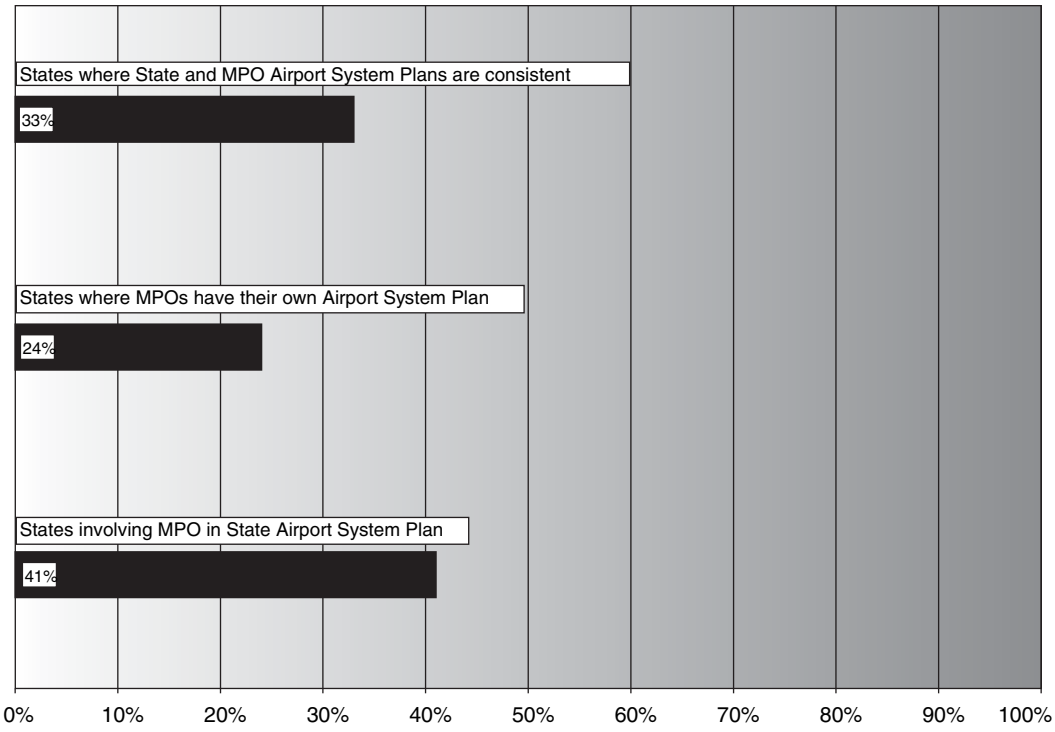

FIGURE 5 Summary of MPO interface.

was employed to determine how individual airports within state airport systems are being included in the airport system planning process. Of the agencies responding to this study's survey, 95% reported that they engage, in some way, the individual airports in their system planning process. It is worth noting that it was beyond the scope of this project to survey individual airports to get their perspective on airport system planning.

Table 4 provides information that summarizes the ways states are involving individual airports in airport system planning.

In some cases, both commercial and general aviation airports may serve demand from other states. Because aviation demand does not recognize state boundaries, information was sought to determine which state airport system plans now consider how airports in neighboring states interact with their airport system.

Respondents to the survey indicated that 52% of their airport system plans considered, in some way, either aviation demand attraction from neighboring states or demand lost to neighboring states. In doing so, they considered how airports in neighboring states influence the needs of their airport system. Only 5% of all survey respondents stated that they actually involved or coordinated with their counterparts in neighboring states during the development of their most recent airport system plan.

TABLE 4
SUMMARY OF INDIVIDUAL AIRPORT INVOLVEMENT IN STATE AIRPORT SYSTEM PLANS

Type of Activity	% of States Reporting Airport Involvement
Contacted for data collection	98
Visited as part of plan development	85
Representation on advisory committee	54
Cross check of master plan with system plan	54
Opportunity for review of individual recommendations prior to inclusion in the state plan	69
Provided airport specific summary of recommendations from the state plan	46

TABLE 5
SUMMARY OF FAA INVOLVEMENT IN FAA FUNDED AIRPORT SYSTEM PLANS

Type of Activity	% of States Reporting FAA Involvement
Review and approval of work plan	89
Served on advisory committee	51
Review and comment on working papers	78
Review of final plan	68

TABLE 6
RELATIVE IMPORTANCE OF DEMAND FORECAST TO PLAN RECOMMENDATIONS

Relative Importance	% Response
Very important	22
Important	39
Somewhat important	34
Not important	5

The FAA is obviously the primary funding source for the development of most airport system plans. Aside from providing funding, the FAA often participates in the development of state airport system plans in other ways. Of those responding to this study's survey, 83% reported that, in addition to providing funding, the FAA participated in some way in the development of their most recent airport system plan. Table 5 summarizes how state agencies report the FAA was involved in the development of its plan. It is possible the FAA workload limits their involvement in airport system planning efforts.

Recommendations from state airport system plans may or may not be adopted into other statewide transportation or programming documents. Responding states were asked to provide information on whether or not their most recent airport system plan has been adopted by their state DOT or by another statewide planning agency. Survey respondents indicated that 78% of the state airport system plans considered in the synthesis have been adopted by the DOT or another state planning agency. Those providing responses also noted that recommendations from 69% of the state airport system plans have been incorporated into their state's transportation plan or its transportation improvement plan.

ELEMENTS OF AIRPORT SYSTEM PLAN

In its most recent advisory circular on airport system planning, the FAA provides guidance on elements to include in an airport system plan. In so doing, the FAA also provides considerable flexibility in what elements an agency elects to include in its airport system plan. Several questions were designed to provide insight into elements that are included in each respondent's most current airport system plan.

Survey respondents were asked to indicate whether or not their most current airport system plan contains a comprehensive demand forecasting element. Although 10% of the respondents noted that their airport system plan does not have a comprehensive forecasting element, 90% of the respondents indicated that their airport system plan does have a comprehensive demand forecasting element. Additional information presented in Table 6 shows the relative importance of demand forecasts as they relate to influencing the final recommendations contained in the system plan.

Agencies responding to the survey were also asked to provide information on the various types of demand elements they considered when preparing forecasts as part of their airport system plan. Table 7 presents the results for this question.

Only one respondent indicated they have included forecasts for other demand components and that projection was for agricultural sprayers.

Because airports within any given system play different roles and contribute in different ways to the airport system they are part of, some agencies have, within their system planning efforts, stratified their systems to show the relative contribution of each airport to the overall system. Classifying airports in a system into different roles is a planning tool recognized by the FAA in its most recent advisory circular on airport system planning. Among those agencies responding to this study's survey, 88% reported that they have employed, as part of their airport system plan, some sort of stratification process, assigning airports to different roles. Appendix B provides information on the terms agencies are using to assign different roles to their system airports.

Agencies use a wide variety of factors to assign airports to roles within their airport system. Information was collected to determine how economic contribution factors into the role assignment process. Among the respondents, 47% stated that economic contribution is one of the factors that they use in assigning roles to the airports in their system.

TABLE 7
SUMMARY OF DEMAND COMPONENTS INCLUDED IN FORECAST ELEMENT

Type of Activity	% of States Preparing Projection
Commercial passengers	71
Commercial aircraft operations	71
General aviation aircraft operations	98
Based general aviation aircraft	95
Fleet mix	56
Air cargo	56

TABLE 8
SUMMARY OF FACTORS CONSIDERED WHEN CHANGING AN AIRPORT'S SYSTEM ROLE ASSIGNMENT

Role Indicator	% of States Reporting Consideration of This Indicator
Increased economic contribution	54
Increased number of based aircraft	60
Increased number of annual aircraft operations	54
Change in the fleet mix	51
Change in the character of the community served	57

Once initial roles are assigned to system airports, those charged with planning for the system are faced with the challenge of deciding when it is appropriate to move an airport from its current role to another role. Information was collected on factors that agencies consider when they contemplate airport role changes within their system. Table 8 shows by percent the factors that survey respondents reported they consider when they change an airport's role within their system.

Other reasons for changing an airport's system role were reported as follows:

- Change in runway length
- Change in approach type or landing navigational systems
- Change in designated FAA Airport Design Group (*10*)
- Change in number of emergency or medical-related operations
- Change in number of passengers
- Change in constraints that limit expansion of neighboring airports
- Change in itinerant or air taxi operations
- Change in airport accessibility

Each of these reasons were reported only once by individual survey respondents.

Assuming survey respondents do assign roles to airports in their system, they were also asked if they identified facilities and services for airports in each of their system roles. For this question, 84% of the respondents indicated that they also have identified facilities and services for airports in each of their system roles.

Another element of airport system planning often relates to analyzing accessibility to the airports and/or determining how the airports connect with other modes of transportation. Among the survey respondents, 67% stated that as part of their airport system plan they considered ground access or connections to other modes of transportation.

The FAA's most recent advisory circular on airport system planning encourages special studies to enhance the basic elements of a system plan. Agencies participating in this study's survey effort were asked to provide information on the types of special studies they have completed as well as information on when these special studies were undertaken. Table 9 summarizes the responses on special studies. Appendix B provides more detail as to which states have undertaken special studies, when the studies were completed, and additional special studies that have been undertaken in addition to those shown in Table 9.

Among the other types of special studies that have been undertaken with some frequency are pavement management plans, emergency and medical access plans, and weather and approach studies.

Special studies are undertaken within the context of airport system planning for different reasons. As shown in Table 9, the most frequently undertaken special studies are economic impact analyses. These studies help states to show economic return from their investment, and help individual system airports demonstrate their value to the community they serve. Special studies allow sponsors to study in more detail certain aspects of their system. Special studies sometimes, but not always, help sponsors determine needs for their systems and influence important funding decisions. Most states rely on special studies and they support the flexibility that the advisory circular on system planning provides for undertaking supplemental studies such as those noted in Table 9.

TABLE 9
SUMMARY OF RESPONDENTS COMPLETING SPECIAL STUDIES

Type of Study	% of States Undertaking the Study
Economic impact	95
Air service	60
Passenger demand	19
Land use compatibility	27
Air cargo	27
Policy/strategic plan	19
Database management*	27
Military re-use	2

*Given the number of states that have contracted with GCR to develop database systems, the percent appears very low.

USE OF AIRPORT SYSTEM PLANS

As part of this synthesis, agencies were asked to provide information on how they are actually using their airport system plans. To ascertain this information, respondents were asked if they used their most recent airport system plan to identify airports that could be redundant or duplicative to their system. Although 43% of the respondents indicated that their airport system plans sought to identify instances where their system might be redundant, 57% noted that they did not undertake this type of analysis.

Information was also solicited as to whether or not current airport system plans considered the state's highest growth areas to ensure facilities were being properly planned to accommodate this growth. Seventy-one percent of those participating in the survey indicated that they had undertaken this type of analysis.

Respondents were asked if they used their airport system plan to allocate state funding to airport development, with 60% of those responding indicating that their system plan guides their funding decisions. Responding agencies were also asked if they had ever used the recommendations of their airport system plan to deny funds to a particular project. Only 26% of those responding mentioned that they have used system recommendations in this way.

The survey also asked agencies to provide information as to whether or not their current system plan was prepared so that the process is sustainable in future planning cycles. Sixty-eight percent of the respondents stated that they used a sustainable planning process. Agencies were also asked if their plan allows them to show how their investment is improving system performance relative to their investment in a set of established criteria. Sixty-two percent indicated their airport system plan helps them improve their accountability by showing how their investment improves system performance. Figure 6 summarizes information on current airport system plan use discussed in this section.

Information was also collected to help determine, from the agency's perspective, what the biggest obstacles to implementing recommendations from their airport system plan have been. This information is summarized in Table 10.

Other individual responses to this question can be found in Appendix B. It is worth noting that funding shortfalls on all levels were identified as the primary obstacles to plan implementation. The survey for this synthesis did not ask respondents if their airport system plans were developed by considering actual funding that was available in prior planning periods.

Information on airport system plan coordination with local, regional, and/or state economic development agencies was also requested in the survey. Table 11 summarizes how the airport system plans considered in this report were coordinated with economic development agencies.

Finally, agencies responding to the survey were asked to rate the overall effectiveness of their most recent airport system plan. Respondents were asked to answer this question as

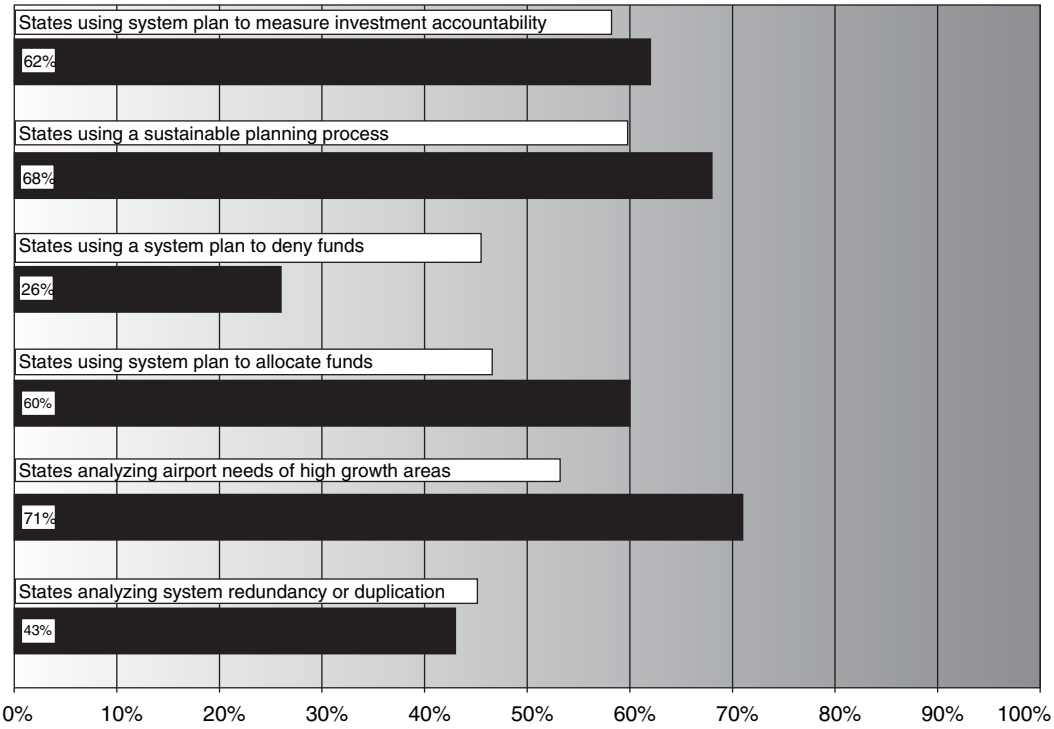

FIGURE 6 Summary of system plan use.

TABLE 10
SUMMARY OF OBSTACLES TO PLAN IMPLEMENTATION

Factor Hindering Implementation	% of States Reporting Implementation Obstacles
Height obstructions	5
Incompatible land use encroachment	27
Lack of federal funding	57
Lack of state funding	46
Lack of local funding	46
Unreasonable plan recommendations	0
Lack of cooperation from individual airports	5

TABLE 11
SUMMARY OF AIRPORT SYSTEM PLAN COORDINATION WITH ECONOMIC DEVELOPMENT AGENCIES

Coordination Activity/Effort	% of States Reporting Activity
During plan development	40
During plan review and approval	23
During plan adoption	26
Only on agency request	45
Results not shared	12

TABLE 12
SUMMARY OF OVERALL PLAN EFFECTIVENESS

Overall Plan Effectiveness	% of States Responding
Very effective	28
Effective	43
Somewhat effective	25
Not effective	4

it relates specifically to their objectives for using their plan. Table 12 summarizes the responses.

In an attempt to better understand the responses presented in Table 12, these responses were cross tabulated with responses to some questions presented earlier in this section. To begin with, completion dates for plans discussed in this section were cross tabulated with information shown in Table 12. For those plans rated as being somewhat to not effective, 75% of those plans were published before 2004 and 25% were published in 2004 or after. For those rating their plans as very effective to effective, 54% were published in or after 2004 and 46% before 2004. Although the "age" of a plan may contribute to it being seen as less effective, the age of the plan does not appear to have as much bearing on its perceived effectiveness. Almost 40% of the respondents indicated they do not use their airport system plans to make project-related funding decisions. Within this group of respondents, about 50% rated their plans as not effective and the other 50% as effective. Perceptions on plan effectiveness do not appear to be directly correlated to a sponsor's use of their plan to make funding decisions.

CHAPTER FOUR

CASE STUDY RESULTS

The case studies for this synthesis focused on multi-state and metropolitan/regional airport system plans. Information was collected to show how multi-state and metropolitan/regional airport system plans compare with statewide airport system plans. Six agencies agreed to participate in the case study element of this synthesis. Key individuals for each of these agencies were contacted and provided with a set of questions. This questionnaire is also provided in Appendix A. Subsequently, phone interviews with each of the six agencies were completed and the results of these interviews are presented here. Agencies and individuals participating in the case studies are listed here:

- Alaska DOT—Transportation Planner
- Delaware Valley Regional Planning Commission (DVRPC)—Manager Office of Aviation Planning
- North Central Texas Council of Governments—Intermodal Programs Manager
- Metropolitan Council of the Twin Cities—Senior Transportation/Aviation Planner
- Puget Sound Regional Council—Principal Planner
- Rhode Island Airport Corporation—Airport Planner

SOUTHEAST ALASKA REGIONAL AIRPORT SYSTEM PLAN

The Southeast Alaska Regional Airport System Plan was the area's first regional airport system plan (*11*). This regional study was undertaken by the Alaska DOT. The need for the study was driven by the fact that most airports in the region had recently completed airport master plans, and there was a desire to have all of the key information, findings, and recommendations from the master plans compiled in a single resource document so that informed decisions could be made concerning airport development in the region. The Southeast Alaska Regional Airport System Plan will be published late in 2008. The DOT does not have an official policy that influences the update of this regional plan; however, it is the department's intent to update the results of the regional system plan in about ten years.

The FAA provided funding for this regional airport system plan. Because of the large number of state-owned airports in Alaska (256 in the Rural System and two in the International System), the state has a better ability to influence how FAA funding is directed. Alaska has benefited from the allocation of on-going funding from the FAA for their system planning efforts.

The Southeast Alaska Regional Airport System includes 11 state-owned airports; each of these airports has scheduled service (six airports have Part 121 operators and five have Part 135 operators). Several airports have commercial airline service that is supported through the Essential Air Service (EAS) program (*12*). There are also 23 state-owned seaplane facilities. There is one municipally owned airport in the system. The plan also considered private heliports and some remote and outlying landing fields owned by the U.S. Forest Service. The airports in these latter categories were, for the most part, included only in the system plan's inventory effort. Juneau International Airport, the largest airport in the region, was included in the regional system plan analysis. The regional system plan's findings supported the construction of one new airport.

In addition to the desire to combine all current airport master plans into a single resource document, the impetus for the first regional airport system plan for the area was also influenced by the fact that the state airport system plan had not been updated in some time. It is worth noting that the Alaska DOT is now in the process of updating its state airport system plan. The end of the regional airport system plan coincided with the beginning of the update to the state airport system plan.

Work from the regional airport system plan is being incorporated into the statewide airport system plan. One of the areas in which the regional airport system plan is more detailed than the statewide plan relates to seaplane bases. The regional system plan helped to clarify policies on funding and establish priorities for these aviation facilities. Many of the seaplane bases are in harbors, most of which are also state-owned. The regional airport system plan determined that there is a need to maintain these aviation resources. It is a state objective to try to turn these harbor resources over to the local communities that they serve. The regional airport system plan supports these transfers. The regional plan also helped to provide a road map for determining the interest of communities without airport facilities for establishing new airports.

The regional airport system plan examined commercial airports whose service is supported by the EAS program. Many of the airports in Alaska have commercial airline service supported by EAS. The regional airport system plan investigated how airport facility needs and design standards could change

without the EAS program. The EAS program is one that Congress has discussed on more than one occasion for cutbacks or total elimination. Without operating subsidies provided from EAS, most airports that have commercial airline service supported by this program would likely see changes in their commercial air service. The regional system plan examined how facility needs and design standards for EAS airports would change if service were provided by a smaller turboprop plane. If scheduled service were on turboprop planes, more airports might be able to accommodate scheduled service. Current EAS service in Alaska is now on larger commercial jets.

The regional plan was developed in conjunction with the Alaska DOT. Also, the general public was kept informed on the project and its progress. To some extent, the Southeast Alaska Regional Airport System Plan was undertaken so that the agency could determine what it did not know about the regional airport system. The department wanted to make sure that it had the most current and up-to-date information possible on the system. This information was important to the department to support sound decisions and investment. From the system plan's inventory effort, the sponsor obtained information about non-state owned airports and private heliports that they had not previously had.

The forecasting effort and approach for the regional system was unique. The system plan estimated both intrastate and interstate air travel demand. Most of Alaska's interstate demand passes through Seattle. Demand was measured in terms of people and flights. In Alaska, markets are very thin. The forecasting effort of the regional system plan provided insight into how positive or negative changes in employment for just one major employer in a market area can change commercial airline travel demand.

The regional system plan primarily consolidated current recommendations, rather than making new recommendations. The representative interviewed for this case study indicated that the focus of the regional system plan was to make sure that existing airport facilities were adequate to meet the needs of the region. The plan concluded that facilities are generally adequate. Findings from the regional airport system plan were incorporated into the Southeast Alaska Transportation Plan, which is a multi-modal plan.

Alaska is so vastly different by region. Although the statewide airport system plan can address many planning objectives, the regional plan provided the opportunity to prepare a plan that was specifically tailored to the objectives and needs of this particular area of the state.

DELAWARE VALLEY REGIONAL AIRPORT SYSTEM PLAN

The DVRPC has been doing airport system planning for a multi-state metropolitan area for 26 years. The DVRPC provides transportation and other planning services for the Philadelphia metropolitan area and encompasses parts of the states of Pennsylvania, New Jersey, and Delaware. The DVRPC updates its core airport system plan every five years. These updates coincide with guidelines from federal highway and transit agencies that provide funding for DVRPC activities. The last full update to the DVRPC's regional airport system plan was completed in 2004, and provided an assessment of the region's airport needs through 2030 (*13*). DVRPC plans to update its regional airport system plan again in 2009. The DVRPC system planning process is continuous in nature; the actual system plan report DVRPC prepares is a snapshot of the regional system at the point in time the report is prepared.

Changes in FAA's priorities for funding airport system planning have had an adverse affect on DVRPC's ability to conduct annual and on-going continuous airport system planning activities, as well as scheduled updates to its regional airport system plan. In the FAA's priority system for assigning grants, planning has a very low priority. With a low priority for planning studies, no reauthorization for AIP, and no set aside funding from FAA for system planning activities, the DVRPC has found it a challenge to carry on with system planning activities that it has conducted for a multi-state area for more than 25 years. Lack of FAA funding has also made it difficult for the DVRPC to follow through on all traditional system planning activities such as capital project prioritization, municipal zoning implementation, and state and national professional aviation and research activities.

The area that the DVRPC provides airport system planning includes a total of 24 airports, including 3 commercial airports serving Trenton, New Jersey; Philadelphia, Pennsylvania; and Wilmington, Delaware. The DVRPC airport system includes both publicly owned and privately owned airports. The metropolitan area has a large number of privately owned airports that contribute to serving the region's aviation demand. The DVRPC played a major role in FAA's decision to designate privately owned airports as relievers so that the future of these airports could be secured through federal grant acceptance. There are several privately owned airports that are designated FAA relievers in this particular airport system. The DVRPC system also includes one seaplane base and three public heliports.

DVRPC airport system planning efforts are somewhat unique because although the DVRPC generates a capital improvement program (CIP) for airports in Pennsylvania, its system planning efforts do not generate a CIP for system airports in New Jersey or Delaware. The CIP generated for Pennsylvania considers regional airport needs and feeds into the FAA's ACIP (*14*). This information is used as a foundation for negotiating airport project priorities with the Pennsylvania DOT's Bureau of Aviation and the FAA's Airports District Office in Harrisburg. This role for the DVRPC is new and unique. It provides an excellent example of plan implementation guiding airport funding, growth, and preservation.

As part of its most recent airport system planning efforts, the DVRPC recommended that Willow Grove, a military installation on the base closure list, be converted to public use. It was the DVRPC's goal to have this airport qualified for inclusion in the NPIAS. A state law, however, was enacted that prohibits the use of this facility as a public airport.

During the preparation of the regional airport system plan, the DVRPC works with the three states that are in the greater Philadelphia metropolitan area. DVRPC helps to facilitate communication on airport needs and aviation issues with the public, elected officials, airports, other agencies, and interested citizens through its quarterly regional aviation meetings.

Aside from previously mentioned activities related to airport system planning, DVRPC's continuous system planning efforts include:

- Operational counts at non-towered airports
- Interface between airport needs and long-range comprehensive planning efforts
- Preservation of endangered general aviation airports
- Assistance with airport-related zoning and land use compatibility needs
- Analysis of ground access needs
- Establishment of policy on funding
- Re-designation of airspace in the Philadelphia control area
- Educational efforts for local elected officials who are not aware of the benefits and the needs of system airports

The DVRPC participated in a multi-state airport system plan that was conducted for the commercial airports in and around the greater New York metropolitan area. This study considered some commercial airports in New York, New Jersey, Delaware, and Pennsylvania, and was modeled after the New England Regional Airport System Plan. This study included commercial airports in and in proximity to DVRPC's planning area. The study examined how airports such as those in Allentown, Trenton, and Atlantic City could play a more substantive role in serving commercial passenger demand in the region. For the study area, there was a recommendation to expand the passenger terminal at the Trenton–Mercer Airport (part of the DVRPC system); however, public opposition caused this recommendation to be rescinded.

Recommendations from DVRPC's regional airport system plan are presented to the DVRPC Board which also decides on highway and transit projects for the region. Although a regional approach facilitates the use of underutilized airports to meet regional demand, political realities sometimes interfere with even the most sound planning recommendations.

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

The North Central Texas Council of Governments (COG) has been analyzing airport system needs for the last 30 years. The airport system that North Central Texas COG plans for is focused on the Dallas/Fort Worth metropolitan area. Although its system planning efforts extend back almost 30 years, two airport system plans that have continued to be used are the 1983 North Central Texas COG Heliport Plan and the 1991 *North Central Texas Long-Range Aviation Plan: General Aviation System Plan 2010* (*15*). The heliport plan provided guidance through 2000, and the prior general aviation system plan through 2010. In partnership with the FAA, the North Central Texas COG is now in the process of updating these two previous plans and merging them in to a single airport system plan for the area. The new study, when complete, will be known as the Regional General Aviation and Heliport System Plan. This plan is divided into various components, and the full five-year completion of this plan is not expected for about three more years.

Before January 2006, the North Central Texas COG did not have a formal policy as it relates to conducting airport system planning. However, although no policy existed, the agency completed several prior system plans. Going forward, future system planning will be guided by a new policy that was adopted at that time. As noted, the FAA's Southwest Region has been an active participant in the renewed system planning efforts for this area. Funding for the on-going system planning efforts of the North Central Texas COG has been allocated from FAA's discretionary funding pool. Under the prior FAA advisory circular guiding airport system planning (AC 150/5050), there was a combination of population and hubbing activity that made metropolitan areas eligible for system planning funds. The new advisory circular published in 2004 (*3*) relaxed these requirements, making most metropolitan areas eligible to compete for system planning funds.

The airport system that the North Central Texas COG plans for has more than 400 landing facilities. The range of characteristics for these 400 facilities is quite vast. Of the 400 landing facilities in the area, about 50 are public-use airports. Most of the existing facilities in the region are privately owned. One of the first steps in the Council's on-going system planning efforts is to review and categorize the facilities and determine the level of detail at which to include each of the various types of airports. The current system plan that the North Central Texas COG is preparing does not include commercial airports; however, general aviation demand at the commercial airports is being considered in the study. Approximately 10 to 15 years ago, COG did address commercial airports in their planning efforts.

The Council's on-going system planning efforts are being coordinated with both the FAA and Texas DOT. When the regional system plan is complete, its recommendations will be forwarded to the FAA for NPIAS inclusion and to the

Texas DOT for consideration in their statewide airport system planning efforts. The Council's current system planning efforts are being overseen by an Air Transportation Technical Advisory Committee; both the FAA and the Texas DOT serve on this advisory group.

Some of the key products from the Council's on-going regional airport system plan are as follows:

- Online Regional Aviation Data Management System—this database will provide a one-stop location for information on all airport facilities in the region. It is the Council's goal to have this site maintained as a clearinghouse that can be accessed by all in the region.
- Improved/Refined Forecasting Process—unique approaches are being considered to predict how the region's aviation demand will behave and be distributed in the future. These approaches are considering the factors that determine where owners base their aircraft and the factors that drive volumes of annual operations. Also as part of this effort, steps are being undertaken to assess how a host community values its air transportation resource. It is the intent to develop a forecast that can be updated by the Council's staff on an on-going basis.
- Demonstration Encroachment Analysis—airport encroachment from incompatible land use and development is a major issue in the area that the Council plans for. This task will gather, review, and catalogue best practices related to protecting airports from encroachment that is common in areas of urban development. This element is of interest and has application to many metropolitan areas. Many MPOs have a genuine interest in land use planning, but lack the power to control incompatible development around airports.
- Project Growth—a primary output for the FAA from this study effort will be the identification of airports that are in the path of future growth and development. Identification of these airports will help protect their future system roles.

The North Central Texas COG believes that its regional system plan provides it with unique opportunities not available from statewide planning efforts. Plans developed on a regional basis provide the ability to examine plans more extensively resulting in a greater level of detail and understanding of the regional airport system, including its issues and needs. COG sees its regional airport system plan as a way to share important information with citizens, community planners, and other transportation planners. Finally, information that will be available when the plan is completed will enable local, state, and federal officials to make more informed decisions related to capital investment.

METROPOLITAN COUNCIL REGIONAL AIRPORT SYSTEM PLAN

The Metropolitan Council of the Twin Cities is responsible for a wide variety of planning and systems operational activities in a seven county area focused on the Twin Cities of Minneapolis and St. Paul, Minnesota. The Metropolitan Council undertook its first regional airport system plan in 1970, with this plan being published in 1972. The planning responsibilities for airports in Minnesota are defined within state statute. In this unique arrangement, the Metropolitan Airports Commission (MAC) owns, operates, and plans for Minneapolis–St. Paul International Airport and all seven designated general aviation relievers for this large commercial airport. The Metropolitan Council is responsible for system planning for all airports in the metropolitan area, including the MAC airports. The Minnesota DOT has system planning responsibility for the remaining Minnesota airports that are beyond the metropolitan area. System planning responsibilities are defined in state statute.

There are 11 airports in the metropolitan system for which the Metropolitan Council plans. The Council is currently in the process of updating its regional airport system plan; the last system plan, prior to this current update, was published in 2001. Aside from regular updates to the regional airport system plan, the Metropolitan Council undertakes special studies and has other responsibilities as they relate to planning for the metropolitan airport system. The Council reviews and approves comprehensive plans for the airports that are in its system, as well as environmental studies. In 1990, the metropolitan area undertook a series of studies that became known as the "Dual Track Process." This process contrasted and compared the costs and benefits of continuing to expand at Minneapolis–St. Paul International versus developing a new commercial airport to serve the region's needs. As part of the Dual Track Process, the Metropolitan Council was responsible for a general aviation capacity assessment. Other special studies that have been completed include a sport aviation study and an economic impact analysis.

The FAA is providing funding for a major amendment to the Regional Airport System Plan (RASP) that will be completed in 2009. Once the RASP is updated, it will be incorporated into the Council's overall Transportation Policy Plan (*16*). Of the two most recent RASPs, the 1996 plan focused on commercial airport policy, whereas the 2001 plan update focused on general aviation. The current RASP will address policy and strategy, as well as amend the previous RASP. There are many issues that the current update will address including:

- Most of the seven reliever airports will have new master plans in 2008.
- All local comprehensive plans in the metropolitan area will be updated in 2008.
- The system may have implications from the Delta/Northwest merger.
- Most aspects of the 2010 plan for Minneapolis–St. Paul International Airport have been implemented.
- Private airports in the metropolitan area are under pressure from urban encroachment.

- Redevelopment and adaptive re-use in areas near system airports will have an increasing impact on planning and development.

Because the Metropolitan Council reviews and approves planning and environmental studies for airports in its system, it has a greater ability to influence development.

Of the 11 airports that are included in the metropolitan system, eight are included in the NPIAS. The RASP considers, on an as-needed basis, privately owned and personal-use airports. The current RASP update is investigating the establishment of criteria for airports to be included in the system. In recent years, the Metropolitan Council has placed increased emphasis on helping to protect airports from incompatible encroachment. One of the benefits for non-system airports in becoming part of the system may be to participate in Council efforts to stop encroachment. Also, by being included in the system, airports have access to funding that they otherwise would not have. The regional system includes several special purpose facilities, a turf runway airport at Forest Lake, and two seaplane bases. One of the biggest challenges facing the metropolitan area is ensuring that the metropolitan area has facilities that are affordable for its users. Fees at the MAC reliever airports have been increased to help meet the goal of increased financial self-sufficiency. The emphasis at these airports has been on business plans that rely more on private funding and the use of non-aviation parcels to increase revenue streams.

Although most of the intensive planning efforts for Minneapolis–St. Paul International Airport rest with MAC, the Metropolitan Council does participate in planning efforts for this large commercial airport. Results of the RASP update efforts include input into the scope for the airport's 2020 plan.

Planning efforts for the regional airport system involve both the FAA and the Minnesota DOT. The information that is developed by the Metropolitan Council, as part of the RASP, is provided to the Minnesota DOT to develop the state CIP. This information is also provided to the FAA for inclusion in the NPIAS. When the Metropolitan Council updates its RASP, the FAA and the Minnesota DOT both participate on its advisory committee. In addition, because of the proximity of the metropolitan area to Wisconsin, representatives from its regional land use planning group also participate in the RASP update. The study area for the Metropolitan Council is actually expanding because of the growth of the metropolitan area. Although official planning responsibilities for the Council still are within a seven county area, the Council does undertake informal coordination with surrounding counties.

The Metropolitan Council provides an annual report on all its programs to the Minnesota Legislature. The Regional Transportation Policy Plan is adopted by the Metropolitan Council Board, and it is this plan that is the official link to the Minnesota DOT and to various federal agencies. The Metropolitan Council has the responsibility to examine and attempt to balance private and public development and transportation needs in the metropolitan area. The Council has the flexibility to consider economic development and impact issues as its plans for the regional airport system. This is one of the benefits of being a multi-purpose agency, while also being a single-purpose decision maker.

PUGET SOUND REGIONAL AIRPORT SYSTEM PLAN

The Puget Sound Regional Council (PSRC) has been preparing plans for its system of airports since 1969. The Regional Council has no formal policy related to the intervals at which to update its regional airport system plan. Historically, the regional airport system plan has been updated or special studies for the regional system have been conducted either when specific events or circumstances dictate or when the Regional Council has the need for specific information on the airport system. Historically, plans that were conducted for the regional airport system were more traditional, using forecasts of demand to predict the future and establish system needs. In recent years, system plans for the region have been more focused on specific issues; for example, ground access and air cargo.

The last complete system plan for the region's airports was published in 2001 (*17*). The Regional Council completed a strategic plan for the regional airport system in 2001–2002. This plan provided a foundation for planning for the system and identified special areas of interest and need that required further investigation. The strategic plan identified a ten-year timeframe for addressing issues of special need. The issues identified for further study include long-term commercial airport capacity, sufficiency of funding, loss of airports, airport compatible land use, air cargo, and ground access among others. A regional airport ground access plan was completed in 2005. An air cargo study was given a high priority for follow-on analysis by the strategic plan because it was believed that Sea-Tac (Seattle–Tacoma International Airport) could run short of air cargo capacity. That study was completed in 2006.

The Regional Council is currently working on a plan for land use compatibility for the airport system. For the past three years, the Regional Council has also been working with the Washington State DOT's Aviation Division on a commercial airport capacity study. State legislation mandated that study and it is scheduled to be completed in June 2009. The Regional Council does rely heavily on the FAA to fund its planning efforts for the regional airport system. The FAA typically allocates approximately $100,000 to $150,000 per year for the region's system planning needs.

There are 28 public-use airports in the PSRC regional airport system. This system includes Gray Army Airfield and McCord Air Force Base. There are five designated general aviation reliever airports in this system. Sea-Tac is the region's major commercial airport. Although carriers have expressed an

interest in providing scheduled airline service to King County International Airport (Boeing Field), the most recent proposal, by Southwest Airlines, was denied by King County. The Regional Council does consider seaplane bases in efforts to plan for the regional airport system; it has completed a special study on seaplane bases and historically also examined the needs of heliports in the region.

In the last regional system plan, a CIP was generated for system airports. This CIP was viewed as being informational in nature. The impetus for developing this CIP for the regional system was in part spurred because the system lacked sufficient aircraft storage capacity for general aviation aircraft. The CIP information was made available to system airports, but it was up to the airports themselves to take the initiative to use the CIP information.

The FAA, the Washington State DOT Aviation Division, and key airport sponsors are always key players in airport studies undertaken by the Regional Council. In turn, most of the large general aviation airports, the Port of Seattle (owner of Sea-Tac Airport), and the Washington State DOT Aviation Division have typically been involved with the Regional Council in its planning efforts.

The last regional airport system plan, completed in 2001, recommended the designation of three existing general aviation airports as relievers, with improvements to match these enhanced roles. The system plan did not recommend a new airport for the region; however, it did support the need for a third runway at Sea-Tac. At the time of the last plan, it was thought that the region had sufficient commercial airport operational capacity to meet the region's commercial passenger needs through 2030. More recent analysis completed by the Port of Seattle, however, shows that capacity shortfalls at Sea-Tac Airport may occur as early as 2023. The airport capacity issue, which is particularly critical in the Central Puget Sound Region, led to state legislation to conduct the on-going capacity study. That study is looking at commercial and general aviation capacity issues, both statewide and within the Central Puget Sound Region. The results of the study will be reported to the Governor in June 2009.

The current airport compatible land use planning initiative that is underway is an important accomplishment of the regional airport system planning process. State law mandates urban growth boundaries; new development takes place within these boundaries. It is within these boundaries where most of the region's airports are located. This has applied increased pressure on the airports related to incompatible land use encroachment. Elected officials now see this policy as endangering the region's important air transportation resources.

Another important accomplishment of the regional airport system planning efforts carried out by the Regional Council is the implementation of the State Route 518 project to improve access to Sea-Tac. The Regional Council worked with the Port of Seattle to raise awareness on the need for and the importance of improved ground access to Sea-Tac. These efforts helped to elevate the importance of the project and to secure regional and state funding for this key freeway project. Through its ongoing regional airport system planning program, the Regional Council has also supported an extension of the region's LINK Light Rail system (owned and operated by Sound Transit, Seattle, Washington) to serve Sea-Tac Airport. This project received funding through the Regional Transportation Improvement Program. The Airport LINK project will connect downtown Seattle with Sea-Tac Airport beginning in 2009.

The region's long-range multi-modal transportation plan, Destination 2030, is now being updated. When completed, the new plan (to be known as Transportation 2040) will examine the region's transportation needs through 2040. This plan integrates the various modes of transportation in the region because no trip begins or ends at the airport.

It was this plan that supported the light rail connection to Sea-Tac. The Transportation 2040 plan will consider how to incorporate the region's transportation needs with VISION 2040, the regional growth strategy (adopted in 2008) and the Regional Economic Strategy (adopted in 2005).

The airport system planning issues that the Regional Council addresses are specific to the region, not statewide in nature. The system planning efforts of the Regional Council are focused on specific airport and transportation issues that are unique to the metropolitan area. The regional system planning efforts provide an important vehicle for outreach and education on transportation needs. The regional airport system plan provides a way to bring local jurisdictions together to work collaboratively for the region.

NEW ENGLAND REGIONAL AIRPORT SYSTEM PLAN

The New England Regional Airport System Plan (NERASP) is a unique multi-state airport system plan for the primary airports in New England (*18*). The plan was published in the fall of 2006. This study was preceded by multi-state system planning efforts that evaluated the service market in New England and the impacts of Boston–Logan International Airport on that market. One of the follow-on efforts that evolved from the air service analysis was a "Fly New England" program. Information from the planning effort was presented to various airlines. This information also provided the airport directors with data to help influence Southwest Airlines to ultimately initiate new scheduled airline service to Manchester, Providence, and Hartford.

Both NERASP and the market evaluation studies were preceded by a new Boston airport site selection study and Boston Regional Strategic Plan. Those earlier initiatives provided a foundation for NERASP. All in all, the 10-year series

of planning steps culminated in the 2006 NERASP. Most importantly, NERASP is not a "wish-list" of projects but a series of strategic "what if" initiatives that are dependent on the scenarios assessed in the process.

The impetus for the multi-state New England Regional System Plan came in part from the New England Governor's Council. Prior analysis concluded that the region's future commercial air service could be adversely affected by the lack of expansion potential at Boston–Logan and by the inability of the region to develop a new commercial airport to provide supplemental capacity.

The New England Regional Airport Study included the following participants:

- Aviation Directors for the six New England states (Vermont, Maine, New Hampshire, Rhode Island, Massachusetts, and Connecticut),
- Airport Directors for the 11 commercial airports,
- FAA Airports Division,
- Massachusetts Aeronautics Commission,
- Massachusetts Port Authority (Massport), and
- A peer review team of distinguished professors from the local universities.

The states, airports, and FAA signed a memorandum of understanding that helped to validate and lend credibility to the multi-state regional system planning effort. The focus of the plan was to:

- Project demand through 2030 based on alternative growth scenarios,
- Evaluate the capabilities of the existing system,
- Identify the proposed plans for the existing airports, and
- Identify strategies to better use existing infrastructure at commercial airports in the region that was underutilized.

The FAA was a major participant in the actual development of the multi-state plan throughout the process. They provided the funding for all the planning work leading up to and including the NERASP.

The vision is to conduct a similar multi-state plan for general aviation airports in the New England Region. Efforts to conduct this companion plan for general aviation airports are moving forward and are expected to start in 2009 with FAA discretionary funding.

The concept of a multi-state plan worked for the New England region because of the compact nature of the area. Multi-state planning for a regional airport system would most likely not transfer as successfully to other geographical areas of the country.

Recommendations from the multi-state system were not intended to be used to make direct changes to the NPIAS. However, the FAA used the information from this plan to establish funding strategies and to set implementation priorities for commercial airports in the region. Several of the individual airports in the region have used analysis from the plan in their individual airport master plans and in applicable environmental analysis. Finally, analysis and recommendations from the multi-state plan can be easily incorporated into state airport system plans that are prepared by the six states in the New England Region.

NERASP took a novel approach to forecasting; the plan identified actions that would be required based on various levels of demand. The forecasting scenarios identified in this plan help to maintain its validity, even in today's changing aviation environment. Forecasts developed for the multi-state plan considered how Amtrak would influence travel and passenger demand in the region. The earlier studies also considered how telecommuting could reduce air travel demand within the region. The multi-state system plan provided input into other transportation planning studies for the region, helping decision makers establish plans and strategies for developing airports in the region. The FAA also used information in the plan to identify critical projects for the region. The format of the plan was unique in that the volume of information was clearly presented in a 50-page user-friendly report for planning and policy decision makers, as well as public and elected officials.

For NERASP, MPOs were not included. Results and recommendations from the plan, however, were provided to a variety of state transportation planning agencies. Various portions of the plan were presented to FAA staff in Washington, D.C.; the New England Caucus; and the New England Governor's Council. One of the unique characteristics of this multi-state plan was its extensive legislative coordination process.

The template for the multi-state airport system plan developed for the New England Region was applied to the New York Metropolitan area and the airports owned and operated by the Port Authority of New York and New Jersey. The success of the plan for the New York area was hindered because airports in neighboring states (Pennsylvania, New Jersey, and Delaware) did not fully buy into the concept of the study.

CHAPTER FIVE

CONCLUSIONS

Airport system plans are macro planning studies, by design, examining "big picture" needs for the area being studied. Airport system plans do not provide detailed facility recommendations for system airports. These types of detailed recommendations are part of an airport master plan. Airport system plans are used to check the "reasonableness" of individual airport master plans. The airport system planning process provides the opportunity to determine if individual system airports are over planning or under planning based on demand and constraints at other nearby airports.

To date, there has not been widespread use or application of the FAA's most current Advisory Circular on airport system planning; 64% of the plans now in use were prepared before the release of this circular. That 74% of the respondents reported that they plan updates to their statewide airport system plans between now and 2010 may indicate that states have a positive view of airport system plans as a resource, planning, and decision-making tool.

Only 58% of the states responding indicated they are bound in some way by policy to complete updates to their airport system plan once it is published. From reviewing survey results, it appears there may be an opportunity by states or metropolitan planning organizations (MPOs) to prolong the useful life of system plans that are being prepared. Only 32% of the states noted they are undertaking any continuous system planning once their plan is completed. As per guidelines in the FAA's advisory circular on airport system planning, system plans are prepared so that they are sustainable. By formulating airport system plans that consider policies, goals, performance, and strategies, these plans have a better potential to be more than just a collection of data and a list of projects. By broadening the scope of an airport system plan, it may be possible to sustain the effectiveness of the plan over a longer period of time. When developing system plan scopes, sponsors may include an element to identify follow-on activities and actions that are appropriate to keep portions of their airport system plan more current in between major updates.

In light of survey findings and because the FAA is starting to develop "regional" business plans in part based on completed state plans, there may be a benefit in having some common elements and analysis in system plans prepared with FAA funds. Among state respondents, 68% indicated that the lack of FAA set aside funding for system planning has not affected their desire or ability to do airport system planning; the remaining 32% indicated it has. Many respondents do indicate, however, that the decision to use a large portion of their discretionary funding for planning as opposed to projects is a difficult decision. One of the metropolitan/regional agencies participating in the case studies indicated that the lack of FAA set aside funding has adversely impacted its system planning capabilities.

Based on survey findings, there is no consensus on the types of airports that are included in state airport system plans. The FAA advisory circular on system planning provides guidance on including non-NPIAS (National Plan of Integrated Airport Systems) airports in system plans that they fund; 88% of the respondents indicated that they consider non-NPIAS general aviation airports in their state airport system plan. Almost 50% consider privately owned airports that are open to the public. Clearly, for many states, airports beyond just those included in the NPIAS are important to the state's air transportation system. Of all airports open to the public in the United States, 65% are included in the NPIAS; the remaining 35% of the public-use airports are not in the NPIAS. If state air transportation needs can be met by airports that do not require federal funding, this helps to free up federal funds for NPIAS airports.

Only 70% of the system plans being prepared consider all commercial airports; 15% consider only small commercial airports, leaving planning for larger commercial airports to the airport sponsor. The remaining 15% of the respondents consider only general aviation airports. In many metropolitan areas there is a clear connection between general aviation airports and larger commercial airports. For the most part, metropolitan/regional plans reviewed in this analysis are considering these relationships. Most of the more complex system planning issues are in the nation's metropolitan areas. Historically, in addition to an advisory circular on state airport system planning, the FAA also had a separate advisory circular on planning for the metropolitan airport system. The current advisory circular emphasizes both state and metropolitan airport system planning.

MPOs play important roles related to general planning, compatible land use analysis, and multi-modal planning in most urban areas. Although every state has MPOs, only 59% of the states indicated that they have involved some or all of their MPOs in the development of their state airport system plan. A small number of MPOs are currently doing their own airport system planning. Survey results show that 24% of the

responding states have MPOs that are preparing their own airport system plans for the urban area they serve. Among the states that have MPOs that are preparing an airport system plan, 33% of the respondents reported the MPO plan is consistent with the state plan, 7% that the MPO plan and the state plan are inconsistent, and 60% are uncertain if the state plan and the MPO plan are consistent. Clearly, states and MPOs have an interest in structured and effective communication when developing airport system plans.

Multi-state plans prepared for the New England Region and by the Port Authority of New York and New Jersey considered only commercial airports. Multi-state plans such as these provide an ideal vehicle for trying to balance demand with available commercial airport infrastructure. Plans such as these may be appropriate options when several nearby commercial airports have overlapping market areas. From the states that responded to this study's survey, only 52% stated that they considered airports in or demand from neighboring states when they prepared their airport system plan, and only 1% of all the respondents had any type of communication with neighboring state departments of transportation when their system plan was prepared. Because aviation demand does not recognize state boundaries, coordination and communication may be appropriate with neighboring states during system plan development.

Recognizing that airports play different roles in the state airport system and that all airports are not of equal importance to a state's meeting transportation and other related goals and objectives, 88% of the states responding to this study's survey have stratified their airport systems to reflect the various roles that airports play. The FAA classifies commercial airports as primary and non-primary. Within these categories, based on their activity levels, commercial airports are also stratified as being large, medium, small, and non-hub. The only differentiation between non-commercial airports is reliever and general aviation.

All general aviation airports are not equally essential to each state's system of airports. Therefore, within the context of their airport system plans, agencies have adopted many different naming schemes to differentiate their general aviation airports. As a result, it is difficult to compare one state's system stratification of its general aviation airports with another. Many states have opted not to use the FAA's system of airports reference codes as part of the process to assign roles to system airports. This decision recognizes that some airports may have been over planned or under planned without appropriately considering their role in the system. Other states believe using the airports reference code to assign system roles "pigeon holes" airports by failing to adequately consider their "potential" system roles.

State airport system plans, according to the FAA, are a primary resource document for its update of the NPIAS. The FAA, in its Field Formulation of the NPIAS, outlines criteria by which airports may be considered eligible for NPIAS inclusion. Among survey respondents, 60% reported that they used their most recent system plan to suggest that additional airports be added to the NPIAS, but only 36% used their system plan to review that all airports in their system continue to meet NPIAS eligibility criteria. This means that FAA could be providing funding to some airports that no longer meet NPIAS entry criteria. Only 12% of the respondents have used their state airport system plan to suggest that airports be removed from the NPIAS. Only 43% of the responding states indicated that as part of their system plan they analyzed where system airports were duplicating services for the same market area. Without this type of duplication or redundancy analysis, states may be funding the same projects to serve the same demand/market area, resulting in lost opportunities to maximize state and federal investment.

As noted, state aviation system plans are the primary building blocks for the NPIAS. Only 12% of the responding states stated they are sure that their most current system plan is reflected in the NPIAS, 40% are uncertain, and 48% indicated that recommendations in their most current system are not reflected in the NPIAS.

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APPENDIX A

Survey Instruments

TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

June 13, 2008

Dear State Aviation Director:

The enclosed questionnaire comes to you on behalf of the Transportation Research Board (TRB). Information that you are being asked to provide will support an important Airport Cooperative Research Synthesis Project (ACRP) addressing current practices on Aviation System Planning.

The enclosed questionnaire is designed to gather information on various aspects of aviation system planning as it is currently being conducted, used, and implemented. In order to meet TRB's goal for 100 percent response, please complete the enclosed questionnaire or please direct it to the person on your staff who is most knowledgeable or in charge of your aviation system planning. If you do not have an aviation system plan that you are currently using, please indicate and return your blank survey. Please provide your response no later than July 9, 2008.

There are three ways you can respond to this survey:

- The completed survey can be returned via U.S. mail in the enclosed pre-paid envelope.
- The completed survey can be faxed to 513.624.5182.
- The completed survey can also be filled out electronically; you will receive an email with the survey as an attachment and the questionnaire can be completed electronically and returned via email.

Please answer all questions to the best of your knowledge, based on your most current aviation system plan. If you would like to furnish any additional comments on the current state of aviation system planning or best practices on aviation system planning, please feel free to provide these as an attachment when you return your survey.

Thank you for taking time to participate in this important TRB research project. Your responses will be compiled with those from other states, and the results of this project should be available in the fall.

Sincerely,

Barbara Fritsche
Senior Vice President
Wilbur Smith Associates
6600 Clough Pike
Cincinnati, Ohio 45224
513.233.3700 office
513.479.3053 cell
513.624.5182 fax

Enclosure

Survey
Airport System Planning Practices
Synthesis S03-4

State:

This data request was completed by:

Name:

Email:

Phone:

A. General Information about Your System Plan

1. What year was your most recent system plan published?

   a. What is the name of this document?

2. Have you completed an interim update to selected elements of your system plan since the plan was published?
   ☐ YES ☐ NO

3. In what year do you anticipate a full update to your system plan?

4. Do you have a policy to update your system plan on regular intervals? ☐ YES ☐ NO

5. If so, how often do you update your plan? Every years

6. Does the fact that funds for system planning from the FAA are no longer "set aside" influence your willingness/ability to do system planning? ☐ YES ☐ NO

7. How did you fund your last aviation system plan?

   Primarily State funds ☐
   Primarily FAA general aviation apportionment funds ☐
   Other: (specify)

8. What types of airports did you develop recommendations for in your most recent system plan? **Check all that apply.**

   All commercial service ☐
   Small commercial service only ☐
   Publicly-owned general aviation NPIAS only ☐
   All publicly-owned general aviation including, NPIAS and non-NPIAS ☐
   Privately-owned, public-use general aviation ☐
   Privately-owned, private-use general aviation ☐
   Seaplane bases ☐
   Joint-use military airfields ☐
   Heliports ☐

9. To the best of your ability, please indicate the ownership of the airport system you provide funding to.

		Number of Airports by Type
City or County	_____	_____
Authority	_____	_____
State	_____	_____
Private	_____	_____
Other (specify)	_____	_____
Total	_____	_____

10. Do you believe that the ownership structure reflected in the previous question has an impact on your ability to implement recommendations in your system plan?

    Positive impact on recommendations implementation ☐
    Negative impact on recommendations implementation ☐
    Has no impact or limited impact on recommendations implementation ☐

B. System Plan Interface with the National Plan of Integrated Airport Systems (NPIAS)

1. Did you use your system plan to determine whether all airports in your state system that are now included in the NPIAS continue to meet NPIAS entry criteria? (Airports included in the NPIAS should have at least 10 based aircraft.) ☐ YES ☐ NO

2. Did you use your most recent system plan to suggest to FAA to remove airports from the NPIAS? ☐ YES ☐ NO

3. Did the Federal Aviation Administration (FAA) adjust the NPIAS based on findings or recommendations from your most recent airport system plan? ☐ YES ☐ NO ☐ UNCERTAIN

4. Did your most recent system plan identify new airports to be added to the NPIAS? ☐ YES ☐ NO
   Check all that apply.

    Commercial Service Airport ☐
    General Aviation Airport ☐
    Heliport ☐
    Seaplane base ☐

C. Coordination Efforts Associated with Your System Plan

1. Did you involve any Metropolitan Planning Organizations (MPOs) in your system planning process? ☐ YES ☐ NO

2. If yes, how were the MPOs involved? **Check all that apply.**

    Development of work scope for the system plan ☐
    Participation in advisory committee for the system plan ☐
    Review of final study findings and recommendations ☐
    Integration of findings from state aviation system plan into regional/metropolitan transportation plan, multi-modal, or TIP ☐

3. Are there MPOs in your state that have their own aviation system plan? ☐ YES ☐ NO

4. Is the MPO/Regional plan consistent with your state plan? ☐ YES ☐ NO ☐ UNCERTAIN

5. Did you involve airport owners in your system planning process? ☐ YES ☐ NO

6. How were airports involved in your aviation system plan? **Check all that apply.**

    Contacted as part of data collection ☐
    Visited as part of data collection ☐
    Participated on advisory committee for the system plan ☐
    Cross-checked master plan recommendations with system plan recommendations ☐
    Reviewed findings and recommendations for their airport ☐
    Provided a summary for their specific system plan recommendations as part of study's documentation ☐

7. Does your system plan to examine the role that airports in neighboring states play in either contributing demand to your airport system or fulfilling demand generated by your state? ☐ YES ☐ NO

8. Did you involve DOTs from nearby states in the development of your system plan? ☐ YES ☐ NO

9. Did FAA participate in the development of your recent system plan? ☐ YES ☐ NO

10. How did FAA participate in your system plan? **Check all that apply.**

Reviewed and approved scope of work	☐
Participated on advisory committee	☐
Reviewed and commented on draft working papers as the system plan was being prepared	☐
Reviewed and approved final system plan report	☐

11. Has your aviation system plan been adopted by your state's department of transportation or another statewide planning agency? ☐ YES ☐ NO

12. Have recommendations from your aviation system plan been incorporated into the overall State Transportation Plan or Transportation Improvement Plan? ☐ YES ☐ NO

D. System Plan Elements

1. Does your recent system plan have a comprehensive forecasting element? ☐ YES ☐ NO

2. How important were demand projections/forecasts to driving the final recommendations contained in your system plan?

Very important	☐
Important	☐
Somewhat important	☐
Not important	☐

3. What demand elements did your system plan project? **Check all that apply.**

Commercial passengers	☐	Air cargo	☐
Commercial operations	☐	Based aircraft	☐
General aviation operations	☐	Fleet mix	☐
Other (specify):			

4. Have you classified airports in your system to reflect the role that each airport plays in supporting air transportation needs? ☐ YES ☐ NO

5. If you have assigned system roles to your airports other than standard FAA roles, please provide the nomenclature that you used in this process. (i.e.: Level I Airport, Business Airport, Minor Airport)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

6. Was economic contribution or support used to assign a role to airports in your system? ☐ YES ☐ NO

7. If your airports have been assigned roles as part of a classification process, what criteria do you use to determine when it is appropriate for an airport to move up a level in the system? **Check all that apply.**

Increased economic contribution	☐
Increase in based aircraft	☐

Increase in annual operations ☐
Change in the fleet mix ☐
Change in the socio-economic or demographic
make-up of the community served by the airport ☐
Other (please specify):

8. If airports in your system have been assigned roles, does your system plan identify facilities and services that should ideally be available at airports in each role or category? ☐ YES ☐ NO

9. Did your recent system plan evaluate ground access or connectivity to other transportation modes? ☐ YES ☐ NO

10. In addition to your aviation system plan, what other special studies have you completed for your airport system?

Type of Special Study	Yes	No	Year Completed
Economic impact	☐	☐	
Air service	☐	☐	
Passenger demand	☐	☐	
Land use compatibility	☐	☐	
Air cargo	☐	☐	
Policy/Strategic plan	☐	☐	
Database	☐	☐	
Military re-use	☐	☐	
Other (specify)			
Other (specify)			

E. Use of Your Aviation System Plan

1. Was your recent system plan used to identify airports or facilities that are redundant or duplicative in nature because they serve limited demand or areas of low growth? ☐ YES ☐ NO

2. Does your recent system plan specifically identify high growth areas to insure that appropriate airport facilities are being planned? ☐ YES ☐ NO

3. Do you use your system plan to decide which projects should be awarded state funds on an annual basis? ☐ YES ☐ NO

4. Have you ever used your system plan to "deny" funding to an airport's request for funding because the project was not identified as being needed by your system plan? ☐ YES ☐ NO

5. Has your system plan been developed using a sustainable planning process so you can easily re-evaluate the system in a future planning cycle to measure progress toward specific objectives for your system? ☐ YES ☐ NO

6. Has your plan been developed so that you can show how your investment decisions are helping to improve the performance of the system relative to a set of established system performance measures or criteria? ☐ YES ☐ NO

7. What do you believe is the biggest obstacle to implementing the recommendations in your system plan? **Check only one.**

Height obstructions ☐
Incompatible land use encroachment ☐
Lack of federal funding ☐
Lack of state funding ☐
Lack of local funding ☐

Unreasonable recommendations ☐
Lack of cooperation from individual airports ☐
Other (specify):

8. Have the results of your system plan been shared or coordinated with local/regional/state economic development agencies? **Check all that apply.**

During plan development ☐
During plan review/approval ☐
During plan adoption ☐
Only on agency request ☐
Results not shared ☐

9. How would you rate the overall effectiveness of your system plan as it relates to your objectives for using the plan?

Very effective ☐
Effective ☐
Somewhat effective ☐
Not effective ☐

Transportation Research Board
ACRP Airport System Planning Synthesis
Questions for Other Metropolitan/Regional and/or Multi-State Plans

1. How long has your agency been engaged in preparing airport system planning studies?
2. How frequently does your agency prepare an airport system plan?
3. What is the name of the last airport system planning study your agency published? When was that plan published?
4. Does your agency have a policy to undertake regular updates to its airport system plan? If so, at what intervals and when do you expect undertaking your next update?
5. Does the fact that FAA no longer provides “set aside” funds for airport system planning negatively impact your ability to do system planning?
6. What is the primary funding source for your airport system planning efforts?
7. How many airports are in the system that you plan for?
8. Do you plan for both commercial and general aviation airports?
9. Do you consider privately-owned, public-use airports in your plan? Do you consider privately-owned, private-use airports? Do you plan for heliports or seaplane bases?
10. What efforts (if any) were undertaken to interface or coordinate your plan with the National Plan of Integrated Airport Systems (NPIAS)? What efforts, if any, were undertaken to interface or coordinate your plan with applicable state airport system plans?
11. Did your plan recommend additional airports to be added to the NPIAS?
12. Were recommendations from your plan incorporated into appropriate state airport system plans?
13. Is your most current plan consistent with the most current applicable state airport system plan?

14. Did you involve the FAA and/or State Department of Transportation(s) in the preparation of your airport system plan? If so, how?

15. Are there key issues or deficiencies for your airport system that lead to the development of an airport system plan?

16. What do you believe are the primary accomplishment/products of your planning efforts that are in addition to or additive to those that are outputs from the state airport system plan?

17. In what ways do your system planning efforts differ from traditional state airport system plans?

18. What types of special elements (ground access, environmental compatibility, land use planning, multi-modal interface as examples) do you address in your planning efforts that are not addressed in the state airport system plan?

19. Does your plan provide recommendations for individual system airports? How are these recommendations communicated and implemented?

20. Are the recommendations from your airport system planning incorporated or adopted into other regional transportation plans?

21. What do you see as the principal benefits of metropolitan/regional or multi-state system planning in comparison to traditional state airport system planning?

APPENDIX B

Statistical Summary of Survey Results

A. General Information about Your System Plan

1. What year was your most recent system plan published?

Alabama	2003		Nevada	2004
Alaska	1996		New Hampshire	2003
Arizona	Various		New Jersey	2008
Arkansas	2006		New Mexico	2003
Colorado	2005		New York	1998
Florida	2005		North Dakota	2008
Georgia	2003		Ohio	2006
Hawaii	1998		Oregon	2007
Idaho	1989		Pennsylvania	2002
Indiana	2003		Puerto Rico	2007
Iowa	2004		Rhode Island	2004
Kansas	1995		South Carolina	2008
Kentucky	N/R		South Dakota	1996
Maine	2006		Tennessee	2001
Maryland	1998		Texas	2002
Massachusetts	1989		Utah	2008
Michigan	2000		Virginia	2003
Minnesota	2006		Washington	2003
Mississippi	1999		West Virginia	2004
Missouri	2005		Wisconsin	2000
Montana	1989		Wyoming	2008
Nebraska	2002			

N/R = No Response

2. Have you completed an interim update to selected elements of your system plan since the plan was published?

Alabama	No		Nevada	Yes
Alaska	No		New Hampshire	No
Arizona	Yes		New Jersey	No
Arkansas	No		New Mexico	N/R
Colorado	No		New York	No
Florida	Yes		North Dakota	No
Georgia	No		Ohio	No
Hawaii	No		Oregon	No
Idaho	Yes		Pennsylvania	Yes
Indiana	No		Puerto Rico	No
Iowa	No		Rhode Island	Yes
Kansas	No		South Carolina	Yes
Kentucky	N/R		South Dakota	No
Maine	No		Tennessee	Yes
Maryland	No		Texas	Yes
Massachusetts	No		Utah	No
Michigan	Yes		Virginia	No
Minnesota	No		Washington	Yes
Mississippi	No		West Virginia	No
Missouri	No		Wisconsin	Yes
Montana	Yes		Wyoming	No
Nebraska	No			

N/R = No Response

3. In what year do you anticipate a full update to your system plan?

Alabama	2010		Nevada	2010
Alaska	2007		New Hampshire	2010
Arizona	2008		New Jersey	2010
Arkansas	2010		New Mexico	2008
Colorado	2010		New York	2008
Florida	2010		North Dakota	2018
Georgia	2010-2011		Ohio	2013
Hawaii	2009		Oregon	Annually
Idaho	2009		Pennsylvania	2012
Indiana	2011		Puerto Rico	Uncertain
Iowa	2010		Rhode Island	Uncertain
Kansas	2008		South Carolina	Annually
Kentucky	N/R		South Dakota	2009
Maine	2016		Tennessee	2012
Maryland	2008		Texas	2008
Massachusetts	2009		Utah	2010
Michigan	2008		Virginia	N/R
Minnesota	2011		Washington	2009
Mississippi	2009		West Virginia	2010
Missouri	2010-2015		Wisconsin	2010
Montana	2010		Wyoming	2008
Nebraska	2012			

N/R = No Response

4. Do you have a policy to update your system plan on regular intervals?

Alabama	No		Nevada	No
Alaska	No		New Hampshire	Yes
Arizona	No		New Jersey	No
Arkansas	Yes		New Mexico	No
Colorado	Yes		New York	Yes
Florida	Yes		North Dakota	No
Georgia	No		Ohio	Yes
Hawaii	No		Oregon	Yes
Idaho	Yes		Pennsylvania	No
Indiana	No		Puerto Rico	No
Iowa	Yes		Rhode Island	Yes
Kansas	No		South Carolina	Yes
Kentucky	N/R		South Dakota	No
Maine	Yes		Tennessee	No
Maryland	Yes		Texas	Yes
Massachusetts	No		Utah	No
Michigan	No		Virginia	No
Minnesota	Yes		Washington	Yes
Mississippi	Yes		West Virginia	No
Missouri	No		Wisconsin	Yes
Montana	No		Wyoming	Yes
Nebraska	Yes			

N/R = No Response

5. If so, how often do you update your plan? Every years

Alabama	N/R		Nevada	6
Alaska	N/R		New Hampshire	10
Arizona	N/R		New Jersey	N/R
Arkansas	5		New Mexico	5
Colorado	5		New York	5
Florida	5		North Dakota	10
Georgia	10		Ohio	7
Hawaii	N/R		Oregon	1
Idaho	5		Pennsylvania	10
Indiana	As needed		Puerto Rico	N/R
Iowa	10		Rhode Island	N/R
Kansas	N/R		South Carolina	Automated System Plan
Kentucky	N/R		South Dakota	N/R
Maine	N/R		Tennessee	N/R
Maryland	10		Texas	4-6
Massachusetts	N/R		Utah	N/R
Michigan	N/R		Virginia	7
Minnesota	5		Washington	N/R
Mississippi	10		West Virginia	N/R
Missouri	N/R		Wisconsin	10
Montana	15		Wyoming	10
Nebraska	10			

N/R = No Response

6. Does the fact that funds for system planning from the FAA are no longer "set aside" influence your willingness/ability to do system planning?

Alabama	No		Nevada	No
Alaska	No		New Hampshire	Yes
Arizona	No		New Jersey	No
Arkansas	Yes		New Mexico	No
Colorado	No		New York	No
Florida	No		North Dakota	Yes
Georgia	No		Ohio	No
Hawaii	Yes		Oregon	No
Idaho	Yes		Pennsylvania	No
Indiana	Yes		Puerto Rico	No
Iowa	No		Rhode Island	Yes
Kansas	No		South Carolina	Yes
Kentucky	N/R		South Dakota	Yes
Maine	N/R		Tennessee	No
Maryland	No		Texas	No
Massachusetts	No		Utah	No
Michigan	No		Virginia	No
Minnesota	No		Washington	Yes
Mississippi	No		West Virginia	No
Missouri	Yes		Wisconsin	Yes
Montana	No		Wyoming	Yes
Nebraska	No			

N/R = No Response

7. How did you fund your last aviation system plan?

	Primarily state funds	Primarily FAA general aviation apportionment funds	Other (specify)		Primarily state funds	Primarily FAA general aviation apportionment funds	Other (specify)
Alabama		X		Nevada		X	
Alaska		X		New Hampshire	X		FHINA State Planning & Research Grant
Arizona	X	X		New Jersey	N/R	N/R	N/R
Arkansas	X	X	Both funding methods are used	New Mexico	N/R	N/R	N/R
Colorado	X			New York		X	
Florida	X			North Dakota		X	
Georgia		X	FAA System Planning Grant	Ohio		X	
Hawaii	X			Oregon		X	
Idaho		X		Pennsylvania	N/R	N/R	N/R
Indiana		X		Puerto Rico		X	
Iowa		X		Rhode Island		X	
Kansas		X		South Carolina		X	70% FAA Funding/30% State Funded
Kentucky	N/R	N/R	N/R	South Dakota	N/R	N/R	N/R
Maine	X	X		Tennessee		X	
Maryland		X		Texas			State & Federal
Massachusetts		X		Utah		X	
Michigan	X			Virginia			FAA continuous air System Plan
Minnesota		X		Washington	N/R	N/R	N/R
Mississippi		X		West Virginia		X	
Missouri	X	X		Wisconsin	N/R	N/R	N/R
Montana		X		Wyoming	X		
Nebraska		X					

N/R = No Response

8. What types of airports did you develop recommendations for in your most recent system plan?

	Alabama	Alaska	Arizona	Arkansas	Colorado	Florida	Georgia	Hawaii	Idaho	Indiana	Iowa	Kansas	Kentucky	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska
All commercial service		X	X	X		X		X	X	X	X		N/R	X			X		X		N/R	X
Small commercial service only					X		X		X			X	N/R		X			X		X	N/R	
Publicly owned general aviation NPIAS only		X							X				N/R						X		N/R	
All publicly owned general aviation including, NPIAS and non-NPIAS	X		X	X	X	X	X		X	X	X	X	N/R	X	X	X	X	X		X	N/R	X
Privately owned, public-use general aviation			X	X	X	X		X		X			N/R		X	X	X			X	N/R	
Privately owned, private-use general aviation			X					X					N/R								N/R	
Seaplane bases						X		X					N/R	X		X					N/R	
Joint-use military airfields			X					X					N/R			X	X			X	N/R	
Heliports						X		X		X			N/R	X		X					N/R	
	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Dakota	Ohio	Oregon	Pennsylvania	Puerto Rico	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Virginia	Washington	West Virginia	Wisconsin	Wyoming	
All commercial service		X		X	X	X		X		X	X	X	X	X		X	X	X	X	X	X	
Small commercial service only	X																					
Publicly owned general aviation NPIAS only	X			X							X								X			
All publicly owned general aviation including, NPIAS and non-NPIAS		X	X		X	X	X	X	X	X		X	X	X	X	X	X	X			X	
Privately owned, public-use general aviation	X	X		X	X			X	X							X	X	X		X		
Privately owned, private-use general aviation																				X		
Seaplane bases		X		X	X													X				
Joint-use military airfields					X			X				X										
Heliports					X			X							X							

N/R = No response

9. To the best of your ability, please indicate the ownership of the airport system you provide funding to.

	City/County	Authority	State	Private	Other	Number of Airports	Total
Alabama	62	20	2				84
Alaska	30		258	500			788
Arizona	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Arkansas	88	2	1				91
Colorado	70	5		1			76
Florida	68	36		23	Military Joint use	1	128
Georgia	104						104
Hawaii			15				15
Idaho	67	1	30				98
Indiana	48	17		4			69
Iowa	101	10					111
Kansas	123			12			135
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Maine	66		2	96			164
Maryland	12	3	2	19			36
Massachusetts	24			13			37
Michigan	43	43	43	106			235
Minnesota	125	10	.5				136
Mississippi	67	7		1			75
Missouri	101	1	4	7	US Military	1	114
Montana			15				15
Nebraska	18	58	3	2			81
Nevada	40	7					47
New Hampshire	10	3	2	9			24
New Jersey	16		2	27			45
New Mexico	42		3		Indian Nations	4	49
New York	84	6	1	5			96
North Dakota	4	84	2				90
Ohio	94		4				98
Oregon	47	6	27	15		2	97
Pennsylvania	27	40		63			130
Puerto Rico		12					12
Rhode Island			6				6
South Carolina	55	2					57
South Dakota	70	1	1				72
Tennessee	47	26	1	6			80
Texas	270			3	River Authority & Navigation District	2	275
Utah	41	3	1	2			47
Virginia	27	29		10			66
Washington	59	32	17	31	Airport Authority	1	140
West Virginia	6	17					23
Wisconsin	95			3			98
Wyoming	27		1		Joint City/County	10	38

N/R = No Response

10. Do you believe that the ownership structure reflected in the previous question has an impact on your ability to implement recommendations in your system plan?

	Positive impact on recommendations implementation	Negative impact on recommendations implementation	Has no impact or limited impact on recommendations implementation			Positive impact on recommendations implementation	Negative impact on recommendations implementation	Has no impact or limited impact on recommendations implementation
Alabama			X		Nevada	X		
Alaska	X				New Hampshire			X
Arizona	X				New Jersey			X
Arkansas	X				New Mexico			X
Colorado			X		New York	X		
Florida			X		North Dakota	X		
Georgia	X				Ohio			X
Hawaii	X				Oregon			X
Idaho		X			Pennsylvania			X
Indiana			X		Puerto Rico	X		
Iowa			X		Rhode Island	X		
Kansas			X		South Carolina			X
Kentucky	N/R	N/R	N/R		South Dakota			X
Maine			X		Tennessee			X
Maryland			X		Texas	X		
Massachusetts			X		Utah			X
Michigan			X		Virginia			X
Minnesota	X				Washington			X
Mississippi			X		West Virginia			X
Missouri		X			Wisconsin		X	
Montana			X		Wyoming		X	
Nebraska			X					

N/R = No Response

B. System Plan Interface with the National Plan of Integrated Airport Systems (NPIAS)

1. Did you use your system plan to determine whether all airports in your state system that are now included in the NPIAS continue to meet NPIAS entry criteria? (Airports included in the NPIAS should have at least 10 based aircraft.)

Alabama	NO		Nevada	YES
Alaska	NO		New Hampshire	NO
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	NO
Colorado	NO		New York	YES
Florida	YES		North Dakota	NO
Georgia	NO		Ohio	NO
Hawaii	YES		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	NO		Rhode Island	YES
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	NO
Maryland	YES		Texas	NO
Massachusetts	NO		Utah	NO
Michigan	YES		Virginia	NO
Minnesota	NO		Washington	NO
Mississippi	NO		West Virginia	NO
Missouri	YES		Wisconsin	NO
Montana	NO		Wyoming	NO
Nebraska	NO			

N/R = No Response

2. Did you use your most recent system plan to suggest to FAA to remove airports from the NPIAS?

Alabama	NO		Nevada	NO
Alaska	NO		New Hampshire	NO
Arizona	NO		New Jersey	NO
Arkansas	NO		New Mexico	YES
Colorado	NO		New York	YES
Florida	NO		North Dakota	NO
Georgia	NO		Ohio	NO
Hawaii	NO		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	YES
Iowa	NO		Rhode Island	NO
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	NO		Tennessee	NO
Maryland	NO		Texas	NO
Massachusetts	NO		Utah	NO
Michigan	NO		Virginia	NO
Minnesota	NO		Washington	NO
Mississippi	NO		West Virginia	NO
Missouri	NO		Wisconsin	YES
Montana	NO		Wyoming	NO
Nebraska	NO			

N/R = No Response

5. Did the Federal Aviation Administration (FAA) adjust the NPIAS based on findings or recommendations from your most recent airport system plan?

Alabama	NO		Nevada	NO
Alaska	UNCERTAIN		New Hampshire	UNCERTAIN
Arizona	UNCERTAIN		New Jersey	NO
Arkansas	UNCERTAIN		New Mexico	UNCERTAIN
Colorado	NO		New York	UNCERTAIN
Florida	UNCERTAIN		North Dakota	YES
Georgia	NO		Ohio	NO
Hawaii	UNCERTAIN		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	UNCERTAIN
Iowa	YES		Rhode Island	UNCERTAIN
Kansas	NO		South Carolina	UNCERTAIN
Kentucky	N/R		South Dakota	NO
Maine	NO		Tennessee	UNCERTAIN
Maryland	NO		Texas	NO
Massachusetts	UNCERTAIN		Utah	NO
Michigan	UNCERTAIN		Virginia	YES
Minnesota	UNCERTAIN		Washington	NO
Mississippi	YES		West Virginia	NO
Missouri	NO		Wisconsin	UNCERTAIN
Montana	NO		Wyoming	NO
Nebraska	UNCERTAIN			

N/R = No Response

6. Did your most recent system plan identify new airports to be added to the NPIAS?

	Yes/No	Commercial service airport	General aviation airport	Heliport	Seaplane base
Alabama	YES		X		
Alaska	NO				
Arizona	YES	X	X		
Arkansas	YES		X		
Colorado	YES		X		
Florida	NO				
Georgia	YES		X		
Hawaii	NO				
Idaho	YES		X		
Indiana	YES		X		
Iowa	YES		X		
Kansas	NO				
Kentucky	N/R	N/R	N/R	N/R	N/R
Maine	YES		X		
Maryland	NO				
Massachusetts	NO				
Michigan	NO				
Minnesota	NO				
Mississippi	YES		X		
Missouri	YES		X		
Montana	NO				
Nebraska	NO				
Nevada	NO				
New Hampshire	YES		X		
New Jersey	YES		X		
New Mexico	YES		X		

New York	NO				
North Dakota	YES		X		
Ohio	YES		X		
Oregon	YES		X		
Pennsylvania	YES		X	X	
Puerto Rico	YES	X			
Rhode Island	NO				
South Carolina	YES	X			
South Dakota	YES		X		
Tennessee	NO				
Texas	NO				
Utah	NO				
Virginia	YES		X		
Washington	NO				
West Virginia	YES		X		
Wisconsin	YES		X		
Wyoming	NO				

N/R = No Response

C. Coordination Efforts Associated with Your System Plan.

1. Did you involve any Metropolitan Planning Organizations (MPOs) in your system planning process?

Alabama	NO		Nevada	NO
Alaska	NO		New Hampshire	YES
Arizona	YES		New Jersey	YES
Arkansas	NO		New Mexico	NO
Colorado	NO		New York	YES
Florida	YES		North Dakota	NO
Georgia	NO		Ohio	NO
Hawaii	YES		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	NO
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	NO		Tennessee	YES
Maryland	NO		Texas	NO
Massachusetts	YES		Utah	YES
Michigan	N/R		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	NO		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	NO		Wyoming	NO
Nebraska	NO			

N/R = No Response

2. If yes, how were the MPOs involved?

	Development of work scope	Participation in advisory committee	Review of final study findings and recommendations	Integration of findings from state aviation system plan into regional/metropolitan transportation plan, multi-modal, or TIP
Alabama	N/A	N/A	N/A	N/A
Alaska	N/A	N/A	N/A	N/A
Arizona		X	X	X
Arkansas	N/A	N/A	N/A	N/A
Colorado	N/A	N/A	N/A	N/A
Florida		X	X	
Georgia	N/A	N/A	N/A	N/A
Hawaii		X	X	
Idaho	N/A	N/A	N/A	N/A
Indiana	N/A	N/A	N/A	N/A
Iowa		X		X
Kansas	N/A	N/A	N/A	N/A
Kentucky	N/A	N/A	N/A	N/A
Maine	N/A	N/A	N/A	N/A
Maryland	N/A	N/A	N/A	N/A
Massachusetts		X		
Michigan	N/A	N/A	N/A	N/A
Minnesota		X		
Mississippi	N/A	N/A	N/A	N/A
Missouri	X	X	X	X
Montana	N/A	N/A	N/A	N/A
Nebraska	N/A	N/A	N/A	N/A
Nevada	N/A	N/A	N/A	N/A
New Hampshire		X		
New Jersey	X	X	X	
New Mexico	N/A	N/A	N/A	N/A
New York	X			
North Dakota	N/A	N/A	N/A	N/A
Ohio	N/A	N/A	N/A	N/A
Oregon	N/A	N/A	N/A	N/A
Pennsylvania	X	X	X	X
Puerto Rico	N/A	N/A	N/A	N/A
Rhode Island	X	X	X	X
South Carolina	N/A	N/A	N/A	N/A
South Dakota	N/A	N/A	N/A	N/A
Tennessee		X		
Texas	N/A	N/A	N/A	N/A
Utah			X	X
Virginia		X	X	X
Washington		X	X	
West Virginia	N/A	N/A	N/A	N/A
Wisconsin	X	X	X	
Wyoming	N/A	N/A	N/A	N/A

N/A = Not applicable.

3. Are there MPOs in your state that have their own aviation system plan?

Alabama	NO		Nevada	NO
Alaska	NO		New Hampshire	NO
Arizona	YES		New Jersey	NO
Arkansas	NO		New Mexico	NO
Colorado	NO		New York	YES
Florida	NO		North Dakota	NO
Georgia	NO		Ohio	NO
Hawaii	N/R		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	YES		Puerto Rico	NO
Iowa	NO		Rhode Island	NO
Kansas	YES		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	NO		Tennessee	NO
Maryland	NO		Texas	YES
Massachusetts	NO		Utah	NO
Michigan	NO		Virginia	NO
Minnesota	YES		Washington	YES
Mississippi	NO		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	NO		Wyoming	NO
Nebraska	NO			

N/R = No Response

4. Is the MPO/Regional plan consistent with your state plan?

Alabama	N/R		Nevada	UNCERTAIN
Alaska	UNCERTAIN		New Hampshire	UNCERTAIN
Arizona	UNCERTAIN		New Jersey	N/R
Arkansas	UNCERTAIN		New Mexico	NO
Colorado	N/R		New York	YES
Florida	UNCERTAIN		North Dakota	N/R
Georgia	YES		Ohio	N/R
Hawaii	N/R		Oregon	NO
Idaho	UNCERTAIN		Pennsylvania	YES
Indiana	UNCERTAIN		Puerto Rico	YES
Iowa	UNCERTAIN		Rhode Island	YES
Kansas	YES		South Carolina	N/R
Kentucky	N/R		South Dakota	YES
Maine	UNCERTAIN		Tennessee	UNCERTAIN
Maryland	UNCERTAIN		Texas	YES
Massachusetts	UNCERTAIN		Utah	UNCERTAIN
Michigan	N/R		Virginia	UNCERTAIN
Minnesota	YES		Washington	N/R
Mississippi	UNCERTAIN		West Virginia	UNCERTAIN
Missouri	N/R		Wisconsin	YES
Montana	N/R		Wyoming	UNCERTAIN
Nebraska	N/R			

N/R = No Response

5. Did you involve airport owners in your system planning process?

Alabama	YES		Nevada	YES
Alaska	YES		New Hampshire	YES
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	YES		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	YES		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	YES		West Virginia	YES
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

6. How were airports involved in your aviation system plan?

	Contacted as part of data collection	Visited as part of data collection	Participated on advisory committee for the system plan	Cross-checked master plan recommendations with system plan recommendations	Reviewed findings and recommendations for their airport	Provided a summary for their specific system plan recommendations as part of study's documentation
Alabama	X	X		X	X	X
Alaska	X					
Arizona	X	X	X	X	X	X
Arkansas	X	X	X			
Colorado	X	X				
Florida	X	X	X	X	X	
Georgia	X	X		X	X	X
Hawaii	X	X	X	X	X	X
Idaho	X	X	X		X	
Indiana	X				X	
Iowa	X	X	X	X	X	X
Kansas	N/A	N/A	N/A	N/A	N/A	N/A
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R
Maine	X	X	X	X	X	X
Maryland	X	X	X	X	X	
Massachusetts	X	X				X
Michigan	X	X	X			
Minnesota	X	X	X			X
Mississippi	X	X				X
Missouri	X	X	X	X	X	X
Montana	X	X			X	
Nebraska	X					
Nevada	X	X		X		

New Hampshire	X	X		X	X	X
New Jersey	X	X		X	X	
New Mexico	X	X			X	
New York	X				X	
North Dakota	X	X		X		X
Ohio	X	X				
Oregon	X	X	X	X	X	
Pennsylvania			X		X	
Puerto Rico	X	X	X	X	X	X
Rhode Island	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X
South Dakota	X	X				
Tennessee	X	X	X		X	
Texas	X	X		X	X	X
Utah	X	X	X	X	X	X
Virginia	X	X	X	X	X	X
Washington	X	X	X		X	X
West Virginia	X	X		X	X	
Wisconsin	X		X			
Wyoming	X	X	X	X		

N/R = No Response
N/A = Not Applicable

7. Does your system plan to examine the role that airports in neighboring states play in either contributing demand to your airport system or fulfilling demand generated by your state?

Alabama	YES		Nevada	NO
Alaska	NO		New Hampshire	YES
Arizona	NO		New Jersey	NO
Arkansas	YES		New Mexico	NO
Colorado	NO		New York	YES
Florida	NO		North Dakota	NO
Georgia	YES		Ohio	YES
Hawaii	NO		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	NO
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	NO
Massachusetts	YES		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	NO		Washington	YES
Mississippi	YES		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	NO		Wyoming	NO
Nebraska	YES			

N/R = No Response

8. Did you involve DOTs from nearby states in the development of your system plan?

Alabama	YES		Nevada	NO
Alaska	NO		New Hampshire	NO
Arizona	NO		New Jersey	NO
Arkansas	NO		New Mexico	NO
Colorado	NO		New York	NO

Florida	NO		North Dakota	NO
Georgia	NO		Ohio	NO
Hawaii	NO		Oregon	NO
Idaho	NO		Pennsylvania	NO
Indiana	NO		Puerto Rico	NO
Iowa	NO		Rhode Island	NO
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	NO		Tennessee	NO
Maryland	NO		Texas	NO
Massachusetts	NO		Utah	NO
Michigan	NO		Virginia	NO
Minnesota	N/R		Washington	NO
Mississippi	NO		West Virginia	NO
Missouri	NO		Wisconsin	NO
Montana	NO		Wyoming	YES
Nebraska	NO			

N/R = No Response

9. Did FAA participate in the development of your recent system plan?

Alabama	YES		Nevada	NO
Alaska	YES		New Hampshire	YES
Arizona	YES		New Jersey	NO
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	YES		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	YES		South Carolina	NO
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES
Maryland	YES		Texas	NO
Massachusetts	YES		Utah	YES
Michigan	NO		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	YES		West Virginia	YES
Missouri	YES		Wisconsin	NO
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

10. How did FAA participate in your system plan?

	Reviewed and approved scope of work	Participated on advisory committee	Reviewed and commented on draft working papers as the system plan was being prepared	Reviewed and approved final system plan report
Alabama	X		X	
Alaska	X	X	X	X
Arizona	X	X	X	
Arkansas	X	X	X	X
Colorado	N/R	N/R	N/R	N/R

Florida		X	X	
Georgia	X	X	X	X
Hawaii	X	X	X	
Idaho	X		X	X
Indiana	X			
Iowa	X		X	X
Kansas	X			X
Kentucky	N/R	N/R	N/R	N/R
Maine	X	X	X	X
Maryland	X	X	X	X
Massachusetts	X	X		
Michigan	N/A	N/A	N/A	N/A
Minnesota	X	X		
Mississippi	X			X
Missouri	X	X	X	X
Montana	X		X	X
Nebraska	X		X	X
Nevada	N/A	N/A	N/A	N/A
New Hampshire	X	X	X	X
New Jersey	N/A	N/A	N/A	N/A
New Mexico				X
New York				X
North Dakota	X		X	X
Ohio	X			X
Oregon	X	X	X	X
Pennsylvania	X		X	X
Puerto Rico	X		X	X
Rhode Island	X	X	X	X
South Carolina	X		X	X
South Dakota	X		X	X
Tennessee	X		X	
Texas	N/A	N/A	N/A	N/A
Utah	X	X	X	
Virginia	X		X	X
Washington	X	X	X	
West Virginia	X	X	X	
Wisconsin		X	X	
Wyoming	X	X	X	X

N/R = No Response
N/A = Not Applicable

11. Has your aviation system plan been adopted by your state's department of transportation or another statewide planning agency?

Alabama	YES		Nevada	NO
Alaska	NO		New Hampshire	YES
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	NO
Colorado	NO		New York	YES
Florida	YES		North Dakota	NO
Georgia	YES		Ohio	YES
Hawaii	YES		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	NO
Iowa	YES		Rhode Island	YES
Kansas	YES		South Carolina	YES
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES

Maryland	NO		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	N/R
Mississippi	YES		West Virginia	YES
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	YES
Nebraska	NO			

N/R = No Response

12. Have recommendations from your aviation system plan been incorporated into the overall State Transportation Plan or Transportation Improvement Plan

Alabama	YES		Nevada	NO
Alaska	YES		New Hampshire	YES
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	YES
Georgia	NO		Ohio	NO
Hawaii	NO		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	NO
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES
Maryland	NO		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	NO		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	NO
Nebraska	NO			

N/R = No Response

D. System Plan Elements

1. Does your recent system plan have a comprehensive forecasting element?

Alabama	YES		Nevada	YES
Alaska	YES		New Hampshire	NO
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	NO
Georgia	YES		Ohio	YES
Hawaii	NO		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	YES		South Carolina	YES
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	YES		Utah	YES

Michigan	YES		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	YES		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

2. How important were demand projections/forecasts to driving the final recommendations contained in your system plan?

	Very important	Important	Somewhat important	Not important
Alabama				X
Alaska			X	
Arizona	X			
Arkansas	X			
Colorado			X	
Florida		X		
Georgia		X		
Hawaii	N/R	N/R	N/R	N/R
Idaho		X		
Indiana	X			
Iowa		X		
Kansas		X		
Kentucky	N/R	N/R	N/R	N/R
Maine		X		
Maryland		X		
Massachusetts			X	
Michigan			X	
Minnesota		X		
Mississippi		X		
Missouri		X		
Montana		X		
Nebraska			X	
Nevada	X			
New Hampshire			X	
New Jersey	X			
New Mexico			X	
New York		X		
North Dakota			X	
Ohio			X	
Oregon			X	
Pennsylvania		X		
Puerto Rico	X			
Rhode Island		X		
South Carolina	X			
South Dakota			X	
Tennessee		X		
Texas				X
Utah			X	
Virginia	X			
Washington	X			
West Virginia			X	
Wisconsin			X	
Wyoming		X		

N/R = No Response

3. What demand elements did your system plan project?

	Commercial passengers	Commercial operations	General aviation operations	Air cargo	Based aircraft	Fleet mix	Other (specify)
Alabama			X		X	X	
Alaska	X			X			
Arizona	X	X	X	X	X	X	
Arkansas	X	X	X		X		
Colorado	X	X	X		X		
Florida	X	X	X	X	X		
Georgia	X		X		X	X	
Hawaii	X	X	X	X	X	X	
Idaho	X	X	X		X	X	
Indiana		X	X		X		
Iowa	X		X		X	X	
Kansas	N/R	N/R	N/R	N/R	N/R	N/R	
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R	
Maine	X	X	X	X	X	X	
Maryland			X		X	X	
Massachusetts			X		X	X	
Michigan	X	X	X	X	X	X	
Minnesota	X	X	X	X	X		
Mississippi	X	X	X	X	X	X	
Missouri			X		X	X	
Montana	X	X	X	X	X		
Nebraska	X	X	X		X	X	
Nevada	X	X	X	X	X		
New Hampshire		X	X		X	X	
New Jersey			X		X	X	
New Mexico		X	X	X	X		
New York	X	X	X		X		
North Dakota	X	X	X	X	X		Ag sprayers, medical needs, weather modification
Ohio			X		X		
Oregon	X	X	X	X	X	X	
Pennsylvania			X	X			
Puerto Rico	X	X	X	X	X		
Rhode Island	X	X	X	X	X	X	
South Carolina	X	X	X	X	X	X	
South Dakota	X	X	X	X	X		
Tennessee	X		X	X	X		
Texas	X	X	X		X	X	
Utah	X	X	X		X	X	
Virginia			X		X	X	
Washington	X	X	X	X	X	X	
West Virginia	X	X	X	X	X	X	
Wisconsin	X	X	X	X	X	X	
Wyoming	X	X	X	X	X		

N/R = No Response

4. Have you classified airports in your system to reflect the role that each airport plays in supporting air transportation needs?

Alabama	YES		Nevada	NO
Alaska	YES		New Hampshire	YES
Arizona	N/R		New Jersey	YES
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	NO		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	YES		Utah	YES
Michigan	N/R		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	YES		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

5. If you have assigned system roles to your airports other than standard FAA roles, please provide the nomenclature that you used in this process. (i.e., Level I Airport, Business Airport, Minor Airport)

	1)	2)	3)	4)	5)	6)	7)
Alabama	International	National	General aviation regional	General aviation community	Local		
Alaska	Regional	Community	Local				
Arizona	Current issues						
Arkansas	Level 1-5						
Colorado	Major	Intermediate	Minor				
Florida	Defined four (4) Commercial Services provided	Defined five (5) GA Services provided					
Georgia	Level I-Minimum standard GA	Level II-business airports of local impact	Level III-commercial service and business airports of regional impact				
Hawaii	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Idaho	Community access	Recreation access	Emergency access	Wilderness access	Not maintained		
Indiana	Large	Corporate class	Urban general aviation	Regional general aviation	General aviation		
Iowa	Commercial service	Enhanced service	General service	Basic service	Basic service II		
Kansas	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Maine	Level I	Level II	Level III	Level IV			
Maryland	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Massachusetts	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Michigan	Tier I	Tier II	Tier III				
Minnesota	Key	Intermediate	Landing strip				
Mississippi	Type I	Type II	Type III	Type III enhanced			
Missouri	Commercial	Regional	Business	Community			
Montana	Recreational airports group added						
Nebraska	National	Regional	Local	Limited			
Nevada	N/R	N/R	N/R	N/R	N/R	N/R	N/R
New Hampshire	Same as NPIAS roles						
New Jersey	N/R	N/R	N/R	N/R	N/R	N/R	N/R
New Mexico	Primary	Non-primary	Reliever	Gateway	Key		
New York	N/R	N/R	N/R	N/R	N/R	N/R	N/R
North Dakota	Primary	Regional	Category I Jet	Category II twin	Category III Twin	Category IV single	Category V turf
Ohio	Air carrier	Advanced service	Intermediate	General service	Basic service	Special facility	
Oregon	Category I-commercial service	Category II-Urban GA airports	Category III-regional GA airports	Category IV-Local GA airports	Category V-Remote access/ emergency service		
Pennsylvania	Commercial service	Advanced service	Intermediate	Basic service	Limited	Special use	
Puerto Rico	International commercial	Large commercial	Regional commercial	General aviation			
Rhode Island	Primary	GA reliever	GA				
South Carolina	Classification I-commercial service	Classification II-corporate business	Classification III-Business/ Recreation	Classification IV-Recreation/local/ service			
South Dakota	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Tennessee	Commercial service	Regional	Community business	Community service			
Texas	Commercial service	Reliever	Business/ Corporate	Community service	Basic service		
Utah	International airports	National airports	Regional airports	Community airports	Local airports		
Virginia	Commercial	Reliever	GA-regional	GA-community	Local service		
Washington	Commercial	Regional	Community>20 based aircraft	Local<20 based aircraft	Recreation or remote	Seaplane bases	
West Virginia	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Wisconsin	Commercial	Large GA airport	Medium GA airport	Small GA airport			
Wyoming	Commercial	Business	Intermediate	Local			

N/R = No Response; GA = general aviation.

6. Was economic contribution or support used to assign a role to airports in your system?

Alabama	YES		Nevada	YES
Alaska	NO		New Hampshire	NO
Arizona	NO		New Jersey	YES
Arkansas	NO		New Mexico	N/R
Colorado	YES		New York	YES
Florida	NO		North Dakota	NO
Georgia	N/R		Ohio	YES
Hawaii	NO		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	YES		Puerto Rico	YES
Iowa	NO		Rhode Island	NO
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	NO
Maryland	YES		Texas	YES
Massachusetts	YES		Utah	YES
Michigan	NO		Virginia	NO
Minnesota	NO		Washington	NO
Mississippi	YES		West Virginia	N/R
Missouri	N/R		Wisconsin	YES
Montana	NO		Wyoming	NO
Nebraska	YES			

N/R = No Response

7. If your airports have been assigned roles as part of a classification process, what criteria do you use to determine when it is appropriate for an airport to move up a level in the system?

	Increased economic contribution	Increase in based aircraft	Increase in annual operations	Change in fleet mix	Change in the socio-economic or demographic make-up of the community served by the airport	Other (specify)
Alabama	X	X	X			
Alaska				X	X	Primary or secondary hubs, passengers
Arizona	N/R					
Arkansas		X	X	X		
Colorado	N/R					
Florida	X	X			X	Infrastructure assessment tool (matrix)
Georgia					X	
Hawaii	N/R					
Idaho				X		Changes in the reason that pilots use an airport
Indiana	X				X	Runway length and landing system
Iowa	X	X	X	X		
Kansas	N/R					
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R
Maine	X	X	X	X	X	
Maryland	X	X	X			
Massachusetts	X	X	X	X		
Michigan	X	X	X	X	X	
Minnesota	N/R					
Mississippi	N/R					Change in infrastructure (extend runway, install NAVAIDs, etc.)

Missouri	X	X		X	X	
Montana			X			
Nebraska	X	X	X		X	
Nevada	X	X				
New Hampshire	N/R					Pax enplanements
New Jersey	X	X	X		X	
New Mexico		X	X	X	X	
New York					X	
North Dakota	X		X	X		
Ohio	X	X				
Oregon					X	Airport design standards
Pennsylvania			X			
Puerto Rico	X	X	X		X	Accessibility and facilities
Rhode Island				X		Location of other airports in ASP+ constraints that make providing the needed improvements for an upgraded role impossible
South Carolina	X	X	X	X	X	
South Dakota		X	X			
Tennessee				X	X	
Texas				X	X	If conditions have changed in the community such that the airport function changes
Utah	X	X	X	X	X	Increases in air taxi or armed operations, increase in itinerant operations. Increase in time of drive from a primary commercial service airport, instrument approach type. Decreases in aviation services in a 30-minute drive time from an airport. Increase in number of businesses with a propensity to use aviation services. Increases in population
Virginia	X	X	X	X		
Washington		X		X	X	
West Virginia	N/R					
Wisconsin	X	X	X	X	X	
Wyoming					X	

N/R = No Response

8. If airports in your system have been assigned roles, does your system plan identify facilities and services that should ideally be available at airports in each role or category?

Alabama	YES		Nevada	YES
Alaska	YES		New Hampshire	NO
Arizona	N/R		New Jersey	YES
Arkansas	YES		New Mexico	NO
Colorado	YES		New York	NO
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	N/R		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	N/R
Iowa	YES		Rhode Island	YES
Kansas	N/R		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	YES		West Virginia	N/R
Missouri	YES		Wisconsin	YES
Montana	NO		Wyoming	YES
Nebraska	YES			

N/R = No Response

9. Did your recent system plan evaluate ground access or connectivity to other transportation modes?

Alabama	YES		Nevada	NO
Alaska	NO		New Hampshire	YES
Arizona	N/R		New Jersey	NO
Arkansas	YES		New Mexico	NO
Colorado	NO		New York	YES
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	NO
Hawaii	YES		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	YES		Puerto Rico	N/R
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	NO
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	N/R
Minnesota	YES		Washington	NO
Mississippi	NO		West Virginia	NO
Missouri	YES		Wisconsin	YES
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

10. In addition to your aviation system plan, what other special studies have you completed for your airport system?

	Economic impact	Air Service	Passenger demand	Land use compatibility	Air cargo	Policy/Strategic plan	Database	Military re-use
Alabama	2003						2003/2008	
Alaska	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Arizona	Y	Y		Y	Y	Y	Y	
Arkansas	2006							
Colorado	Y							
Florida	2000	2007	2004	2008	2006	2005	2008	
Georgia	1992	2003	2000		Y		Y	
Hawaii	2005				2000	2002		
Idaho	1997	2003	2003					
Indiana	Y							
Iowa	2008	2008	2008	2008				
Kansas	1999							
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Maine	Y	Y	Y	Y			Y	
Maryland	2006							
Massachusetts	1998							
Michigan	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Minnesota	2005	2006		2006	2006			
Mississippi		2008						
Missouri	2005							
Montana	Y	2007		1996				
Nebraska	2003							
Nevada	2006	2007		2008				
New Hampshire	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
New Jersey	Y			Y				
New Mexico	2003	Y			2003			
New York	Y	Y	Y				Y	Y
North Dakota	2004	2001		2008	1992			
Ohio	2006							
Oregon	2007	Y	Y	2003	Y	Y		
Pennsylvania	2000	Y	Y		Y			
Puerto Rico	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Rhode Island	2007	2005	2005		2005	2005	2005	
South Carolina	2005					2007	Y	
South Dakota	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Tennessee	Y							
Texas	2005	2001					Y	
Utah	2004			2008		2008	2000	

Virginia	2004	1991		2004	1991			
Washington	2010	Y	Y	2008		2009		
West Virginia	Y	Y						
Wisconsin	2002							
Wyoming	2004	2007		2006				

NR = No Response; Y = Yes, year was not provided.

10. In addition to your aviation system plan, what other special studies have you completed for your airport system? (Continued)

	Other (specify)	Year completed	Other (specify)	Year completed
Alabama				
Alaska				
Arizona				
Arkansas				
Colorado				
Florida	Next Generation Aircraft Impact on Florida	2008		
Georgia	Airport Pavement Study	2003	Airport Pavement Study	2007
Hawaii				
Idaho	Idaho Airstrip Network	2006	System Pavement Evaluation	Ongoing
Indiana				
Iowa				
Kansas	SATS	2000	Healthcare	2002
Kentucky				
Maine				
Maryland	GPS IAP Surveys	1999		
Massachusetts				
Michigan				
Minnesota				
Mississippi				
Missouri				
Montana				
Nebraska				
Nevada				
New Hampshire				
New Jersey				
New Mexico				
New York				
North Dakota	FBO	1997	Weather/AWOS	2007/2008
Ohio				
Oregon				
Pennsylvania				

Puerto Rico	Airport Master Plans	1993-2007		
Rhode Island	New England RASP	2006		
South Carolina				
South Dakota	NAVAIDs and Weather Facilities System Plan	2004		
Tennessee	Long Range Trans.			
Texas	Emergency access needs, Instrument approach needs, Encroachment Study, Aircraft activity counts, ALPS & Obstruction Surveys, Crosswind runway coverage, Day and Night lighting condition surveys, and many more	2003		
Utah	Instrument Approach Feasibility Study			
Virginia				
Washington	LATS Est. 2009			
West Virginia				
Wisconsin	Updated Forecasts	2002	Updated Classifications	2008
Wyoming	Design Standards	2008		

AWOS = automated weather observing system; FBO = fixed-base operator; RASP = Regional Airport System Plan; LATS = long-term air transportation study.

E. Use of Your Aviation System Plan

1. Was your recent system plan used to identify airports or facilities that are redundant or duplicative in nature because they serve limited demand or areas of low growth?

Alabama	NO		Nevada	NO
Alaska	NO		New Hampshire	NO
Arizona	NO		New Jersey	YES
Arkansas	NO		New Mexico	NO
Colorado	NO		New York	YES
Florida	NO		North Dakota	NO
Georgia	YES		Ohio	NO
Hawaii	NO		Oregon	YES
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	YES
Iowa	YES		Rhode Island	NO
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	NO
Maryland	NO		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	NO		Washington	YES
Mississippi	NO		West Virginia	YES
Missouri	YES		Wisconsin	NO
Montana	NO		Wyoming	YES
Nebraska	YES			

N/R = No Response

2. Does your recent system plan specifically identify high growth areas to insure that appropriate airport facilities are being planned?

Alabama	YES		Nevada	YES
Alaska	NO		New Hampshire	NO
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	NO
Georgia	YES		Ohio	N/R
Hawaii	YES		Oregon	NO
Idaho	YES		Pennsylvania	YES
Indiana	NO		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	YES
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	NO
Minnesota	NO		Washington	NO
Mississippi	YES		West Virginia	YES
Missouri	YES		Wisconsin	NO
Montana	YES		Wyoming	YES
Nebraska	NO			

N/R = No Response

3. Do you use your system plan to decide which projects should be awarded state funds on an annual basis?

Alabama	YES		Nevada	NO
Alaska	YES		New Hampshire	NO
Arizona	YES		New Jersey	YES
Arkansas	NO		New Mexico	YES
Colorado	YES		New York	YES
Florida	YES		North Dakota	NO
Georgia	YES		Ohio	YES
Hawaii	YES		Oregon	YES
Idaho	YES		Pennsylvania	YES
Indiana	NO		Puerto Rico	N/R
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	NO
Maryland	YES		Texas	YES
Massachusetts	NO		Utah	NO
Michigan	NO		Virginia	YES
Minnesota	NO		Washington	N/R
Mississippi	YES		West Virginia	NO
Missouri	YES		Wisconsin	NO
Montana	NO		Wyoming	YES
Nebraska	NO			

N/R = No Response

4. Have you ever used your system plan to "deny" funding to an airport's request for funding because the project was not identified as being needed by your system plan?

Alabama	YES		Nevada	NO
Alaska	N/R		New Hampshire	NO
Arizona	NO		New Jersey	NO
Arkansas	NO		New Mexico	NO
Colorado	NO		New York	NO
Florida	NO		North Dakota	NO
Georgia	NO		Ohio	YES
Hawaii	NO		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	NO
Iowa	YES		Rhode Island	NO
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	NO
Maryland	NO		Texas	YES
Massachusetts	NO		Utah	NO
Michigan	YES		Virginia	YES
Minnesota	NO		Washington	N/R
Mississippi	NO		West Virginia	NO
Missouri	N/R		Wisconsin	NO
Montana	NO		Wyoming	NO
Nebraska	YES			

N/R = No Response

5. Has your system plan been developed using a sustainable planning process so you can easily re-evaluate the system in a future planning cycle to measure progress toward specific objectives for your system?

Alabama	YES		Nevada	NO
Alaska	NO		New Hampshire	NO
Arizona	YES		New Jersey	YES
Arkansas	YES		New Mexico	NO
Colorado	YES		New York	NO
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	NO		Oregon	YES
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	YES
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	N/R
Mississippi	YES		West Virginia	NO
Missouri	YES		Wisconsin	NO
Montana	YES		Wyoming	YES
Nebraska	YES			

N/R = No Response

6. Has your plan been developed so that you can show how your investment decisions are helping to improve the performance of the system relative to a set of established system performance measures or criteria?

Alabama	NO		Nevada	YES
Alaska	NO		New Hampshire	NO
Arizona	YES		New Jersey	NO
Arkansas	YES		New Mexico	NO
Colorado	YES		New York	NO
Florida	YES		North Dakota	YES
Georgia	YES		Ohio	YES
Hawaii	YES		Oregon	NO
Idaho	NO		Pennsylvania	YES
Indiana	NO		Puerto Rico	YES
Iowa	YES		Rhode Island	YES
Kansas	NO		South Carolina	NO
Kentucky	N/R		South Dakota	NO
Maine	YES		Tennessee	YES
Maryland	YES		Texas	YES
Massachusetts	NO		Utah	YES
Michigan	YES		Virginia	YES
Minnesota	YES		Washington	YES
Mississippi	NO		West Virginia	YES
Missouri	YES		Wisconsin	NO
Montana	NO		Wyoming	YES
Nebraska	YES			

N/R = No Response

7. What do you believe is the biggest obstacle to implementing the recommendations in your system plan?

	Height obstructions	Incompatible land use encroachment	Lack of federal funding	Lack of state funding	Lack of local funding	Unreasonable recommendations	Lack of cooperation from individual airports
Alabama		X	X	X	X		X
Alaska			X	X			
Arizona		X					
Arkansas					X		
Colorado			X				
Florida		X					
Georgia					X		
Hawaii			X	X			
Idaho			X	X	X		
Indiana			X				
Iowa				X	X		
Kansas	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Kentucky	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Maine			X	X			
Maryland				X			
Massachusetts		X	X	X	X		
Michigan			X	X	X		
Minnesota					X		
Mississippi			X				X
Missouri			X				
Montana			X	X	X		
Nebraska			X				
Nevada	X			X	X		
New Hampshire			X	X	X		
New Jersey	X	X					
New Mexico			X				
New York		X					
North Dakota		X					
Ohio				X			
Oregon			X				
Pennsylvania		X					
Puerto Rico					X		
Rhode Island			X	X			
South Carolina				X			
South Dakota							
Tennessee					X		
Texas			X	X	X		
Utah			X				
Virginia					X		
Washington		X	X	X	X		
West Virginia					X		
Wisconsin	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Wyoming		X	X				

N/R = No Response

8. Have the results of your system plan been shared or coordinated with local/regional/state economic development agencies?

	During plan Development	During plan review/approval	During plan adoption	Only on agency request	Results not shared
Alabama	X		X		
Alaska				X	
Arizona	X				
Arkansas	X	X		X	
Colorado				X	
Florida				X	
Georgia	X	X	X		
Hawaii				X	
Idaho	X			X	
Indiana				X	
Iowa		X	X	X	
Kansas					X
Kentucky	N/R	N/R	N/R	N/R	N/R
Maine			X		
Maryland					X
Massachusetts			X		
Michigan	X	X	X		
Minnesota	X				
Mississippi				X	
Missouri	X				
Montana				X	
Nebraska			X		
Nevada				X	
New Hampshire	X				
New Jersey	X	X			
New Mexico				X	
New York	X				
North Dakota					X
Ohio				X	
Oregon			X		
Pennsylvania			X	X	
Puerto Rico					X
Rhode Island	X	X	X		
South Carolina				X	
South Dakota				X	
Tennessee	X	X			
Texas	X			X	
Utah	X	X			
Virginia				X	
Washington	X	X			
West Virginia	X	X	X		
Wisconsin				X	
Wyoming					X

N/R = No Response

9. How would you rate the overall effectiveness of your system plan as it relates to your objectives for using the plan?

	Very effective	Effective	Somewhat effective	Not effective
Alabama		X		
Alaska			X	
Arizona		X		
Arkansas	X			
Colorado		X		
Florida		X		
Georgia	X			
Hawaii		X		
Idaho			X	
Indiana			X	
Iowa	X			
Kansas				X
Kentucky	N/R	N/R	N/R	N/R
Maine	X			
Maryland		X		
Massachusetts				X
Michigan	X			
Minnesota		X		
Mississippi	X			
Missouri		X		
Montana		X		
Nebraska			X	
Nevada		X		
New Hampshire			X	
New Jersey			X	
New Mexico			X	
New York		X		
North Dakota		X		
Ohio		X		
Oregon			X	
Pennsylvania		X		
Puerto Rico		X		
Rhode Island	X			
South Carolina	X			
South Dakota			X	
Tennessee		X		
Texas	X			
Utah	X			
Virginia	X			
Washington	N/R	N/R	N/R	N/R
West Virginia			X	
Wisconsin		X		
Wyoming	N/R	N/R	N/R	N/R

N/R = No Response

AIRPORT SYSTEM PLANS CONSIDERED IN THIS SYNTHESIS

1. *Alabama Statewide Airport System Plan*, Alabama Department of Transportation Aeronautics Division, 2003
2. *Alaska Aviation System Plan Update*, Alaska Statewide Aviation, 1996
3. *State Airport System Plan*, Arizona Division of Aeronautics, Various years
4. *Arkansas State Airport System Plan*, Arkansas Department of Aeronautics, 2006
5. *Colorado 2005 Aviation System Plan*, Colorado Department of Transportation/Division of Aeronautics, 2005
6. *Florida Aviation System Plan 2025*, Florida Aviation Office, 2005
7. *Georgia Aviation System Plan*, Georgia Office of Intermodal Programs—Aviation, 2003
8. *Hawaii Statewide Airport System Plan*, Hawaii Airports Division, 1998
9. *Idaho Aviation System Plan*, Idaho Division of Aeronautics, 1989
10. *Indiana State Aviation System Plan*, Indiana Aeronautics Section, 2003
11. *Iowa Aviation System Plan*, Iowa Department of Transportation/Office of Aviation, 2004
12. *Kansas Airport System Plan*, Kansas Division of Aviation, 1995
13. *Maine Aviation Systems Plan Update*, Maine Office of Passenger Transportation, 2006
14. *Maryland Airport System Plan*, Maryland Aviation Administration, 1998
15. *Massachusetts Airport System Plan*, Massachusetts Aeronautics Commission, 1989
16. *Michigan Airport System Plan*, Multi-Modal Transportation Services Bureau, 2000
17. *Minnesota State Aviation System Plan*, Minnesota Aeronautics Office, 2006
18. *Mississippi Statewide Airports Study*, Mississippi Aeronautics Division, 1999
19. *Missouri State Airport System Plan*, Missouri Aviation Section, 2005
20. *Montana SASP Inventory and Forecasting*, Montana Aeronautics Division, 1989
21. *Nebraska Aviation System Plan*, Nebraska Department of Aeronautics, 2002
22. *Nevada Airport System Plan Update*, Nevada Department of Transportation, 2004
23. *New Hampshire Aviation Airport System Plan*, New Hampshire Division of Aeronautics, 2003
24. *New Jersey State Aviation System Plan*, New Jersey Division of Aeronautics, 2008
25. *New York State Airport System Plan*, New York Aviation Services Bureau – Pod 54, 1998
26. *North Dakota SASP*, North Dakota Aeronautics Commission, 2008
27. *Ohio State Airport System Plan*, Ohio Office of Aviation, 2006
28. *Oregon Aviation Plan*, Oregon Department of Aviation, 2007
29. *Pennsylvania SASP*, Pennsylvania Bureau of Aviation, 2002

30. *Puerto Rico Interactive Aviation Planning System*, Puerto Rico Ports Authority, 2007

31. *Rhode Island Airport System Plan*, Rhode Island Airport Corporation, 2004

32. *South Carolina Airport System Plan*, South Carolina Division of Aeronautics, 2008

33. *South Dakota Aviation System Plan*, South Dakota Department of Transportation/Aviation Office, 1996

34. *Tennessee Airport System Plan*, Tennessee Aeronautics Division, 2001

35. *Texas Airport System Plan Summary*, TexDOT Aviation, 2002

36. *Utah Continuous Airport System Plan (UCASP)*, Utah Aeronautical Operations Division, 2008

37. *Virginia Air Transportation System Plan Update*, Virginia Department of Aviation, 2003

38. *Washington Aviation System Plan (WASP)*, Washington Aviation Division, 2003

39. *West Virginia State System Study*, West Virginia Aeronautics Commission, 2004

40. *Wisconsin State Airport System Plan*, Wisconsin Bureau of Aeronautics, 2000

41. *Wyoming Inventory and Implementation Project*, Wyoming Aeronautics Division, 2008

SASP = State Aviation System Plan.

APPENDIX C

Literature Review

AVIATION SYSTEM PLANNING: ADDRESSING AIRPORT INFRASTRUCTURE NEEDS

This paper was authored in 2000 by Linda Howard and William Keller of the Committee on Aviation System Planning (TRB). It discusses constraints on existing airports in terms of capacity, funding, and a lack of an overall system plan. This paper covers current issues in the aviation system plan, and stresses increased coordination between airports.

FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR 150/5070-7 THE AIRPORT SYSTEM PLANNING PROCESS (NOVEMBER 10, 2004)

This is the official advisory circular from the FAA on aviation system planning. It cancels two older Advisory Circulars, 150/5050-3B *Planning the State Aviation System* and 150/5070-5 *Planning the Metropolitan Airport System.* It gives an overview of the system planning process, considerations when creating system plans, and a system plan's relationship to the National Plan of Integrated Airport Systems (NPIAS). It also gives examples of system plans and associated maps for use in creating or changing an existing system plan. There is also a section on criteria needed in developing a system plan and the review process for use by associated stakeholders.

FEDERAL HIGHWAY ADMINISTRATION— 23 CFR PART 470 (OCTOBER 16, 2001)

This CFR deals with highway systems, their classification, and designation for Federal aid. This CFR ties in with an overall transportation system and may be considered when looking at an airport system plan.

AIRPORT SYSTEMS PLANNING, DESIGN, AND MANAGEMENT

This publication by two MIT professors, Richard de Neufville and Amedeo R. Odoni was published by McGraw-Hill in 2003. While the name of this book implies that it primarily addresses airport system planning, its focus is planning issues faced primarily by large commercial airports. There is little application to state airport system planning, but some application to system planning for metropolitan areas. The book focuses on mathematical and quantifiable analysis in the areas of demand and capacity. The book addressed both administrative and economic demand management and air traffic control. Applications for terminal planning are also discussed and planning examples for domestic and international airports are provided.

AVIATION SYSTEM PERFORMANCE MEASURES FOR STATE TRANSPORTATION PLANNING

This paper was written by Geoffrey D. Gosling for *Transportation Research Record, No. 1703,* September 2000. The paper focuses on the use of performance measures and metrics to evaluate the airport system in a manner similar to the way other modes of transportation are evaluated. The California Department of Transportation was one of the first state agencies to push for means to evaluate all transportation modes using a similar approach. In the interim, many state airport system plans have adopted the performance measures approach to system evaluation since it lends itself to sustainable and comparable planning process.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS)

This report to Congress by the Federation Aviation Administration is made every two years. The NPIAS report is updated and published by the FAA and provided to Congress on a biennial basis. It includes a listing by state of each NPIAS eligible airport and role that the airport plays in the system. State airport system plans are one of the primary inputs for NPIAS development.

FAA ORDER 5090.3C FIELD FORMULATION OF THE NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

All airports that receive federal funds are in the NPIAS. What role the airport plays in the NPIAS is determined, in part, by the airport's activity. There are, however, other criteria for determining the ability of an airport to be included in the NPIAS. This document is important because it establish the criteria for airports to be included in the national air transportation system.

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