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SYNTHESIS 46

AIRPORT
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PROGRAM

Conducting Airport Peer Reviews

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A Synthesis of Airport Practice

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ACRP SYNTHESIS 46

Conducting Airport Peer Reviews

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

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

The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. The primary participants in the ACRP are (1) an independent governing board, the ACRP Oversight Committee (AOC), appointed by the Secretary of the U.S. Department of Transportation with representation from airport operating agencies, other stakeholders, and relevant industry organizations such as the Airports Council International-North America (ACI-NA), the American Association of Airport Executives (AAAE), the National Association of State Aviation Officials (NASAO), Airlines for America (A4A), and the Airport Consultants Council (ACC) 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.

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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 R. Staba
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When faced with challenging circumstances airport operators have traditionally reached out to those in similar situations for guidance and assistance. Since the mid-1990s, airport managers have embraced the peer review as a tool to formalize this collaboration for project and program improvement.

The content of this synthesis is the result of a literature review on peer review practices and interviews with those who have hosted or participated in peer reviews in the past. Twenty-six individuals were interviewed for this project (out of 29 solicited) for a response rate of 90%. This investigation revealed a range of peer review formats being used, which are described throughout the report. An appendix of peer review meeting agendas is included in this synthesis.

Kimberly R.C. Linsenmayer, CTC & Associates LLC, Madison, Wisconsin, collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

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Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

CONDUCTING AIRPORT PEER REVIEWS

SUMMARY Collaboration is an integral part of the airport industry. When faced with challenging circumstances, airport operators have traditionally reached out to those in similar situations for guidance and assistance. Since the mid-1990s, airport managers have embraced the peer review as a method of formalizing this collaboration for project and program improvement. They share lessons learned from past experiences, provide input about proposed alternatives, offer technical guidance, and raise the level of understanding about key issues. The goals of this synthesis were to capture the range of peer review approaches being used by airport sponsors, to identify similar efforts outside the airport industry, and to document both effective practices and challenges in conducting peer review activities.

Note that “peer review” is the term widely used in the airport industry to describe the peer-to-peer information exchange explored in this synthesis. However, this term is often used outside the airport industry to refer to formal audits, evaluations, or critiques of technical work or program effectiveness. Although this synthesis will touch on a few peer review formats that have a formal evaluation component, the primary focus is on face-to-face information-sharing.

To avoid this terminology confusion, the FHWA began using the term “peer exchange” when discussing the peer review process mandated for Research, Development and Technology Transfer (RD&T) programs at state departments of transportation (DOTs). Instead of requiring “an independent assessment” of a program’s effectiveness, peer exchange emphasizes information-sharing for the purposes of improving quality and performance. This is the spirit and nature of the airport peer reviews discussed in this report.

This synthesis is the result of a literature review on peer review practices and interviews with those who have hosted or participated in peer reviews in the past. Twenty-six individuals (of 29 solicited) were interviewed for this project, a response rate of 90%. These interviews detailed a range of peer review formats, which are described throughout the report as follows:

- Conference-style exchange: A large group of peers gathers for one day to discuss pressing issues in the industry.
- Host-focused review: A smaller group of peers meets with a host agency to provide input on the host’s specific project, program, or initiative.
- Performance audit: A team of peers performs an on-site evaluation of the host agency’s practices in a particular area.
- Executive peer advisory team: A small team of peer experts provides candid input on the host agency’s project throughout the life of the project.
- Site visit: A small team from one agency visits another agency to see operations in practice first-hand, or a team of community stakeholders embarks on a tour of multiple airports to gather more extensive information.
- Technical assistance: One or more peers responds to an agency’s request for technical assistance, training, or operations assistance by e-mail, phone, or in-person interactions.
- Online forum: An individual requests informal feedback from a community of peers via an electronic mailing list, an online survey, or a social media website.

These categories are used to provide organization to the range of formats available rather than to limit the options for peer interactions. Interviewees for this project used creative measures to solicit input from their peers, modifying the formats described previously to fit available budgets, timelines, and goals.

Interviewees also shared what worked well when planning and hosting peer reviews. This synthesis presents participant experiences with selecting a peer review format, determining when to hold a peer review, estimating a budget, developing an effective agenda, selecting the right participants, using a facilitator, and reporting on the outcomes. To demonstrate how airports are applying the guidance described during the interviews, the report presents five case examples that illustrate a range of peer review approaches in action.

Although interviewees discussed which formats they found most effective on specific projects, key successes and challenges they reported had less to do with the peer review format selected and more to do with the quality of advance preparation by the host agency. Respondents recommended clearly defining and communicating peer review goals and taking the time to set expectations for how each participant in the review would help the host agency meet those goals. This synthesis attempts to document those planning approaches that were most effective in making a peer review a success.

INTRODUCTION

BACKGROUND

The peer review process provides an opportunity and structure for managers in any industry to benefit from the experiences and insights of others in the field when developing new or ongoing programs, projects, procedures, or policies. A peer review typically involves bringing together subject area experts to share lessons learned and effective practices related to a challenge or issue faced by the host organization. As described in a 2006 report about finance peer exchanges for AASHTO, peer reviews “offer a unique opportunity to not only engage in discussion and share experiences and lessons learned but also identify potential solutions and prioritize areas for additional advancement through research, technical assistance, and other activities” (Hoffman et al. 2006, p. 1-1).

Airport administrators acknowledge the widespread use and effectiveness of peer reviews in program development and improvement, but the range of airport peer review formats being used has not been well documented. An investigation was needed to capture the variety of peer review approaches available to airport managers and the key components for successful outcomes; a need addressed by this synthesis.

PURPOSE OF SYNTHESIS

The goal of this synthesis was to capture the challenges encountered by planners and participants when conducting peer reviews for airports or other aviation agencies, their experiences, and the most effective practices. The report will aid airport managers in deciding when to hold a peer review, what format will best address their needs within the available budget, and what approaches to planning a peer review will ensure the most valuable experience for all involved.

STUDY APPROACH

Sources of information for this investigation included:

- A literature search of peer review practices inside and outside the airport industry. This included a review of reports about program effectiveness as well as documents and reports related to specific events.

- Interviews with selected airport managers and airport consultants who had planned, hosted, and/or participated in airport peer reviews.
- Interviews with selected consultants responsible for managing peer review processes outside the airport industry.

Twenty-six people were interviewed about their peer review experiences (out of 29 solicited, a response rate of 90%). Nineteen of those interviewed work (or worked) for an aviation organization such as an airport authority or aviation system; and five are employed in organizations that provide consulting services to aviation agencies. The remaining two interviewees consult on peer review programs in the utility and highway industries.

In some instances, participants from the same peer review (host, contributor, or planner) were interviewed to obtain different perspectives on a single event. The interview questions focused on capturing a single peer review experience, but many of the interviewees had been party to multiple peer reviews in different capacities and shared this range of experience during the interviews. Although all host organizations had some involvement in planning their peer reviews, in almost all cases they enlisted the help of an outside consultant to assist in the process. The additional interviews with the five planning consultants proved valuable for understanding this dynamic.

Finally, although the majority of individuals interviewed for this synthesis worked with large airports, the interviewees were able to share peer review approaches and practices that will be helpful to airports of any size and budget.

REPORT ORGANIZATION

This synthesis report is organized as follows:

- Chapter two: Current Practices in Conducting Peer Reviews. This chapter provides an overview of the range of peer review approaches being used both inside and outside the airport industry.
- Chapter three: Making the Most of Peer Reviews. This chapter documents respondents’ experience with peer review planning variables, including selecting a format, determining the best timing, estimating a budget, and reporting.

- Chapter four: Case Examples. This chapter provides five specific examples of airports that have used peer review approaches to improve their practices.
- Chapter five: Conclusions. This chapter presents the key findings from the report.
- Appendix A: Airport Professionals Interviewed. This appendix presents information about the industry professionals interviewed. It includes their roles in the peer reviews discussed (host and/or participant), the peer review formats employed, and the topics of the peer reviews they experienced.
- Appendix B: Interview Questions. This appendix lists the questions posed to interviewees.
- Appendix C: Peer Review Agendas. This appendix provides actual peer review agendas provided by interviewees.

CURRENT PRACTICES IN CONDUCTING PEER REVIEWS

This chapter provides an overview of peer review formats that surfaced during the literature review and interviews. The primary focus is on the range of peer review approaches being used by airports, but examples from other industries are included to demonstrate the history and depth of the process and to provide additional options for airport managers. The seven peer review formats described in this chapter are:

- Conference-style exchanges
- Host-focused reviews
- Performance audits
- Executive peer advisory teams
- Site visits
- Technical assistances
- Online forums.

This wide range of formats illustrates the flexibility with which airport managers initiate peer reviews and their willingness to embrace peer feedback in any form. These formats are fluid, not rigid, and can be customized and combined to meet an airport's needs.

CONFERENCE-STYLE EXCHANGES

Examples Within the Airport Industry

The conference-style exchange in the airport industry dates from the mid-1990s, when two experienced airport professionals, William Fife (then the corporate vice-president of DMJM Harris–AECOM) and Donna Luh (an airport manager for the Niagara Frontier Transportation Authority), established a peer review group to help airports share information related to specific projects and issues (Schurr 2003). This group provided structure to the professional connections already in place within the airport industry. Airport staff involved in the peer review group can request informal and formal feedback from their peers on a range of issues through a simple e-mail query or through organized conferences. The conference-style exchanges developed by Fife and Luh for this group provide a formal mechanism for discussing common challenges.

According to interviewees, the conference-style exchange is typically a one-day event involving a host agency and 25 to 40 voluntary participants (airport staff and consultants). The host agency assembles the group to address a challenge it faces in regard to a project or program in development. Attendees discuss the host airport's issues during the morning

portion of the agenda, and then have the opportunity to raise challenges of their own during the afternoon discussions (Infanger 2003). Topics range from big-picture progress on major development projects to narrowly-focused subcomponents of a specific effort such as baggage or security.

As noted by the interviewees, these peer reviews are typically open to airport professionals (including consultants) who want to share their experiences and learn from others in the industry. The host airport may pay for lunch for the attendees, but the participants generally cover their own expenses—because, as several interviewees noted, everyone benefits from the discussions and the professional connections made, so it is a win for the host airport and a win for the participants.

Although feedback concerning the conference-style exchange is overwhelmingly positive, a few cautionary notes about this format emerged during the interviews. First, perspective matters. Each airport is unique, and the distinctions are accentuated when airports of different sizes and structures are compared. Although airports do face many of the same challenges, how an airport best addresses those challenges is affected by the specific characteristics of its environment. Not all ideas shared in a large forum, therefore, will resonate with every participant.

Second, conference-style exchanges may be more useful to very senior staff than to lower-level managers. The discussions tend to be more strategic rather than practical because there isn't time to go into details. Third, some interviewees warned that the size of the group can be overwhelming, and make it difficult to ensure that everyone has an opportunity to contribute. Similarly, a consensus response to a proposed idea, which is sometimes the host airport's intent, can be difficult to reach with a group of this size.

One interviewee noted that such conferences used to take place on a regular basis, perhaps several times a year. Although these reviews appear to occur less frequently, some agencies do still initiate them. For example, one respondent was planning to attend a conference-style exchange organized by the Port Authority of New York and New Jersey in August 2012. The goal was to bring together a group of 40 to 50 airport staff and consultants from around the country to identify issues related to planning and designing terminals of the future and to discuss those issues in breakout groups. Event organizers targeted participants based on their experience and expertise, rather than

issuing an open invitation, but participants were still expected to cover their own travel expenses.

It is important to note that industry organizations also provide active forums for peer interactions through topical conferences, seminars, and workshops. For example, ACI-NA, NASAO, FAA Airports Division, Airport Consultants Council, and others sponsor events about the state of industry practices or workshops in specific subject areas such as policy development, project delivery, security, wildlife hazards, financial management, and environmental impacts, among others. Participants from across the country pay to attend face-to-face conferences, which provide valuable opportunities for networking and learning.

Examples Outside the Airport Industry

The conference-style format is common outside the airport industry as well. In the late 1990s, William Fife worked with Jerry Premo, who was also at DMJM Harris (now AECOM), to apply this format to the area of public transportation (transit). Like the reviews hosted in the airport industry, these one- or two-day events for transit professionals explore a specific proposed project or program of the host agency, followed by a roundtable discussion of other pressing transit issues. Topics have included security, clean-fuel options, drug and alcohol testing, environmental remediation, project management, and community support. In at least some cases, participants submit the topics they would like to discuss in advance (Schurr 2003).

Several other versions of conference-style exchanges within the highway industry emerged in the literature review. In 2004, NCHRP funded a project called Peer Exchange of State and Metropolitan Planning Issues (*Peer Review Capacity Building Partnership* . . . 2012). Under its umbrella, several peer exchanges focused on different transportation planning issues, such as reliability measures and innovative transportation planning (Hoffman et al. 2006). The peer exchange planners invited representatives from state DOTs, metropolitan planning organizations, and public transportation agencies from around the country to discuss common challenges and innovative approaches related to these topics for the benefit of the broader transportation planning community. Each event lasted one or two days and involved fewer participants than the open-invitation conference-style reviews described previously. However, they shared the goal of mutual exchange and benefit, with no one organization dictating the entire agenda.

To help focus the discussions at these peer reviews, NCHRP project planners asked the participants beforehand to answer questions about their agencies' experiences in the selected topic area, such as their use of innovative financing tools or their implementation of disaster response strategies. The responses helped to provide a foundation for the discussions (Hoffman et al. 2006). The contractors for the project produced separate reports for each event to help distribute the results.

Also in the highway sector, a number of research-oriented organizations partnered to organize a biannual conference on winter highway maintenance. In 2007, the first National Winter Maintenance Peer Exchange was a 1½-day event involving 86 attendees from 35 states (Scott 2008). Representatives from state, local, and federal transportation agencies and research organizations gathered to brainstorm on research needs, meet with vendors, and discuss common challenges. Event organizers sent out a survey to participants in advance asking them to identify their "most critical winter maintenance challenges" (Scott 2008, p. 3). The responses were used to organize roundtable discussions at the conference and were incorporated in the final report. Each sponsor agreed to pursue action items following the conference (such as funding a high-priority research project) and to report progress at the next peer exchange and on a designated website (<http://www.westerntransportationinstitute.org/professionaldevelopment/national-winter-maintenance-peer-exchange>).

The sponsors of the National Winter Maintenance Peer Exchange handled the planning and logistics for the event. Sponsors included FHWA, AASHTO, Montana State University, and two national research programs focused on winter maintenance, Clear Roads and Aurora. Both Clear Roads and Aurora are multi-state consortiums funded by state DOT contributions through the FHWA Transportation Pooled Fund Program (see www.pooledfund.org). Participants in the peer exchange either paid their own travel costs or were sponsored through their agency's contributions to Clear Roads or Aurora. The event was so successful that it has become a biennial event, held again in 2009 and 2011 and planned for 2013.

HOST-FOCUSED REVIEWS

Examples Within the Airport Industry

The peer review format most frequently described in interviews for this report is a host-focused review. It is similar to a conference-style exchange in that it brings together peers from multiple organizations to share experiences and offer feedback. However, this type of review is smaller in size (15 to 25 participants); focuses primarily, if not entirely, on the host agency's needs and topics; and typically has a more structured agenda. According to interviewees, the host airport brings in a panel of three to seven outside experts to meet with selected staff, either onsite at the airport or in a nearby hotel. The host airport covers all travel costs, lodging, and meals for the visiting experts, but the visitors donate their time. These exchanges usually last two to three days to allow for more in-depth discussion of the topics, though this is not always the case.

Airport managers choose to host this type of peer review to get feedback from experts in the industry about alternative approaches they have developed for a project, gain validation for a proposed approach, brainstorm solutions to a challenge, and/or learn lessons from others who have dealt with very

similar situations. According to interviewees, airport managers have used these host-focused reviews to tackle a wide range of topics, including the overall master planning process for a terminal renovation or runway reconstruction, people-movers, concessions, environmental impacts, art in public places, security systems, or contract negotiations. Some reviews are organizationally focused (e.g., how to structure an information technology department), and others are more functionally focused (how to best design and locate a baggage system). Some interviewees had hosted multiple reviews of this type during the life of a large project.

The makeup of the participants for a host-focused review is important to ensure a successful experience. Many interviewees emphasized the need to find individuals who are well-respected within the industry, have demonstrated success in handling similar challenges, and who come from similarly structured and sized organizations to increase the likelihood that the comments are applicable to the host airport's situation. Some airport managers rely on their own professional connections to assemble these expert panels, while others enlist the help of outside consultants or the consultants already under contract for design or construction work. Several interviewees said that the idea to hold a peer review came from their master planning or design consultants as a way of getting outside confirmation or constructive feedback. In such cases, funding for the review can be built into the consultant contract as part of the project budget. Other interviewees indicated they had received support and encouragement to perform a review and recruit experts from staff in professional organizations and consulting firms.

Examples Outside the Airport Industry

State DOTs have also made extensive use of host-focused reviews. In 1994, FHWA mandated that research, development, and technology transfer (RD&T) programs in state DOTs hold periodic peer reviews aimed at improving practices (Battey n.d.). The meetings are intended to help managers evaluate and improve their programs' effectiveness by learning from the experiences of others. States can use federal funding from their programs to cover 100% of travel and other costs for the exchanges (Moulden 2010), whereas typical RD&T activities require a 20% contribution of state funds. As mentioned earlier, FHWA moved away from the term "peer review" and began using "peer exchange" to further emphasize the collaborative nature of these meetings (Harder 2001).

Like the host-focused reviews in the airport industry, these FHWA-mandated peer exchanges are initiated by a single research program, use a structured agenda focused on the issues defined by the host agency, last two to three days, and include four to seven peer panelists from other organizations (Moulden 2010). The agendas may be wide-ranging, focusing on the host's program management plan; or may address specific aspects of research management, such as implementing research results, developing partnerships, or managing con-

tracts (AASHTO 2012). In all cases, the expectation is that participants will engage in candid, detailed discussions that will support the development of planned actions for program modifications. Research program directors have found the peer exchanges to be "very valuable," resulting in "improvements to the quality of their programs" (Battey n.d.).

In 2004, the Wisconsin DOT (WisDOT) Research Program began offering logistical and financial support for peer exchanges to other offices within the department, using the same model required by FHWA for the research programs. Funded as technology transfer projects, these peer exchanges offered a quick-turnaround method for answering questions and solving problems—an alternative to the traditional multi-year research project (*Peer Exchanges . . .* 2010). Between 2004 and 2011, the WisDOT program funded and supported nine peer exchanges on a wide range of topics for the department, including real estate issues, privacy policies, social media, high-speed rail, and vehicle titling issues.

PERFORMANCE AUDITS

Examples Within the Airport Industry

Although both the conference-style exchange and host-focused review provide a mechanism for peers to review a host's practices (or proposed actions) and provide feedback, the performance audit format is more explicitly an evaluation defining and prompting specific improvements. A number of industry organizations and associations offer audit services to airports on a range of topics, such as safety (including runway safety, wildlife hazard management, and winter operations), business processes, risk assessment, and customer service.

Some airports look directly to their peers for assistance with auditing their processes or procedures. For example, several individuals interviewed for this report explained that they have contacted representatives from an airport in another city or representatives from a nearby airport managed by the same regional authority to help prepare for FAR Part 139 inspections. These "pre-inspections" give the airports an opportunity to have outside reviewers cast a fresh eye on operations, so the airport can then make any changes recommended by the peer reviewers before the official inspection takes place.

Examples Outside the Airport Industry

Water and wastewater utilities have found a more formal peer audit format called QualServe to be helpful. Provided by the American Water Works Association and the Water Environment Foundation for the last ten years, the program helps utilities "improve performance and increase customer satisfaction" (QualServe Fact Sheet 2011, p. 1). The reviews involve a guided self-assessment, on-site peer assessment, and report with recommendations. QualServe digs deep into the organization's inner workings across business areas. According to John Anderson, project manager of utility

quality programs at the American Water Works Association, the self-assessment survey goes to more than half of the host utility's employees and contains more than 400 questions. The results are compiled and analyzed to identify problem areas that warrant attention during the on-site review.

The peer panels assembled for the QualServe reviews typically comprise four high-level, experienced managers from other utilities who have completed a week of training for the on-site assessment. They are selected for their specific business expertise and volunteer their time for both the training and the review. Participation in the program demonstrates a strong commitment within the utility industry to supporting peer professionals, much like the commitment to peer support demonstrated in the airport industry. The review team spends a week on-site with the host agency, interviewing hundreds of staff through one-on-one meetings and focus groups. At the end of the week, the leader of the peer team discusses the findings with the general manager and executive staff, and then presents the results to utility staff broadly in an auditorium using PowerPoint slides.

The QualServe reviews help utilities identify morale problems and streamline operations through an independent evaluation. The utilities are encouraged to track their progress in addressing problem areas after the review, and to compare themselves with other utilities through an annual survey and through regional benchmarking workshops. A QualServe peer review costs \$29,000 to \$65,000 (2012), depending on the number of peer experts assembled (three to five) and the number of days on-site (four or five). The cost covers travel expenses for the peer team; processing of the self-assessment survey; and the experts' time in training the volunteers, preparing for the review, and facilitating the review (QualServe Fact Sheet 2011).

EXECUTIVE PEER ADVISORY TEAMS

Several interviewees for this report shared their experiences with using an executive peer advisory team when carrying out large airport construction projects. The goal is to obtain feedback and advice from a small group of peers on a regular basis throughout the life of the project. Instead of attending a single event, participants were called upon to attend in-person meetings or consult by telephone multiple times over several years.

In one instance, an interviewee had personally assembled an advisory team for a large project. The team included a retired airport director with experience on mega projects (very large, multi-year construction projects), a consultant with experience in airline relations, a county transportation department head with expertise in roadway construction, and an airline representative. This team was integrally involved throughout the programming, design, and construction phases of the project, periodically attending meetings with the airport staff and consultants, providing candid advice to the

airport director, and even voicing opinions to the project team on the director's behalf. All but one were paid for their time as well as travel expenses—a departure from the other peer review approaches encountered. This director thought the executive peer advisory team provided a valuable alternative to the more common host-focused method. The director suggested that participants at host-focused meetings have a harder time disconnecting from how their own airports operate, and that consultants are often focused on generating future business. This can make it more difficult to get both candid and unbiased opinions relevant to the host's project.

In another case, the airport manager interviewed had assembled an ongoing advisory team at the suggestion of, and with the help of, the contractor hired to complete the environmental impact statement (EIS) for an airport-wide improvement program. Because of the complexity of the project, the consultant wanted to bring in an advisory team that could share lessons learned on similar projects and offer guidance as challenges arose. The consultant contracted with a small team of strategic experts to attend four or five workshops related to stakeholder outreach, regulatory issues, strategies for the EIS, and environmental mitigation. The peer team included airport directors or former directors who had handled the types of challenges expected to arise on the project related to wildlife impacts, noise pollution, and community relocation. Once again, these advisors were paid for their time, but their role did not include providing recommendations. They shared what had worked for them and acted as a sounding board and resource for the airport. The airport manager on this project found this expert input invaluable and often tapped into the group by phone or e-mail.

SITE VISITS

Tours of Airports

Sometimes the best way to learn from others is by observing their practices first-hand. Two managers interviewed for this report embarked on what they called an "industry tour" over the course of their mega project for Seattle-Tacoma International Airport. They assembled a team of community stakeholders that included county executives, economic development corporation representatives, and media representatives to tour airports in North America and Canada. The stakeholders visited different airports during the programming and design phases to see what worked, what did not work, and what they wanted for their own project. These one-day visits exposed the team to innovative approaches to art in public places, retail and food vending, baggage systems, and customer service. The goals were to learn from the practices of others and build support among stakeholders for planned actions by the airport.

Each airport visit was carefully planned to make effective use of time. The airport director contacted his counterparts at the destination airports to request the visit and to develop a schedule of activities. The host airports proved very helpful and

flexible, volunteering staff to lead tours and answer questions. The stakeholders who participated also volunteered their time, and the airport covered their travel expenses.

Site Visits at Single Airports

Several interviewees said they take advantage of a smaller-scale version of the industry tour by making one-day site visits to peer airports. The visit may be prompted by a specific project, such as the development of a new de-icing program or planned implementation of a new software system; or it may simply be an opportunity to see multiple departments in action at another airport.

According to one airport manager interviewed, it is important to get senior level support at the host airport in advance so the visit runs smoothly. Airport directors or senior managers make the initial contact with the host airport, describe what they hope to learn and discuss during the visit, and send specific questions; the host airport lines up staff that can best address these during the tour.

The cost to complete a site visit is relatively low, just the travel expenses for staff members who make the trip. The host airports donate their time and have been very willing to help. One airport manager interviewed for this synthesis budgets about \$1,500 a year for site visits, which could cover the travel costs of four people to a nearby airport or one person to an airport farther away. Conducting site visits benefits the airport staff making the trip but also encourages reciprocal efforts and promotes better relationships. The site visits have included international airport exchanges as well.

Peer-to-peer learning on a small scale is also possible within a single airport system. One manager interviewed said that he encourages staff within his airport system to review each other's work. "I have project managers in five airports and can take them from one airport to listen to a presentation by another airport and get an internal review fairly quickly and inexpensively," he said. "They don't have to worry about offending the other staff because they don't work for them."

Site Visits Outside the Airport Industry

In 2008, AASHTO created a program through the NCHRP that formalizes and documents site visits among peers in the highway industry, with the goal of "facilitat[ing] information sharing and technology exchange among the states and other transportation agencies, and identify[ing] actionable items of common interest" (*US Domestic Scan Program 2012*). The NCHRP Domestic Scan Program funds and administers up to five scans per year.

Each scan involves a team of eight to ten members visiting two to six sites over a one- or two-week period. The team

observes practices and technologies at work in the host agencies, and then creates a report and implementation plan to facilitate use of the practices at home agencies and across the country. The scan topics are suggested by state DOTs and FHWA across a wide range of transportation subject areas. Completed scans have addressed accelerated construction, winter maintenance, motorcycle safety, and bridge management, to name a few (*US Domestic Scan Program 2012*).

NCHRP funds the management of the scan process, which includes identifying promising technologies and host sites, defining scan duration and content, preparing materials, and reporting. Scan team members and the staff at the host sites volunteer their time, but NCHRP reimburses their travel expenses. It is a substantial commitment with equally substantial benefits. By tracking the program effectiveness through interviews with scan participants and those with whom participants shared results, NCHRP has found that participants are inspired to implement and share what they have learned. Past participants have shared scan findings with colleagues in their own agencies, with upper management, with local organizations, and with participants in national and international meetings and conferences. The hands-on learning is "indispensable, providing an opportunity to interact directly with those who developed the relevant technologies" (Casey et al. 2012, p. 7). In addition, the professional connections made through the scan last long after it takes place.

TECHNICAL ASSISTANCE

Examples Within the Airport Industry

The following organizations provide peer-to-peer technical assistance in the airport industry:

- ACI-NA
- AAAE
- NASAO
- Airport Consultants Council
- Various state airport associations
- Various regional airport associations.

These industry organizations provide on-site or online training in many aspects of airport management and operations, develop guidance documents and tool kits, and provide other resources to assist with professional development. In addition, airport professionals seek out technical guidance and assistance on specific topics as needed through airport-to-airport communications.

Examples Outside the Airport Industry

A notable example of organized industry technical assistance is the Peer-to-Peer (P2P) Program created by FHWA more than a decade ago to help highway professionals access expertise on specific topics. FHWA P2P staff manages the clearinghouse of public and private sector peers certified

in specific skill sets. Agencies contact the P2P Program (typically in a formal request) for technical assistance and are matched with peers who can help them [“Peer-to-Peer (P2P) Program Guidelines” 2012]. The program is funded by FHWA as a service to the states. Some airport professionals have taken the opportunity to access this support in technical areas that overlap with the highway industry, such as concrete paving and lighting issues.

Technical assistance from peers can include telephone conversations, e-mail exchanges, web conferences, on-site visits, or peer exchanges (similar to the host-focused review format). An individual may simply need assistance with interpreting a technical document or may want to hear from multiple peers about their successful practices in implementing a new program. FHWA maintains separate P2P programs to serve different transportation professionals in areas including traffic control devices, work zones, scenario planning and visualization, roundabouts, and freight professional development.

ONLINE FORUMS

This final group of peer review formats is included to highlight the value of tapping into the experiences of peers through less formal channels. Several interviewees for this report indicated that they make use of listservs (online groups) to seek out quick-turnaround feedback from peers. Participants e-mail single questions or short surveys to an established online group, and receive e-mails and phone calls from group members describing their experiences. One interviewee marveled at the number of responses he received to his contracting questions, either e-mails with sample documents attached or phone calls from peers willing to be candid about their experience. On the other hand, another interviewee cautioned that it is important to consider the perspective of the respondents

when weighing the advice provided. Each airport is unique and what works for one may not work for another. The format doesn’t support in-depth exploration of a topic, but it is a starting point and provides a glimpse into industry practice at no cost.

A number of airport industry organizations maintain e-mail listservs to help professionals connect with one another and have embraced LinkedIn (www.linkedin.com) as a tool for supporting peer discussions. Through these informal online groups, participants can post ideas, request feedback from peers, and stay abreast of new practices within the industry. This format for peer interaction continues to evolve as users modify the forums to fit their needs.

Here are a few of the industry-sponsored LinkedIn sites where airport professionals currently connect with their peers:

- Airline & Airport Professionals Worldwide
- Airport Aviation Ground Training
- ACRP
- Airport Design—Engineering & IT Systems
- Airport Environmental Professionals
- Airport Industry Professionals
- Airport Innovators
- Airport IT Projects
- Airport Management
- Airport Managers
- Airport Operations Information Exchange
- Airport Planners
- Airport Public Safety and Operations
- Airport Security
- ACI-NA
- AAAE
- Aviation Professionals
- International Airport Review.

MAKING THE MOST OF PEER REVIEWS

SELECTING THE RIGHT FORMAT

There are several factors to consider when selecting a peer review format to use, such as the desired outcomes and staff capabilities. Perhaps the most important takeaway from those interviewed for this report is that the peer review process should be flexible and customized to meet an airport's needs. All review formats were found to be valuable, no matter the size or structure; and airports are employing numerous variations of each model. The key is to recognize the limitations of each approach when determining the best fit for a given situation.

For example, a large conference-style exchange offers opportunities to network and to learn about effective practices being used around the country. Interviewees generally found this format productive and valuable to both the host and the participants. However, the conference-style exchange does not allow for the same in-depth discussions and problem-solving as a host-focused review. Some interviewees also commented on the challenges of facilitating a large group and providing opportunities for everyone to contribute.

The host-focused review is the most common “bang for your buck” peer review. The smaller size makes it possible for all peers to participate in the round-table discussions, and the longer duration means that more issues can be addressed, or addressed in more detail. Interviewees reported very good experiences with this format, especially because of the “high caliber” of the peers involved. Airport managers reported selecting this format to get input on master planning processes, review design approaches, discuss contracting practices, and review vendor proposals; and to explore plans for improvement on a wide range of areas, such as baggage, security, information technology, and concessions. However, the peer team travel costs for host-focused reviews may be prohibitive for a smaller airport.

One common way in which airports have addressed the challenges of planning and carrying out conference-style exchanges or host-focused reviews is by working with an outside consultant. Most of the interviewees contacted described a close working relationship with a representative from a national association, the program manager on their design team, or an independent consultant in the industry. The consultants provide a wide range of support services, recruiting experienced peer experts to participate, drafting agendas,

facilitating the peer review, and documenting the discussions. Sometimes the host airport hires the consultant, and other times the services are provided through membership in an industry organization. Using an outside consultant is by no means necessary to hold a successful peer review, but many airports have found the assistance valuable when internal staff is not available to take on peer review responsibilities.

Table 1 presents the range of the peer review formats described in chapter two, with guidance to help managers select a format that will best suit their needs. As illustrated by the case examples in chapter four, choosing one peer review format for a project does not necessarily mean excluding the others, and the biggest or most expensive approach isn't necessarily the best. Nor does every peer review need to fit into a single model. Interviewees shared a variety of modified approaches to gathering peer input, such as:

- Contracting with third-party firms to review the work completed by design consultants;
- Bringing in consultants not involved in a project to help develop Request for Proposal (RFP) language or evaluate vendor proposals;
- Traveling to another airport to meet with senior staff about successes and lessons learned on a recently completed project; and
- Encouraging staff at neighboring airports to visit one another to share successful approaches in the field.

TIMING CONSIDERATIONS

Interviewees agreed that a peer review can be beneficial at any time in the project development process, but several respondents thought that the most useful reviews take place before critical decisions have been made by the host agency—that is, when they can still make a difference in the development of a project or implementation of a program. However, a number of successful and influential peer reviews have been held at the end of a process, validating what worked well and informing future practices.

Interviewees described a range of effective peer review timing: near the beginning of a new project or when a new director or team comes on board; partway through a project, when there is still an opportunity to change direction, if needed;

TABLE 1
PEER REVIEW FORMATS

Format	Goal	Size	Duration	Cost	Pros	Cons
Conference-style Exchange	Get help from peers to solve a strategic problem. Participate in a broad industry information exchange on a range of topics.	20 to 40 people; includes your airport staff and consultants, visiting airport staff, and visiting consultants	One full day	Participants pay to attend (flight, hotel, meals) and donate their time. Host airport may cover snacks and a meal.	<ul style="list-style-type: none"> • Strategic discussions are useful to high-level airport managers. • Exposure to wide range of innovative ideas and practices • All participants learn, not just the host airport • Low cost for host airport • Great networking opportunity 	<ul style="list-style-type: none"> • Strategic discussions are typically geared toward the highest level airport decision maker. • Large size makes consensus difficult. • Wide range of perspectives offered; may not all be applicable • No time to discuss the host airport's issues in detail
Host-focused Review	Get detailed input from peers related to specific project or program issues	15 to 25 people; includes host airport staff and consultants and staff from four to seven visiting airports	2 or 3 days	Host airport pays travel costs for visiting participants. Visiting participants volunteer their time. There may be charges for contracting a facilitator or planner.	<ul style="list-style-type: none"> • Discussions result in implementable recommendations. • Time to discuss the host airport's issues in detail • Moderate cost for the host airport • Great networking opportunity 	<ul style="list-style-type: none"> • More expensive than conference-style exchanges
Performance Audit	Complete a self-assessment of current practices and receive formal peer evaluation for trouble spots	Small team of peers or industry experts provides review of practices.	Up to a week	Costs are low if inviting volunteer peers from another airport to review host airport practices. Costs may vary if accessing audit services from industry organizations.	<ul style="list-style-type: none"> • Formal assessment and evaluation results in specific improvement goals 	<ul style="list-style-type: none"> • Can be more time-consuming than other types of reviews
Executive Peer Advisory Team	Get candid advice from single peer team over the course of a project	3 to 6 peers	Multiple meetings or interactions over the course of several years	The host pays the hourly rate for the peers' time and reimburses their travel expenses.	<ul style="list-style-type: none"> • Unrestricted access to experts for consultation • Unbiased assessments of project challenges 	<ul style="list-style-type: none"> • Costs can be high.
Industry Best Practices Tour	See multiple approaches to an airport function	5 to 10 individuals on the traveling team	Multiple one-day visits over the course of several years	Host airports volunteer their time. Costs include the travel expenses for the visiting team.	<ul style="list-style-type: none"> • Opportunity to see multiple approaches in person 	<ul style="list-style-type: none"> • More planning involved in coordinating multiple trips
Single Airport Site Visits	See a project or program in action	1 or 2 staff members travel to meet with a handful of staff at the host airport.	One day	The host airport volunteers its time. Costs include travel expenses for the visiting team.	<ul style="list-style-type: none"> • Hands-on experience and observations • Great for establishing long-term connections 	<ul style="list-style-type: none"> • Input is limited to the airport visited.
Technical Assistance	Learn a new skill or area of expertise	Varies. May involve computer-based training, in-person classes, or field experiences with instructors	Varies depending on the number of topics covered	Some services are available through industry associations for little or no cost while others are more expensive.	<ul style="list-style-type: none"> • Airport advancements supported using the latest information, technology, and practices. • Front-line workers involved in peer experiences and professional development opportunities 	<ul style="list-style-type: none"> • Formal industry assistance is available in predetermined subject areas rather than in response to the unique needs of the airport.
Online Forums	Get an answer to a question quickly	Reach a listserv or other online group with hundreds to thousands of airport professionals	Feedback comes quickly—within a few weeks.	Free or minimal (for compiling results/feedback)	<ul style="list-style-type: none"> • Input is fast and free. • Input includes a wide range of perspectives that represent the "pulse" of the industry. • No need to figure out who has the information to offer. Those who have information to share will do so. 	<ul style="list-style-type: none"> • Input is not very detailed. • Input comes from peer airports that may not be from similarly structured or sized airports.

or multiple times throughout the life of a large project. Here are examples of interviewees' comments on timing:

"Any point the project team needs to validate assumptions or strategies to help a project be successful."

"They were about 50% through their design. They contacted us about a month in advance."

"Don't go too far down the road with so many issues before having a review."

"The program was just getting started, and we thought it would be a good icebreaker and good for planning and organization of teams."

"The host was well into their planning process and at a point where they had defined projects and had sticker shock. This was a good time. Get to the point where you have some projects defined and see how they meet or don't meet needs, and bring in smart people to react to them. Have them think about proposed solutions you've already identified but not tell you how to do it."

"It's good to hold the review early on if you're starting something new. Look at it as an iterative process."

"It's better to question in the early stages than to get down the road. A peer review can happen in different stages but earlier is better when you have the possibility of making changes if you need to. Don't do it at the end of the project but early on when there's enough substance to vet issues of interest."

"We held a couple of peer reviews on design—one in initial planning looking along the lines of functionality of the facility. The second review was prior to initiating a contract or RFP for construction. We looked at constructability, phasing—how we build it and keep the airport operational at the same time. The third review was when the design was advanced but [we] could still look at aesthetics."

The interviewees also discussed the time needed to plan for the review. They most often cited a few months as the length of time spent developing the agenda, inviting participants, and organizing the logistical details. However, most participants were contacted no more than a month in advance. None of the participants complained that they did not have enough time to obtain approvals, make travel arrangements, or otherwise prepare. Site visits for the industry tour, however, were scheduled several months in advance to ensure the best prices on flights and the availability of government rates for hotels.

ESTIMATING A BUDGET

Getting feedback from peers can cost nothing (when sending a short survey to an industry listserv) or many thousands of dollars (when hiring an executive peer advisory team). Choosing the right review format will necessarily be influenced by the available budget. As one interviewee put it, "Do what you can afford."

Here is an overview of estimated costs for several peer review formats actively used within the airport industry, as described by interviewees.

Conference-style exchanges: Participants pay their own way and donate their time, so costs to the host are fairly

minimal. The host will need to pay for any materials to be distributed at the event and typically provides lunch and snacks for the group; and hiring a consultant to help with planning and/or facilitation will increase the costs.

Host-focused reviews: The host airport covers the travel costs of the visiting peers (airfare, hotel, meals), which add up quickly depending on the number of people invited and the length of the event. Holding a two-day event with five visiting panelists could cost well under \$10,000. If closer to 10 panelists and many internal staff are invited (and meals and snacks are provided), a three-day event may rise to between \$15,000 and \$20,000. One airport consultant indicated that \$100,000 was budgeted to cover the planning and travel costs for three peer reviews for a large airport construction project. The costs may be lower if some of the planning and reporting is handled by airport staff or through other nonpaid means. ACI-NA and Airports Council International-World offer support for peer reviews (identifying and recruiting participants, assisting with agenda development, facilitating, and reporting) as a service to members.

Executive peer advisory teams: Expert panelists assembled for this type of review are paid an hourly rate for their time (in one case, \$200 per hour). The host airport also covers the advisory team's travel to the in-person meetings. The peer advisory team provides assistance over several meetings and several years, which adds up: One interviewee estimated that it cost approximately \$200,000 to cover all advisory team expenses, but emphasized that was a fraction of the \$1 billion project cost, and well worth it.

Industry tours: The initiating airport typically pays the travel expenses for the team that participates in the tour of airports, although additional individuals may want to join the group at their own expense. The tour participants (both visitors and hosts) donate their time. The costs depend on the number of airports visited and the size of the team traveling. One airport director estimated \$50,000 had covered the costs of an entire multi-year tour spanning nearly a dozen airports.

Single airport site visits: A one-day site visit typically involves sending one or two people to another airport. The host airport staff members volunteer their time, so the cost is limited to travel expenses. If an overnight stay is necessary, costs might range from a few hundred dollars (for a visit to an airport within driving distance) to \$2,000 (for an airport farther away requiring air travel).

DEVELOPING AN AGENDA

The work that goes into developing and communicating the components of the agenda is the most important factor influencing a successful peer review. Over and over again interviewees emphasized the importance of having an agenda that was carefully thought out and structured enough to help

the team accomplish the desired goals. Whether organizing a large conference or a small day trip to a nearby airport, it is critical for an agency to identify the purpose of the review and clearly communicate expectations to all involved. The goals of the peer review drive the agenda, which in turn drives the list of invitees. As one interviewee said, “Know your agenda before you contact folks.” Another commented, “Make sure you have well-defined goals so you don’t waste anyone’s time. Have clear communications to make sure people understand why they are there and what is expected.”

For the frequently used host-focused review, interviewees reported the most experience with the following basic agenda structure: The host presents the problem or issue, the peers provide feedback and/or brainstorm solutions, and the group summarizes (and perhaps reports) the recommendations. In some cases, the peer review panel met separately from the host staff to discuss the issues and then make recommendations for presentation to the host team.

Articulating the problem or issue provides the context for the discussions with the peers. Many of the interviewees commented that it is helpful, if not critical, to provide the participants with at least some of this background information in advance: the history of the project, documents showing work completed so far, an outline of issues to address, and guidance on the type of feedback desired from the peer participants. Here are a few interviewees’ comments on this topic:

“It would be better to hear about the host airport process more ahead of time. It would be more efficient, and we could come with recommendations. You don’t want to spend too much time listening to presentations. Know going into it what you can and can’t change.”

“Give as much info as you can beforehand in [a] digestible format.”

“It’s useful to get information as a participant a few weeks in advance so you can educate yourself about a project and know what you’ll be asked about. Some reviews you show up and hear everything there.”

“The first day the host team presented to the group the detail behind the slides, so it was really well done. By taking a day to have the key people talk to the group and say what they’re facing and the decisions they’re making, they opened themselves up to helpful assistance from the group.”

Regardless of the amount of information provided in advance, the interviewees found it necessary for the host airport to outline the review goals at the beginning of the event.

Interviewees had varying experiences regarding how the peers provided input to the host airport. In some cases they made formal presentations about their own organizational structure and the lessons learned on similar projects. This was helpful for illuminating each peer’s perspective and provided initial ideas regarding what might work for the host airport. In other cases, the group jumped right into a roundtable dis-

ussion with questions and answers. The decision to have peer presentations may depend somewhat on the time available and the number of participants. Advance communication plays an important role in this case as well. Interviewees suggested telling the peers specifically what they should cover in their presentations and how much time they will have. Here are examples of interviewee thoughts regarding peer presentations:

“Everyone should present on things that are relevant to the host airport. Could have been improved with more guidance regarding expectation for presentation.”

“It’s not useful to have ten or 15 people giving presentations on lessons learned. Require the peers to come with their experience so they can discuss issues and stay away from participation that is off topic.”

All interviewees said that the host-focused reviews they participated in included active discussions with the peers, either in question-and-answer sessions or in working groups that pored over documents and provided specific feedback. This was the part of the agenda that yielded the most value for both the host agency and the participants. In some cases, the host airport sent questions to be addressed in advance (which further helped the peers prepare), but in other cases there were no set questions used even at the event. Several participants found more informal discussions productive as long as all of the key topics were addressed. The following are interviewee thoughts on the discussion portions of the agendas:

“Informal discussion was good. It’s good to be guided but not too specific.”

“One-on-one dialogue helped them give us their feedback. It’s the best way to communicate goals and objectives.”

“The workshop setting was our ‘aha!’ They looked at the documents and gave us feedback. There was better dialogue.”

“We went through introductions and gave a short synopsis of where we were at in program decisions. A wonderful, open discussion. The peers came in with the challenges they’re facing and what went well in their experience.”

“We had a structured agenda with a matrix and timeline and worked through it. Facilitated discussions with questions. Everyone was able to be candid.”

The final part of the agenda usually involves a wrap-up or reporting session. This may be an informal recap of the key issues discussed, or the group may develop a list of formal recommendations. The nature of this last session may depend on the original goals for the review. In some cases, an airport manager wants the peer team to present its reactions and recommendations to an executive team. In other reviews, the host airport may simply want food for thought on a project rather than a consensus opinion on the best approach. Interviewees suggested structuring the agenda to support the desired goals.

As with selecting a peer review format, there is a lot of flexibility in designing an effective peer review agenda. Some

host agencies include field trips to help visitors further understand the project, some set up breakout groups to delve into multiple topics at once, and some arrange welcome dinners the night before the meeting to help the peers and host airport staff get to know one another. Whatever the approach, interviewees thought it was important to communicate expectations in advance, including timing, format, logistics, and expenses. This includes communications within the host agency as well. As one interviewee reflected, “I didn’t take the opportunity to meet with my staff at the very beginning about expectations about what would happen at the review, which would have made it better for everyone.”

Sample Agenda Format for a Conference-Style Exchange

One-day format

- Invited speakers present the national trends related to the topic.
- Host airport presents issues with a project in progress.
- Visiting airports each present lessons learned on a related project.
- A facilitated group discussion addresses common issues and challenges.

Sample Agenda Formats for a Host-Focused Review

One-day format

- Host airport provides an overview of the project to discuss and the decision points at hand.
- Visiting peer panel members participate in a hands-on review of the host airport’s relevant documents for the project, providing feedback and thoughts based on their own experiences.
- Participants discuss pros and cons of the alternatives presented and create an informal recommendation for the host airport.

Two-day format

Day 1

- Host airport presents details about a project in progress and any questions or issues encountered.
- Visiting peer panel members present their lessons learned on similar projects.

Day 2

- Host conducts a facilitated group discussion regarding opportunities for the host airport.
- Host facilitates the final wrap-up.

Three-day format

Day 1

- Host airport presents an overview of the project and specific topics on which it needs feedback from the group.
- A facilitated group discussion is held on topics 1 and 2.

Day 2

- A facilitated group discussion is held on topics 3, 4, and 5.
- Host conducts a tour of the airport or project discussed.

Day 3

- Host facilitates the final wrap-up and lessons learned.

Refer to Appendix C for agendas from completed peer reviews provided by interviewees.

SELECTING PARTICIPANTS

The airport industry enjoys an extremely collaborative, supportive environment in which airports welcome the opportunity to share what they have learned and offer assistance to others. Every interviewee commented on the willingness of other airports to participate in peer review activities. Peer reviews offer all participants the benefits of expanding professional networks and learning new things. One interviewee said, “It’s an honor to be selected as a peer reviewer. You want to do your best for the group.” Therefore, the challenge in selecting participants for a review is not in finding those who are willing to help but in finding those who have the perspective and experience to be most helpful.

Peer reviews involve a combination of internal and external participants. Internal participants are typically staff and consultants at the host airport (or the staff traveling to another airport for a site visit), but may also include those working with the airport on a project, such as consultants, airline representatives, and community stakeholders. These individuals are invited to participate based on the topics being discussed, what they can contribute to those topics, and what they need to learn. For example, it may make sense to have selected technical staff (architectural, structural, operations, etc.) available for part or all of the program to help explain project details and hear the feedback firsthand. Managers may want to invite an airline representative to strengthen airline support for actions initiated as a result of the review.

Several interviewees, however, cautioned against making the size of this internal group too large. Including 20 or 30 internal attendees can make facilitation very difficult or minimize the peer contributions. The following are some comments offered by interviewees related to internal participants:

“We kept internal staff to a minimum. We had subject matter experts on our team but were most interested in feedback from the panelists. We didn’t want to be busy defending our ideas. You’re in a listening mode versus talking mode. This is important.”

“Sometimes an airline representative is involved, which is important if it’s a large development program that needs airline support.”

“Who you have there depends. You might have senior leadership and staff, airline representatives, elected officials (though not usually). Consultants are good at bringing specialized expertise.

The public may be there for certain types of master planning. Could be suppliers if the review is specialized and they're subject matter experts."

The external participants make up the peer panel that offers feedback to the host airport. At a conference-style exchange, 15 or more airports may be represented. However, at the more common host-focused reviews, interviewees indicated the panel was limited to three to eight peers. A few interviewees believed that three peers were plenty to offer different perspectives, but one was disappointed by this low number and expected more.

The respondents talked more about the desired backgrounds of the panel members than about how many are best to have in the room. Interviewees most often described the peer experts as "high caliber," "experienced," "senior level," and "well respected in the industry." They looked for panelists who had experienced similar challenges and had subject area expertise related to the peer review topic(s). In some cases it was important to find representatives from similarly structured airports so that they could best relate to the host airport's challenges and offer implementable solutions. The following are some specific thoughts shared by interviewees on the ideal makeup of the external peer panel:

"We cast a broad net knowing we wouldn't get everyone. Some were from airports, a couple of university professors, a consultant for an airline, a former FAA high-level person."

"Have the airport representatives come from similarly sized and structured airports, because ideas will resonate more and be relevant."

"For one we had the heads of planning or facilities at airports; for one we brought in architects and program managers. You don't want more than five people unless a lot are locals. You add your own folks as well. As many as ten gets expensive."

"You can bring in senior people with a lot of experience or lower level deputy directors with hands-on responsibility. We've brought in academics in operations research, a lieutenant general from the Air Force on active reserve, policy people, and a former FAA administrator."

"The trick is to get the right people on the panel who have expertise in the area the airport wants to address."

"We had big and small airports, which was better. The concepts are the same no matter what you're spending on a project."

"Be mindful when choosing people to participate to get the right fit. If the subject can be applied regardless of governance structure, it's less critical; but if digging into issues related to state laws, you need to have this in mind when choosing."

"Avoid peer reviews where most of the participants know each other. It leads to group think."

"The shotgun approach to selecting participants isn't always best. When you send out requests to the [peer advisory group] you need to know the perspective you're hearing from. Spend the time to find the right participants."

"Big airports can run away with discussions. Define expectations up front and make sure ideas are implementable."

One interviewee did say that he "wasn't a fan of the traditional peer review," favoring the executive peer advisory team

approach: "People bring their bias of how things would work in their locations. They come in on a voluntary basis to give you their perspective, and most people are wrong. The consultants [who attend] want to drum up business." To address this problem, he handpicks peer experts he trusts to be candid and knowledgeable, and pays them for their time.

Most, but not all, of the interviewees had enlisted the help of an outside consultant (paid or unpaid) to help in planning the peer review and selecting participants. Several interviewees commented on the benefit of this assistance and referred to the "vetting" process needed to ensure that the right panel of experts participates. They said that the consultants suggested potential peers based on their extensive contacts, and the airport executives did the same. An initial personal contact was made by phone by whoever best knew the selected peer.

USING A FACILITATOR

Most of the interviewees said that a designated facilitator participated in the reviews to keep the discussions on topic and encourage contributions from all participants. Sometimes the host airport executive initiated the discussions and asked the facilitator to help keep the group on track throughout the agenda. Often the facilitators came from within the airport industry and were very knowledgeable about airport issues. Although the interviewees considered subject area expertise important, finding someone who is skilled at guiding discussions and handling conflict may be even more important. Only one of the interviewees expressed dissatisfaction with a facilitator who was unable to calm and redirect a group when a discussion went off track.

Facilitators take on a range of leadership responsibilities. Often they participate in the planning and agenda development to help lay a strong foundation for the discussions that will take place. During the event, they ask questions to prompt discussion; encourage participation by all attendees; guide transitions between topics and sections of the agenda; recap the discussions, issues raised, and decision points; check in with the group as a whole to make sure everyone is comfortable with how the agenda is progressing; and check in with the host agency to make sure the discussions are providing the information it needs. Given this crucial role in both planning and expediting the event, it is not surprising that many airports sought out consultants within the airport industry to fulfill it.

The Research Center for Leadership in Action at New York University (2007) created a guidance document to help facilitators successfully plan for and lead peer reviews. The following are some of the key ideas suggested in this document, which echo the experiences of those interviewed for this synthesis:

- Send information to participants about the topic to be discussed before the event. This will provide a common ground for discussion without using up more time than necessary at the event itself.

- Ask the participants to prepare thoughts on their own experiences related to the topic. This may involve having them answer a list of questions in advance or prepare a PowerPoint presentation to address specific points suggested.
- Consider including time in the agenda for both storytelling (sharing real-life experiences and outcomes) and the transfer of concrete skills (through field observations or computer-based training).
- Vary the format of the agenda to keep participants engaged and energized. An agenda that uses only roundtable discussions on many topics may not provide needed breaks from conversation. An agenda that primarily involves formal presentations by numerous participants can feel burdensome and slow. Facilitators also need to ensure that there are plenty of breaks and opportunities for participants to network and recharge.
- Provide an opportunity for evaluation. This can involve requesting informal feedback throughout the event and/or a formal evaluation at the end of the peer review. Currently, the use of evaluations in peer reviews is noticeably lacking in the airport industry. None of the interviewees indicated that they had administered or completed a formal evaluation after a peer review took place. When asked about evaluations, several interviewees commented that they wished they had incorporated this step into their peer review process to find out what worked especially well or what could be done differently at the next peer review.
- Make sure the discussions are documented. If possible, provide participants with written results of the peer review before they leave or follow up very soon after with a report. The facilitator can help ensure that the right information is captured. The report helps guide the host agency in taking next steps and helps the peer participants demonstrate the value of attending to their supervisors.

The following are some of the specific comments provided by interviewees regarding facilitation:

“[The consultant and airport director] facilitated together. [The director] set out [the] agenda and [the consultant] helped lead through the process.”

“[The consultant] got us through the agenda and elicited participation. His background made it so there was never a lull. He kept the focus on what [the host airport] wanted, which was key. Each airport needs a clear facilitator who is knowledgeable about the issues or something could get missed or lost.”

“She was able to get hidden agendas out of people.”

“[The airport director] facilitated since he knew everyone.”

“There was no designated facilitator. The host airport ran things, and each project manager handled their piece.”

“[The consultant] facilitated so we could spend our time thinking and discussing.”

REPORTING ON THE OUTCOMES

Interviewees described several methods used for documenting the discussions and outcomes of the peer reviews. In a few cases, the host airport thought it was important for the group to reach consensus about an issue and then verbally report recommendations to a stakeholder or executive group assembled at the very end of the event. In other cases, no report was developed at all. Typically, however, a designated note-taker captured the range of discussions and distributed the report for review by participants after the event. Often the note-taker was the consultant brought in by the airport to help plan and/or facilitate the peer review.

One interviewee said, “It’s always important to develop a report so that it can be used to motivate staff and communicate with the media.” However, the timeliness of the report may influence its impact. Several interviewees commented that the report was developed months after the peer review, so they were no longer interested in reading it.

A few airports took a strategic approach to reporting. They created comment sheets or matrix documents that the group completed during the event. These documents supported development of an airport action plan that was used to track progress in the months after the peer review. Overall, interviewees found the most value in reports that didn’t “sit on a shelf” but were used to support subsequent steps. The structure of the report can have an impact on its usability. As one interviewee said, “It would have been better for the report to have thoughts prioritized and not just be a dump of the discussion.” A timely report that clearly presents action items, recommendations, and/or key findings can provide strong support for implementation and communication after the peer review.

As airport managers think through all of the aspects of effective peer review planning described earlier, it may be helpful to consult a resource that will be available in the fall of 2013. NCHRP Project 17-52, “Using Peer Exchanges to Improve the Effectiveness of a State’s Strategic Highway Safety Plan,” will result in a guidebook to help states in planning and conducting peer reviews related to implementation of their highway safety programs. Although the intended audience is highway planners and not airport managers, the guide may include useful templates and direction that are relevant to any peer review planning effort. For more information, see the project description on the NCHRP website at: <http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2976>.

CASE EXAMPLES

CASE ONE—EXECUTIVE PEER ADVISORY TEAM AND SITE VISITS

Sacramento International Airport (SMF) embarked on a \$1 billion airport terminal construction project in 1999 that concluded with the terminal's grand opening in September 2011. Over the life of the project, the airport embraced peer reviews as a key tool for avoiding project delays and maintaining project support. The airport used a variety of peer review formats, including an executive peer advisory team, small host-focused reviews, an industry tour, and site visits on specific topics or with experts who could help.

Airport Director Hardy Acree handpicked the executive peer advisory team at the start of the master planning process to provide advice and feedback on project progress during programming, design, construction, and preoperational analysis. "It has to be based on the premise that the advisory team will give you sound and sage advice, and they should have no stake in the outcome other than serving the needs of the client," said Acree.

The team included a retired airport director with experience on mega projects, a consultant with experience in airline relations, a county transportation department head with expertise in roadway construction, and an airline representative. These individuals were integrally involved throughout the programming, design, and construction phases of the project, periodically attending meetings with the airport staff and consultants, providing candid advice to Acree, and even voicing opinions to the project team on Acree's behalf. They also attended multiple host-focused reviews related to the new terminal and participated in the industry tour.

"My approach was to identify individuals inside and outside of the industry whose opinions I valued and were subject matter experts, and I paid them for it," said Acree. The airport signed the participants to multi-year contracts that covered their hourly rates and travel expenses. "The advisory team costs were a miniscule fraction of the program expense," said Acree. "You get what you pay for, and you need to pay for objectivity and candid advice."

Acree also initiated an industry best practices tour to help the airport gain consensus from key stakeholders and avoid backtracking during the planning process. The airport assembled a voluntary team of community stakeholders, including county executives, Chamber of Commerce members, planning

consultants, and media representatives, to tour airports in North America and Canada. SMF staff and executives and members of the executive peer advisory team also participated. The group completed four multi-airport tours during the programming and design phases of the project to see what worked, what didn't work, and what they wanted for their own terminal.

These one-day visits gave the team an opportunity to talk to senior airport staff, consultants, and stakeholders at the host airports about a wide range of topics, including concessions, baggage handling systems, TSA screening facilities, art in public places, governance, and roles and responsibilities. The visits provided an independent perspective on what approaches are most effective, which helped SMF gain consensus and build support among stakeholders for the new terminal.

Acree contacted his counterparts at the destination airports to develop a detailed schedule of activities. The host airports made staff available to lead tours and answer questions, so costs were limited to travel expenses for the team, all of whom donated their time.

SMF also organized multiple meetings with peers to get input about specific aspects of the terminal development and construction. With the help of the program management team, the airport contacted an experienced construction firm to help with reviewing the design and construction RFPs and the statements of qualifications received. These services were paid for using the design contract, covering the time of four staff (a project manager, a superintendent, an estimator, and a scheduler) during the review process. "This activity prevented a lot of debate (time and energy) about what was in and out of the Guaranteed Maximum Price. [It] saved millions of dollars and avoided delay costs" (Big Build Program 2012).

SMF also sought peer input on the development of RFPs for baggage handling, operations and maintenance, and the automated people-mover system, among others. In some cases, staff at SMF visited the peer airports to discuss what worked and see their operations firsthand; in other cases, SMF invited the peer airport staff to Sacramento. Even at the very end of the project, SMF executives sought advice from the Indianapolis International Airport related to operational readiness for the new terminal opening. In short, SMF made peer reviews an integral part of the entire project, looking for every opportunity to learn from the experiences of others and

gain support and guidance. The reviews helped SMF bring in a \$1 billion project four months ahead of schedule and \$70 million under budget.

Refer to Appendix C for the agendas used during the industry tour of airports.

CASE TWO—HOST-FOCUSED REVIEW AND ONLINE FORUMS

Wichita Mid-Continent Airport (ICT) is in the midst of a new terminal construction project with a target opening date of early 2015 (“Project Overview” 2012). The new terminal will replace the existing terminal, expanding passenger capacity with a state-of-the-art facility while allowing room for future growth. Victor White, director of airports at the Wichita Airport Authority, used a traditional host-focused peer review in the planning stages and has tapped into the peer advisory group listserv many times since then.

The idea of a peer review came from William Fife, the long-time airport professional and consultant who helped many airports organize peer reviews over the years. The goal was to assemble a diverse group of experienced airport professionals who could offer feedback to White and his staff about a range of topics related to the terminal construction. The peer team included a dozen representatives from airports around the country of varying size and approach. “It wouldn’t have been [of] as much value if everyone who came was the same airport size,” said White. “It’s good to get a flavor of different airport sizes and project complexity. The concepts are the same no matter what you’re spending.”

The peer review lasted a few days and used a structured agenda that Fife developed with Wichita’s program manager and architect. The group spent much of the visit in roundtable discussions talking about what works and what ICT needs to consider. “We learned a whole bunch from those folks and made quite a few changes based on their input,” said White. “Our final terminal design and construction reflect many of those changes.”

Members of the peer panel volunteered their time, but ICT covered their travel expenses. White said that there’s a big payoff for such an investment. “We couldn’t have paid consultants to give us this type of advice. [The peers] aren’t selling anything and are honest and candid about what they like and don’t like.” It was White’s first experience with a large peer review conference, and he found it extremely valuable. “It sold me on the concept.”

In the years since holding the peer review, White has called on the expertise of his peers in the industry using a much less formal mechanism: a peer advisory group listserv. He sought feedback on how best to negotiate contracts with construction management firms, and then turned to the group again when a bid dispute arose. In each case, nearly 30 airports

responded by e-mail or phone to offer lessons learned in handling similar situations. White said, “The speed of response was outstanding. The best part is that it’s free.” The feedback was just what White needed to gain support from the airport authority and city council on the next steps his team was recommending.

Refer to Appendix C for the agenda used during the peer review conference.

CASE THREE—SITE VISITS

In late 2010, Salt Lake City International Airport (SLC) was in the midst of acquiring the Passur Field Condition Reporting platform to track and communicate field conditions, primarily in the winter but also in the summer when there are closures. The Seattle–Tacoma International Airport (SEA–TAC) had recently implemented the same system and had run into some challenges. With the support of Alvin Stuart, SLC’s superintendent of airport operations, SLC airport operations managers Bryce Royle and Matt Bengtzen made a trip to Seattle to learn from SEA–TAC’s experiences.

During the two-day trip, Royle and Bengtzen had the opportunity to work through the Passur program with Sarah Demory, SEA–TAC’s program administrator; get a daytime airfield tour to see the program in action; and take a nighttime tour of the airfield to see its different functionality in the dark. They also attended SEA–TAC’s users group meeting to see how coordination and updating among their airport users is different than SLC’s; toured the training department; and met with SEA–TAC information technology and operations staff.

Planning for the trip started about a month in advance. SLC worked with SEA–TAC to develop an informal agenda that was structured enough to schedule specific interactions with functional areas at SEA–TAC but informal enough to allow for added activities, such as attending the users group meeting. SEA–TAC staff volunteered their time, so the cost of the trip was limited to the travel expenses for Royle and Bengtzen. Royle said the trip was well worth the investment. “Knowing of the Seattle experience helped us immensely in having [the Passur system implementation] go smoothly,” he said. “Without what we learned out there, we would have recreated the wheel.” The trip made an impact beyond SLC as well. Portland International Airport began its own acquisition of the Passur system soon after SLC, and sent staff to Salt Lake City to learn from its successes.

SLC isn’t new to the use of site visit peer reviews. Stuart makes it a priority to build relationships with other airports and leverage those relationships for mutual information sharing. “For specific issues, I think this kind of experience can be better than sending someone to a conference,” said Stuart. “At a manager level you can’t beat it. They talk to their counterparts all the time as a result.”

Stuart budgets about \$1,500 every year for potential site visits and uses it whenever he can. The amount can cover the cost to send several people to a nearby airport or one person to an airport farther away. Stuart said he doesn't always have topics in mind when setting aside the funds, but there are always operational issues worth exploring. He asks his program managers what they would like to learn from peer airports when the opportunity arises.

Stuart hosts peer airports, including international groups, on a regular basis as well. The SLC wildlife program has become known for its effectiveness, and SLC acts as a host site for training other airport staff. Stuart's goal is to set up regular site visit exchanges among similarly-sized airports for the purpose of completing mock FAR Part 139 inspections before the FAA certification inspections.

CASE FOUR—EXECUTIVE PEER ADVISORY TEAMS

In 2004, the Rhode Island Airport Corporation (RIAC) was in the initial stages of planning an airport-wide improvement program that included enhancements to runway safety areas; a runway extension; terminal improvements; and improvements to cargo, parking, and other facilities. Because of the size and potential environmental and community impacts of the proposed changes, the FAA determined that an environmental impact study (EIS) would be required. To prepare for the anticipated public controversy surrounding the proposed airport improvements, the selected EIS contractor, Vanasse Hangen Brustlin, Inc. (VHB), convened an advisory group made up of three senior airport executives to provide advice to the contractors, the sponsor, RIAC, and the FAA during the EIS preparation. VHB EIS Project Manager Carol Lurie acted as facilitator.

VHB also subcontracted with a trio of airport officials, each of whom had experience in dealing with controversial projects, to provide advice during the EIS process. The peers were carefully chosen senior members of the airport community who had handled significant issues on their own projects, from noise pollution to community relocation. The peer team participated in three strategic meetings during the EIS development and reviewed major deliverables. According to Lurie, its role was "limited but strategic," providing feedback related to stakeholder outreach, regulatory interactions, EIS alternatives development, and mitigation. Members were under contract for several years, with requirements for attending meetings and providing comments by e-mail. They were compensated at an hourly rate and for any travel expenses.

Lurie said that the use of a peer team on the EIS was so successful that VHB has recommended executive peer advisory groups on other projects. "[Peer team members] provided us with lessons learned from which we could develop workable solutions to various issues. They were an open resource to the airport and acted as a sounding board," she said.

Former RIAC Executive Vice President Laurie Cullen echoed this sentiment: "As an airport executive, it was valuable to sit with these three industry leaders and have them at my disposal."

A key lesson learned from the peer team was how to handle agency coordination. The group recommended engaging federal, state, and local entities as early in the process as possible. The EIS team established an agency working group made up of representatives from key governmental agencies, including a representative of the local tribal authority, which met regularly throughout the preparation of the draft and final EIS, and provided valuable guidance. This coordination among agencies facilitated the project's permitting and implementation process.

Lurie recommended keeping the size of the peer team small, suggesting that more than six team members would be unwieldy. She also emphasized the need for good communication about roles and responsibilities, especially concerning the peer team's participation: Peers don't make recommendations, only share experiences. To elicit the most helpful feedback, VHB provided the peer team with background on the project before the first meeting so that they could come prepared. The peers also received regular news updates to keep them apprised of what was happening in the community.

CASE FIVE—PERFORMANCE AUDIT

About five years ago, the Columbus Regional Airport Authority (CRAA) began conducting internal peer reviews between Rickenbacker International Airport and Port Columbus International Airport. The two airports had become part of the same airport system in 2003, along with Bolton Field Airport ("Our History" 2012). To help build relationships among the airports and strengthen the organization as a whole, CRAA created an exchange program in which maintenance and operations personnel at one airport would visit the other airport to complete FAR Part 139 pre-inspections in advance of the official FAA inspections.

The FAA inspections take place annually, but the exchange program involves conducting the pre-inspections three times a year at each location. There are two key goals for this program: meeting or exceeding regulatory compliance, and supporting professional development for staff. Conducting multiple reviews before each official inspection provides the airports the opportunity to catch any problems and correct them. In addition, airfield operators, electricians, and maintenance personnel have the opportunity to learn from their peers and see a different airport in action.

The exchange program covers two distinct areas: records inspections (lasting three or four hours) and airfield infrastructure inspections (lasting five hours). The two inspections are scheduled on different days to allow sufficient time for each and to accommodate scheduling issues for the participants.

The inspection teams may consist of staff entirely from the visiting airport or a mixed team from both airports.

Charles Goodwin, director of operations at CCAA, cited multiple benefits of this peer review program. As desired, the pre-inspections help both airports maintain top conditions in the airfields. The peer inspectors provide a fresh set of eyes to see problems that can be missed by host staff when observing the same conditions all of the time. The program also provides a great learning opportunity for staff, who become intimately familiar with the inspection requirements and what it takes to maintain compliance. Goodwin also reported that the program has forged a stronger relationship between the maintenance and operations departments at the two airports. The peer participants understand and appreciate the responsibilities of the other airport and give each other credit for the work involved. By embracing a

common set of standards, airports improve communication, conflict decreases, and morale improves. “The fun part is that both airports and departments have a great deal of pride in maintaining their airports,” said Goodwin. “It’s motivational when your colleagues come to inspect. You want to do well.”

Goodwin noted that carrying out these peer reviews requires a lot of work. It can be challenging to schedule staff to participate, and to close the airfield during pre-inspections. Undertaking the inspections and completing the paperwork afterward can be a burden to staff. However, Goodwin remains very committed to the program. “We’ll continue to find ways to accomplish the reviews with the same goals in mind—people development and regulatory compliance,” he said. “It will need to continue to evolve to be efficient, but it’s worth the effort. We get a lot of feedback from staff that it’s valuable.”

CONCLUSIONS

Over the last 15 years, the airport industry has embraced the peer review process as an effective tool for improving projects and programs. The purpose of this report was to document the range of peer review approaches developed by airport managers or others, and to capture the lessons learned in applying them.

Both the literature review and the interviews with past peer review participants revealed that no one approach should be considered the gold standard in conducting airport peer reviews. Airport managers use a wide range of peer review approaches, from initiating one-day site visits to other airports, to holding multi-day conferences, to assembling multi-year paid peer advisory panels. They may also customize peer reviews to meet their needs.

Interviewees emphasized the following as important elements of peer reviews regardless of format:

- Determine the goals for the peer review before doing anything else. What are you trying to learn? How will you use the information you receive? If you know your goals, then you can develop an agenda and participant list that will help you best meet those goals.
- Consider the purpose of your peer review when determining how influential it will be. If you want to incorporate a new direction or idea, the peer review needs to take place while there is still an opportunity to make changes based on the input received. If the goal is validation or documenting lessons learned for future projects, it may make sense to hold the event later in the process.
- Similarly, consider the peer review goals when selecting participants. If a decision or recommendation is desired, it may be challenging for a large group of people to reach a consensus. In addition, it is important to recognize the varying perspectives offered by potential attendees. It may be important to invite participants based solely on their experience with similar projects, or it may be valuable to limit participation to airports that are similarly sized and structured.
- Effectively communicate the roles and responsibilities of all peer review participants. This includes individuals who are initiating and hosting the review, those serving

as peer experts, and those assisting with planning or facilitation.

- Help participants prepare for the exchange by sending background information, peer review objectives, and discussion questions in advance.
- Consider your available budget when selecting a peer review format, but don't let potential costs deter you. There is value to any amount of peer input.
- Consider using a designated facilitator to help the peer review run smoothly and ensure that all participants have an opportunity to share their experiences with the host agency. Select a facilitator who is skilled in leading group discussions that involve competing ideas; in addition, a facilitator with subject area expertise may better be able to keep the discussions on topic.
- Documenting the peer review discussions, findings, and action items is important for supporting next steps by the host agency. Any reporting needs to be timely: completed at the event or immediately following the event.

This synthesis pointed up several opportunities for further research related to conducting airport peer reviews. Although peer reviews are being used widely in the industry, there is currently no guidance document or tool kit available on conducting airport peer reviews. Such a tool kit could include agenda templates, sample invitations to participants, sample report formats, and cost-estimate worksheets. There is also an opportunity to expand and formalize the use of peer reviews through partnerships with industry and government organizations. This might include the development of additional training programs, peer technical support networks, and extended on-site peer evaluations. Finally, although the interviewees for this synthesis expressed time and again the value of conducting peer reviews, research documenting impacts and cost savings may be helpful to those needing to justify their use to senior management.

Professionals in the airport industry have demonstrated an exceptional willingness to help each other learn from past experiences and grow in their understanding of important issues. Continuing to provide innovative, low-cost ways for airport professionals to support one another will be critical for widespread implementation of peer reviews throughout the industry.

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APPENDIX A

Airport Professionals Interviewed

The following table presents the interviewees for this synthesis who provided an airport perspective in hosting and/or participating in peer reviews. Many of the respondents had participated in more than one peer review. The table indicates the type of peer review format discussed and, if available, the topic of the peer review.

Interviewee Organization	Role in Reviews	Peer Review Formats Discussed				
		Conference-Style	Host-Focused	Executive Peer Advisory Team	Site Visits	Online Forums
Allegheny County Airport Authority/Pittsburgh International Airport	Participant		Airport financial management			
Atkins Northeast Aviation (formerly with Rhode Island Airport Corporation and Massachusetts Port Authority)	Participant, host	Airport expansion (new international terminal, people-movers, etc.)		Development of EIS		
Broward County Aviation Department/Fort Lauderdale–Hollywood International Airport	Host, participant		Expansion of terminal, new runway, master planning issues			
Columbus Regional Airport Authority	Host				Pre-139 inspections	
Denver International Airport	Host		Airport financial management			
Maryland Aviation Administration	Participant	Master planning process				
Massachusetts Port Authority	Participant		Extension of terminal, parking lot construction			
Massachusetts Port Authority	Participant		Runway reconstruction and widening, security issues			
Oakland International Airport	Participant		Airport financial management			
Port Authority of New York and New Jersey	Host, participant	X	Review plan for central terminal building replacement, widening and reconstruction of runway, building new exit and taxi ways, validate location of new inline baggage system, location for new terminal			
Sacramento County Airport System	Participant		Process for capital improvement program			

Sacramento International Airport	Host, participant	X	New terminal construction	X	Art in public places, maximizing nonairline revenue, baggage, customer service, much more	
Salt Lake City International Airport	Host, participant	X	X		Wildlife programs, field condition reporting software, de-icing program, snow removal, 139 inspections	
Salt Lake City International Airport	Participant				Field condition reporting software, IT issues, airfield management, training	
San Antonio Airport System	Host		Airport financial management			
San Diego International Airport	Host		Airport site selection, structure of an IT program			
San Diego County Regional Airport Authority	Host	X	Design/build approaches for new car rental facilities			
Seattle-Tacoma International Airport	Participant	Major development programs, airfield space, security	Baggage systems, transformation of check-in lobby			X
Wichita Airport Authority	Host	Planning and design of new terminal				Negotiating contracts, handling protests on construction project bids

APPENDIX B

Interview Questionnaire

Name: _____

Title: _____

Organization: _____

Phone and E-mail: _____

Peer Review Discussed (Location, Date, and Host Agency): _____

Role in Peer Review: _____

Peer Review Docs to Share: _____

Determining the need for a peer review

1. What were the basic goals of the peer review? What program, project, process or procedure needed to be addressed?
2. How did the peer review fit into your [or the host agency's] development or improvement process? Was it on the front end (to provide guidance) or on the back end (to confirm the approach taken)? Do you think the timing of the peer review was effective?
3. How were the peer review needs and goals communicated to participants and to sponsors? What could have been improved?

Selecting the right peer review agenda and format

4. What was the basic format of the peer review? Did participants travel to the host agency location to share information? Or did representatives from the host/lead agency travel to one or more peer locations?
5. How long did the peer review last?
6. How was the agenda structured (presentations, discussions, interviews, field trips, report to management)?
7. Was the peer review just one component of a larger conference/meeting or a stand-alone event?
8. Did you find the format effective? What worked well? What could have been improved?

Involving the right people (planning team and participants)

9. Who was involved in planning the peer review (staff, consultants, managers)? What expertise did they bring to the team? What expertise, if any, do you think was missing from the planning team?
10. How many external participants attended or participated in the peer review? What expertise did they provide? What expertise, if any, do you think was missing?
11. Did you [or the host agency] use any contractors to assist with planning or logistics?
12. Did some participants only attend part of the event or participate in a portion of the process?
13. Was the peer review open to any interested participants or by invitation only?
14. Did the peer review use a designated facilitator? If so, what was the facilitator's role? Was the individual a member of the planning team, a member of the visiting team, or someone invited only for the purposes of providing facilitation?

Handling the expenses

15. How much did it cost to host [or participate in] the peer review? What key costs did you budget for?
16. Who paid for the peer review expenses? What costs were covered (travel and/or time, host agency and visiting participants)?
17. Did your actual costs exceed your estimated costs? Where do you think money could have been saved or should have been spent to improve the peer review process or outcomes?

Handling the logistics

18. How long did the planning process take? What agency approvals were needed to move forward with the event?
19. Where was the event held? Where did participants stay (if lodging was needed)? What worked well or could be improved?
20. Who handled the logistics for the peer review (inviting participants, arranging travel plans, reserving meeting space and catering, handling travel reimbursements)? What worked well about this process or could be improved? If contractors were used, how were their services secured?
21. What materials did the host agency produce for the event (binders, name tags, handouts, signage, etc.)? Who was responsible for producing these materials?
22. What materials were most helpful? What materials do you wish you would have had?

Reporting and applying the peer review results

23. Was a report or presentation developed to document the peer review process and/or the findings? If so, who developed it and when (in relation to the event)?
24. With whom were the results of the peer review shared? When were they shared, by whom and in what forum (i.e., staff briefing, board meeting—formal/informal, council meeting, etc.)?
25. What steps did you [or the host agency] take to apply the findings from the peer review? What difference did the peer review make? Did anyone document this?
26. If the peer review findings weren't applied, why not? What are the roadblocks?

Benefits and lessons learned from the peer review process

27. Had you planned or participated in a peer review prior to this one? How did this peer review compare?
28. Did the host agency distribute an online or print evaluation of the peer review to participants? If so, what key feedback did you receive [or provide]?
29. What benefits did you [or the host agency] receive from participating in this peer review?
30. Are there any other lessons or effective practices you'd like to share related to peer reviews?

APPENDIX C

Peer Review Agendas

Agendas: Industry Best Practices Tour




Draft Agenda --- Texas Tour Agenda – March 1 – 3, 2005

Wednesday, March 2, 2005

- 6:30 am: Depart Sacramento (SMF) for Houston (IAH)
Continental Airlines Flt # 1630
Check in at Terminal A and request bags to be checked through to DFW
- 12:08 pm: Arrive IAH (Tom Z. Arrives from Las Vegas at 12:15 pm.)
- 12:30 pm: Lunch at Airport (Gordon's Galley/CO's employee cafeteria)
- 1:30 pm: Tour Terminal E
- 2:45 pm: Tour of FIS Facility
- 4:00 pm: Discussions with Houston Airport System and Continental Airlines
- 4:30 pm: Check-in at gate for flight to DFW
- 5:25 pm: Depart Houston (IAH) for Dallas/Ft. Worth (DFW)
Continental Flt #1059
- 6:36 pm: Arrive DFW and claim baggage
- 7:45 pm: Check-in at hotel
Holiday Inn Select at DFW (3 ½ Star rating), located at: 4441 W. Highway
114@Esters RD, Irving, TX 75063, Tel: 972-929-818. Hotel has an on site
lounge and restaurant, room rates \$75.00 per person (8) per night (2) + taxes
Tel: Gene Rios 972-815-0208
- 8:15 pm: Dinner at Cool River Café in Las Colinas

Thursday, March 3, 2005

- 7:00 am: Breakfast at Hotel (Individually if desired)
- 8:00 am: Depart Hotel to DFW (CDP Office)
- 8:30 am: Tour of Terminal D and Grand Hyatt Hotel
- 11:30 am: Return to DFW CDP for lunch
- 12:00 pm: Lunch
DFW Capital Improvement Program - discussions with [REDACTED]
- 2:30 pm: Meeting with American Airlines Corporate Real Estate [REDACTED]
- 3:30 pm: Depart DFW for Downtown Dallas
- 4:00 pm: Tour Corgan's Offices
- 5:00 pm: Depart for dinner
- 8:00 pm: Return to Hotel

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2/25/2005



Friday, March 4, 2005

- 8:30 am: Breakfast meeting at hotel with Southwest Airlines ([REDACTED]) and SCAS (Hardy Acree, Rob Leonard, Leonard Takayama and Mark Brown)
- 8:30 am: Breakfast at Hotel (All others/Individually if desired)
- 10:00 am: Depart to DFW
- 10:30 am: Check in for flight to SMF
- 12:01 pm: Depart Dallas/Ft. Worth (DFW) for Sacramento (SMF)
American Flt #1191
- 1:37 pm: Arrive SMF Terminal B



Proposed Airport Best Practices Tours

Fentress
Bradburn
ARCHITECTS LTD. C O R G A N

Tour: Vancouver (YVR)

Travel Dates: March 1 – 2, 2006

Team

Susan Peters/Sac County Supervisor
 Roberta MacGlashan/Sac County Supervisor
 Terry Schutten/Sac County Executive
 Hardy Acree/SCAS Director
 Geoff Davey/Sac County CFO
 Rob Leonard/SCAS COO
 Paul Hahn/Sac County Economic Development
 Leonard Takayama/SCAS P&D
 Mark Brown/SCAS Special Projects
 Paul Gaines/Peer Advisory Team
 Alex Fedor/Peer Advisory Team
 Mark Conway/Peer Advisory Team
 Curt Fentress/Fentress Bradburn
 Brent Kelley/Corgan

Proposed Itinerary

Day 1: SMF 7:00a Depart on Alaska Airlines Flt #427
 (Change planes in SEA - Arrive 8:45a, Depart AS Flt #2160/10:00a)
 YVR 10:55a Arrive Vancouver
 11:15a Check-in at YVR Fairmount Hotel
 11:45a Depart hotel for City Tour / Meet at curbside entry of hotel
 12:30p Lunch @ Café Pacifica in the Pan Pacific Hotel
 1:30p Downtown Vancouver Art in Public Places
 Walking Tour from Pan Pacific Hotel to Hotel Vancouver
 2:30p Bus Tour of City: Downtown, Stanley Park and Granville Island
 5:45p Return to hotel
 6:45p Dinner @ The Globe @ YVR in the Fairmount Hotel

Day 2: YVR 8:00a Airport Hotel Discussion and Tour
 Meeting Room 539 / Includes hot breakfast
 9:30a Airport Facilities Tour
 11:30a Lunch @ YVR
 12:30p Check out of hotel
 1:00p Check in for Flight at Alaska Ticket counter
 1:30p Free time prior to Flight
 2:55p Flight to SMF – Alaska Airlines Flt #2035
 (Change planes in PDX - Arrive 4:15p, Depart AS Flt #368/5:15p)
 6:41p Arrive Sacramento



TAMPA (TPA) Airport Tour Agenda

(September 16 and 17, 2003)

The following is the agenda for the TPA Terminal Tour:

TIME	LOCATION
Various	Sacramento <ul style="list-style-type: none"> Participants depart at various times and airlines arriving into Tampa.
Various	Tampa, Tuesday, 9/16 <ul style="list-style-type: none"> Check-In at Marriott Hotel at Tampa International Airport. Hardy and Rob will be at: Tampa Marriott Waterside Hotel and Marina, 700 South Florida Ave., 813-221-4900.
6:30pm	Tampa <ul style="list-style-type: none"> Dinner for participants who have arrived by 6:00pm, Bern's Restaurant (813-251-2421, 1208 South Howard Ave) meet in front desk (on second floor) of Marriot at the Airport. Hardy and Rob will meet Group at Restaurant
7:30am	Tampa, Wednesday, 9/17 <ul style="list-style-type: none"> Breakfast at the Marriott Hotel (Airport) restaurant in the lobby. This is optional for participants.
8:30am	Airport Marriott Hotel <ul style="list-style-type: none"> Check out of Hotel and check luggage with bellman for the day.
9:00am	Hillsborough County Airport Administration (HCAA) Offices <ul style="list-style-type: none"> Meet at the HCAA offices in the Terminal on the Transfer Level (see site map) Introductions and tour overview
9:30am	Landside Tour <ul style="list-style-type: none"> Transfer Level Concession Program In-line Baggage System ATO and Long Term Parking Garage
11:00am	Lunch <ul style="list-style-type: none"> Airport Marriott Hotel restaurant Morning Tour Q&A / Afternoon Tour Overview
1:00pm	Airside Tour <ul style="list-style-type: none"> Airside Concourse A Automatic People Mover (APM) Airside Concourse F International Swing Gates
3:00pm	Marriott Hotel <ul style="list-style-type: none"> Claim Luggage and proceed to ticketing for check-in.
3:30pm	Tampa Airport <ul style="list-style-type: none"> Check-in for AirTran Flight #419 (Flight depart time: 5:00pm)
5:00pm 7:45pm	Tampa Airport / Baltimore <ul style="list-style-type: none"> Depart Tampa 5:00pm, Arrive into Baltimore Airport at 7:11pm. Shuttle to Sheraton Hotel, call from Sheraton White Courtesy Phone in the Bag claim area. Check-in at hotel
8:30pm	Sheraton Hotel <ul style="list-style-type: none"> Dinner at the Hotel.

*Advance notice was given to the Sheraton Shuttle service in Baltimore of the Tour's arrival. This was done to assure adequate shuttle service for attendee's and their bags.

Baltimore Washington International (BWI) Airport Tour Agenda (September 18, 2003)

The following is the agenda for the BWI Terminal Tour:

TIME	LOCATION
7:30am	Baltimore Sheraton Hotel, Thursday, 9/18 <ul style="list-style-type: none"> • Breakfast at the Sheraton Hotel restaurant in the lobby. This is optional for participants.
8:30am	Sheraton Hotel <ul style="list-style-type: none"> • Check out of Hotel. Meet in the Lobby. • Shuttle to Airport
9:00am	Baltimore Washington International Airport <ul style="list-style-type: none"> • Meet Tour Host at Ticketing Hall • Store Luggage in Conference Room • Introductions and Tour Overview
10:00am	Landside Tour <ul style="list-style-type: none"> • Ticketing Hall • Baggage Claim • Concession Program • Ground Transportation • Light Rail
11:30am	Lunch <ul style="list-style-type: none"> • Airport Restaurant TBA
1:00pm	Airside Tour <ul style="list-style-type: none"> • Gates and Concourse • Concession Program • Art Program
2:30pm	Conference Room <ul style="list-style-type: none"> • Tour Q&A. • Claim Luggage and proceed to ticketing for check-in.
3:00pm	Baltimore Washington International Airport <ul style="list-style-type: none"> • Check-in for United Airlines Flight #1275 (5:22pm)
5:22pm 6:25pm	Baltimore Washington International Airport / Chicago <ul style="list-style-type: none"> • Depart Baltimore, Arrive Chicago O'Hare at 6:25pm. • Proceed to Hilton Hotel by foot to Check-in
7:45pm	Hilton Hotel <ul style="list-style-type: none"> • Dinner at the Hotel..



Midway (MDW) Airport Tour Agenda

(September 19, 2003)

The following is the agenda for the MDW Terminal Tour:

TIME	LOCATION
6:00am	Chicago Hilton Hotel, Friday, 9/19 <ul style="list-style-type: none"> • Breakfast at the Hilton Hotel restaurant in the lobby. This is optional for participants.
6:45am	Hilton Hotel <ul style="list-style-type: none"> • Check out and store luggage with bellman (secure area) • Meet in lobby for departure to Midway Airport. • Depart from the lobby at 7:00am via Omega Shuttle to Midway Airport.
8:30am	Midway Airport <ul style="list-style-type: none"> • Arrive at Midway • Tour Light Rail Station
9:30am	Midway Airport <ul style="list-style-type: none"> • Meet ██████████ at the Ticketing Lobby • Introductions and Tour Overview
9:45am	Airport Tour <ul style="list-style-type: none"> • Ticketing Hall • Curbside Operation • Concession Program • Gates and Concourse
11:15am	Tour Q&A
11:45am	Midway Airport <ul style="list-style-type: none"> • Depart from Midway Baggage Claim curbside for return to Hilton Hotel
1:00pm	Hilton Hotel <ul style="list-style-type: none"> • Collect luggage and proceed to airport check-in
1:30pm	Chicago O'Hare Airport <ul style="list-style-type: none"> • Check-in for United Airlines Flight #357 (Depart at: 3:00pm) • Lunch at airport concessions
3:00pm 5:20pm	Chicago O'Hare Airport / Sacramento <ul style="list-style-type: none"> • Depart O'Hare, Arrive SMF at 5:20pm

*Holding area at the Hilton in which baggage will be stored while at Midway is secured.



Agenda: Host-Focused Review

Ft. Lauderdale-Hollywood International Airport Peer Review Agenda

April 13, 2009



Issues to be Addressed

- Legal Issues
- FLL's place in the South Florida Aviation Community
- Community Relations/Outreach
- Dealing with Political Pressures
- Integration with Outside Agencies
- Planning and Development Process
- Lessons Learned – Planning & Constructability
- Sustainable Design Considerations
- LOI Process with the FAA
- Airport Cost Structure – Rates & Charges
- Airport Expansion Program Organization & Integration of BCAD-PM Staffs

Agenda

May 19th

- Participants Arrive
- Group Dinner

May 20th

- Welcome and Introductions
- BCAD presents overview of the Airport Expansion Program
- Identify key issues to be reviewed
- Lunch
- Breakout group(s) to review/resolve issues
- Social Hour/Reception
- Group Dinner

May 21st

- Welcome
- Group(s) present findings
- Lunch
- Summary of findings presented
- "Lessons Learned" from participants experiences
- Social Hour/Reception
- Dinner

Key Documents to be Reviewed

- Overview of the ALP & Master Plan
- Overview of the FEIS & ROD

Participants

Ft. Lauderdale-Hollywood International Airport Peer Review Agenda

April 13, 2009



-
- Kent George – Broward County Aviation Department
 - Angela Newland – Broward County Aviation Department
 - Greg Recht – Broward County Aviation Department
 - Jamie McCluskie – Broward County Aviation Department
 - Marc Gambrill – Broward County Aviation Department
 - Doug Wolfe – Broward County Aviation Department
 - Doug Webster – Broward County Aviation Department
 - Bob Pence - Broward County Aviation Department
 - Mike Nonnemacher-Broward County Aviation Department
 - Dan Molloy – Hartsfield-Jackson Atlanta International Airport
 - Stephan Smith – Metropolitan Washington Airports Authority
 - Mike Steffens – Denver International Airport
 - Mark Perryman - EIS Consultant
 - Greg Detmer - Master Plan Consultant
 - George Vitas – DMJM Aviation
 - Andres Garcia – DMJM Aviation
 - John O'Connor –DMJM Aviation
 - Dave Brown–DMJM Aviation
 - Jim Pantina–DMJM Aviation
 - Jim Stacy–DMJM Aviation
 - Allan A'Hara – DMJM Aviation (Facilitator)

Travel and Lodging Dates

- Lodging May 19, 20 and 21, 2009 at the Hilton Fort Lauderdale Airport paid for by Broward County.
- Travel air fare and rental cars paid for Broward County.
- Travel Expenses – Broward County requires the submittal of Travel Authorizations, for approval, in advance of event commencement date. See attached form.

Reception & Dinner

- May 19, 2009 at 7:00 PM at the Hilton Fort Lauderdale Airport Hotel.
- Open Bar Non-Alcoholic Beverages.

Meals during Peer Review Sessions

- Breakfast, Lunch and Dinner buffets at the Hilton Fort Lauderdale Airport.

Agenda: Host-Focused Review

Wichita Mid-Continent Airport

Special Peer Review Session

July 30 – August 2, 2006

A G E N D A

Monday, July 31, 2006

- 09:00 am – 09:30 am Welcome & Introductions
- 09:30 am – 10:30 am Presentation of Terminal Area Plan
- 10:30 am – 12: 30 pm Discussion of General Direction of the Industry
- 12:30 pm – 01:30 pm Lunch
- 01:30 pm – 02:00 pm Establish Specific Issues for Discussion
- 02:00 pm – 05:00 pm Discussion of Issues 1 thru 3
- 07:00 pm – 10:00 pm Special Events Dinner for Attendees from out of town (World Museum of Treasures, Depart Hilton at 7:00, Transportation provided)

Tuesday, August 1, 2006

- 09:00 am – 12: 30 pm Discussion of Issues 4 and 5
- 12:30 pm – 01: 30 pm Lunch
- 01:30 pm – 05: 00 pm Discussion of Issues 6 and 7

Wednesday, August 2, 2006

- 09:00 am – 10: 45 am Discussion of Lessons Learned
- 10:45 am – 12: 00 pm Wrap up of Issues Discussed

Dress will be business casual for all events.

Unless otherwise noted, all events will be held at the Hilton Wichita Airport Executive Conference Center.

Wichita Mid-continent Airport
Special Peer Review Session
July 31 – August 2

Issues for Discussion

1. Terminal Configuration for Expansion & Construction Phasing
2. Construction Phasing
 - a. Contract Packaging
 - b. Airside Stages
 - c. Landside Stages
3. Airport Financial and Funding Issues
 - a. Revenue Sources
 - b.
4. Terminal Issues
 - a. Concessions
 - i. Opportunities
 - ii. Location
 - b. Artwork
 - c. Communication & Security
 - d. Baggage Handling Systems
 - e. Building Systems
5. Landside Issues
 - a. Curbside Configurations
 - b. Minimizing Curbside Congestion (Cell Phone Waiting Lot)
 - c. Parking Options:
 - i. Valet Parking
 - ii. Transponder Billing
 - iii. Pay-on-Foot
 - d. Rental Car Facilities
6. Airline Operational Issues (Airline/Airport Preferences and Facility Configuration):
 - a. Common Use Terminal Equipment (CUTE)
 - b. Common Use Self Service (CUSS) Kiosk
 - c. Ticketing Area Configuration with Self Service Kiosk
 - d. Mix of Shared, Preferential and Exclusive Use facilities
7. Airport providing Services for Airline Operations
 - a. Ground Handling and other Below-the-Wing services
 - b. Passenger and other Above-the-Wing services
8. Lessons Learned on similar programs

Abbreviations used without definitions in TRB publications:

A4A	Airlines for America
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	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
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
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
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
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