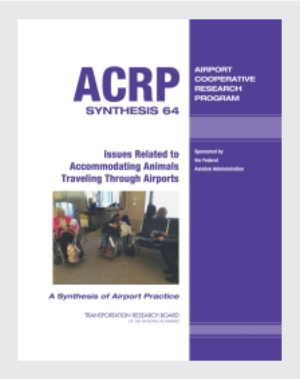

Issues Related to Accommodating Animals Traveling Through Airports

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AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP SYNTHESIS 64

Issues Related to Accommodating Animals Traveling Through Airports

A Synthesis of Airport Practice

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AIRPORT COOPERATIVE RESEARCH PROGRAM

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

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

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

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

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

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

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Cover figure: Pets and Passengers Awaiting Flight at John Wayne Airport, January 6, 2015 (Linda Howard photo).

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Phoenix Deer Valley Airport	Ed Faron
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Piedmont Triad International Airport	Stephanie Freeman
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San Francisco International Airport	Christopher Birch
Seattle-Tacoma International Airport	Susan Goodspeed, Jamie Major, Monique Thormann
SkyWest	Carlos Lopez
Southeastern Guide Dogs	Linda-Marie Holiday
Southwest	Public Relations & Media, Customer Relations, Corporate
Southwest Florida International Airport	Lisa LeBlanc-Hutchings, Angela Schaefer
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Throughout the study, the panel and ACRP staff gave outstanding advice, support, and assistance.

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
Senior Program Officer
Transportation
Research Board

Companion and service animals are increasingly traveling through airport terminals and a wide range of species are transported as cargo. The roles and responsibilities of the airports regarding animals are very limited; the primary responsibility belongs with the owners of the animals and the airlines or cargo carriers. The overall system for the air transportation of pets and other animals works very well. However, when something goes wrong, airports are on the front line and require a cooperative approach by airlines, airport operators, and their associated contractors to respond. Because airport operators would like to institute effective practices to accommodate the well-being of animals traveling through airports, all would benefit from a compilation of existing literature and practice.

This study seeks to discover those means of accommodation, describe issues experienced at airports and identify solutions, evaluate their effectiveness, identify gaps, and disseminate the information to airports of all types and sizes as well as to other interested parties. This study's goal is to describe a coordinated approach for airports and their partners in animal transportation to accommodate the well-being of animals traveling through airports by using effective practices that are well-documented and presented in actionable form. Information used in this study was acquired through a review of the literature and interviews with airports, airlines, animal handling and forwarding companies, service dog companies, industry associations, and government agencies, plus two experts in animal health and behavior.

James F. Smith, Smith–Woolwine Associates, Inc., Floyd, Virginia, and Elizabeth McKinney, Falling Branch Enterprises, Floyd, Virginia, collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

CONTENTS

Note: Photographs, figures, and tables in this report may 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.

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List of Tables

ISSUES RELATED TO ACCOMMODATING ANIMALS TRAVELING THROUGH AIRPORTS

SUMMARY

Animals of many species travel through airports either in the company of passengers or as cargo, and the number is increasing. The roles and responsibilities of airports regarding animals are very limited; the primary responsibility belongs with the owners of the animals and the airlines or cargo carriers. The overall system for the air transportation of pets and other animals works very well; however, when something goes wrong, the airport may have to resolve the problem.

The primary legal responsibilities of airports vis-à-vis animals are to comply with the ADA and the Air Carrier Access Act. This involves providing service animal relief areas and ensuring that all facilities at the airport are accessible to persons with disabilities and the service dogs that accompany them.

Fifty-two (52) interviewees provided the primary data for this report. Twenty-four (24) airports were surveyed regarding their experiences and policies concerning animals passing through them. In addition, 30 organizations and individuals were interviewed, including airlines, animal handling and forwarding companies, service dog companies, industry associations, and government agencies; as well as two experts in animal health and behavior. Effective practices and lessons learned were identified through a literature review. Two tools for use by airports are provided:

- A table of unacceptable behaviors by service dogs that can be used by an airport to ask for the animal's removal under the ADA (Appendix A)
- A user-friendly checklist of effective practices (Appendix B).

In addition, four case studies of actual airport animal operations illustrate the complex dynamics of the processes and interactions. Together, the checklist and case studies can help guide airport managers as they shape their own individual plans and procedures for accommodating animals passing through their airport. The Heathrow International Airport case example and the proposed new animal terminal at John F. Kennedy International Airport may suggest commercial opportunities for airports.

CHAPTER ONE

INTRODUCTION

More animals, especially pets and particularly dogs, travel with passengers than ever before. This trend is encouraged by changing demographics and by business practices of the travel industry (Kadet 2012). Some animals, such as pets, service animals, and emotional support animals, are highly visible to the traveling public in airport terminals and parking areas. In addition to traveling in cabins with passengers, companion animals travel as excess baggage or in cargo. Other species such as farm animals, research animals, zoo animals, circus animals, non-human primates, wildlife, and marine animals only travel as cargo and are far less visible to the public. The public views the various types of companion animals differently than the more specific definitions used by the U.S. Department of Agriculture (USDA), defined later in this chapter, because of its familiarity and emotional bond with companion animals. This in turn drives the public's level of expectations, and consequently, the methods by which their valued companion animals are transported by air.

Air transport of animals is attractive for many reasons:

- The capability of people to travel with their animals;
- The speed of travel and low risk, which reduces the health and safety impacts on the animals;
- The level of security for high value animals, whether the value is economic or emotional (as in the case of pet);
- Federal laws and regulations that ensure the legal right and ability of passengers with disabilities to travel with service animals; and
- Convenience and availability. Commercial passenger and air cargo reach to within 50 miles of nearly every community in the United States.

As seen in this report, animal cargo is shipped in passenger planes, in special containers in regular cargo aircraft, in specially equipped sections of regular cargo aircraft, and in specialized animal transport aircraft such as those designed for race horses, cattle, other farm animals, wildlife, and marine animals. In all cases, the cargo transport of animals by air represents a complex, highly choreographed intermodal transportation system. The health and safety demands of live animals dictate this, just as the same issues, plus customer satisfaction, set the parameters for animals traveling with passengers.

Animal welfare and safety are highly regulated in the United States. Regulations that apply to the air transportation of animals both domestically and internationally are tailored to the needs of the individual species, though the air transport of some species and types of animal commerce is not regulated. Chapter two of this report summarizes the legal and regulatory context of animal air transport. In addition, airlines have detailed policies and restrictions that go beyond laws and regulations.

The public appears to perceive that there have been an increasing number of animal incidents and emergencies at airports. The data on such incidents is presented and analyzed by specific issue in chapter three of this report, and the validity of public perception is evaluated.

PURPOSE OF THIS STUDY

Airports, airlines, cargo companies, and their partners have developed new and improved types of accommodation at various airports and facilities in the United States. This study seeks to discover those means of accommodation; to describe issues experienced at airports and to identify solutions; to evaluate their effectiveness; to identify gaps; and disseminate the information to airports of all types and sizes as well as to other interested parties. The goal is to describe a coordinated approach for

airports and their partners in animal transportation to ensure the well-being of animals traveling through airports by using effective practices that are well documented and presented in actionable form.

The specific objectives of this synthesis are to identify pertinent regulations; describe the issues and ranges of accommodation requirements and strategies to respond to issues; and describe through case examples some practices found effective in accommodating animals traveling through airports.

Although air transportation of animals extends far beyond the physical confines of airports, this study is limited to accommodations made at or near airports, including facilities, procedures, policies, employee training, signage, and other communications with the public.

The audience for this report is airport operators, airlines, contractors, and specialized animal shippers who are responsible for accommodating traveling animals, and those who respond to animal incidents and emergencies. Indirectly, the audience for this report will be the members of the public who ship animals or travel with animals, including service animals.

SCOPE OF THIS STUDY

This study includes a review and description of current literature and experience concerning the needs and accommodations of animals traveling through airports. Case examples were developed from a variety of sources, including regulatory and service agencies, pet shipping companies, airlines, and airports. Six key issues were specified as the focus of the study:

- Types and numbers of animals traveling through airports;
- Growth expectations on numbers and types of animals traveling through airports;
- Recommended animal travel accommodations based upon literature from scientific and stakeholder organizations;
- Accommodation strategies, both facilities-based and management approaches, including initial costs, funding and upkeep (e.g., relief, resting, holding, quarantine, welfare, on-call veterinary emergency aid);
- Issues and gaps; and
- Special circumstances and lessons learned.

CATEGORIES OF ANIMALS TRAVELING THROUGH AIRPORTS

The Animal Welfare Act (AWA) of 1976 (P.L. 94-279.54 U.S.C. 12101 et seq.), which is the primary legal basis for how animals are treated, divides animals into four main categories:

1. Companion animals, including service animals, emotional support animals, and pets;
2. Farm animals or livestock;
3. Marine life; and
4. Wildlife.

The Animal and Plant Health Inspection Service (APHIS) of the USDA uses a slightly different classification system that expands on the four categories in the AWA (USDA-APHS 2014a):

1. Companion animals;
2. Farm animals;
3. Research animals;
4. Zoo animals;
5. Circus animals;
6. Non-human primates;
7. Wildlife; and
8. Marine animals.

This study uses the four AWA categories except where one of the APHIS categories is more pertinent.

Companion Animals

Companion animals include pets and service and working animals (USDA 2014a). Pets include dogs, cats, birds, fish, reptiles, amphibians, small mammals, and non-traditional pets. Dogs are the pets that most often travel through airports, either accompanying passengers or with meeters and greeters.

Service and working animals include assistance animals (service animals and emotional support animals) and such specialized animals as K-9 dogs working with law enforcement and military agencies. Service animals are defined in various federal statutes and regulations addressed in detail in chapters three and four. Emotional support animals are also addressed in chapters three and four; in addition, they are addressed in the Heathrow case example in chapter two. For purposes of this introduction, it suffices to say that assistance dogs on leashes have full access to all public parts of airports and airlines. Changing demographics and accommodations for disabled persons mean that increasing numbers of service dogs move through and into every public space in an airport such as restrooms, escalators, elevators, and restaurants. Despite impacting airports, service dogs are not handled by airport and airline staff. The requirements for service animal relief areas (SARAs) will also affect airports in terms of personnel required to clean the relief areas, capital to build relief areas, and having to meet building codes.

Farm Animals

Farm animals include cattle, horses, poultry, sheep and goats, and swine (USDA 2014a). All of these species are sometimes shipped as air cargo, especially to international destinations. Farm animals are addressed in detail in the Miami and Heathrow case examples in chapter two.

Marine Life

The AWA category of marine life falls under the APHIS category of zoo, circus, and marine animals. Within that APHIS category, marine life falls under exhibit animal species and is addressed in three groups: fish, invertebrates, and marine mammals (USDA 2014a). Fish include sharks and rays. The specialized aspects of the air transport of marine organisms are examined in the Miami case example in chapter two.

Wildlife

The wildlife category includes any other species that is not a companion animal, farm animal, or marine animal. Research animals and many exhibit animals fall in this AWA category. Wildlife animals are relatively rare in air cargo in most U.S. airports; however, they frequently pass through Heathrow and are addressed in the Heathrow case example in chapter two.

NUMBERS OF ANIMALS TRAVELING THROUGH AIRPORTS

Determining the numbers of animals traveling through airports turned out to be far more difficult than anticipated. There is no central database containing the numbers of animals traveling either domestically or internationally. Data on the number of health certificates would require a Freedom of Information Act (FOIA) request to APHIS. Because airlines who count the number of animals traveling did not participate in this study, the lack of reliable data does not facilitate a reasonable estimate. One key animal transportation association that has such data also declined to participate. With the exception of one report in January 2012, for one airline, there is insufficient data even to compute or estimate the rate of incidents injuring animals during air transport. The specialty animal transportation companies did provide data on their monthly shipments, which helped set a lower limit estimate of the national totals. Federal agencies may keep data on species, and do have data on all imports since they must be cleared by U.S. Customs and Border Patrol (CBP), but it is not part of the public record. Airports do not keep records of the numbers of animals traveling through them, although a few attempt to measure the use of their service animal/pet relief areas, as described in chapter four of this report. Only two of the 24 airports interviewed did estimate the numbers of animals passing through them: Blue Grass

Airport (LEX) in Lexington, Kentucky, and Heathrow International Airport (LHR) in London, both of which appear as case examples in chapter two.

METHODOLOGY

A survey was considered but rejected for this study because it was thought the most significant information would come in incidental comments triggered by the questions in structured interviews. For this reason, this report only used interviews and a literature review to collect data.

Interviews

This study's scope required data collection from airports, airline pet call centers, pet shipping companies and forwarders, service dog agencies, animal transportation associations, and regulatory agencies. Appendix C lists the intended and actual interviewees as well as those added as the study evolved.

How Interviewees Were Selected

With the advice and approval of the topic panel, the research team used its professional knowledge and a preliminary literature review to develop a list of 52 intended interviewees representing the categories specified by the scope. The organizations that fit the requirements of the scope were contacted to determine the most important interviewee(s) for each. No attempt was made to randomize the selection of interviewees, so the sample is a convenience sample. Figure 1 shows the distribution of the 52 initially planned interviewees among the categories.

The panel specified that certain airports be included in the study: San Diego International Airport (SAN), Washington Dulles International Airport (IAD), Minneapolis–St. Paul International Airport (MSP], Miami International Airport (MIA), San Francisco International Airport (SFO), and Phoenix Sky Harbor International Airport (PHX). In mid-2014, these six large-hub airports were either known to have advanced programs for accommodating animals in their terminals or were actively seeking guidance on such accommodations from other airports.

As the study became widely known through the newsletters of some of the associations on the initial interview list, other organizations in the same category volunteered for interviews. The research team does not believe the extra interviews or their self-selected nature violated the validity of the data because they all fell in the same category (service dog agencies) and the data are aggregated for each category.

Lastly, as the literature review and initial interviews progressed, certain additional organizations clearly needed to be interviewed. For example, interviews with several agencies, companies, and organizations in Miami and Lexington were added to round out the case examples. The interview

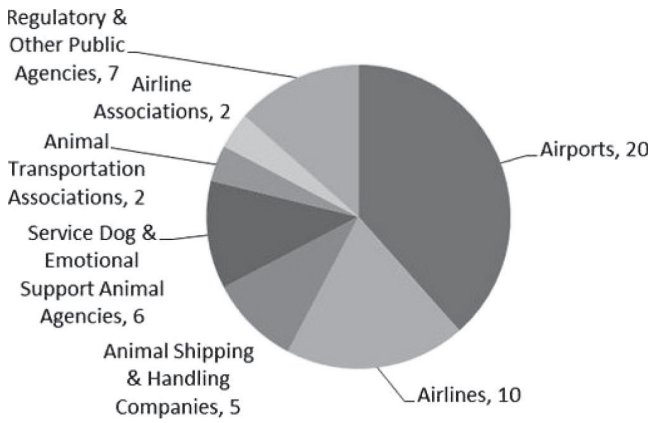

FIGURE 1 Initial interviewees by category.

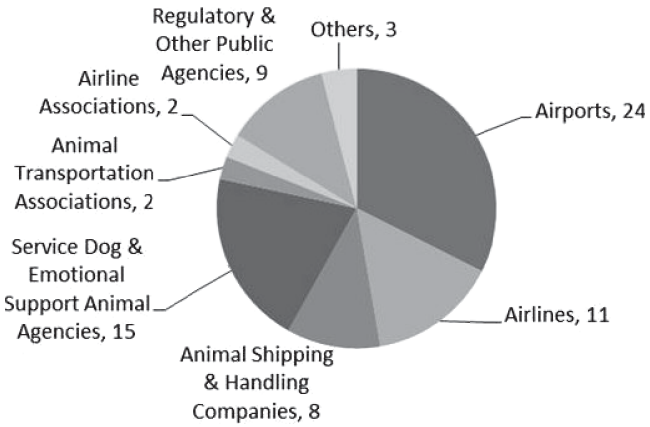

FIGURE 2 Final interviews sought by category.

with the Heathrow Animal Reception Centre (HARC) was prompted by the findings of the literature review. Figure 2 shows the distribution of the final list of 74 entities from whom interviews were sought among the categories.

Table 1 shows the characteristics of the original 20 airports in the study plus the four added airports.

Appendix C shows all 74 interviewees approached during the entire study, annotated for response or no response. The table in Appendix C indicates the 21 interviewees added during the course of the study.

Results of Interview Requests

Figure 3 shows the outcomes of the 74 interview requests. Fifty-five (55) organizations gave interviews, eight organizations (including six of the 11 airlines) declined to participate, and

TABLE 1
TYPES AND SIZES OF AIRPORTS IN STUDY

NPIAS Category	Airports in Study	Airports in U.S.	Percentage in Study
Large Hub Airports	13	30[1]	43.3%
Non-U.S. Large Hub Airport	1	N/A	N/A
Medium Hub Airports	3	33[1]	9.1%
Small Hub Airports	3	71[1]	4.2%
Non-Hub Primary Airports	1	250[1]	0.4%
Commercial Service Airports (non-primary)	0	117[1]	0%
Total of Service Airports	20	501[1]	4.0%
Reliever Airports	1	268[2]	0.4%
General Aviation Airports (public use airports only)	2	2,563[2]	0.08%

Source: Smith and McKinney data.
[1] FAA (2014a). *Preliminary CY13 enplanements*.
[2] FAA (2014b). *National Plan of Integrated Airport Systems*.
N/A = Not applicable.

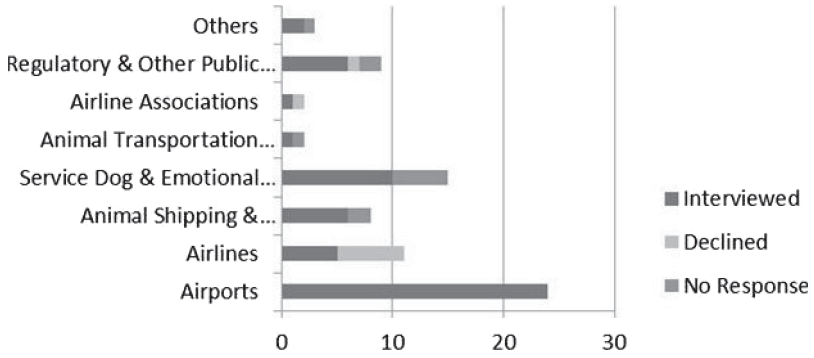

FIGURE 3 Outcomes of interview requests.

11 organizations never responded despite at least two e-mails and one telephone request. Counting "interview completed" and "interviewed declined" as responses, the overall response rate for this study was 85%.

It is important to note that seven of the 55 complete interviews were with members of the topic panel (L. Ankers, P. Burke, J. Dugan, L. Ferrigno, L. Moya, W. Woolf, and L. Miller). In addition, a conversation was held with Pierce to explore the extent to which to include military working dogs and military family pets. The seven interviews with panelists were conducted exactly the same as were the other 48 interviews.

How the Interviews Were Conducted

Most interviews were conducted by telephone by one or two of the review team, but a few were conducted through e-mail exchanges. The interview questions and summary of the project scope were provided in advance to the interviewees. One or both members of the research team called the interviewee. The duration of telephone interviews ranged from five minutes to more than 90 minutes, with an average of 20–25 minutes. Where appropriate, follow-up questions were asked. In all interviews, relevant internal documents were discussed and copies requested.

Some interviewees preferred to send written responses to the advance questionnaire. For those respondents, follow-up questions were presented by e-mail or by phone.

What Questions Were Asked

Appendix D reproduces the questions asked each interviewee. There was a general questionnaire used with every category of organization, and there were tailored supplemental questionnaires for each; for example, airports or service animal companies.

Case Examples

In order to illustrate the entities involved in the air transportation of animals at airports, the interactions among those entities, and how airport-stakeholder partnerships deal with issues, four case examples were developed, which are presented in chapter two:

- Roanoke–Blacksburg Regional Airport (ROA) in Virginia
- Blue Grass Airport (LEX) in Lexington, Kentucky
- Miami International Airport (MIA) in Florida
- Heathrow Animal Reception Centre at Heathrow Airport (LHR) in London.

Data Analysis

Information gathered from the interviews, documents shared by airports and other organizations, and results from the literature review for common themes were analyzed. Particular attention was given themes related to

- Recurring issues;
- Isolated issues;
- Alternative solutions to a given issue;
- Gaps in the information; and
- Evaluation and metrics applied to the accommodation of animals at airports.

The results of the analysis are presented in the four case examples in chapter two and the discussions of the six significant issues in chapter four.

RESULTS

Pertinent findings from the interviews, case examples, literature review, and data analysis are presented in three formats:

1. Case examples from ROA, LEX, MIA, and LHR are presented in chapter two. The focus is on the types of animals passing through each airport, the identities of the major players who interact in the transport of animals, the nature of their interactions, and how animals traveling through the airport affect the airport's other operations.
2. In chapter four, the significant issues identified are amplified and quantified where possible, along with existing and potential solutions suggested by interviewees or in the literature.
3. Procedures, information, and plan components necessary to develop an effective plan for an airport to accommodate animals traveling through is introduced in chapter four and reproduced as Appendix B. Airports of any size or type can follow this checklist to develop their own unique plans for accommodating animals.

CHAPTER TWO

CASE EXAMPLES

In the course of studying the issues related to accommodating animals traveling through airports, the study team encountered the full range of types and sizes of airports, from small general aviation (GA) airports to very busy international hubs. Four case examples illustrate the range of accommodations for animals traveling with passengers or as cargo as well as the nature of the complex interactions that enable the accommodations to work.

Roanoke–Blacksburg Regional Airport (ROA) is a typical non-hub primary airport that deals with service animals, emotional support animals, pets in excess baggage, pets in cargo, and other animals including research animals in cargo.

Blue Grass Airport (LEX) in Lexington, Kentucky, has ultra-specialized facilities and procedures for one species—horses—of very high value animals shipped commercially. LEX is a small-hub airport as far as its number of enplanements, but it is perhaps the most important airport in the world for the air transport of horses.

Miami International Airport (MIA) is a large-hub airport that is also the second most important (in terms of dollar value) cargo airport in the United States. MIA and its stakeholders handle more species of animals in more types of transactions and interactions than any other U.S. airport. Only Los Angeles International Airport (LAX) comes close. Airports such as MIA show the multiple intricately choreographed interactions necessary for the safe transport of all categories of animals by air.

The Heathrow Animal Reception Center (HARC) at London's Heathrow International Airport (LHR) is both similar and very different from MIA. Both handle nearly the whole range of species and categories of animals traveling by air. The main difference is that at HARC, all the functions, procedures, and transactions of incoming animals are handled in a single, integrated facility.

There is no separate case example for service animal relief areas (SARAs) and pet relief areas, as they are covered in detail in chapter four.

There are three categories for animals transported in scheduled passenger air transportation:

1. "Unassigned in the cabin," sometimes called "carry on." Animals categorized as "unassigned in the cabin" are usually small pets that remain with the owner in the cabin for the duration of the flight, staying in carriers that fit under the seat in front of the passenger.
2. "Accompanied baggage," also called "excess baggage" by the airlines. Animals categorized as "accompanied baggage" are pets traveling with passengers on the flight that are checked as baggage, remain in the custody of the air carrier for the duration of the flight, and are transported in the cargo compartment of the aircraft.
3. "Live cargo shipments." Animals categorized as "live cargo shipments" are animals that are not associated with passengers on the flight and are transported in the cargo compartment.

"Accompanied baggage" and "live cargo shipments" may or may not be in different areas of the cargo hold of an aircraft, but the primary differences between these two categories are shipping procedures and cost to the passenger or shipper.

CASE EXAMPLE 1—ROANOKE–BLACKSBURG REGIONAL AIRPORT

This case example is based on an interview with Kari Dabrowski, Director of Operations and Maintenance, on August 11, 2014, and on information provided in the airport's website (www.roanokeairport.com).

ROA has approximately 50 flights a day and had 310,295 enplanements in 2013 (FAA 2014a). Its five airlines fly nonstop to eight destinations, six of which are major connecting points for domestic and international flights. Because ROA does not receive international arrivals, the FAA and TSA are the only federal agencies routinely operating in the airport.

Table 2 summarizes the policies of ROA's five airlines regarding the transport of companion animals. ROA has two airlines that accept pets traveling with passengers in aircraft cabins or as excess baggage or as cargo and three airlines that currently only allow pets to travel with passengers. In addition, ROA has cargo and freight service by FedEx Express and UPS; their policies are also included in Table 2.

All five airlines accommodate service animals as required by the ADA and the Air Carriers Access Act (ACAA). ROA has two designated service animal and pet relief areas outside at each end of the front of the terminal. As of August 2014, ROA had no plans to construct or install a post-security relief area.

Of the six connecting hubs reached by nonstop flights from ROA, four are served by the two airlines that accept animals as excess baggage and cargo. ROA does not have a separate cargo facility that accepts animals. A person shipping an animal presents the animal in a crate approved by the International Air Transport Association (IATA) and the airline, with appropriate documentation at the passenger check-in counter.

However, the process is complicated by the capabilities and limitations of the aircraft used by the various airlines. The two main variables are the presence/absence of adequate air flow in the baggage compartment, and whether the size of the compartment is adequate to handle animal crates. At ROA, for example, Delta uses Boeing 737 aircraft to Atlanta, while US Airways uses DeHavilland Dash-8 aircraft to Charlotte and Philadelphia. The 737 as configured for Delta can accommodate animals in

TABLE 2
PET POLICIES OF AIRLINES AT ROANOKE–BLACKSBURG REGIONAL AIRPORT

Airline	Accepts Service Dogs	Accepts Companion Animals in Cabin	Accepts Pets as Excess Baggage	Accepts Pets as Cargo
Allegiant[1]	Yes	Yes	No	No
American[2]	Yes	Yes	No	No
Delta[3]	Yes	Yes	Yes	Yes
United[4]	Yes	Yes	Depends on aircraft	Depends on aircraft
US Airways[5]	Yes	Yes	No	No
FedEx Express	N/A	N/A	N/A	No
UPS[6]	N/A	N/A	N/A	Yes

Source: Smith and McKinney data.
N/A = Not applicable.
[1]Pets are accepted on flights in the passenger cabin. All pets must be in an FAA approved carrier that fits under the seat http://www.petswelcome.com/pet-air-travel/allegiant-air.
[2]In cabin pet allowed within and between the United States and Canada, Mexico, Central America, Colombia, and the Caribbean https://www.aa.com/i18n/travelInformation/specialAssistance/travelingWithPets.jsp?anchorLocation=DirectURL&title=pets.
[3]Dogs, cats, and household birds can travel with you in the cabin for a one-way fee*, collected at check in, to the following destinations (many) http://www.delta.com/content/www/en_US/traveling-with-us/special-travel-needs/pets/pet-travel-options.html#carry.
[4]Domesticated cats, small dogs, rabbits, and birds may travel accompanied in the aircraft cabin on most flights within the United States http://www.united.com/web/en-us/content/travel/animals/default.aspx.
[5]Accepts pets in cabin only http://www.usairways.com/en-US/traveltools/specialneeds/pets.html?re=1.
[6]UPS accepts live animals in IATA Live Animal Regulations (LAR) compliant crates or containers for shipment at an off-airport facility. Live animals must be shipped same-day priority.

cargo and excess baggage, while the Dash-8 cannot. Because airlines are constantly changing flight schedules and equipment, the airline websites, online reservation software, and live reservationists are the essential information source for the actual availability of excess baggage and cargo shipment of animals. It is unlikely that the airport will be able to provide precisely updated information.

After an animal has been checked in, the crate is usually stored indoors until time to load it into the plane. The maximum distance that a crated animal is transported is 250 feet. For incoming animals, the process is reversed, and the crates are delivered at a door into the baggage area.

ROA has never had a problem with an animal that got loose in the air operating area (AOA), terminal, or security area. No incident involving an injured or dead animal has ever been reported at ROA on the Airline Animal Incident Reports (AAIR) supplied to U.S.DOT. Passengers occasionally take pets out of crates in the terminal, and meeters and greeters also sometimes bring pets into the terminal. This violates airport policy that requires all animals in the terminal to be in crates except service dogs. Animals in containers must be removed for TSA screening of the container, but passengers usually control the animal with a collar and leash during these short periods out of the container. The crating policy is posted on the doors of all public entrances into the terminal. When these violations occur, airport employees ask for the animal to be crated or to be removed from the terminal. The airport reports no issues with accommodating passengers or visitors accompanied by service dogs or emotional support animals.

ROA keeps no data on the number of animals traveling through the airport. There is no regulatory requirement by any federal or state agency for an airport to collect such data.

The airport's website explains ADA accessibility options (www.roanokeairport.com/ada-accessibility-options) but does not describe or map the location of the service animal relief area. ROA's website has links to the reservations and policies of the five passenger airlines.

The ROA case exemplifies the complexities and need for information facing anyone who wishes to travel with an animal or ship an animal at a regional airport—indeed, at any airport in the United States dealing with domestic flights. The consumer is faced with lack of competition at regional airports if they need to ship an animal too large to fit under the seat. All airlines accept service dogs and almost all of them accept pets in the cabin. It is transporting putting a large dog or any animal unaccompanied by the owner in the cargo hold that is complex.

CASE EXAMPLE 2—BLUE GRASS AIRPORT

This case example is based on an interview with Amy Caudill, Director of Marketing and Public Relations, and Scott Lanter, Director of Public Safety, on August 11, 2014, and information on the airport's website (www.bluegrassairport.com). It is also based on an interview on September 10, 2014, with Mike Payne, Operations Manager, H. E. "Tex" Sutton Forwarding Company, LLC, also of Lexington, Kentucky.

Lexington's Blue Grass Airport (LEX) serves commercial airline passengers with 539,879 enplanements in 2013 (FAA 2014a) traveling on five airlines (the same five airlines as ROA, see Table 2 for their animal shipping policies) with nonstop flights to 15 cities. Of those 15, 10 are major connecting hub airports. There are approximately 80 flights per day. In addition to passenger traffic, LEX receives cargo and freight. The most significant type of cargo received at LEX is equine—race horses, show horses, polo ponies, event horses, horses for breeding, and horses for sale. In addition to passenger operations, LEX is the home base for numerous private aircraft. During special events such as horse races, horse shows and competitions, horse sales, and University of Kentucky athletic events, many more private aircraft fly into LEX and must be parked and serviced.

LEX exemplifies how collaboration and communication among an airport and its stakeholders can protect the airport's capabilities to handle competing lines of business. During both routine and peak equine shipping periods, specialized carriers work with the airport to site dedicated facilities

FIGURE 4 Customized 727 for horse transport at LEX (H. E. Tex Sutton photo).

for horse operations in locations that minimize conflict with passenger and GA operations while optimizing the protection of the health and safety of the horses. The major horse transportation company moves 3,500 to 4,500 horses per year through LEX. The company uses two customized leased Boeing 727 aircraft (see Figures 4 and 5) that are unloaded at a dedicated facility using special ramps directly into horse carrier trucks that leave the airport by a separate route from other traffic. Typically, a horse is landed, unloaded, put in a truck, and off the airport property within 45 minutes. Both the airport and Sutton Forwarding report that there have never been any problems involving horses disrupting airport operations. Both attribute this to communication, joint planning, professionalism, and attention to details, especially those involving the flow of horses through the airport. The only suggestion from the horse transport company would be for TSA to standardize its procedures between airports and within airports regarding the rules for escorting horse carrier trucks onto the airfield. The current situation sometimes creates delays that can increase the risk to horses.

The airport's role regarding horses is relatively limited. Primarily, it is the landlord of facilities. The horses go through USDA quarantine at Los Angeles, Miami, or Stewart (New York). The airport staff works to anticipate the needs for horse shipments and GA for special events and the eight major horse sales a year that are held in Lexington. The airport is currently doing the preliminary planning for the Breeders' Cup in 2016, which will bring hundreds of horses and private planes, and tens of thousands of persons, to LEX.

With regard to non-equine animals, LEX is unique among small U.S. airports in having post-security service animal/pet relief areas. These are grassed areas adjacent to ramps. When a passenger's pet needs

FIGURE 5 "Air Horse One" (H. E. Tex Sutton photo).

to use the area, an airport operations staff member escorts the owner and pet to the area. All gates are within a five-minute walk to a post-security relief area. The relief areas work well except during bad weather. In addition, LEX has several grassed relief areas outside the front of the terminal.

LEX estimates that about 90 pets and service animals per month travel through the airport, and another 120 pets per month travel in cargo. About 45 non-horse livestock are shipped through the airport each month.

The airport has had occasional issues with meeters and greeters trying to bring dogs into the terminal. Local health laws and airport policy require all pets to be in crates or carriers except for service dogs. Airport and airline employees politely inform the pet owners of the policy and ask them to leave the terminal.

LEX puts special effort into training its employees on ADA issues and on animal issues. For example, LEX gives its paid part-time information center staff extensive orientation training that includes ADA, service animals, relief areas, and airport policies about animals.

The airport's website (www.bluegrassairport.com) includes an accessibility guide and a terminal map. The terminal map does not show the location of landside or airside (post-security) service animal relief areas.

CASE EXAMPLE 3—MIAMI INTERNATIONAL AIRPORT

This case example is based on a series of interviews with managers at Miami International Airport (MIA) and at companies and agencies that work with the air transportation of animals through MIA. The completed interviews were with Dan Agostino, Assistant Aviation Director for Operations; Ricardo Fernandez, Landside Operations Supervisor, Rene Casellas, Landside Operations Supervisor, and Luis Arce, Acting Division Director Terminal Operations; Laura Moya, Senior Veterinary and Medical Officer, USDA–APHIS Animal Import Center, Miami; Adam Langer, Senior Quarantine Veterinary Medical Officer, and Julie Sinclair, Quarantine Veterinary Medical Officer, Quarantine and Border Health Services, Centers for Disease Control and Prevention (CDC); Nico Melendez, Public Information Officer, TSA; Rique Valdivieso, President and CEO, Animal Air Services, Miami; and Ben Daughtry, Vice President of Operations, Dynasty Marine Associates, Inc., Marathon, Florida. In addition, interviews were unsuccessfully sought from CBP, the U.S. Fish and Wildlife Service (USFWS), Worldwide Livestock Services Inc., and the Greater Miami Chamber of Commerce. Information concerning the Greater Miami Chamber of Commerce's role in air cargo including animal shipments at MIA was obtained indirectly through other interviews. Melendez is located at Los Angeles International Airport, but was able to describe the same sorts of transactions and interactions that TSA experiences with animals at MIA.

Among the 12 large-hub airports interviewed for this study, MIA is perhaps the most complex when it comes to the transportation of animals, with LAX in a very similar position. The main purpose of the MIA case example is to illustrate the nature of the transactions and interactions among the airport, airlines, animal handling and forwarding companies, and federal agencies involved with the domestic and international travel and shipment of animals.

MIA serves commercial airline passengers with 19,422,275 enplanements in 2013 (FAA 2014a) traveling on 97 airlines, with nonstop flights to 144 cities in the United States, Canada, Mexico, the Caribbean, Central America, South America, Europe, and the Middle East. There are approximately 1,000 flights per day. Many passengers travel with pets or service dogs.

In addition to passenger traffic, MIA is one of the world's busiest cargo and freight airports, handling 6.85 billion pounds of cargo in 2013 (FAA 2014a). Twenty-nine (29) cargo carriers including FedEx Express and UPS serve MIA. Animals in all four AWA categories and all nine APHIS categories figure prominently, both as imports and as exports.

Among U.S. airports in 2013, MIA ranked first in international freight, second in international passengers, third in total freight, third in total cargo (freight plus mail), 16th in total number of operations, and 10th in total passengers. Among worldwide airports in 2013, MIA ranked ninth in international freight, 26th in international passengers, ninth in total freight, 10th in total cargo (freight plus mail), 24th in total number of operations, and 26th in total passengers (MIA n.d.). In short, MIA is a very busy airport with passenger operations and freight operations that are equally important.

For passengers traveling with pets, the airlines at MIA offer the full range of possibilities within the limits of the individual airline's policies—in the cabin in a pet carrier, as excess baggage, and as cargo. Passengers are responsible for getting the information they require to take their pets on flights and complying with it. The main interaction is between the passenger and the airline. The airport's role is to provide and maintain service animal relief areas/pet relief areas. MIA has three outdoor animal relief areas, all with dual surfaces and waste disposal stations. Dual surfaces are important because service dogs are trained to relieve themselves on hard surfaces, whereas most pet dogs prefer grassed surfaces. Two of the areas are "whimsically themed 'doggy parks'" (MIA 2014). There is abundant signage near the areas and in the terminal. Full information is available on the airport's website and on maps throughout the terminal. As of November 2014, MIA did not have plans for post-security animal relief areas.

One unusual animal-related service provided by MIA is the presence of a therapy dog, Casey, whom nervous travelers may pet. Casey and his handler circulate through the terminal, reassuring passengers and calming children (www.miami-airport.com/casey.asp). Casey has had obedience training and special training as a therapy dog. Other airports in this study that have therapy dog programs are LAX and SFO.

People entering the terminals to meet and greet travelers sometimes bring pets. This violates a county ordinance as well as aviation rules and regulations, which state that only service animals on leashes and pets in containers that will be leaving by air or have just arrived by air are allowed in the terminal. The airport's employees generally ignore this problem unless the pet creates a nuisance, which is a very rare occurrence.

Airline and freight carrier cargo facilities for shipping animals as cargo are located on the airport property two to three miles from where planes are loaded. The biggest complication this presents is the need for temperature controls to offset Miami's warm climate, but the shippers who accept animals for transport have climate-controlled facilities and transport vehicles. In addition to the various on-airport facilities for animals, several animal handling and forwarding companies have off-airport facilities and pre-arranged access to the secure area of the airfield to load their animal cargo. As seen in the LEX case example, close coordination among the airport, airlines and freight carriers, agencies, and shippers normally makes for a smooth, efficient operation that protects the health and safety of the animals.

One unique feature of the coordination and collaboration for animal cargo operations at MIA is the role played by the Cargo Network committee of the Greater Miami Chamber of Commerce. The network, which meets monthly, includes all the stakeholders involved in cargo shipments at MIA, including the airport itself, and Miami's two seaports. When an issue arises that involves multiple stakeholders in animal transportation by air, the network provides a forum for discussion and the development of solutions. Everyone in Miami who was interviewed for this study commented on the effectiveness of this arrangement.

The one difficulty noted in the animal handling company interviews is the complications sometimes created by the ironclad rules for the age, hard copy, and blue ink of veterinarians' health certificates. The interplay of veterinarians' office hours, flight schedules, and desired delivery dates on the receiving parties' end sometimes create delays and extra expense. The delays can threaten the health of the animals, particularly in the case of marine animals. The regulatory basis and details of the problematic requirements will be discussed in chapters three and four.

MIA reported that it has never had disruptions in its AOA or terminals from pets or other animals. If an airline has an animal get loose, it must report it to the airport. MIA will help the airline retrieve the animal.

MIA trains all airport employees on Chapter 25 of the regulations of Miami–Dade Aviation Department (Miami–Dade Aviation Department 1995). Among many other things, Chapter 25 spells out the airport's policies concerning ADA compliance, service animals, and pets in its terminals.

The constellation of interactions among the stakeholders involved in the air transportation of animals at MIA is summarized in Table 3. The table summarizes the stakeholders' roles and notes how they differ for domestic and international travel.

The single most important point made in all the Miami-related interviews is that there have been no major issues encountered with animals passing through MIA. This testifies to the benefits of cooperation and joint planning among the stakeholders. Therefore, complexity in itself is not a problem.

CASE EXAMPLE 4—HEATHROW ANIMAL RECEPTION CENTRE

This case example is based on an interview with Susie Pritchard, Deputy Manager, on October 3, 2014, information on the centre's website (www.cityoflondon.gov.uk/harc), and documents provided by HARC.

LHR is the busiest airport in the world for international arrivals and the third busiest overall in terms of passengers. In 2013, LRH had approximately 36,184,000 enplanements in 2013 (ACI 2014). Its 82 passenger airlines serve 180 destinations in 85 countries; its 14 air cargo carriers handled 3.12 billion pounds of cargo in 2013 (www.heathrowairport.com/about-us). Comparison of the overall profiles of LHR and MIA shows that they are generally similar in the importance of international passenger travel and cargo.

HARC is totally independent of LHR. The City of London Corporation owns and operates HARC under the United Kingdom's Animal Health Act of 1981. HARC provides, either directly or through tenant agencies, the full range of services required to import an animal into the United Kingdom (U.K.). HARC and its partner agencies have as their goal providing one-stop service. Figures 6 and 7 show HARC's facilities.

HARC is the only post that can accept any species of animals. (Gatwick Airport has a privatized operation that can accept dogs, cats, and some other species. Edinburgh has a privatized operation that can only accept dogs and cats. Manchester receives many pets, fish, and reptiles. Stansted just east of London is the main port of entry for horses into the U.K., accounting for the low number of horses shipped through Heathrow.)

The numbers of animals by categories that pass through HARC are shown in Table 1 in chapter one. Under the Pet Travel Scheme (PTS), with its standardized documents and requirements, it takes two hours to clear a pet arriving from a European Union (EU) country and about four hours to clear a non-EU arrival.

A computerized database records information from air waybills and PTS documents. The Common Veterinary Entry Document (CVED) gets entered for commercial shipments. A unique tracking number is generated for each animal. The data system can generate summary reports by species, by airline, or by country of origin. HARC would like to see the database linked to the airport's flight information, which would make for more efficient operations to meet flights.

HARC is required as a statutory body not to make a profit. In general, the airlines pay charges for animals arriving under the PTS or commercial shipments. HARC only charges owners directly if special services (e.g., overnight boarding) are provided. Billing is connected to the database and bills are sent directly to the airline or its agent.

TABLE 3
STAKEHOLDER ROLES IN ANIMAL TRANSPORTATION AT MIA

Type of Stakeholder	Name of Stakeholder	Role(s) for Domestic Flights	Role(s) for Outgoing International Flights	Role(s) for Incoming International Flights
Airport	MIA, including concessions and contractors	Provide general information Serve as host to passengers and public Serve as landlord Provide SARAs Ensure ADA compliance in facilities Control pets in terminal Maintain security		
Airlines	Any airline accepting animals for transport	Provide specific information to passengers and shippers Inspect health certificate and rabies certificate Enforce IATA LAR Protect health & safety of animals Verify assistance dogs Resolve passenger and shipper complaints	Contact foreign imports and customs to verify import permits are valid and receiver is expecting the animal; check health certificates and paperwork of animal when accepting it; check crate size, food and water containers, bedding, and all attachments to shipping containers	Send attached paperwork to customs for clearing of animal; release animal when cleared by customs; assesses any damage to shipping container and animal if there is evident damage.
Local Agencies	Health Department	Set and enforce animal vaccination requirements (e.g., rabies) Educate about and enforce local regulations on animals in buildings	None. Veterinarians who are certified to issue health certificates work with APHIS.	None
	Animal Control	Deal with dead animals Remove strays from airport	None	None
Federal Agencies	FAA	Set requirements for relief areas and access within airport facilities	None	None
	TSA	Enforce security regulations Inspect crates and carriers	Screen shipping container for explosives and contraband	None
	USDA-APHIS	Establish environmental standards for aircraft cargo holds that will carry animals Disseminate IATA LAR requirements	Along with foreign governments, set health requirements and health certificate requirements; check and stamp verification of rabies vaccinations & other vaccinations, parasite treatment, titer tests etc.	Along with CDC, ensure imported animals have required health certifications and testing and relay information to CBP

(continued on next page)

TABLE 3
(*continued*)

Type of Stakeholder	Name of Stakeholder	Role(s) for Domestic Flights	Role(s) for Outgoing International Flights	Role(s) for Incoming International Flights
Federal Agencies	CBP	None	None	Clear all imported animals, verifies recipient, verify all health testing requirements have been met; set paperwork and fees for commercial shipments and small owner/breeder imports Inspect for CITES violations
	USF&WS	Establish standards for moving all fish and wildlife Enforce endangered species regulations		
	CDC	None unless zoonotic disease becomes epidemic	Along with USDA-APHIS, set health, vaccination and testing requirements	Along with USDA-APHIS, set health, vaccination and testing requirements for import; issue waivers on case-by-case basis if necessary
Private Companies (examples)	Air Animals Pet Movers	Handle all procedures and documentation for pet owners or shippers	Handle all procedures and documentation for pet owners or shippers	Pick up paperwork for release by CBP; collect animal from airline
	Animal Air	Transport farm animals and exhibit animals to and from airport Load aircraft Handle documentation	Verify all required health certifications are in order	Verify all required health certifications are in order and take such to CBP
	Dynasty Marine	Transport marine animals to and from airport Load aircraft Handle documentation		
	Worldwide Livestock Service	Transport farm animals and exhibit animals to and from airport Load aircraft Handle documentation	Verify all required health certifications are in order	Verify all required health certifications are in order and take such to CBP

Source: Smith and McKinney data.

FIGURE 6 Heathrow Animal Reception Centre (HARC photo).

HARC leases an office to the U.K. Animal and Plants Health Agency (APHA) which issues CVEDs for unaccompanied pets and commercial shipments from outside the EU, combining the roles that APHIS and CDC have at U.S. airports of entry. The U.K. Border Force Convention on the International Trade in Endangered Species (CITES) team is located at Heathrow near HARC and enforces the legislation related to endangered species.

In addition to the one government agency (APHA), HARC houses one private company, a pet travel agency that handles customs clearance for British Airways passengers, accounting for 60%–70% of incoming companion animals at Heathrow.

HARC has specially equipped vans with drivers who have been trained to the standards of the U.K. Civil Aviation Authority to drive safely in LHR's air operating area. HARC uses these vans to meet and collect pets and animals directly from arriving flights except for British Airways and Virgin Atlantic, which have their own vans.

HARC has extensive new employee and refresher training for its entire staff. Under the PTS regulating incoming companion animals, HARC provides the "Travellers Point of Entry" checks for pets, that is, physical and documentary checks, as well as providing for the animals' welfare needs. Veterinary checks, where required for the purpose of issuing a CVED, are carried out by APHA; there are no vets employed by the city based at HARC. HARC has 26 kennels for dogs and 28 for cats, and their occupancy turns over several times a day. There is a separate building for fish.

FIGURE 7 HARC van meeting flight at LHR (HARC photo).

HARC has no responsibility for animal exports but carries out the statutory checking of exports under contract with the local authority. HARC does provide transit care when there is more than two or three hours between flights.

HARC provides an individual service so that service dog users' needs are met. This generates a fee that is payable by the British Airport Authority in the case of "recognised assistance animals," or the owner in the case of "unrecognized" dogs. Emotional support animals are recognized by U.S. agencies and airlines as assistance dogs but are not so recognized by the U.K. or EU. There are some instances in which dogs are presented as "service dogs" but HARC does not believe them to have received any special training. This ruse is generally employed by people who do not wish to fly their pets in the hold of the aircraft, and is considered an abuse of the system. Recognized assistance dogs require pre-clearance and get special treatment when HARC meets the plane and traveler. For this service, HARC bills the airport authority. For U.S. carriers, the charge is £360 (about $525). If the arriving animal does not meet the U.K. or EU definition of "recognized assistance animal," the animal is removed from the passenger and the passenger is charged the full fee directly. HARC receives verbal complaints and some verbal abuse towards HARC officers enforcing the legislation, usually from U.S. citizens who expect the U.K./EU policy to accept emotional support dogs without question or without documentation of training. HARC sometimes has to call for the airport doctor or security to help with the passenger. Part of the problem is that the U.K. has no legal definition of "service dog." HARC would like to see a clear international definition of service dog and airline policies adjusted to match it.

HARC prosecutes airlines that violate the IATA Live Animal Regulations (LAR). This results in 12 to 15 prosecutions per year.

In January 2015, the Port Authority of New York and New Jersey announced that a dedicated full-service animal terminal was planned at John F. Kennedy International Airport (JFK). In the facility, several vendors will offer quarantine, boarding, veterinary, grooming, and training services for animals being imported, exported, and in transit. The proposed terminal has been approved by APHIS. The facility is estimated to generate $108 million in revenues during the 30-year lease (FoxNews 2015). The proposed facility will offer more services than HARC.

CHAPTER THREE

STATUTORY AND REGULATORY REQUIREMENTS THAT AFFECT TRAVEL OF ANIMALS THROUGH AIRPORTS

ADA AND ASSOCIATED REGULATIONS

The ADA was signed into law on July 26, 1990, the culmination of the disability rights movement. This movement highlighted the unequal access that the disabled faced in society, in the work place, in the use of publicly available transportation and public accommodations, in state and local government services, and in telecommunications—access that the non-disabled enjoyed with unfettered access. The ADA codified comprehensive civil rights protection of the disabled through specific regulations for business, transportation, public and private restrooms, buildings and building codes, parking facilities, etc., so that disabled persons could more easily participate in all facets of life (EEOC 2010).

The ADA has changed the facilities and services that both airports and airlines must provide to disabled persons concerning airport and aircraft accessibility and assistance and telecommunications accessibility (i.e., Telecommunication Device for the Deaf, or TDD). Airport facilities must be designed to comply with ADA regulations. Although all disabled users must be adequately accommodated, those traveling with service dogs demand additional investment of time, personnel, and capital to meet the special needs of these passengers.

Those facilities and services that directly impact animals traveling through airports with handicapped owners include, among other things, TSA checkpoints for persons with disabilities that are animal-friendly, with personnel trained in the proper clearing of animals. Handicapped-accessible restrooms must be large enough to accommodate a wheelchair and service dog. Service dog relief areas (SARAs) are required, and they must be handicapped accessible. Signage to SARAs must have raised letters and Braille text. Restaurants and lounges must provide access to persons with disabilities and their service dogs. Access to the disabled passenger's flight must allow for an uneventful boarding of the passenger and his or her accompanying service dog. Moreover, these requirements necessitate up to date, ongoing training for airport and contract employees both in the legal aspects of the ADA and in proper procedures to aid persons with disabilities and their service dogs.

The original ADA defined "service animal" as a wide variety of species that perform tasks or give emotional support to the disabled. This created difficulties when some disabled individuals used miniature horses, dwarf pigs, cats, and a host of rodents (gerbils and the like) for tasks and support. Consequently, in March 15, 2011, the definition of a service animal was redefined by the U.S. Attorney General as "any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability." (Note: Under specified circumstances, a miniature horse may qualify as a service animal.)

This broad definition includes performing tasks such as non-violent protection or rescue work, guiding people who are blind, alerting people who are deaf, alerting to, protecting, and assisting during a seizure, pulling a wheelchair, calming a person with mental and neurological disorders during an anxiety attack, or other duties as needed. Service dogs are working dogs; they are not considered to be pets. As such, a service dog must be leashed, harnessed, or in some way tethered to the disabled person. The service dog must be continually under control, well-behaved, safe, and comfortable in crowded situations, and the disabled individual must communicate and control the dog verbally, with gestures, or other effective methods.

Airport staff are limited by the ADA to the questions they may ask to verify if the animal is a legitimate service dog. Questions are limited to whether a service dog is required because of a disability, and what tasks or functions the dog has been trained to perform.

Under no circumstances can the person be asked about the disability, required to produce medical documentation, or be asked to demonstrate the task the dog has been trained to do. However, Section 35.136 of Title II of the ADA regulations provides two exceptions when an individual with a disability may be asked to remove a service animal from a public facility: the animal is out of control and the animal's handler does not take effective action to control it; or the animal is not housebroken.

Appendix A of this report gives examples of behaviors covered by these two exceptions.

AIR CARRIER ACCESS ACT, ASSOCIATED REGULATIONS, AND FAA ADVISORY CIRCULARS

The ACAA is Title 49, Section 41705 of the U.S. Code. It prohibits commercial airlines from discriminating against passengers with disabilities, and states that "no air carrier may discriminate against any otherwise qualified individual with a disability, by reason of such disability, in the provision of air transportation" (U.S.DOT 14 CFR Part 382, § 382.1 Purpose, p. 3). In 1990, the U.S.DOT issued rules that clearly defined the rights of disabled passengers and the required duties of air carriers under this law. In 2009, the U.S.DOT rewrote a principal portion of the ACAA, known as Part 382 (P382), both adding to and specifying the rules and regulations of all aspects of air travel for disabled persons.

Part 382 mandates the obligation to accommodate disabled passengers. This specifies that the carrier may not require advance notice that a person with a disability will be traveling, with the exception of a 48-hour notice if special or non-standard accommodations (such as hookups for a respirator or transport of an electric wheelchair) are required. Because airlines are required to provide assistance to disabled persons who need help with boarding, deplaning, and making connections, this may involve the passenger and a service dog, both of which move together through airports and at no charge by the airline.

The AACA impacts airports in two crucial ways: If an airport agrees to take over a required function(s) such as providing or moving wheelchairs, specialized carts, escorts and transportation through the airport for disabled persons for the airlines, that passenger may be accompanied by a service dog, thereby adding complexity to care of the disabled passenger.

Additionally, the airport is charged with designing, providing, and maintaining SARAs that must be handicapped accessible, accessible in a timely manner, and user-friendly for the disabled person regardless of the disability (sight, hearing, inability to walk and move through an airport without assistance, etc.).

Requirements for SARAs state that:

- Carriers must consult with local service animal training organizations to establish SARA;
- The SARA must be within a reasonable distance of the gates;
- The SARA must be accessible to all persons with disabilities and good for all sizes of dogs;
- The SARA may not double as a smoking area;
- The SARA must be equipped with a trash receptacle for waste disposal and be maintained regularly so that the area is clean of debris and dog waste (e.g., so blind users do not track waste away with them); and
- The SARA must be labeled on online and in-flight maps.

SARAs are discussed in detail in chapter four of this report.

What the new ACAA regulations failed to address was that areas must be safe, which can be interpreted as being within the secure area (airside) beyond TSA checkpoints. Those SARAs that are outside of the TSA checkpoints may also fail the "reasonable distance" test. The regulations mandate "reasonable distance" but do not address the amount of time required to use a SARA, which may be increased greatly if the passenger and his or her service dog have to exit security to use a landside SARA and return through security.

The FAA issues Advisory Circular (ACs) for the purpose of guidelines and adherence to all aspects of air transportation and its associated facilities. FAA Advisory Circular 150/5360-14 addresses all airport accommodations for persons with disabilities, which includes SARAs. As of November 2014, the FAA was in the process of revising specific requirements for service dog/pet relief areas in airports. This revision of AC 150/5360 may affect the number and location of service animal relief areas, which in turn would affect capital and trained personnel requirements, as well as possible rearrangement of current facilities.

ANIMAL WELFARE ACT, U.S. DEPARTMENT OF AGRICULTURE–ANIMAL AND PLANT HEALTH INSPECTION SERVICE, AND ASSOCIATED REGULATIONS

The AWA of 1966 and the USDA cannot be viewed separately where it pertains to the movement and humane treatment of animals. The law sets the basic guidelines and grants the USDA the power to develop and promulgate detailed standards for the care of animals and the legal enforcement of those standards.

The AWA (Public Law 89-544) authorizes the Secretary of Agriculture to regulate the transport, sale, standards of care, and handling of dogs, cats, nonhuman primates, guinea pigs, hamsters, and rabbits intended to be used in research or "for other purposes," including pets, breeding animals, and all uses in the private sector. The AWA provides definitions (such as "person," "animal," "commerce," "dealer," "cat," and "dog"). The act provides the framework and outline by which the Secretary of Agriculture is granted authority to formulate and implement such rules, regulations, orders, fees, and so on as may be deemed necessary in order to fulfill its proposes. The AWA gives the Secretary of Agriculture the most powerful and far-reaching authority to affect the handling, care, and transport of the aforementioned species by air. Current regulations can be and often are updated and changed.

The rule-making agency of the USDA with respect to animal regulations under the AWA is the Animal and Plant Health Inspection Service (APHIS). APHIS is "a multi-faceted Agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities" (USDA–APHIS 2014b). APHIS is also charged with prevention or cessation of the inhumane treatment of animals in commerce, breeding, handling, transport, and basic care.

With regard to animals traveling through airports, the animal must meet APHIS health regulations in order to be transported either on public or private transport within a state, across state lines, or internationally. APHIS sets the minimum criteria, while each state may have more stringent or different criteria that the animal must meet in order to travel out of state. The minimum requirement for an animal to travel is a veterinary-issued health certificate that verifies the animal is current on required rabies vaccinations. However, each state sets its own rabies vaccination criteria with respect to the age that vaccination is first required and whether that state accepts three-year adult rabies vaccinations or requires annual vaccination. Some states require vaccination for other communicable diseases (canine parvovirus, canine distemper virus, etc.). APHIS offices in each state are staffed with a veterinarian whose duties include, but are not limited to, approving international travel health certificates. Although APHIS has the complete listing of requirements for an animal to be transported out of the United States to a foreign country and is charged with verifying that each animal meets the requirements for the country of destination, those veterinary and health standards are set by each

country (USDA–APHIS 2014c–g). APHIS also sets guidelines in order to ensure humane treatment and handling of animals both in and out of airports (USDA 2014c).

In addition to requirements set by APHIS, the USFWS sets the standards for the importing and exporting all fish and wildlife. Wildlife includes all wild mammals, birds, reptiles, amphibians, and fish, and invertebrates such as insects, crustaceans, arthropods, mollusks and coelenterates. A wild animal that is bred in captivity, even for generations, is still considered to be wildlife (USFWS 2014).

INTERNATIONAL AIR TRANSPORT ASSOCIATION LIVE ANIMAL REGULATIONS

The IATA sets minimum worldwide standards for the safe transport of all kinds of live animals by commercial airlines, including their travel through airports. IATA sets the standards for containers in which animals are shipped, how those containers must be handled when in airports and on aircraft, and acceptable methods of moving said containers. IATA standards impact airports because of climate controls, machinery, and employee training, as well as the space required to move different species through airports (IATA 2013).

CENTERS FOR DISEASE CONTROL LEGISLATION AND REGULATIONS

The CDC set those standards and regulations for all species of animals that are imported into the United States, including, but not limited to, vaccination requirements, quarantine, testing for diseases, and surveillance of diseases. The mission of the CDC with respect to animals is the control and prevention of communicable diseases, with an emphasis on zoonotic diseases (Sinclair et al. 2014). The only interaction the CDC has with an airport concerning animals traveling through it is in the event that an animal does not have all required health clearances or appears to be unhealthy. In the case of a dog or non-human primate lacking required health clearances or appearing unhealthy, that animal will be held in quarantine, released to a licensed veterinarian, or returned to its country of origin (CDC 2014).

U.S. CUSTOMS AND BORDER PROTECTION LEGISLATION AND REGULATIONS

The CBP is responsible for allowing or barring all animals arriving into the United States from foreign countries. CBP facilitates the release of imported animals by acting as a clearing agent of the federal government. CBP responsibilities include verifying that all shipping documents and health clearances are valid and complete; and that the owner or agent asking for release of the animal is the legitimate owner. If required by CDC regulations, some species may be moved directly into quarantine facilities. An animal lacking required health clearances can be returned to its originating country. CBP personnel are located in airports to clear passengers and animals carried on flights. There is a CBP office and facility either on or adjacent to airports. The only interaction CBP has with airports and the movement of animals through airports is with those international airports that have inbound international flights (CBP 2014a).

U.S. FISH AND WILDLIFE SERVICE AND CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was proposed in 1963 at a meeting of members of the World Conservation Union (IUCN) and adopted in July 1975. The mission of this agreement among 80 countries is to ensure that trade species of wild animals and flora do not threaten the survival of those species (CITES 1979–1983). CITES screening occurs only at certain airports in the United States. Although the agreement addresses which animals, animal byproducts, flora, and fauna can be imported into the United States, it is CBP that stops the import of animals and products that are not allowed into the U.S. There is virtually no contact with or impact on the movement of animals through airports with the exception of animals that will be denied entrance into the United States and either confiscated or returned to the country of origin. That, again, is handled by CBP (2014b).

STATE AND LOCAL HEALTH LAWS AND REGULATIONS

All animals that are shipped on airlines must meet the requirements of each state in order to ship an animal into that state. Each state may have different health criteria for an animal entering that state. All states and territories require a veterinarian-issued health certificate, and each jurisdiction may use its own or USDA health certificate form. Veterinarians are charged with ensuring each animal meets the state of destination's specific health requirements. The responsibility to have all required vaccinations and tests falls on the agent who will deliver the animal to the airport for shipping. However, it is unreasonable to expect each the airport to be knowledgeable about or communicate ever-changing rules and regulations for shipping animals.

CHAPTER FOUR

FINDINGS

The 52 interviews, four case studies, review of documents provided by interviewees, and the literature review led to the identification of six significant issues related to accommodating animals traveling through airports. The team also identified several topics that are non-issues for all stakeholders, and even more issues that do not pertain to airports even though they are significant for other stakeholders. These issues support the findings from the case examples that the role played by airports is severely circumscribed by law, by regulation, by contracts with tenants, and by practice.

This chapter presents six issues in detail:

- Service animal relief areas/pet relief areas
- Reducing stress on animals traveling through airports
- Dealing with weather-related issues
- Documentation of service dogs and emotional support animals
- Communicating information about traveling with animals and shipping animals
- Training needs.

To the extent that an airport provides facilities used flexibly by two or more air carriers, for passengers or for cargo, responsibility for some of the issues that pertain to airlines may be transferred to the airport and require the airport to make investments in facilities, equipment, environmental control, personnel, and training. However, the legal responsibility will still remain with the airline or freight carrier. The details of who does what and who pays in such common-use facilities are the subject of contractual agreements between the airport and the air carriers.

Before beginning the interviews, it was thought that negative interactions between traveling pets and animals working for airports or other agencies would perhaps be an issue. For example, a pet on a leash might interfere with agricultural inspection dogs, police dogs, bomb dogs, or drug dogs working in the airport. However, in the interviews with the airports, airlines, and agencies, only one airport (Denver International) reported this as an issue, and a minor one. This appears to be the result of superior training of the working dogs that lets them and their handlers ignore or otherwise deal with distractions from other dogs in the terminal. Pet-working dog interference was found to be a non-issue.

SERVICE ANIMAL RELIEF AREAS/PET RELIEF AREAS

The ability to travel with a service animal, emotional support animal, or pet is important to a significant—and growing—segment of passengers. For airports, it is good business to serve these passengers and their animals.

SARAs at airport terminals are the result of requirements set by the ADA, the ACAA, the Rehabilitation Act of 1973, as amended (RA), and the Architectural Barriers Act of 1968, as amended (ABA); and FAA Advisory Circular 150/5360-14 (Access to Airports by Individuals with Disabilities). The AC assists airports in complying with the current laws and regulations governing individuals with disabilities by

- Identifying the relevant statutes and regulations that impact upon airports;
- Presenting in a single document the main features of each of the statutes and regulations;

- Providing legal citations to facilitate research;
- Listing sources of assistance or additional information; and
- Identifying the final rules for compliance, including SARAs (FAA 1999).

AC 150/5360-14 applies to airports operated by public entities and those receiving federal financial assistance, so it applies to all 23 U.S. airports in this study. The advisory circular does not explicitly require SARAs or specify their locations and characteristics. The AC requires the airport facilities to allow the use of service animals, which implies relief areas; but it does not address the issue of post-security SARAs or the issues of psychiatric service or emotional support animals.

At the time of this study, AC 150/5360-14 is under review and is expected to be revised in 2015. The topics under discussion for revision are

- Location and distance from airport entrances, boarding gates, and baggage claims, with implications concerning post-security SARAs
- Wayfinding and signage
- Size and dimensions of SARAs
- Surfaces in SARAs
- Automatic and accessible doors
- Garbage containers at entrance to SARAs, at a height accessible from wheelchairs
- Assistance buttons, call buttons, or phones for emergency assistance
- Use of non-toxic and low-odor cleaning solutions
- Full enclosure of SARAs so that service dogs can be let free in area if needed
- Protection of outdoor SARAs from elements (Bishop 2014; Miller 2014).

Because of space constraints and capital, operating, and maintenance costs, all of these issues are difficult for many airports and the outcome of the advisory circular revision is uncertain. Particularly problematic is whether post-security SARAs will be required as the result of the adoption of the proposed 15-minute standard for the longest walk from a gate to a SARA. Any trip to a SARA that requires going out of security and back through security almost certainly would exceed the 15-minute walk advice.

SARAs are the responsibility of the owner or operator of an airport terminal. Most often, this is the airport itself; however, at some airports, terminals are leased to or actually owned by airlines or independent terminal operating firms. Among the 23 U.S. airports in this study, DFW and MIA are examples of airports that lease terminals to an airline; JFK is an example of an airport where some terminals are owned by airlines and some are owned by independent terminal operating firms. LEX, ROA, SAN, SEA, and SFO are examples of airports that own and operate their own terminals. No matter who operates the terminal, potential complaints about SARAs, their location, their maintenance, and whether they are post-security generally go to the airport by default.

According to interviewees, SARAs are increasingly viewed as a small but significant aspect of customer satisfaction. The airports with numerous SARAs, elaborate SARAs, and post-security SARAs all said that they viewed the capital, operating, and maintenance costs as an investment in customer satisfaction.

Advisory requirements apply to facilities for service animals, not for pets. However, no airport in the study attempts to restrict use of its SARAs to service dogs and all allow free access to the relief areas for pets. Indeed, pets traveling through airports far outnumber service dogs. The discussion of documentation of service dogs later in this chapter relates to this, but no airport asks for documentation or other proof that a service dog meets the legal criteria for a service animal as specified in the ADA and ACAA. For the rest of this section, "SARA" will be used to indicate a service animal relief area that also serves as a pet relief area.

Existing Airport SARAs

All 24 airports in this study comply with the current requirements for SARAs. Table 4 shows the number and locations of the SARAs at each airport.

TABLE 4
DESIGNATED SARAs AT THE 24 AIRPORTS IN STUDY

Airport	Pre-Security/Landside		Post-Security/Airside
	Adjacent to Terminal	Elsewhere	
BOS	3 outside (1 at Terminal A, 2 at Terminal B, none at Terminals C & E)	None	None
COT	Informal on grass in front of terminal	None	GA airport—None
DEN	1 outside terminal	None	None
DFW	4 grassy areas outside Terminals A, B, C, & E	None	1 inside Terminal D (Figure 12)
DTW	3 outside (1 at McNamara Terminal, 2 at North Terminal)	None	1 inside Concourse A
DVT	Informal on grass out front	None	Reliever airport—None
GSO	2 outside terminal	None	None
IAD	3 outside terminal	None	2 inside concourses (Figure 13)
JAN	1 outside terminal	None	None
JFK	8 outside (1 at each terminal)	None	None
LAX	4 outside (1 between Terminals 1 and 2, 1 between Terminals 5 and 6, 1 at end of Terminal 8, 1 at Tom Bradley International Terminal) (Figure 8)	None	None
LEX	"Several" grassy areas outside	None	2 outside on apron
MEM	1 grassy area outside	None	2 inside Concourse B
MIA	3 outside (Figure 9)	None	None
MSP	2 outside (1 outside each terminal)	None	1 inside Lindbergh Terminal (Figure 14)
ORD	2 outside (1 at Terminal 1, 1 at Terminal 5)	None	None
PHX	3 outside ("Pet Patch" at Terminal 2, "Paw Pad" at Terminal 3, "Bone Yard" at Terminal 4) (Cover, Figures 10 and 11)	2 at PHX Sky Train Stations: "East Economy Park & Bark" and "Park 'n Play"	None
PIT	1 outside	None	1 in airside terminal
PSK	Informal on grass out front	None	GA airport—None
ROA	2 outside	None	None
RSW	2 outside	None	None
SAN	2 outside (1 between Terminals 1 and 2, 1 at Commuter Terminal)	None	1 in Terminal 2 between Gates 46 & 47 (Figure 15)
SEA	2 outdoor	None	1 inside Concourse C (Figure 16)
SFO	3 outdoor (1 at Terminal 1, 1 at Terminal 2, 1 at Terminal 3)	None	None

Source: Smith and McKinney data.

FIGURE 8 LAX's outdoor SARA (LAWA photo).

Figures 8–16 show the wide variety of designs, sizes, layouts, and amenities of existing SARAs at seven airports that participated in this study.

Existing Post-Security (Airside) SARAs

A search of the literature and follow-up discussions with airports with post-security SARAs and those considering installing them identified nine U.S. airports that as of November 2014 had post-security SARAs. The nine airports represent 1.7% of the 515 Part 139 airports in the United States. In 2013, the nine airports served approximately 14% of enplanements at all U.S. airports (FAA 2014a). Table 5 summarizes the characteristics of the post-security SARAs.

Existing Pet Relief Area at a Cargo Facility That Receives Animals

Port Columbus International Airport (CMH) in Ohio has a fenced animal relief area immediately adjacent to the facility that receives pets and other animals being shipped as cargo. One assistance dog agency interviewed urged that all cargo facilities that accept pets for shipping provide similar

FIGURE 9 MIA's outdoor SARA (MDAD photo).

FIGURE 10 PHX's "Pet Patch" SARA outside Terminal 3 (PHX photo).

FIGURE 11 PHX's "Bone Yard" SARA outside Terminal 4 (PHX photo).

FIGURE 12 DFW's post-security SARA at Gate D18 (Kris Prettyman & Renea Porter photo).

FIGURE 13 IAD's post-security SARA in Concourse C (MWAA photo).

FIGURE 14 MSP's post-security SARA in Lindbergh Terminal (Phil Burke photo).

FIGURE 15 SAN's post-security SARA between gates 46 and 47 of Terminal 2 (SAN photo).

FIGURE 16 SEA's post-security indoor SARA in Concourse C (Courtesy: Sea-Tac Airport/Port of Seattle).

TABLE 5
EXISTING POST-SECURITY SARAs AT U.S. AIRPORTS AS OF NOVEMBER 2014

Airport	Date Opened	Location(s)	Percent Airport's Total Gates Served	Walking Time from Farthest Gate
LEX	2010	On apron outside concourse, requires escort	100%	<15 min
IAD	2010	Concourse A, Concourse C	100%	<15 min
SEA	2010	Central Marketplace	100	>15 min from N and S terminals that require train, then 7–10 min walk
PIT	2011	Airside Terminal	100%	<15 min
MEM	2012	Near B, near Gate B11, and near Gate B27	100%	<15 min
MSP	2012	Lindbergh Terminal	92%	<15 min
DFW	2013	Terminal D Gate 18 (four more terminals scheduled by 2016)	About 20%	<15 min
SAN	2013	Terminal 2 between Gates 46 & 47	100%	<15 min
DTW	2014	McNamara Terminal, Concourse A near Gate A34	82%	15 min

Source: Smith and McKinney data.

FIGURE 17 Pet relief area at CMH Cargo Facility (CCI photo).

facilities so that animals can be relieved and exercised between rides in vehicles to reach the airport and being checked in as cargo. Figure 17 shows the pet relief area at the CMH cargo facility.

Not only would a pet relief area at a cargo facility help prepare an animal for confinement during air transport, the human contact during exercise might help reduce the animal's stress (Coppola et al. 2006).

A Note on Costs

In interviews, the survey team asked about the cost of building indoor SARAs. The reported range was $1,500 for fitting out an existing space (at DFW) to more than $400,000 for new construction in a concourse (two airports). The sample size was too small to compute a meaningful average. No data were collected on the cost of outdoor SARAs, primarily because they have typically been built as part of landscaping or pavement improvements. No data were collected on the operations and maintenance (O&M) costs for SARAs. Interviewees explained that SARA construction and O&M costs typically come from the airports' general O&M budgets or terminal O&M budgets, and expenditures on SARAs are not separately tracked.

Characteristics of "Ideal" SARAs

In addition to being required by laws and regulations, SARAs and pet relief areas are increasingly seen to promote the perception of good customer service. They are both a requirement and an amenity. Efforts such as improving the aesthetics and giving SARAs cute or memorable names appear to pay off in customer satisfaction. There was a consensus among interviewees that optimized SARAs will also be optimal for pets.

Based on comments in the interviews with airports and service dog companies and on the presentation by Miller to the 2014 Service Animals Relief Areas Conference, a profile of desired characteristics of SARAs was compiled.

Location

There needs to be a SARA within a 15-minute walk of every gate and of the ticketing hall. This implies that post-security SARAs will eventually be necessary. Depending on an airport's size and configuration, SARAs may be appropriate at special parking areas, mass transit stations, people-mover stations, and consolidated rental car facilities. Ideally, a SARA will be located near a family or companion restroom so that the animal's owner can clean his or her hands.

These requirements suggest that the best time to plan for and design a SARA is when a new terminal or major renovation is being planned. "Best" here means minimizing installation cost and disruptions to the terminal during installation. In the highly competitive environment among airports, terminal renovations are frequent and often very extensive, providing an opportunity to rethink the SARAs' locations.

Size

The minimum suggested size is at least large enough for an assistance animal on a six-foot leash and its partner in a wheelchair. This implies something larger than 10 feet by 10 feet.

Perimeter Control

If outdoors, the SARA needs to be fenced with a gate. If indoors, the SARA needs a secure gate or door.

Doors and Gates

The doors or gates to enter a SARA may be automatic and need always to be accessible by the partners of service dogs.

Surface

The ideal is to have dual surfaces, one hard and one grass or grass-like, so that dogs can use the surface that they are most used to or trained to use. Service dogs are all trained to toilet on command on a hard surface, but this is not true of most pets. It is important that the surfaces be selected, designed, and installed for easy cleaning and for secure footing by service dogs' partners and pet owners.

"Amenities"

Aside from the surfaces, which in many cases are quite attractive, the main type of amenity reported by the airports in the study is fire hydrant sculptures to provide a vertical surface for the male dogs that prefer them. The fire hydrants also help with the visual identification of the SARAs.

Water and Drainage

Many airports want there to be a water supply in the SARA to facilitate cleaning and maintenance, but generally do not desire the water to be available to pet owners. Drainage of SARAs needs to meet local building and health codes, which may require drainage containing animal wastes to be segregated from other floor drainage.

Ventilation

SARAs need good ventilation to clear pet odors, waste odors, and odors from cleaning supplies, and the ventilation needs to be to the exterior of the terminal, not into the terminal.

Human Health

A SARA will ideally have provision for hand sanitizer and paper towels. Signage inside the SARA needs to urge hand cleansing to control parasites such as roundworms. Locating the SARA adjacent or very near a family or companion restroom would serve the same purpose.

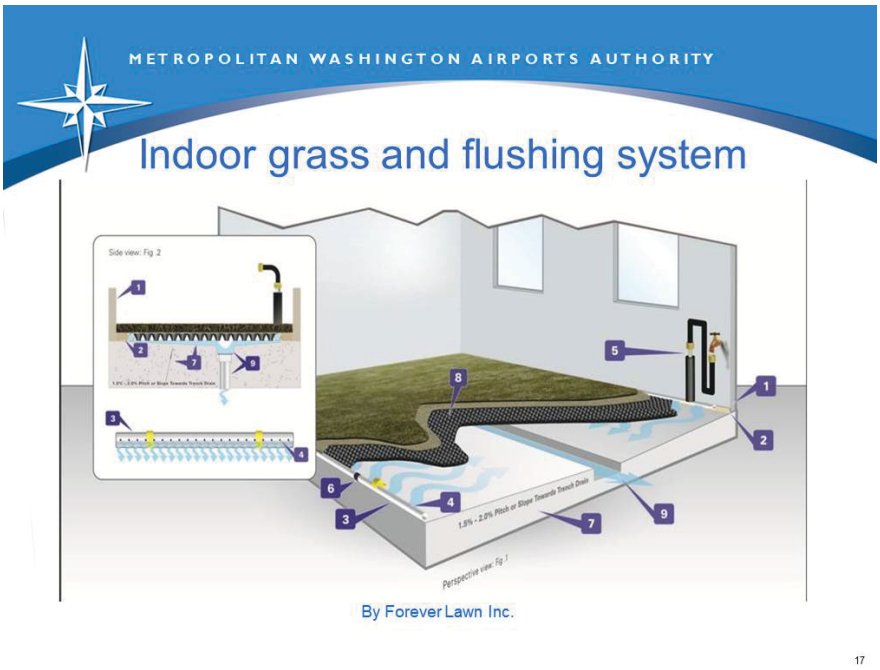

FIGURE 18 IAD's self-cleaning SARA Design (MWAA slide).

Maintenance

Good maintenance requires that cleaning supplies (e.g., plastic bags and wipes) are readily available at a height accessible from wheelchairs. SARAs also need a call button or telephone at a height accessible from a wheelchair to call for cleaning or maintenance.

Automated cleaning and washing is possible with some SARA designs and surfaces. The post-security SARAs at IAD have such systems (Figure 18). Effective maintenance requires the SARAs' being put on regular periodic inspection and cleaning schedules by airport maintenance employees or contracted maintenance or janitorial services. Use of non-toxic and low-odor cleaning solutions will avoid distracting dogs or preventing them from toileting.

Signage

Easily readable and understandable signs, preferably graphic or visual, are to be located throughout the terminal and outside as necessary to direct service dog partners and pet owners to the nearest SARA. Fully ADA-compliant signage and directional tools will ensure that sight-impaired travelers can find the SARAs. *ACRP Report 52: Wayfinding and Signing Guidelines for Airport Terminals and Landside* (Harding et al. 2012) provides excellent guidance for signs in general and ADA-compliant signage. Figures 19–23 show examples of effective signage for pet facilities at airports.

Communication to Public

In addition to signage, it is important that airport websites provide clear information about SARAs on airport websites with both maps and descriptions of locations. Websites with multiple navigation paths to information about SARAs, accessibility, and traveling with pets are highly effective. Communications are discussed more fully later in this chapter.

REDUCING STRESS ON ANIMALS TRAVELING THROUGH AIRPORTS

The responsibility for communicating standards, rules, and regulations to those traveling with or shipping animals within, into, or out of the United States falls on the airlines and air cargo companies that are the actual transporters of animals. Table 2 summarizes the policies of five airlines concerning

FIGURE 19 Pawprints at SFO Leading to SARA (SFO photo).

FIGURE 20 Graphic symbol on gate to outdoor SARA at SFO (SFO photo).

FIGURE 21 Fire hydrant in SFO SARA (SFO photo).

FIGURE 22 Graphic symbol at entrance to SARA at SAN (SAN photo).

FIGURE 23 Sign at entrance to SARA at SEA (Courtesy: Sea-Tac Airport/Port of Seattle).

the acceptance of pets for transport. Analysis of the policies stated in all 11 airline websites (including those who declined to be interviewed) indicates that these five airlines cover the spectrum of services offered by various airlines. Although airports do not have a mandated role in this function, a loose animal could potentially create a situation compromising safety or security for airports, both in the terminal and on the AOA. Accordingly, it is crucial to examine stressors to animals and how to minimize both stress and stress-related animal escapes when transporting an animal by air, whether in the airline cabin, as checked excess baggage, or shipped as cargo.

Since May 2005, all U.S. airlines that operate scheduled passenger flights and transport live animals have been required by the U.S.DOT to file monthly Airline Animal Incident Reports (AAIR) on all pets that were lost or injured or that died during transport. The incident reports allow the consumer and regulatory bodies to track patterns of problems and assess animal safety. U.S.DOT publishes redacted versions of these reports on its website (U.S.DOT, 2012, 2013, 2014a,b). The U.S.DOT customer reports web page provides links to those reports, organized by the total number of reports filed by each carrier, the reports filed at U.S.DOT on a month-by-month basis, and the reports filed on a carrier-by-carrier basis.

The DOT does not require reports to be filed for all incidents involving animals; the limitations of the scope of the regulation were discussed in an FAQ that the U.S.DOT issued shortly after it adopted the reporting regulations. Notably, reports currently are not required to be filed for incidents involving animals:

- that are not kept as a pet in a family household in the United States;
- that are carried on all-cargo or unscheduled flights (however, reports are required to be filed for incidents involving animals that are carried as cargo, as opposed to as checked baggage, on a scheduled passenger flight); or
- that are carried on a flight operated by a foreign airline, even if the flight carries the code of a U.S. carrier (however, reports are required to be filed for incidents involving animals on a flight operated by a U.S. carrier between two foreign points, as well as on a flight operated by a U.S. carrier that carries the code of a foreign carrier) (Silversmith 2014).

Further, in a letter to J.A. Silversmith, U.S.DOT elaborated that it also interprets the reporting requirements "not to apply to 'escapes [which] last only a few minutes or a few hours'" (Silversmith 2014).

On July 3, 2014, U.S.DOT revised the reporting requirements with the changes to take effect on January 1, 2015. Among notable changes:

- Reporting obligations will now apply to all U.S. airlines that operate scheduled service with at least one aircraft with a design capacity of more than 60 seats.
- Reporting obligations will now include, in addition to incidents involving pets, incidents involving commercial shipments of cats and dogs.
- Covered airlines will be required to file an end-of-year report even if they did not have any reportable incidents during the year, and to provide the annual total number of animals transported (which will provide context for the loss/injury/death reports) (U.S.DOT 2014; Silversmith 2014).

While Silversmith examined the data from 2005 until November 2014, he focused on the most recent three years because airlines have increased training for all airline and contract personnel that are involved at any level with handling animals. This includes checking animals in, moving them around the terminal, loading and unloading animals on aircraft, and releasing animals to their owners or agents at the end of the flight. The focus on extensive airline and contract employee initial training and mandatory annual updated training appears to have reduced the number of animal injuries and deaths since 2005. This synthesis, looking at current practices and issues, reinforces the validity of limiting the analysis to the most recent three years. It is noted that incident reports cannot be viewed as a percentage of incidents relative to all animals flown because the total number of animals transported by air on each carrier is not available.

Pet injuries (Table 6) can be attributed to various causes, including a pet's attempting to escape or pawing or biting at the crate, diseases (such as arthritis), or something as minor as a broken toenail. Consequently, injuries must be analyzed individually using the documentation accompanying each animal incident report filed.

As an estimate of the incidence rates for 2013 of pet fatalities, the total number of deaths reported on AAIR in 2013 (Table 6C) was divided by the extrapolated national total based on the LEX estimates for 2013 and converted to a percentage. In 2013, there were 21 total reported deaths out of the estimated 1.97 million pets that traveled as checked baggage or in cargo, which gives an estimated incidence rate of 0.001% for death. If the total number of reports filed (40) is taken to indicate serious injury or death, then the estimated incidence rate for death or significant injury is 0.002%. No other data are available to test these estimates, but the incident rates appear to be very low.

A stressed animal that escapes from its crate can cause safety issues for airports. Summary of airline incident reports from 2012 through 2014 (U.S.DOT 2012, 2013, 2014a,b) confirms that the number of improper crates (with unacceptable plastic latches and/or plastic crate doors) being accepted by airline personnel has decreased (Table 6B). The data also show that dogs chewing their way out of the crate or pulling/pushing the crate door in or out so that the animal can escape has decreased (Table 6A). Although the number of escapes has decreased, there is a high potential for escaped dogs to impact safety and security both in and out of the terminal. The AAIRs typically do not say whether the escape affected the operations of the airport. Moreover, as noted previously, airlines are not required to file reports on animals that escape and are recovered within a short span. Table 7 provides the number of incident reports for the percentage of dogs that chewed their way out of crates.

Although the available data show an apparent decreasing trend, without data on the total number of dogs being shipped, it is impossible to determine the validity of the pattern. Two interviewees (SkyWest and "Airline X") attributed the apparent trend to better training of employees and careful examination of each incident.

TABLE 6
SUMMARY OF U.S.DOT AIRLINE ANIMAL INCIDENT REPORTS, 2012–NOVEMBER 2014

Airline	2012 (no. of incident reports filed)	2013 (no. of incident reports filed)	2014 (no. of incident reports filed)
A. Dogs chewing out of or forcing their way out of airline crates (*out of total incident reports filed*)			
Alaska Airlines	5 (16)	4 (18)	2 (6)
American Airlines	1 (7)	0 (3)	0 (2)
Delta Airlines	7 (16)	1 (5)	0 (3)
Hawaiian Airlines	0 (2)	1 (2)	0 (1)
Horizon Airlines	0 (1)	0 (1)	0 (0)
SkyWest	No incidents	No incidents	1 (1)
United Airlines	0 (12)	1 (11)	0 (10)
Total for Year	13 (54)	7 (40)	3 (23)
B. Dogs escaping crate because of faulty crate (*out of total incident reports filed*)			
Alaska Airlines	2 (16)	No incidents	No incidents
American Airlines	1 (7)	No incidents	No incidents
Delta Airlines	No incidents	No incidents	No incidents
Hawaiian Airlines	No incidents	No incidents	1(1)
Horizon Airlines	No incidents	No incidents	No incidents
SkyWest	No incidents	No incidents	No incidents
United Airlines	No incidents	No incidents	No incidents
Total for Year	3 (54)	0 (40)	0 (23)
C. Total animal deaths (*out of total incident reports filed*)			
Note: Total animal deaths represents dogs, cats, rabbits, ferrets, birds, Guinea pigs			
Alaska Airlines	1 (16)	8 (18)	0 (6)
American Airlines	6 (7)	2 (3)	2 (2)
Delta Airlines	9 (16)	2 (5)	3 (3)
Hawaiian Airlines	2 (2)	1 (2)	0 (1)
Horizon Airlines	0 (1)	0 (1)	0 (0)
SkyWest	No incidents	No incidents	0 (1)
United Airlines	12 (12)	8 (11)	4(10)
Total for Year	30 (54)	21 (40)	9 (23)
D. Deaths of brachycephalic dog/cat as a percentage of total animal deaths			
Alaska Airlines	1 (1)	5 (8)	0(0)
American Airlines	0 (6)	0 (2)	0 (2)
Delta Airlines	1 (9)	1 (2)	1 (3)
Hawaiian Airlines	2 (2)	1 (1)	0 (0)
Horizon Airlines	0 (0)	0 (0)	0 (0)
SkyWest	No incidents	No incidents	0 (0)
United Airlines	2 (12)	1(8)	2 (4)
Total for Year	6 (30)	8 (21)	3 (9)

Source: Smith and McKinney data.

TABLE 7
TOTAL DOGS THAT CHEWED THEIR WAY OUT OF CRATES

Year	Total Dogs That Chewed Their Way Out of Crates
2012	53
2013	40
2014	23

Source: Smith and McKinney data.

Some airlines refuse to transport brachycephalic dogs and cats either as checked baggage or as cargo. A few airlines (e.g., American, Delta, and United) will transport these animals only as cargo during a very narrow temperature range at all airports along the route, including connecting airports. However, more and more airlines, both in the United States and foreign countries, have either stopped transporting brachycephalic animals completely or transport them only under very specific conditions. Most airlines will allow those animals to be transported as a carry-on in the cabin of the aircraft.

Table 8 compares metal and plastic crates that meet IATA LAR and USDA-APHIS standards (IATA 2010; USDA 2014c). Figures 24 and 25 compare the appearance of approved designs of metal and plastic crates.

Metal crates are clearly superior to plastic crates from the point of view of strength of material. However, the significantly greater cost of metal crates renders them unaffordable for most owners. Moreover, the additional weight of a metal crate alone may increase the cost of shipping an animal, since most airlines' shipping prices are based on weight and cubic measurements. Consequently, airlines and owners must weigh the safety of the animal, the expense of purchase, shipping cost, and the potential consequences of an animal loose in the AOA or in an aircraft hold.

TABLE 8
COMPARISON OF METAL AND PLASTIC CRATES FOR ANIMAL TRANSPORT

Size: L x W x H Aluminum Crate	Cost: Aluminum: Brand A	Weight	Size: L x W x H Plastic: Brand B	Cost: Plastic Kennel
20" x 16" x 16" (size 100)	$599.00	9 lb	21" x 16" x 15"	$35.00
24" x 18" x 18" (size 200)	$649.00	18 lb	24" x 16.3" x 14.8"	
30" x 20 x 22 (size 300)	$699.00	22 lb	28" x 20.5" x 21.5"	$40.00–$80.00
32" x 20" x 24"	$749.00	24 lb	32" x 22.5" x 24"	$55.00–$110.00
36" x 22" x 28" (size 400)	$849.00	32 lb	36" x 25" x 27"	$65.00–$30.00
38" x 24" x 30" (size 500)	$899.00	36 lb	40" x 27" x 30"	$75.00–$150.00
40" x 26" x 30"	$ 999.00	40 lb		
42" x 28" x 32" (size 600)	$1099.00	42 lb		
46" x 30" x 45" (size 700)	$1299.00	45 lb	48" x 32" x 35"	$212.00–$280.00

Source: Smith and McKinney data.

FIGURE 24 IATA-approved metal crate (IATA photo from Live Animal Regulations).

FIGURE 25 IATA-approved plastic crate (IATA photo from Live Animal Regulations).

Airlines can lessen the stress on animals by not requiring long pre-flight delivery times for animal check-in and by lessening layover times as much as possible. Airlines also provide quiet holding areas and personnel who are trained in handling and observing animals prior to flights, when the animal is unloaded from one flight, held for a time between flights, and uploaded to another flight (M.J. Rucker, interview, Nov. 30, 2014).

There are also stress factors related to animals' training; these are discussed later in this chapter.

DEALING WITH WEATHER-RELATED ISSUES

Weather-related issues complicate the shipping of pets because of the limited range of temperature an animal can safely withstand. The IATA's LAR define safe shipping practices for anyone (pet shippers, commercial shippers, animal care professionals, zoos, ground handlers, freight forwarders, and airlines) involved in shipping live animals of thousands of species in air cargo. Domestic and international airlines may have slightly different regulations for temperature allowances and restrictions for shipping animals either as checked baggage or as cargo.

Generally, domestic airlines have a pet shipping embargo during the summer months. Airlines refuse shipment of animals in the cargo hold either as checked baggage or as cargo if the external ground temperature is predicted to be more than 85°F (29°C). Each domestic airline may have different minimum temperatures. Delta Airlines refuses shipment of pets in cargo when the temperature is below 10°F (−12°C). American Airlines refuses a pet when the minimum temperature is below 45°F (−7.2°C) during the animal's transport but will make an exception if there is an acclimation letter from a licensed veterinarian. Each airline typically has its requirements clearly listed on its website; however, Alaska Airlines does not list an allowed temperature range.

Most likely, the only way an airport would become involved in dealing with weather-related accommodations might be if the airport wished to develop a climate-controlled animal facility for lease to airlines and cargo carriers. Providing an airport-owned climate-controlled animal facility would be meaningless unless the airline tenant provides climate-controlled vans and unloads animals promptly (C. Lopez, interview, Sept. 17, 2014; "Airline X," interview, Oct. 10, 2014; S. Pritchard, interview, Oct. 3, 2014).

The transportation of a pet or other animal as checked baggage or in cargo may be disrupted when flights are cancelled or significantly delayed by weather or other causes that create an irregular operations (IROPs) situation at an airport. *ACRP Report 65* (Nash et al. 2012) is a guidebook to contingency planning by airports for irregular operations, but it does not deal with animals accompanying passengers, service dogs, or animals in cargo. Because the most frequent causes of IROPs are extreme weather events, typically winter storms, low temperatures are an issue for traveling animals. Airlines bear the responsibility for arranging any special accommodations in these circumstances, but the airlines may request assistance from the airport.

DOCUMENTATION OF SERVICE DOGS AND EMOTIONAL SUPPORT ANIMALS

In September 2010, the U.S. Department of Justice revised and clarified the definition of service animals as specified in the ADA for Title II (State and Local Government Services) and Title III (Public Accommodations and Commercial Facilities) in the *Federal Register.* Since March 15, 2011, only dogs (not other species) have been recognized as service animals. The definition of a service animal is a dog that is individually trained to do work or perform tasks for a person with a disability. Generally, Title II and Title III entities must permit service animals to accompany people with disabilities in all areas where members of the public are allowed to go (U.S. Department of Justice 2010).

The Department of Justice memo states:

> Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to

take prescribed medications, calming a person with Post Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. The work or task a dog has been trained to provide must be directly related to the person's disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA.

In addition to Title III regulations, airports and airlines are subject to the ACAA, which defines service animals much more broadly to include emotional support animals or "comfort animals" that do not qualify as service animals under Title III regulations (Brennan n.d.). These animals do not have special training to perform tasks as covered in the ADA to assist those with disabilities. Consequently, airports must accommodate a larger number of service dogs and emotional support dogs traveling through airports.

Because of the broad ADA definition of service animals and the more encompassing definition the ACAA uses for animals allowed to accompany persons with disabilities, it is increasingly difficult to exclude an animal or to determine whether or not that animal is in reality a service animal, a trained animal, or one that a passenger simply wishes to take on the airline at no charge. There are no clear-cut requirements for training and no official registry of service animals in the United States.

The passenger cannot be asked about his or her disability, show medical documentation, provide a special identification card or training documentation for the dog, or ask that the dog demonstrate its ability to perform the work or task. On the other hand, if a person claims an animal is an emotional support animal, he or she may be asked to show a letter on letterhead stationery from a mental health professional. When such a request is made, it is normally made by an airline at the time when the passenger is asked to pay a fee for taking the animal in the cabin. In the interviews with airports and airlines, it was found that most were aware of the allowed questions but uncomfortable about having to use them.

However, as discussed in chapter three, the ADA has established behavioral guidelines for the service animal, which must be under control by means of harness, leash, or tether, unless these devices interfere with the service animal's work or the individual's disability prevents using these devices. In that case, the individual must maintain control of the animal through voice, signal, or other effective controls. A dog that barks, is threatening, is not housebroken, or in any other way is disruptive by virtue of improper or uncontrolled behavior can be barred from entering or remaining in an airport or on an aircraft. Appendix A summarizes unacceptable behaviors by services dogs and by any other type of animal in an airport. Both airports and airlines reported instances when they used misbehavior of animals to require the owners to remove them. In the case where a service dog is removed from an airport, the airport must under ADA rules provide other accommodation to allow the individual with a disability full access to services in the airport.

Some interpretations of the ADA definition of service animal, combined with the ACAA's far-reaching definition, have resulted in an increasing number of passengers bringing animals with them into airports and onto flights at no charge (Jackson 2014). This has created a backlash among both non-disabled passengers and those with disabilities, as more passengers appear to be passing their pets off as service and emotional support animals (Kawczynska 2013). Publications from the *New York Times*, *Palm Beach Post, The New Yorker* (2014), and Yahoo, and social media discussions have vaulted this problem of "service dog fraud" into the limelight. The California State Senate held hearings on the issue.

The ease with which "credentials" can be obtained in the United States for service dogs has been abundantly documented in the literature. Organizations and business enterprises have sprung up on the Internet whereby credentials and identification cards and animal gear can be purchased with no proof of need on the part of the person or individual training for the animal.

Obtaining documentation for an emotional support animal is not as difficult as it may seem. A quick Google search leads to the (firm's name removed) Service Animal Registry, which provides links and information about how to have a pet classified as an emotional support animal. For $64.95, plus shipping, this firm will add the pet to its online registry and send two ID cards, two leash clips, and a certificate of registry with an embossed seal.

If a pet owner doesn't have a psychiatrist willing to write a letter, that can be obtained online for a fee, too (Moran 2014).

While U.S. airports' hands are tied in identifying and differentiating critically necessary service and emotional support dogs from what is being termed "pseudo" and "fraudulent" service dogs, the United Kingdom handles this quite differently (S. Pritchard, interview, Oct. 3, 2014). "Service dog fraud" is considered to be an increasing problem at the Heathrow Animal Reception Centre (HARC). HARC defines "recognized assistance dogs" as dogs that meet the ADI training standards (ADI 2014c). Service dogs flying into and out of Heathrow Airport are considered legitimate if, and only if, those dogs are registered with a legitimate service dog registry. Service dogs, like all other dogs, must comply with all EU health requirements, which can be different from country to country. HARC and EU policies also stop owners of so-called pseudo service animals from entering the EU free of charge (S. Pritchard, interview, Oct. 3, 2014).

It is clear that the broad definition of legitimate service and emotional support animals and the lack of clear-cut training, registration, and positive individual identification (e.g., implanted microchips) of such animals will continue to cause increasing problems as more of these dogs travel through airports. Using implanted microchips to identify qualifying animals will require airports and airlines to purchase universal microchip scanners, the cost can potentially be recovered by weeding out free flights for pseudo service dogs. It will generate goodwill with the public and with those who depend on service dogs, and will result in fewer incidents of misbehavior and disruption in the airport and on flights. This is the system used at HARC and throughout the EU (S. Pritchard, interview, Oct. 3, 2014).

Of the 20 U.S. airports in the initial sample, only two reported experiencing a significant issue with pseudo service dogs, and this happened when the airports attempted to enforce "service animals only" policies in their terminals. Unlike the airports, all interviewed airlines said it is a major problem. One federal agency noted that false claims of service dog or emotional support animal status become an issue when fees are charged for certifying veterinarian health certificates (L. Moya, interview, Sept. 16, 2014).

When asked about the desirability of a national registry for service dogs, interviewees gave a wide range of responses. Most airports had no opinion except the two that had had an issue. The airlines would like to have clear documentation of an animal's special status if that status would exempt the owner from fees. The service dog companies all said they would welcome a national registry but noted that executing such a program had been problematic and would be difficult. The primary source of difficulty cited was the question of how to include or exclude emotional support animals. Associations of service dog and assistance dog users and partners were widely split in their opinions. Although most supported a registry, one emphatically objected to any additional restrictions or requirements. The basis for this objection is that the "individual training to a set standard" aspect of a registry would disadvantage, perhaps greatly disadvantage, assistance dog partners while addressing a problem (fraudulent service dogs) that is very small compared with the actual needs of people with disabilities (Joan Froling/IAADP, interview, Sept. 27, 2014).

The issue of what constitutes a service dog or an emotional support animal has been complicated by the expansion of the tasks performed and the range of disabilities for which service dogs provide a service. Beyond providing the traditional sight, hearing, and mobility assistance, service dogs are now helping persons with seizures, diabetes, autism, and PTSD.

A reference that may be helpful to airports, airlines, and any party concerned with this increasing issue is the chapter, "Assistance Animals: Their Evolving Role in Psychiatric Service Applications" by Tedeschi et al. (2010) in the *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (3rd edition). The authors discuss the conflicts involved when pets are misrepresented to take advantage of rights established by ADA (pp. 422–423). They explain how emotional support animals are different from psychiatric service animals (p. 428), and discuss service animals, registered/certified therapy animals, and emotional support/companion animals (Table 20.1, p. 430). This helpful reference does not supplant the ADA and ACAA and their related regulations, but it can help operators and planners in the aviation industry understand the issues that sometimes underlie conflict.

COMMUNICATING INFORMATION ABOUT TRAVELING WITH ANIMALS AND SHIPPING ANIMALS

This section focuses primarily on how airports communicate with the public on issues related to animals traveling through airports or entering terminals with visitors. Communications by other stakeholders, including airlines, agencies, and animal handling and forwarding companies, are discussed as they can be linked to airport communications strategies and methods.

Once again, it is essential to note that the responsibility for knowing the procedures for animals at airports lies with passengers traveling with animals, individuals shipping animals, meeters and greeters entering the terminal, and the airlines. Airports have a limited required role in communications about accommodations for service animals, but airports can greatly assist the public by making accurate information concerning pets and other animals readily accessible. The airports reported that good communications regarding pets appear to create a greater perception of being their being customer-friendly and possibly lessen complaints and crises dealing with animals. To various degrees, all 24 U.S. airports in the study attempt to inform the public.

Airports reported at least seven basic methods for communicating with the public: websites; social media; press releases; signage in terminals (including maps, signs on public entrances, and localized communications through social media); automated dial-in telephone information systems; one-on-one communication by airport employees, information centers, airport ambassadors, or other volunteers, whether in person, by telephone or by e-mail; and targeted outreach to specific audiences.

In the interviews with the 20 U.S. airports in the initial work plan, it was found that none used fewer than two methods, and one airport used all nine methods.

Both airports and their customers seem likely to continue to depend most heavily on websites for information purposes concerning animals. Furthermore, the increasing dependence on smart phones will probably mean that social media and localized broadcast info over phones will make those methods ever more important to airport customers with pets. However, interviewees responded that signage at airports probably will remain the single most important source of actionable information by customers with pets and service animals.

Websites

Every airport interviewed had a website. However, the amount and types of information about traveling with pets and animals varied widely, as did the ease of navigation to find the information that was in each website. Analysis of the websites of the initial 20 airports, plus the three that were added (Detroit Metropolitan International, Memphis International, and Pittsburgh International) because they have post-security SARAs, revealed a number of features that any airport may wish to consider:

- Multiple pathways for navigation of the website starting from customer's need of information, such as:
  - Service animals, which will typically be addressed under accessibility or ADA compliance
  - Pets traveling in plane cabins
  - Pets traveling in excess baggage
  - Pets being shipped as cargo
  - Other species being shipped as cargo
  - Pets accompanying meeters and greeters
- Search engine capabilities that will find any of those six types of need
- Links to airlines' websites to level of detailed pages for
  - Pet transportation policies and procedures
  - Animals in cargo policies and procedures
- Links to key federal agencies' websites. This is problematic, as airports may wish to keep the customer procedural inquiries directed through the airlines to the agencies.
- Description of SARAs
  - Location
  - Facilities
  - Photographs of SARAs

- Maps—static or interactive, ideally both—that clearly show
  - the location of all SARAs
  - the location of the facility for receiving animals to be shipped as cargo, if that facility is separate from the terminal
- Written directions for reaching the animal-related places shown on the maps
- For large-hub connecting airports, information concerning
  - Procedures for getting to SARAs between flights
  - Estimates of time to make connections and using a SARA, especially if exiting and entering security screening is involved
- Requirements for animals in the terminals, such as
  - Service animals requiring leashes or harnesses
  - Pets remaining in carriers or crates unless local regulations allow them on leashes
  - Policies on owners' control of animals and consequences of bad behavior
- Contact information
  - For requesting assistance
  - For complaints and compliments
  - For medical emergencies
- Information on the airport's therapy dog program, if any
- Information on pet-related concessions (spas, boarding, grooming, etc.)
- Images of success stories involving animals traveling through the airports
- Surveys of customer satisfaction with the airports' accommodations for animals
- Adaptive technology in website to allow sight-impaired customers to obtain the information about accommodations for service dogs.

FAQs (Frequently Asked Questions) are used by about one-third of the airports in the study on their websites, but only two airports had pet-related FAQs.

Social Media

Use of social media by an airport to put out information of the types just described for websites appears unlikely, based on the interviews. There are serious limits on the ability of social media to put out sustained information; by nature, social media are intended to be immediate and ephemeral in their impact. However, social media can be very powerful used in the other direction, that is, by customers to communicate with an airport or to complain about the airport. Because passengers and meeters and greeters often have the mistaken view that the airports have the primary responsibility for the safe handling of their pets, fast-moving negative messages on the social media can hurt an airport's reputation. For this reason, airports may wish to monitor social media and develop strategies for rapid response to negative posts.

It is possible that social media will develop into near-real-time problem-solving systems that will help customers (e.g., pet owners) obtain help from other customers, previous customers, airports, or other stakeholders. DFW's Public Affairs Department is already gaining benefits from real-time responses through such a system (M. Crear, personal communication, Dec. 6, 2014).

Airports may also consider using separate social media accounts to publicize their services for pets. Although it is not an airport, HARC has a Facebook page (City of London 2014).

Press Releases

Precise, informative press releases are essential for airports, both for dealing with animal-related crises and for telling the world about success stories and innovative solutions. Airports have recognized that excellent accommodation of animals is increasingly becoming seen as an indicator of superior customer service in general. As far back as 1993, international airports had begun to view superior accommodations for animals and their handlers as a competitive advantage (Theurmer 1993). These airports have used press releases to support this trend.

Signage

All types of signs, both outside and inside terminals, have long been the focus of great attention by airports and their stakeholders, with a goal of improving the experience of customers. These considerations and best practices for signs and wayfinding were summarized in *ACRP Report 52* (Harding et al. 2012).

Directional signs to SARAs and other special facilities for animals are needed, and self-evident graphic symbols can be very effective, especially in a port-of-entry airport where many customers do not speak English. The most effective signage for SARAs can be the design of the SARA itself. Many airports use full-size or small-scale fire hydrants, both of which symbolize dog toileting. Other design cues help customers recognize SARAs quickly. The figures earlier in this chapter dealing with SARAs illustrate the power of such imagery, as do Figures 24–25 in this section.

Every airport in the study uses maps in its terminals and on its website. Not all of them mark the SARAs clearly on the map, but most do. The most effective practice appears to be to use a distinctive, clearly visible icon to mark the location of SARAs on the maps and to use the same icon or imagery on signs pointing to and identifying the SARAs.

One special type of sign outside terminals is one on the public entrance doors that spell out the airport's policy or local ordinances concerning service animals and leash or crate requirements for all other animals (Figures 26 and 27). In the interviews, some airports reported that such signs are frequently ignored by both passengers and meeters and greeters, but the signs give notice that the airport may choose to enforce the rule.

Similar concerns guide the inside signage with the added complications of greater competition for attention and less space for pet-related and SARA-related signage. Most of the airports interviewed said they use a combination of terminal maps with signs at the entrance for indoor SARAs (usually post-security SARAs). Figures 22 and 23 show the signs marking the entrance to the post-security SARAs at SAN and SEA.

FIGURE 26 ROA arrivals entrance (Kari Dabrowski photo).

FIGURE 27 RSW arrivals entrance (Lisa LeBlanc-Hutchins photo).

Automated Telephone Information Systems

Many businesses, including some airports, use automated telephone information systems, but the relatively low frequency of pet-related questions means that they would probably be very low priority in the menus given to callers. No interviewee cited this method as particularly effective.

One-on-One Information

One-on-one information includes telephone, e-mail, and face-to-face questions and answers. Of these, face-to-face inquiries to information centers, information booths, kiosks, airport ambassadors, airport police, and perhaps contractors such as cart drivers and wheelchair assistants are the most common. Many of the airports include training on ADA, SARAs, and pet rules, safety, and health in their orientation training. A few airports use contract and lease terms to require concessionaires and contractors to have similar training.

Targeted Outreach

By targeted outreach is meant special events held by an airport to educate a particular segment of the public or customers about the airport. With regards to animals traveling through airports, the team found two examples of targeted outreach:

- All of the service dog training companies have arrangements with airports for orientation visits to the airports as part of the individual training that distinguishes a service dog from emotional support dogs and pets. About half the airports in the study have hosted such training.
- Several of the airports hold regular orientation sessions for autistic children to accustom them to the noises, lights, and distractions of a busy terminal. Non-verbal autistic children increasingly are tethered to specially trained service dogs to prevent the children from getting lost (Solomon 2010; T. Grandin, interview, June 20, 2014).

Boston Logan International Airport (BOS) has taken an alternative approach. In 2008, BOS realized that 1,500 to 2,000 pets passed through the airport every month. Upon analysis, BOS identi-

fied pets as customers of the airport—"pets" to BOS included service, companion, show, and research animals—and sought better ways of accommodating them. A small number of pet medical emergencies occurred in which the airport ended up as the final recourse for relief. One animal escaped its container onto the AOA and caused flight delays. Massport (the airport's parent agency) partnered with the Massachusetts Emergency Management Agency, the Animal Rescue League of Boston, and the Veterinary Emergency and Specialty Center of New England to perform a comprehensive needs assessment. The partnership also identified emergency medical equipment needs such as dog muzzles, gloves, nets, leashes, soft stretchers, catch poles, oxygen cones, and vet wraps as well as training needs. BOS arranged to have a pet ambulance assigned to the airport and made agreements with two receiving hospitals in case transport is required. More than 250 members of the airport community received the specialized training. PetPorts were opened in each terminal. A separate data category was established for fire department run reports for animal responses (Massport 2014).

A PetPort is a clearly marked spot in each terminal with posted instructions (Figure 28), an emergency phone, a location statement, emergency supplies such as a slip leash, and "Safe Travel Tips" for pets. Terminal maps label the location of the PetPorts as well as SARAs.

BOS also uses a highly visible physical indicator to emphasize its overall message about safe pet travel and encourages pet owners with problems to initiate action on their own while promptly summoning appropriate help from the Massport Fire Rescue department. In the four years since

FIGURE 28 Sign identifying a PetPort in Boston Logan's Terminal A (Massport photo).

reviewing and revising its entire program, including the PetPorts, BOS has had no escapes and only four pet medical emergencies requiring action by the airport. Thus, BOS sees its PetPorts as improving airport efficiency and enhancing customer service.

TRAINING

Training was a recurrent theme throughout the interviews and in the literature. As seen previously in this chapter, protecting the health and safety of animals requires proper handling, the issues of ADA and ACAA compliance are sometimes intricate, and the consequences of failure can be large. For these reasons, every person and organization interviewed stressed the importance of initial and refresher training.

Training at Airports

Most airports reported including specific training on ADA compliance and on animals in terminals as part of orientation training. Several airports that use volunteers (often called "airport ambassadors") reported including them in the same training as airport employees, and two airports reported giving their ambassadors even more training, as the ambassadors were the likeliest persons to receive questions from passengers and meeters and greeters with service dogs or pets.

While HARC is not an airport, its training program, and how training requirements are incorporated into job descriptions, are illustrative of the customer service-oriented airports in this study (HARC 2012, 2014).

Training at Airlines

Five airlines provided information for this study. Two, Southwest and JetBlue, explained that they do not transport animals in their planes except for service dogs traveling in cabins. The other three airlines (Lufthansa, SkyWest, and "Airline X") described their training procedures and policies. They use extensive in-person and online training of all employees that have duties that bring them in contact with animals. The training is given to new employees and as annual refresher training for current employees. Emphasis is placed on IATA's Live Animals Regulations (LAR), on crate requirements including water and food, and on required health certificates and other documentation. Some airlines use specialized reservationists for passengers traveling with pets or shipping pets, and others give regular reservationists software support to deal with the details of traveling with pets. In either case, the airline provides specialized training for the reservationist. Because requirements for international travel of pets varies from country to country and changes often, the training of call center reservationists is critical. Such training needs to include referral of pet owners to APHIS for current country-specific requirements. SkyWest and "Airline X" have comprehensive training programs for reservationists, counter agents, gate agents, cargo handlers, van drivers, and customer service personnel. Lufthansa has a similar program.

Training of Passengers and Shippers

Since the primary responsibility for knowing and meeting the requirements for the safe transport of animals lies with the owner of the animal, it is important that reliable information is readily available so that passengers can educate themselves. The websites of all 11 airlines examined in this study clearly state airlines' policies regarding the transport of pets in cabins, as excess baggage, and as cargo. The airlines that accept pets as excess baggage and/or cargo have trained their reservationists to provide information to customers.

There are a number of organizations and sponsored websites that provide information for traveling with pets, and these sites are easy to find with typical search engines. One problem with some such sites is that they often out of date, not having been updated to reflect changing airline and gov-

ernment agency policies. The associations that serve disabled persons and persons using emotional support dogs appear to put great effort into keeping their websites up to date and user-friendly.

Training of the Traveling Animals

Perhaps the most urgent type of training, yet the most overlooked, is the training of pets and other animals to habituate them to crates or carriers. Such training can reduce stress and risk to pets (Grandin 1997). It can be very stressful for the pet if the first time it encounters a crate or carrier or experiences separation from its owner is when it is being crated to go to the airport.

Many pets are not acclimated to the noise outside of their homes or are not used to being confined for extended periods. Owners bear full responsibility to ensure that their pets are well trained, are comfortable in a shipping container (crate), are at ease staying in that crate for as many hours as a flight lasts, are capable of traveling in a noisy environment, and are relaxed about their crate being moved and accepting when handled by multiple strangers. A program of gradual acclimatization to the crate, special water container, and separation will help the animal stay calm and safe during air travel. This is not a process that can be accomplished at the last minute but instead requires weeks of training for an older puppy or adult dog (M.J. Rucker, interview, Nov. 30, 2014). Training includes exposing a dog to unfamiliar noises, such as the owner's driving a vehicle with the crated pet through a car wash (W. Woolf, interview, Jan. 5, 2015).

Owners must also recognize that some animals are simply not temperamentally able to withstand the stress of air transport, the stress of being crated and moved, or are by nature, noise sensitive or suffer from separation anxiety through no fault of their own or their owners (M.J. Rucker, interview, Nov. 30, 2014).

Service animals are trained to maintain discipline during travel. The service animal companies use one or more sessions in airports or simulated airport environments to train their animals (J. Dugan, interview, Jan. 5, 2015).

A Possible Enhancement by Airports: Animal Emergency Contingency Planning

Several airports said that when something goes wrong with a pet traveling through the airport, either the customer or the airline may dump the problem on the airport. Although it is nowhere required in the laws, regulations, or advisory circulars, an airport may choose to develop an animal emergency contingency plan or pet emergency contingency plan. BOS developed such a plan in 2008 and has found it to be effective in controlling situations and at building customer satisfaction. (See the description of BOS's PetPort program earlier in this chapter.)

If an airport chooses to develop an animal emergency contingency plan, the most effective approach is to involve all the stakeholders, including airlines, law enforcement, and local partners such as animal control, veterinarians, pet ambulance companies, animal hospitals, and local boarding kennels. The plan can also include guidelines for internal and external communication concerning the incident and its resolution.

An animal emergency plan can include arrangements for veterinary services (usually through the airport's police who use K-9 dogs), animal transport, flight delays, weather extremes, and IROPs. An airport animal emergency plan can include procedures for handling animal relief when an IROPs causes an extended tarmac delay.

A previous study, *ACRP Report 112* (Griffith et al. 2014), found that most airports do not make explicit provision for persons with disabilities, including those using service dogs, in terminal evacuation, sheltering-in-place, and repopulation plans.

CHAPTER FIVE

CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDY

Analysis of the data in this report yielded the following major conclusions:

- Airports have very limited responsibilities vis-à-vis the transportation of animals through airports, either with passengers or as cargo. The major area of responsibility is the provision of accommodations for service animals to satisfy federal law, regulations, and FAA Advisory Circular 150/5630-14.
- The primary responsibilities for the control, health, and safety of animals traveling through airports lie with the animals' owners and the airlines. If an animal handling or forwarding company becomes involved in the process, then it takes responsibility before the airline or cargo carrier accepts the animal and after the carrier delivers the animal at the destination. When the normal processes break down, the airport steps in.
- Airports seek to collaborate with airline and airport tenants to accommodate service dogs, emotional support animals, and pets traveling in aircraft cabins as well as animals traveling as cargo or checked baggage. Airports see this as customer service.
- Post-security (airside) service animal relief areas/pet relief areas would facilitate, perhaps greatly, the needs of connecting passengers, as compared with their having to go out of the secure area and return through security. Only eight U.S. airports now have post-security relief areas.
- The cost of service animal relief areas/pet relief areas varies widely depending on the design, location (whether indoors or outdoors), and construction requirement (whether repurposing a space or building a new space). The reported range was $1,500 for fitting out a storage room to more than $400,000 for new construction in a concourse. There are too few data points to allow computation of a meaningful average.
- There are no accessible, accurate, and verifiable numbers of how many animals, including pets, are transported by air each year in the U.S. On July 3, 2014, U.S.DOT revised the reporting requirements with the changes to take effect on January 1, 2015. Notably, the changes will require covered airlines to file an end-of-year report even if they did not have any reportable incidents during the year, and to provide the annual total number of animals. However, the overall system for the transportation of pets by air appears to be efficient and safe.
- Animals escaping in terminals or to the air operating areas are low probability/high impact events.
- There is a trend in Airline Animal Incident Reports that indicates that airports, airlines, and animal handling and forwarding companies have effective training programs.
- Many airports have discovered that providing good service for pets also provides real benefits to the airport in terms of perceived quality of customer service and the creation of a caring culture.
- Airports can provide a useful service to customers by providing detailed information on their websites about traveling with pets, shipping pets, and shipping other animals. This is most effectively done by directing the individuals to the actual airline or cargo carrier website. This includes signage, websites, social media, and outreach.
- Two airports in the study said that fraudulent service dogs and emotional support animals were an issue. All interviewed airlines said that this was a major issue, as did one federal agency (USDA-APHIS). Most of the service dog companies and associations and all but one of the assistance dog groups said that such characterization complicates life for people who depend on legitimate service dogs and emotional support animals.
- Under the ADA, misbehavior by a service dog in an airport is an acceptable reason for the airport to ask for the animal to be removed from the airport. This approach can also be applied to emotional support animals and pets.

Based on the findings of this synthesis, further study is needed in four areas:

1. Documentation and analysis of the total number of animals traveling on domestic flights and on international flights;
2. The commercial potential for public-private partnerships to operate processing centers similar to the Heathrow Animal Reception Centre for both animal imports and exports;
3. Designs for outdoor service animal relief areas to provide protection from inclement weather and improve the safety and security of persons using them for their animals, and technologies for cleaning and maintaining indoor service animal relief areas;
4. Liability issues with therapy dogs used by airports to comfort passengers.

GLOSSARY

Advisory Circular	Instructions from the FAA on how to comply with federal aviation laws and regulations
Air operations area	Any area of the airport used or intended to be used for the landing, take-off, or surface maneuvering of aircraft
Airside	The secure area of an airport, in general, the air operations area plus all parts of the terminal beyond security checkpoints, passport controls, and customs
Assistance animal	A generic term that lumps service dogs and emotional support animals; not an official term under ADA or other legislation
Emotional support animal	Animals that provide companionship, relieve loneliness, and sometimes help with depression, anxiety, and certain phobias, but do not have special training to perform tasks that assist people with disabilities
Enplanement	Counting of a passenger boarding of a commercial flight
General aviation airport	An airport that does not meet the criteria for classification as a commercial service airport may be included in the NPIAS as a general aviation airport if they account for enough activity (having usually at least 10 locally-based aircraft) and are at least 20 miles from the nearest NPIAS airport
Hub	A very busy commercial service airport
Landside	That part of an airport used for activities other than the movement of aircraft, such as vehicular access roads and parking; includes the portions of the terminal outside security (e.g., ticketing halls and baggage claim)
Large-hub airport	An airport with at least one percent of total U.S. passenger enplanements
Medium-hub airport	An airport with between 0.25 percent and 1 percent of total U.S. passenger enplanements
Non-hub primary airport	An airport that enplanes less than 0.05 percent of all commercial passenger enplanements but has more than 10,000 annual enplanements
Part 139 airport	An airport that serves scheduled and unscheduled air carrier aircraft with more than 30 seats, serves scheduled air carrier operations in aircraft with more than nine seats but less than 31 seats, and is required by the FAA Administrator to have a certificate for operation
Primary airport	Public airports receiving scheduled passenger service and having more than 10,000 annual passenger enplanements
Reliever airports	A high-capacity general aviation airport in a major metropolitan area; such airports must have 100 or more based aircraft or 25,000 annual itinerant operations; the FAA officially designates reliever airports.
Service animal	Any guide dog, signal dog, or other dog individually trained to provide assistance to an individual with a disability
Service dog	Any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability
Small-hub airport	An airport with 0.05 percent to 0.25 percent of total U.S. passenger enplanements
Therapy animal	Ambiguous term that can mean an emotional support animal or an animal used by a psychological or other therapist to assist with therapy
Zoonotic	A disease communicable from animals to humans under natural conditions

ACRONYMS

ABA	Architectural Barriers Act of 1968, as amended
ACAA	Air Carrier Access Act of 1986
ADI	Assistance Dogs International
AOA	Air operating area
APHA	U.K. Animal and Plants Health Agency
APHIS	Animal and Plant Health Inspection Service
ATA	Animal Transportation Association
BOS	Boston Logan International Airport
CART	Community Animal Response Team
CBP	Customs and Border Protection
CCI	Canine Companions for Independence
CDC	Centers for Disease Control and Prevention
CMH	Port Columbus International Airport
COT	Cotulla–LaSalle County Airport
CVED	Common Veterinary Entry Document (UK)
DEN	Denver International Airport
DFW	Dallas–Fort Worth International Airport
DTW	Detroit Metropolitan International Airport
DVM	Doctor of Veterinary Medicine
DVT	Phoenix Deer Valley Airport
GSO	Piedmont Triad International Airport
HARC	Heathrow Animal Reception Centre
IAADP	International Association for Assistance Dog Partners
IAD	Washington Dulles International Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IPATA	International Pet and Animal Transportation Association
IUNC	The World Conservation Union
JAN	Jackson–Medgar Evers International Airport
JFK	John F. Kennedy International Airport
LAR	Live Animal Regulations (of IATA)
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LEX	Blue Grass Airport (Lexington)
LHR	Heathrow Airport
MAC	Metropolitan Airports Commission
Massport	Massachusetts Port Authority
MDAD	Miami–Dade Aviation Department
MEM	Memphis International Airport
MIA	Miami International Airport
MSP	Minneapolis–St. Paul International Airport
MWAA	Metropolitan Washington Airports Authority
NCD	National Council on Disability
ORD	O'Hare International Airport
PHX	Phoenix Sky Harbor International Airport
PIT	Pittsburgh International Airport
PSK	New River Valley International Airport
RA	Rehabilitation Act of 1973, as amended
ROA	Roanoke–Blacksburg Regional Airport
RSW	Southwest Florida International Airport
SAN	San Diego International Airport

SARA	Service animal relief area
SART	State Animal Response Team
SFO	San Francisco International Airport
USDA	U.S. Department of Agriculture
U.S.DOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
WLS	Worldwide Livestock Services

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APPENDIX A

Behavioral Criteria for Asking for Dog to Be Removed from an Airport

This table was adapted from *Anything Pawsable* [blog], "Things Service Dogs in Public Should and Should Not Do," Kea Grace, Nov. 1, 2013 [Online]. Available: http://www.anythingpawsable.com/things-service-dogs-public/#.VLZu93sV6So.

Note: A service dog may become sick, in which case allowances should be made for otherwise unacceptable behavior.

Category of Behavior	Service Dogs in Public Should NOT	Service Dogs in Public Should
Be under control or human partner is taking appropriate actions to control	Be unfocused on their handler at any time	Focus on their handler at all times unless doing trained task work
	Be anxious, antsy, agitated, or aggressive in any way, shape, form, or fashion	Possess a stable, even temperament without anxiety, reactivity or aggression
	Break "stays," "unders," or other fixed-position behaviors to investigate distractions, explore or other move around. Exceptions: Service Dogs who must perform work that requires them to take the initiative to respond to their handler's disability	Remain quietly by their handler's side when their handler stops without wandering or losing focus
	Pick food or objects up off the floor or steal food or items that are sitting out. Exceptions to the "picking objects up off the floor" include dogs who retrieve dropped items for their handlers or who are otherwise doing trained task work	Ignore food or other objects except when directed by their handler
	Whine, bark, grumble, growl, or make other noises. An exception may be if the whining is an alert, such as to notify a handler who is experiencing a panic attack or a drop in blood sugar.	Be quiet at all times unless performing specific, trained task work. Outside of trained and necessary task work, there should be NO other vocalization, including, whining, grumbling, wooing, barking, growling, whimpering or other noise.
	Sniff staff members, patrons, floors, tables, counters, surfaces, products, shelving or anything else unless the Service Dog is performing specific, trained task work, such as detecting allergens or other dangerous substances	Keep his or her nose to his or her self at all times, even if there are foods, products or other interesting things readily accessible. Sniffing people, objects or food is not acceptable

Category of Behavior	Service Dogs in Public Should NOT	Service Dogs in Public Should
	Drag or pull their handler for any reason, unless the dog is performing specific mobility-related task work for their handler as evidenced by the presence of a brace mobility support harness, other task-related gear or wheelchair assistance harness.	Walk nicely on a leash without pulling, straining, lunging, lagging, circling, or forging
	Wander or move widely out of heel position unless cued to by their handler.	Lay quietly under the table or beside their handler's chair without getting up or moving around excessively
	Appear unkempt and not well-taken care of, with excessive shedding or offensive odor	Appear professional, well-groomed, and well-taken care for, without excessive shedding or offensive odor
	Engage with other dogs, people, children or distractions unless allowed to do so by their human partner. The key here is "allowed to do so by their human."	Ignore distractions
	Jump, scratch, mouth, or exhibit other "out of control" behavior.	Respond quickly and readily to the handler's commands, cues, or directions.
Housebroken	Urinates or defecates inappropriately	Never urinates or defecates inappropriately

APPENDIX B

Effective Accommodations for Animals Traveling Through Airports

Category	Accommodation or Technique	Does It Apply?	Done
Service Animal Relief Areas/Pet Relief Areas	SARA provided	YES	
	Representatives of service dog users involved in SARA facility planning		
	Pet owners involved in SARA/pet relief area planning		
	SARA well-marked and easily found		
	SARA fully enclosed with fence or walls with gate or door		
	SARA large enough that large dog on 6-foot leash assisting a person in a wheelchair can be accommodated		
	SARA easily cleaned		
	SARA cleaned with non-toxic cleaners that do not have odors that are offensive to pets		
	SARA has emergency call button or phone		
	SARA's emergency call button or phone is located at height accessible to person in wheelchair		
	SARA adjacent to cargo facility that accepts pets		
	SARA within 15 minute walk including time spent reentering through security		
	SARA has dual surfaces (hard and grass-like)		
	SARA provides vertical surface such as fire hydrant for male dogs		
	SARA designs give non-verbal cues of purpose		
	SARA not vented to inside of terminal		
	SARA's drains meet building and/or health code		
	SARA's door or gate operates automatically to accommodate persons with handicaps		
	Method to count users		
	Scheduled inspections		
	Scheduled maintenance		
Communications	Airport website links to airline pet policies		
	SARAs marked on maps in website		
	Airport monitors social media for issues related to pets		
	Airport signage regarding service animals and pets is clear and ADA-compliant		
Training	Airport employee, tenant, and volunteer orientation training includes location of SARAs		
	Airport employee and volunteer orientation and refresher training addresses ADA requirements and service animals		
	Airport employee, law enforcement, and volunteer orientation includes clear guidance on what questions can be asked about assistance animals and procedures for dealing with misbehaving animal in airport		

Category	Accommodation or Technique	Does It Apply?	Done
Pet Emergency Contingency Planning	Airport has a pet emergency contingency plan or animal emergency contingency plan		
	Airport involves internal and external stakeholders in development of pet emergency contingency plan		
	Airport periodically/regularly meets with stakeholders, especially airlines, to discuss solutions to any problems encountered		
	Persons using service dogs are specifically addressed in airport emergency plan (AEP)		
	Persons using service dogs are specifically addressed in airport terminal evacuation and sheltering-in-place plans		
	Airport has arrangement for access to veterinary services		
	Plan includes provisions for pets and other animals during IROPS and other unusual situations		
Stakeholder Relationships	Contracts, leases, and other agreements clearly spell out the airport's responsibilities and the limits to those responsibilities regarding animals traveling through the airport		
	Airport interacts with representatives of pet owners when developing new facilities or procedures		
	Airport interacts with representatives of persons with disabilities when developing new facilities or procedures for service animals		
	Airport, law enforcement, and animal control agency share understanding and procedures about enforcing local ordinances and airport policies about pets in terminals		
	Financial liabilities for pet or other animal that gets loose in terminal or AOA are clearly spelled out in writing including terms of reimbursement for airport costs		
	Airport sponsors or participates in a forum that deals with problems and issues regarding animals shipped as cargo		
Commercial Considerations	Consideration of commercial potential for airport-provided facilities for animals for lease to tenants		
	Consideration of animal-related small businesses (e.g., grooming, boarding, exercise) in terminals		
	Consideration of selling naming rights to SARAs		
Evaluation & Metrics	Airport tracks complaints regarding animals traveling through airport		
	Airport counts animals using SARAs		
	Airport counts animals passing through airport		
	Fire Rescue runs for animals are tracked as separate category in ARFF logs		

APPENDIX C

Participants in Study

Category	Interviewee	One of Original (52)	One of Added (22)	Outcome
Airports	Blue Grass Airport (Lexington)	X		Complete
	Boston Logan International Airport	X		Complete
	Cotulla–LaSalle County Airport	X		Complete
	Dallas–Fort Worth International Airport	X		Complete
	Deer Valley Airport	X		Complete
	Denver International Airport	X		Complete
	Detroit Metropolitan International Airport		X	Complete
	Heathrow Animal Reception Centre		X	Complete
	Jackson–Evers International Airport	X		Complete
	John F. Kennedy International Airport	X		Complete
	Los Angeles International Airport	X		Complete
	Memphis International Airport		X	Complete
	Miami International Airport	X		Complete
	Minneapolis–St. Paul International Airport	X		Complete
	New River Valley International Airport	X		Complete
	O'Hare International Airport	X		Complete
	Phoenix Sky Harbor International Airport	X		Complete
	Piedmont Triad International Airport	X		Complete
	Pittsburgh International Airport		X	Complete
	Roanoke–Blacksburg Regional Airport	X		Complete
	San Diego International Airport	X		Complete
	San Francisco International Airport	X		Complete
	Southwest Florida International Airport	X		Complete
	Washington Dulles International Airport	X		Complete
Airlines	Air France/KLM/Martinair		X	
	Alaska	X		
	American—U.S. Airways	X		
	Delta	X		
	IAC (BA/Iberia)	X		Airlines: 5 Complete and 6 Declined
	Jet Blue	X		
	Lufthansa	X		
	Qantas	X		
	SkyWest	X		
	Southwest	X		
	United	X		

Category	Interviewee	One of Original (52)	One of Added (22)	Outcome
Animal Shipping & Handling Companies	Air Animal Pet Movers	X		Complete
	Air General	X		No Response
	Airborne Animals		X	Complete
	Animal Air Services (Miami)	X		Complete
	Dynasty Marine Associates, Inc.	X		Complete
	H. E. Sutton		X	Complete
	Pender AIR	X		Complete
	Worldwide Livestock Services (WLS)	X		No Response
Service Dog & Emotional Support Animal Agencies	Assistance Dogs International–North America		X	Complete
	Canine Companions for Independence (CCI)	X		Complete
	Dogs for Life		X	Complete
	Freedom Service Dogs		X	Complete
	Guide Dogs for the Blind	X		Complete
	International Association of Assistance Dog Partners (IAADP)		X	Complete
	K94Life		X	Declined
	Paws with a Cause		X	No Response
	Saint Francis Service Dogs		X	Complete
	Southeastern Guide Dogs		X	Complete
	Susquehanna Service Dogs		X	Declined
	Temple Grandin	X		Complete
	The Seeing Eye	X		Complete
	Vet Dogs/Guide Dog Foundation for the Blind, Inc.	X		No Response
	Warrior Canine Connection	X		No Response
Associations	Animal Transportation Association (ATA)	X		Declined
	International Pet and Animal Transportation Association (IPATA)	X		Complete
Regulatory & Other Public Agencies	Airlines for America (A4A)	X		Complete
	International Air Transport Association (IATA)	X		Declined
	CDC/HHS	X		Complete
	Community Animal Response Teams [tentatively Chesapeake (VA) CART]	X		Complete
	Customs and Border Patrol (CBP)/DHS		X	Declined
	FAA/DOT	X		Complete
	ICAO	X		No Response
	State Animals Response Teams (tentatively Virginia SART)	X		Complete
	TSA/DHS	X		Complete
	U.S. Fish and Wildlife Service (Miami)		X	No Response
	USDA	X		Complete
Others	American Kennel Club (AKC)		X	No Response
	Greater Miami Chamber of Commerce, Cargo Network		X	Complete
	Margaret J. Rucker, President-Owner-Medical Director, Southwest Virginia Veterinary Service		X	Complete

APPENDIX D

Interview Questions

General Questions

1. How are you involved with animals traveling through airports?
2. What issues have you encountered regarding animals passing through airports? Please give year, species/breed, and details of the issues. Please include all issues that you think are significant.
3. How have such issues been resolved effectively? What lessons have been learned?
4. What policies, procedures, or facilities have you observed that are exemplary or highly effective for accommodating animals passing through airports?
5. When there have been problems, how were they handled? Which entities played what roles in the response and resolution?
6. If you could make changes to any part of the process, what would they be?
7. From your point of view, what are the main barriers to the effective accommodation of animals traveling through airports?
8. How do you help the traveling public find accurate, usable information on the rules and procedures for traveling with pets or shipping animals?
9. What issues do you encounter with documentation (requirements, compliance)?
10. What metrics or other measurements do you use for the quality of care of animals and/or customer satisfaction regarding animal transport?
11. Is there any comment, suggestion, criticism, or addition, either about the topic of this study or about these questions, you wish to add?
12. What documentation (especially photographs) do you have of your animal facilities?

Questions for Airports

1. Who are the stakeholders in the accommodation of animals passing through your airport?
2. To what extent does your airport (*emphasis on airport*) get involved with
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
   d. Service animals
   e. Therapy animals.
3. What is your *estimate* of the number of animals in each of these categories traveling through your airport *each month*?
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
      i. Livestock
      ii. Marine animals
      iii. Wildlife.
   d. Service animals
   e. Therapy animals
4. How does your airport inform travelers of animal or pet check-in procedures that may differ in location or time requirements from regular check-in?
5. Please describe your airport's facilities for pets *traveling with passengers* including pet relief areas. How are they managed? How do passengers find them? How much did they cost? How are they financed? What problems do they present for maintenance or operations? How do you decide where to locate them? How do you deal with space limitations? What is your signage like?
6. Does your airport have an on-airport facility for animals? Please describe.
7. Does the physical layout of your airport create problems for passengers and other customers with animals? This includes terminals, cargo terminals, parking structures, people movers, etc.
8. How far is the cargo facility that accepts animals from the plane that will carry them?
9. Please describe your airport's facilities for pets or other animals traveling *in cargo.* How are they managed? How do passengers find them? How are they financed? What problems do they present for maintenance or operations?
10. Have pets or other animals being shipped caused disruptions in your terminal or AOA? Please describe the situation, the extent of the disruption, and how resolved.
11. Please describe the relationship between your airlines and the airport regarding animals passing through the airport.
12. Do animal forwarding or handling companies operate at your airport?
13. Does your airport have an animal or pet contingency plan? Is it written?

14. Does the airport staff include a designated person to deal with animal or pet issues? If so, who?
15. What types and amounts of training does the airport give employees about dealing with animals traveling through the airport? Who gets the training? Who serves as instructors? What is the refresher training interval?
16. Does the training include what to do in case of an animal emergency?
17. Does your airport have a veterinarian on call? How often are his or her services needed?
18. What happens if an animal or pet is lost?
19. What happens if an animal or pet dies at the airport?
20. Where is your airport in the process of complying with regulations concerning accommodation and protection of pets and animals?
21. What insurance issues are there concerning with animals traveling through your airport?

Airline-Specific Questions

1. How many animals do you handle in each of these categories per month?
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
      i. Livestock
      ii. Marine animals
      iii. Wildlife.
   d. Service animals
   e. Therapy animals.
2. How do you ensure/enforce standards of care for animals that you transport?
3. What are your guidelines and policies for handling animals? (crates, carriers, temperature, etc.)
4. Do animals in any of these categories cause operational, safety, or customer relations issues for your company? Please describe.
5. How do you manage airline-to-airline transfers of animals in cargo? Is it the same for your regional airline affiliates?
6. What is the interaction between your company and the airport regarding animals? How do you work together when there is a problem?
7. Does your company have a plan for handling pets in IROPs (irregular operations) situations? Is that plan coordinated with the airport's IROPs plan?
8. How far is the cargo facility that accepts animals from the plane that will carry them? How much does this vary from airport to airport?
9. Do you track or trace animals on your planes? How?
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
   d. Service animals
   e. Therapy animals.
10. Do you have problems with passengers claiming that a pet or show dog is a therapy animal to avoid fees? How do you handle this?
11. What characteristics and contents (e.g., water and food containers, bedding, etc.) do your require for crates to be acceptable?
12. How does your airline inform travelers of animal or pet check-in procedures that may differ in location or time requirements from regular check-in?
13. What types and amounts of training does your company give employees about dealing with animals? Who gets the training? Who serves as instructors? What is the refresher training interval? Is there a requirement for continuing education?
14. Do your company's employees get specific training from service dog (and perhaps therapy dog) companies? What sorts and types of training? Who gets the training? Who serves as instructors? What is the refresher training interval? Is there a requirement for continuing education?
15. Where is your company in the process of complying with regulations concerning accommodation and protection of pets and animals?
16. Do you have a contingency manual for animal operations?
17. What happens if an animal or pet is lost?
18. What happens if an animal or pet dies?
19. With what other companies or entities besides airports do you interact regarding the air transport of animals?
20. How do you deal with customs delays?
21. How do you deal with health inspection delays?
22. What measures does the company take to ensure effective, timely communications between offices, agents, warehouse workers, and contractors involved in handling animals?
23. What insurance issues are there regarding animals you transport?
24. Would a national registry for service animals make a difference?
25. Would a national registry for therapy animals make a difference?

Animal Handling and Forwarding Company Question

1. How many animals do you handle in each of these categories per month?
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
      i. Livestock
      ii. Marine animals
      iii. Wildlife.
   d. Service animals
   e. Therapy animals
2. Do animals in any of these categories cause operational, safety, or customer relations issues for your company? Please describe.
3. How do you deal with customs delays?
4. How do you deal with health inspection delays?
5. What is the interaction between your company and the airport regarding animals? How do you work together when there is a problem?
6. How far is the cargo facility that accepts animals from the plane that will carry them?
7. What is the interaction between your company and the airline or air cargo company regarding animals? How do you work together when there is a problem?
8. Do you track or trace animals that you ship? How?
   a. Pets traveling with passengers
   b. Pets traveling in cargo
   c. Other animals traveling in cargo
      i. Livestock
      ii. Marine animals
      iii. Wildlife
   d. Service animals
   e. Therapy animals
9. What characteristics and contents (e.g., water and food containers, bedding, etc.) do your require for crates to be acceptable?
10. How does your company inform travelers of animal or pet check-in procedures that may differ in location or time requirements from regular check-in?
11. What types and amounts of training does the company give employees about dealing with animals? Who gets the training? Who serves as instructors? What is the refresher training interval?
12. Where is your company in the process of complying with regulations concerning accommodation and protection of pets and animals?
13. Do you have a contingency manual for animal operations?
14. With what other companies or entities besides airports and airlines do you interact regarding the air transport of animals?
15. Do you have a veterinarian on staff or on call?
16. What insurance issues are there regarding animals you handle?
17. Would a national registry for service animals make a difference?
18. Would a national registry for therapy animals make a difference?

Service and Assistance Dog Company and Association Questions

1. How many animals do you handle in each of these categories per month?
   a. Service dogs traveling with passengers
   b. Service dogs traveling in cargo
   c. Therapy animals traveling with passengers
   d. Therapy animals traveling in cargo.
2. Do animals in any of these categories cause operational, safety, or customer relations issues for your company? Please describe.
3. What should Service Animal Relief Areas (SARAs) be like? (location, signage, size, features, sanitation, maintenance)
4. What accommodations do the users of service dogs or therapy dogs need in addition to relief areas or in the use of SARAs?
5. What considerations should airports give users of service animals regarding flight connections?
6. Why considerations should airlines give users of service animals regarding flight connections?
7. What is the interaction between your company and the airline or airport regarding animals? How do you work together when there is a problem?
8. How far is the cargo facility that accepts animals from the plane that will carry them?
9. What is the interaction between your company and the airline or air cargo company regarding animals? How do you work together when there is a problem?
10. Do you track or trace animals that you ship? How?
11. Service animals traveling in cargo
12. Service animals traveling with passengers

13. Therapy animals traveling in cargo
14. Therapy animals traveling with passengers
15. What characteristics and contents (e.g., water and food containers, bedding, etc.) do your require for crates to be acceptable?
16. How does your company inform travelers of animal or pet check-in procedures that may differ in location or time requirements from regular check-in?
17. What types and amounts of training does the company give employees about dealing with animals? Who gets the training? Who serves as instructors? What is the refresher training interval?
18. What types and amounts of training does the company give airlines about dealing with animals? Who gets the training? Who serves as instructors? What is the refresher training interval?
19. What types and amounts of training does the company give clients (service dog users, therapy animal users) about traveling with animals and preparing for travel? Who gets the training? Who serves as instructors? What is the refresher training interval?
20. Where is your company in the process of complying with regulations concerning accommodation and protection of pets and animals?
21. Do you have a contingency manual for animal operations?
22. With what other companies or entities besides airlines and airports do you interact regarding the air transport of animals?
23. Do you have a veterinarian on staff or on call?
24. What insurance issues are there regarding the transportation of animals you handle?
25. Would a national registry for service animals make a difference?
26. Would a national registry for therapy animals make a difference?

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

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