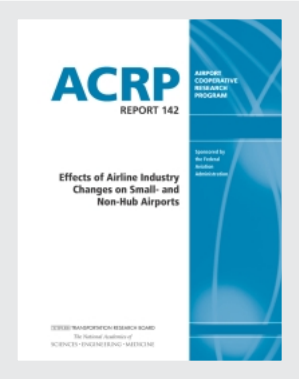

Effects of Airline Industry Changes on Small- and Non-Hub Airports

DETAILS

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AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP REPORT 142

Effects of Airline Industry Changes on Small- and Non-Hub Airports

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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). ACRP carries out applied research on problems that are shared by airport operating agencies and not being adequately addressed by existing federal research programs. ACRP is modeled after the successful National Cooperative Highway Research Program (NCHRP) and Transit Cooperative Research Program (TCRP). ACRP undertakes research and other technical activities in various airport subject areas, including design, construction, legal, maintenance, operations, safety, policy, planning, human resources, and administration. ACRP provides a forum where airport operators can cooperatively address common operational problems.

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) 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 Academy of Sciences formally initiating the program.

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 ACRP are solicited periodically but may be submitted to 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 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 users of the research: airport operating agencies, service providers, and academic institutions. ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties; industry associations may arrange for workshops, training aids, field visits, webinars, and other activities to ensure that results are implemented by airport industry practitioners.

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FOREWORD

By Lawrence D. Goldstein
Staff Officer
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ACRP Report 142: Effects of Airline Industry Changes on Small- and Non-Hub Airports is a guidebook and compendium of resources that describes policy and planning options for small- and non-hub airport operators and managers as they respond to changing conditions in the airline industry. Airport marketing and development programs are highly individualized, but common issues exist over which airports exert varying levels of control. With this context in mind, this report describes the forces that affect airline operations and airport planning and development and presents a structured approach to help create effective planning and development strategies. The report reviews airline industry trends, documents patterns of airline industry change, and assesses current programs that airports are using to respond to changes.

Based on a review of relevant literature as well as use of focus groups and detailed case studies, the guidebook evaluates options and suggests viable programming strategies. Focus groups were selected from among the case studies to demonstrate noteworthy community involvement or use of innovative incentive programs. The report includes a discussion of lessons learned from these case studies and focus groups, presents a series of new measurement tools for assessing change in airport services, and provides an appendix with detailed data on all the airports included in the analysis. The options and strategies that emerged from this analysis were used to create a self-assessment tool to help stakeholders build action plans recognizing unique, individual airport requirements and characteristics. The complete data set from which the appendix is drawn is presented as a web-only Excel file on the TRB website.

Under ACRP Project 03-29, the GRA, Inc., team identified effective strategies for responding to the changing airline industry conditions that are affecting small- and non-hub airports. In recent years, air service at small- and non-hub U.S. airports has changed significantly in response to changing economic conditions. The most significant changes fall into several substantive categories. First, service decreases at small- and non-hub airports have been accompanied by a shift or decline in overall airline seat capacity. Second, airline consolidation coupled with an increase in disciplined management of seat capacity, particularly for domestic service, has helped to minimize costs while increasing upward pressure on airfares. This emphasis on managing seat capacity has led airlines to re-evaluate individual routes in order to maximize airline profits and eliminate "unprofitable flying." This re-evaluation has led to increased passenger load factors that now average more than 80% for many airlines. Finally, changing fuel costs, when measured in terms of per-enplaned passenger, have continued to affect airline profitability, forcing airlines to develop new strategies to increase revenues and reduce costs—strategies which have, in turn, affected airline service at nearly every U.S. airport.

In response to fuel-cost volatility, there has been an increased emphasis on fuel-efficient aircraft, including a shift from short-haul to long-haul capacity to increase overall profitability; this shift has led to changes in fleet mix with decreased use of smaller, regional jets in favor of larger, newer aircraft—a change that has affected and will continue to affect the availability of service to small- and non-hub airports.

These evolving conditions have raised questions about the potential long-term effects of the changing airline business model on future travel demand, traveler behavior, and levels of service into primary as well as smaller markets. It is also apparent that airports individually may have limited ability to affect the changes occurring. In particular, this study recognizes that reduction in service at small- and non-hub airports can be especially severe, affecting local economies that rely on access to the air transportation system. These evolving conditions helped drive the need for this study, resulting in a guidebook that provides airport operators and other stakeholders a way to build and implement strategies that can maximize opportunities to market, retain, and expand air service where feasible and justified.

CONTENTS

SUMMARY

Effects of Airline Industry Changes on Small- and Non-Hub Airports

The objectives of this research were to identify and quantify the effects of recent changes in commercial airline service on small- and non-hub airports and the communities they serve and to help these airports develop strategies for achieving and maintaining desired commercial service. This guidebook covers various related topics.

Chapter 1 provides an overview of each chapter and presents the following:

- A review of literature about airline industry trends
- Extensive data analysis of airline industry changes since 2001
- Discussion of common air service development (ASD) programs at small U.S. airports
- Description and analysis of case studies conducted at 12 specific small- and non-hub airports
- Description and analysis of detailed focus group studies at five of the case study airports
- A synthesis of lessons learned from the case studies and focus group studies
- New metrics for assessing changes in airport service
- A self-assessment tool along with discussion of relevant strategies based on an airport's specific responses to the tool.

To help stakeholders quickly identify usable information relevant to their airports, the following subsections highlight specific findings that focus on ASD programs, lessons learned, a self-assessment tool, and recommended development strategies.

Overview of ASD Programs

Airports need to understand the forces driving the future of airline services in the United States. Small airports in particular need to understand what actions they and their communities can take to attract and retain air services, especially because these actions are constrained by FAA policies on the allowable uses of airport revenues for airports that receive federal airport grants.

Local economic development officials have brought various approaches and tools to bear in trying to attract air carriers to offer service in their communities. One of the most common approaches to attracting air service has been the use of incentives. Although several studies have found that incentives do not guarantee achieving greater levels of air service, many carriers have come to expect that communities will offer some package of incentives to entice the carrier to begin service. As a result, many local and, in some cases, state economic development officials design and implement their own incentive programs to try to attract air carriers to their communities.

Federal programs, such as the Essential Air Service (EAS) program and the Small Community Air Service Development (SCASD) program, provide financial assistance to communities

Exhibit S-1. Air service development efforts of small- and non-hub airports.

Type of Effort	Non-hub Airports (81 airports)		Small-Hub Airports (17 airports)		Combined Total (98 airports)	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Studies	60	74%	15	88%	75	77%
Marketing	60	74%	16	94%	76	78%
Financial Incentives	33	41%	11	65%	44	45%
Other	15	19%	0	0%	15	15%

Note: Columns will not add to the total number of airports shown because some airports undertook multiple efforts.

to continue air service or to attract new air service. These programs can help to meet air service needs, but are subject to program restrictions and limited available funding. Some states also have similar programs. ACRP Project 03-29 focused on additional actions that an airport sponsor or the local community can take regarding air service development.

Exhibit S-1 summarizes the types of ASD strategies executed by small- and non-hub airports according to a report issued by the U.S. Government Accountability Office (GAO) in 2003. The financial incentives were the most effective at attracting new service, but the new service often ended when the incentives ended.

Lessons Learned

As part of this research effort, 12 airports were initially identified as case study sites, and 5 of them were subsequently selected for more in-depth analysis based on focus group visits. A synthesis of the lessons learned from these case study and focus group analyses is presented in Chapter 7, along with analysis of important variables that appear to support the success of ASD efforts. Key findings from this part of the research include the following:

- Air service development is relative. Air carriers do not choose new routes in a vacuum but through a comparative analysis of likely route profitability across communities.
- Although incentive programs can influence air carrier decisions at the margins, local economic growth and market demand are the factors most likely to influence air carrier decision-making.
- Many of the factors that determine whether an air carrier will start new service in a community are out of the hands of airport and community leaders.
- Given reductions in industry capacity and the competitive nature of air service development, a focus on retaining existing air service can be an effective strategy.
- When deciding whether or not to initiate an ASD program, communities must weigh the cost of the initial investment in incentives for new air service with the likelihood that their market can sustain the service once the incentives end.
- As communities look to evaluate and organize local air service efforts, the availability of alternative modes of transportation that take passengers to larger hub airports should be considered when attempting to build community support for the local airport.
- A formal airline attraction committee is an effective governance structure to ensure the leadership and organization of community ASD efforts.
- Community outreach and education are critical first steps to identifying local demand for service to a new destination and setting expectations.
- Airport managers and consultants must identify and target an air carrier whose business model (e.g., route network, fleet, and regional presence) matches the local demand for service.
- An incentive program for new service should focus on reducing short-term risk and costs to air carriers while protecting the interests of the community.

- Community-driven incentive programs signal to air carriers a community's commitment to and demand for new service. Therefore, incentives based primarily on SCASD funds are a signal of weak community support.
- Incentives are a complement, not a substitute, for underlying local demand. There is no "silver bullet" incentive—communities should use a mix of incentives, including cost abatement, minimum revenue guarantees, ticket banks, and marketing assistance.
- Once new service is started in a region, the community must work to market and support the flight to ensure its success.

Self-Assessment Tool and Recommended Strategies

Chapter 9 provides recommended ASD strategies for airport managers and community leaders in communities with small- or non-hub airports to use in retaining or attracting air service. To provide a custom set of strategies for small- and non-hub airports facing diverse challenges, a self-assessment tool has been designed that asks airport managers and community leaders to answer a series of brief questions in five categories:

- Local Economic Performance
- Existing Air Service Profile
- Recent Change in Air Service Performance
- Airline and Community Incentive Programs
- Level of Community Engagement

These categories were selected because of the importance placed on them by airport and community leaders who have led successful air service development efforts. The self-assessment tool, reprinted from Chapter 9, is provided as Exhibit S-2.

Using the recommended scoring approach shown above, an airport's performance can be classified as strong or weak in each of the five categories, and a set of specific recommendations tailored to the classification in each category is provided in Section 9.4. For many airport managers, the assessment tool and recommended strategies will allow them to identify and assess ways to help retain and develop scheduled commercial air service given their airport's particular strengths and weaknesses. Recommendations are summarized below.

Strong Local Economic Performance

- **Ensure that Major Businesses that Depend on Air Service are Active Members of Airline Attraction Committees**

Many communities that have been successful in attracting and retaining air service and have experienced strong economic performance have effectively involved representatives from major businesses or industries that rely heavily on air travel. Local business participation on airline attraction committees establishes a sense of buy-in and loyalty from major employers to choose to fly from smaller airports and to contribute financially to ASD efforts.

- **Plan to Meet Routinely to Quantify Both Realized and Unrealized Demand for Air Service Generated by Changes in Economic Indicators and Demographic Factors**

By routinely meeting to discuss potential business attraction efforts or seasonal tourism projections, airport managers and community leaders can provide unique information to airline route planners about demand for new service in their communities. Information such as seasonality of demand, corporate travel group trends, links with nearby communities, and new or emerging businesses or attractions that drive demand are critical to presenting a community's demand for new air service effectively.

Exhibit S-2. Self-assessment tool for small- and non-hub airports.

Local Economic Performance	Response	Score
Does your region have a major industry or business that depends on airline service? **Yes= 1 No=0**		
Is the count of annual enplaned passengers greater than your current population total? **Yes= 1 No=0**		
Over the past 5 years, has your region experienced employment growth greater than or equal to the national average? **Yes= 1 No=0**		
Over the past 5 years, has your region experienced per capita income growth greater than or equal to the national average? **Yes= 1 No=0**		
Total Score		
Total Score 3 or more = Strong Economic Performance ***Total Score 2 or less = Weak Economic Performance***		

Existing Air Service Profile	Response	Score
Does your airport currently have service to a legacy-carrier network hub? **Yes=1 No=0**		
Does your airport currently have service to more than one legacy-carrier network hub? **Yes= 1 No=0**		
Does your airport currently have low-cost carrier service? **Yes=1 No=0**		
Is your airport within a 2-hour drive of an airport with competing air service? **Yes=0 No=1**		
Does your airport face competition from alternative modes of transportation such as rail or bus service in any key markets? **Yes=0 No=1**		
Total Score		
Total Score 3 or more = Strong Air Service Profile ***Total Score 2 or less = Weak Air Service Profile***		

Recent Change in Air Service Performance	Response	Score
Has your airport seen a significant increase in the number of available airline seats over the past 5 years? **Yes, More than 20%=2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport seen a significant increase in the number of daily flights over the past 5 years? **Yes, More than 20%= 2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport seen an increase in overall connectivity (measured by Quality of Service Index (QSI) score) over the past 5 years? **Yes, More than 20%= 2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport successfully attracted new legacy-carrier service to a network hub over the past 5 years? **Yes=1 No=0**		
Has your airport successfully attracted new low-cost carrier service to an origin-destination market over the past 5 years? **Yes=1 No=0**		
Total Score		
Total Score 4 or more = Strong Change in Air Service Performance ***Total Score 3 or less = Weak Change in Air Service Performance***		

Exhibit S-2. (Continued).

Airline and Community Incentive Programs	Response	Score
Does your airport currently offer fee waivers or reduced terminal rent for new air carriers or new service by existing air carriers? **Yes=1 No=0**		
Does your airport currently offer marketing support for new air service? **Yes= 1 No=0**		
Has your airport applied for a U.S. DOT Small Community Air Service Development (SCASD) grant over the past 5 years? **Yes=1 No=0**		
Over the past 5 years, has your community offered a minimum revenue guarantee (MRG) or guaranteed ticket purchases (travel bank) to an air carrier for new service? **Yes=1 No=0**		
Has your current airline incentive program been in effect for more than 2 years? **Yes=1 No=0**		
Total Score		
Total Score 3 or more = Strong Airline and Community Incentive Programs Total Score 2 or less = Weak Airline and Community Incentive Programs		

Level of Community Engagement	Response	Score
Does your airport management conduct regularly scheduled presentations to community organizations (Rotary, Chamber of Commerce, etc.)? **Yes=1 No=0**		
Are members of the airport board also members of the local Chamber of Commerce or Economic Development Corporation? **Yes= 1 No=0**		
Do you have community event days sponsored by and conducted at the airport? **Yes=1 No=0**		
Does the airport manager have routine communication with the Chamber of Commerce, the Economic Development Corporation, or the Convention and Visitors Bureau? **Yes=1 No=0**		
Does your airport provide tours upon request? **Yes=1 No=0**		
Total Score		
Total Score 3 or more = Strong Level of Community Engagement Total Score 2 or less = Weak Level of Community Engagement		

- **Use Indicators of Strong Economic Performance to Expand Existing Service**

In communities that have had strong economic performance over the past several years, an effective ASD strategy may be to use information on increased demand or ticket yield (air fare per mile) to expand existing service.

Weak Local Economic Performance

- **Be Actively Involved in Local Economic Development Efforts to Attract New Businesses or Industries to a Region**

In communities with weak regional economic performance, a critical first step to building the foundation for future air service development success is for airport managers to foster a close working relationship with local economic development and tourism officials. An effective method to ensure a close working relationship between airport and economic development officials is to "cross-pollinate" board members in existing organizations including the

airport, the economic development office, the chamber of commerce, and the convention and visitors bureau (CVB).

- **Consider Airport Experience Branding or Tourism Investment Opportunities as Potential Strategies to Overcome Limited Economic Growth and Generate Demand for New Service**

Communities that have experienced weak economic performance can generate demand for air service by working with community leaders to invest in tourism promotion or with airport officials to promote the flying experience from the airport compared to a larger hub airport.

Strong Existing Air Service Profile

- **Focus on Optimizing Existing Carrier Service Rather than Pursuing Possible Competing Routes**

Small- and non-hub airports that have achieved a diverse air service profile including multiple legacy-carrier routes to network hubs and low-cost carrier (LCC) service to origin and destination (O&D) markets should develop plans that focus on retaining existing service while looking to expand the number of flights or increase aircraft size with existing carriers. If the demand in a market increases due to seasonality or a new employer moving into a region, airport and community leaders often can use their relationships with incumbent carriers to quickly add new flights or move to larger aircraft to accommodate the increase in demand rather than trying to attract a new carrier to the airport.

- **Target New Service that Complements Existing Service and Offers Maximum Connectivity for Travelers**

Airport managers at small- and non-hub airports with strong air service profiles may still want to pursue new service to meet untapped demand that cannot be met by existing carriers. In these cases, airport and community leaders would be wise to consider not only the destination with the most demand, but the ability to reach other destinations via connecting service that a new route would provide to travelers. Metrics such as the Quality of Service Index (QSI) estimates (discussed in Chapter 8) may allow airport managers to identify destinations that have the greatest connectivity to domestic and international markets.

Weak Existing Air Service Profile

- **Target Carriers Whose Business Model Fits with the Community's Needs**

Managers at small- and non-hub airports that have a weak existing air service profile often face significant internal financial pressure as well as external pressure from local elected officials and citizens to pursue new flights, regardless of the new carrier's connectivity to other destinations. A key lesson from the most successful small- and non-hub airports over the past 10 years was that managers and community leaders should analyze potential carriers to find those carriers with business models and destination profiles that match the demand of the local community.

- **Educate the Public on the Macro- and Micro-level Causes of the Community's Weak Air Service Profile While Working to Gain Support for Future ASD Efforts**

Many airport officials at airports with weak air service profiles must try to garner support from businesses that may have employees drive to other airports for travel needs and then criticize the local airport for a lack of flight options. In these cases, airport officials must work

to educate the community on the importance of business and community support for new service in today's competitive ASD environment, the benefits of flying locally, and larger airline industry trends that can affect the community's ability to attract service. Airport officials should consider investing in studies and economic analyses that show the value of flying from the local airport versus driving to a nearby airport.

Strong Recent Changes in Air Service Performance

- **Work Diligently to Market and Support New Flights to Ensure Their Sustainability**

A key mistake made by many communities and airport officials is that they often expend so much time and effort persuading a carrier to announce new service that they have few resources to spend on developing an effective marketing or public relations plan to generate community awareness and support for the new service. Successful marketing campaigns for new air service can include traditional advertising (e.g., television, radio, and newspaper), social media advertising, and events that draw members of the community to the airport.

- **Plan to Meet Periodically With Airline Route Planners to Outline a Multi-Year Strategic Plan for the Community and How Service Will Be Sustained**

Airports and communities that have had recent successes must continue to communicate and build relationships with airline route planners and executives once these individuals have agreed to start new service. A key piece of this communication is a multi-year strategic plan that describes the community's plans for (1) economic development and business attraction, tourism development, and marketing and promoting the new service, and (2) how airport leaders will stay engaged with the community. Such plans indicate the sustainability of newly initiated service to airline route planners.

Weak Recent Changes in Air Service Performance

- **Work With Local Businesses and Community Leaders to Generate Support for Existing Air Service, However Limited It May Be**

Many small- and non-hub airports with limited existing air service must generate business and community support for flights that are often at inconvenient hours, on small regional aircraft, are unreliable, and often the first flights cancelled by air carriers during periods of irregular operations. Showing that the community can support the limited service it has is critical to pursuing additional air service.

- **Pursue Alternative Modes of Transportation, Including Passenger Bus or Rail Service, to Supplement Existing Air Service**

Airports with limited existing flight options should pursue alternative modes of transportation including airport bus service and train service to supplement their existing service. Many small- and non-hub airports are within a 2- to 3-hour drive of a major network hub. Private bus service between the small- or non-hub and the larger hub can provide passengers an important back-up option during times of irregular operations.

Strong Airline and Community Incentive Programs

- **Develop Flexible Incentive Programs and Remain in Frequent Contact with Air Carriers to Determine if the Program is Meeting the Needs of the Carriers**

Airports and communities with incentive programs being used to subsidize new service should continue to meet frequently with airline route planners to monitor the profitability

and performance of new routes and work to adjust incentive structures if the new flight is not meeting performance metrics or if the carrier shifts its business model.

Weak Airline and Community Incentive Programs

- **Conduct a Realistic Assessment of Whether an Investment of Public and Private Money in an Incentive Program is Feasible, Given Existing Financial Constraints and the Likelihood of Sustaining New Service**

A critical component of developing and implementing an airline incentive program is to assess the likelihood that the investment of public and private money to attract or retain air service will be successful, given macro-level factors in the airline industry, existing financial constraints in the local community, and the level of community support and demand for new air service. Such an assessment allows airport and community leaders to identify key businesses and elected officials who may act as champions for ASD efforts.

- **Match the Incentive Program Being Developed to the Business Model of the Air Carrier Being Targeted**

Most airline route planners say that general incentive programs do not have a significant effect on their decision to start new air service in a community. However, they also note that incentive programs that consider the business model of the air carrier are much more likely to influence the decision-making process. To understand the underlying business model of the targeted air carrier, airport and community leaders should meet frequently and routinely with airline route planners.

- **Focus on Reducing Short-Term Risk and Costs to the Air Carrier While Protecting the Interests of the Community**

When a carrier begins new service in a community, there are several risks to the carrier including a lack of enplanements due to a lack of marketing, the costs of opening a new station at the airport, and the cost of moving or hiring new employees for baggage, ticketing, and ramp operations. Incentives such as ticket banks or minimum revenue guarantees are designed to offset these costs and risks over a short period. However, these incentives can present significant financial risk to local businesses and governments. Airport and community leaders must work with air carriers to design incentive programs that protect the interests of the air carrier and the local community.

Strong Level of Community Engagement

- **Continue to Educate and Reach Out to Local Businesses and Civic Groups about the Performance of the Airport and Airline Industry**

Continual and frequent education and outreach to the community is essential to successful ASD efforts. For communities with new service, outreach allows airport and economic development officials to communicate industrywide or local trends that may affect the success of their service while allowing for the establishment of new ASD efforts due to local changes (e.g., a new business opening). In communities still working for new air service, outreach and education forums allow for coordinating efforts and resources to bolster development efforts or suggest new approaches.

- **Formalize Governance Arrangements to Allow for Nimble Responses to Future ASD Opportunities**

In many communities with strong community engagement programs, much of the work between airport managers and local economic development leaders occurs on an ad hoc

basis and may often overlap or compete with other efforts in the community. Developing a formalized governance structure (e.g., an official airline attraction committee) allows for shared responsibility across several organizations. Formalizing previously ad hoc processes also allows for quicker response to new ASD opportunities that may arise.

Weak Level of Community Engagement

- **Establish Education and Outreach Programs that Communicate the Value of the Airport to the Community**

Airport managers in communities with weak engagement must remind the community that their airport has value to the region, even though many citizens may have never used or been to the airport. A way to overcome the lack of awareness of the airport more generally is to hold frequent and regular education and outreach meetings with key civic groups. By educating the community on macro-level industry trends and local factors that influence air service, airport managers can begin to foster an understanding of the underlying market demand that is necessary to expand flights and how members of the community can help establish the conditions necessary to expand service.

- **Develop Close Working Relationships with Key Community and Economic Leaders**

Local officials must remain engaged in attraction and retention efforts. By partnering with key community groups, airports can overcome traditional limitations on air service development by developing a flexible airline attraction program that provides incentives to carriers. More important, by being in constant communication with these organizations, the airport will be better equipped to access real-time information on the needs of the business community and to address any concerns through an organization's regular meetings.

CHAPTER 1

Using the Guidebook

1.1 Introduction

With the continued evolution of the U.S. airline industry, it is important to examine the potential outcomes for smaller airports in terms of the levels and types of commercial air service likely to be available. In turn, these airports will have to communicate with their surrounding communities about what is happening and understand the likely effects on travelers and cargo shippers as well as the effect of air service changes on local businesses, government, and the local economy. Airport leaders will be asked to stem reductions in current air service and/or obtain new services.

The objectives of the ACRP Project 03-29 research were to

1. Identify and quantify the effects of changes in commercial airline service on small- and non-hub airports and the communities they serve, resulting from airline consolidation, fleet realignment, and other industry factors
2. Develop strategies for achieving and maintaining desired commercial service at these airports in response to changing market conditions and airline business plans

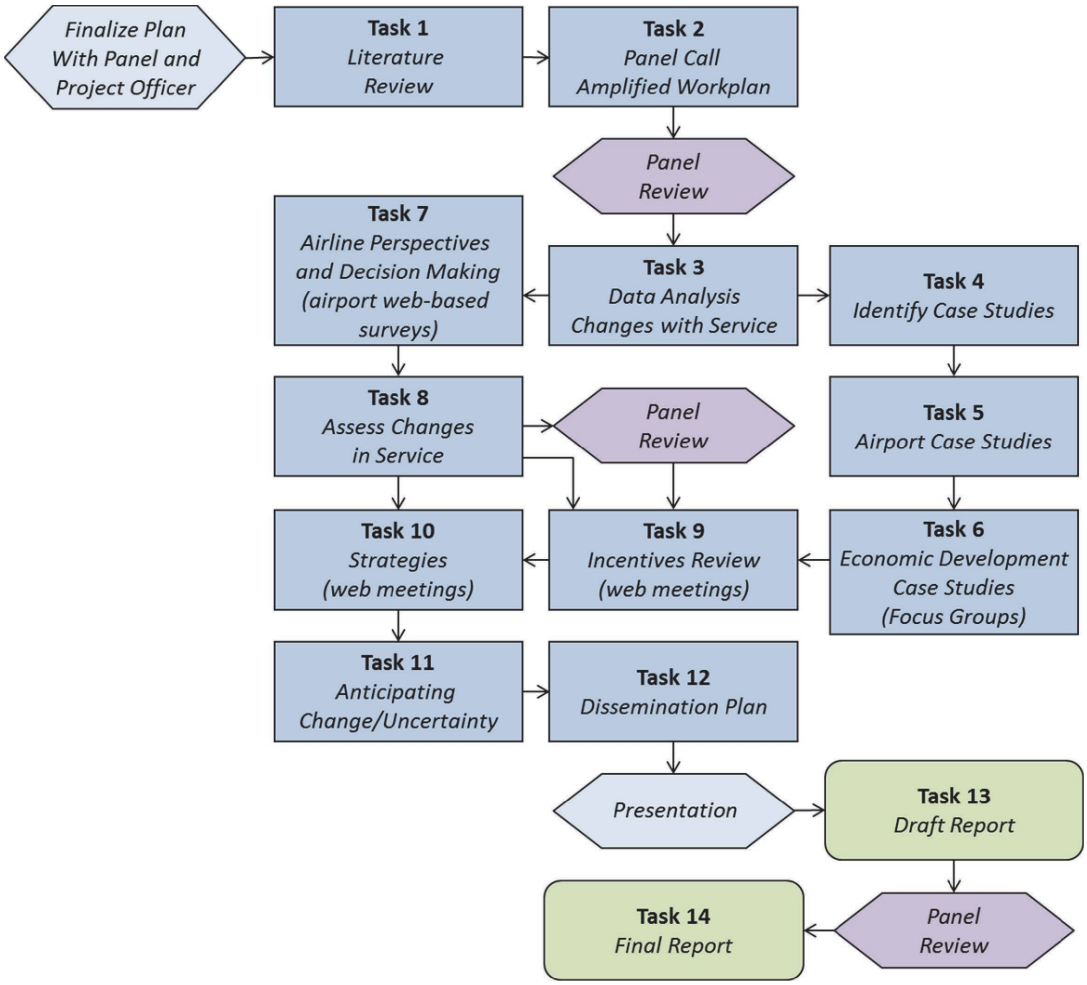
To achieve these goals, airports must understand the economic forces affecting the U.S. airline industry and how these forces affect airline decisions about air service at specific airports. Airport staff also need information on which actions are most likely to result in retaining and expanding air service. To this end, the research team for this project undertook a series of case studies that focus on airports and community economic development bodies, as well as an airline survey and other outreach to airports and airlines.

The work presented in this guidebook identifies and evaluates the strategies available to airports and communities that can be used to retain and attract air services, provides specific examples of programs used by airports in the past, and presents what might best meet airports needs moving forward. These strategies include

- Assistance provided to air carriers within allowable FAA guidelines on the use of airport revenues
- Assistance provided to airlines by local communities to offset costs or to guarantee revenues
- Use of federal and/or state financial assistance
- Other strategies to maintain or enhance community access to the scheduled air transportation system, including options to access other airports

Exhibit 1-1 provides a schematic view of the work program that identifies each task undertaken and the relationships among them. The research team also used focus groups, online surveys, and web-based meetings to obtain additional insights during the project.

Exhibit 1-1. Task schematic.



1.2 Organization of the Guidebook

This guidebook has the following additional chapters:

- Chapter 2: Literature Review of Airline Industry Trends
- Chapter 3: Data Analysis, Airline Industry Changes, and Case Study Selection
- Chapter 4: Air Service Development Programs
- Chapter 5: Case Studies
- Chapter 6: Focus Groups
- Chapter 7: Lessons Learned
- Chapter 8: Assessing Changes in Airport Service
- Chapter 9: Strategies

The following paragraphs present the chapters in greater detail.

Chapter 2 presents the results of the Task 1 literature review. This review focused on the following primary topics:

- Recent history and performance in the U.S. aviation industry
- Effects on airports serving small communities
- Links between local economic development and air service

For the literature review, the research team assembled copious information going back to 2001 to assess air travel industry trends and changes, including the effects of consolidation, economic cycles, and fuel prices on airline economics and air services. In addition, the research team reviewed the role that air service plays in the local economy (e.g., enhancing tourism, providing efficient connections to the nation's and world economies, and attracting new companies and making existing ones more efficient). The research team also examined the sustainability of air service in different contexts (e.g., rural and remote airports and regional centers of business and government) and the roles of connecting hubs.

Chapter 3 presents information on data analysis, airline industry changes, and case study selection. The study population included airports classified as small- or non-hub at any time during the study period (2001 to 2013). Only airports in the continental United States were included in the study population. Airports in Alaska, Hawaii, and U.S. territories were excluded because they have unique qualities that make comparisons to airports in the continental United States difficult.

For the Project 03-29 research, only small-hub and non-hub primary commercial service airports as defined by the FAA (i.e., those with more than 10,000 annual boardings) were examined. Small-hub airports are those whose share of total annual boardings in the United States are between 0.05% and 0.2%. Non-hub airports are those whose share is less than 0.05% of boardings.

This chapter first presents relevant information on various data elements, including different measures of scheduled commercial service, community demographics, market data, and airport financial data. This is followed by a description of how the list of case study airports was developed for examination under Tasks 4 and 5. The research team used a data-driven approach incorporating the results from the data analysis to select a final list of six small-hub airports and six non-hub airports as follows:

- Small-hub airports
  - Burlington International Airport (BTV)—Vermont
  - Akron-Canton Airport (CAK)—Ohio
  - Northwest Florida Beaches International Airport-Panama City (ECP)—Florida
  - Phoenix-Mesa Gateway Airport (AZA)—Arizona
  - Bozeman Yellowstone International Airport (BZN)—Montana
  - Hector International Airport-Fargo (FAR)—North Dakota
- Non-hub airports
  - Toledo Express Airport (TOL)—Ohio
  - Redding Municipal Airport (RDD)—California
  - Augusta Regional Airport (AGS)—Georgia
  - Charles Schulz-Sonoma County Airport (STS)—California
  - Monterey Peninsula Airport (MRY)—California
  - Asheville Regional Airport (AVL)—North Carolina

From this list of airports, the research team identified five airports that had particularly noteworthy community involvement (either positive or negative) or innovative incentive programs. These five airports—Fargo, Toledo, Redding, Sonoma County and Asheville—were selected for more in-depth study using focus groups. In addition, the research team examined a statewide program in Kansas that primarily affected Wichita Mid-Continent Airport (ICT).

Chapter 4 discusses ASD programs. Small airports need to understand the underlying forces driving the future of airline services in the United States. In addition, they must be aware of the actions that they and their communities can take to retain and attract air services. This chapter focuses on approaches and tools that local economic development officials can use to attract new service or retain current service in their communities. Topics examined here include the typical

decision-making process that airlines go through when considering which routes to serve, a review of various types of community incentives available to local communities (e.g., minimum revenue guarantees and ticket banks), and discussion of FAA and DOT programs for small community air service. In addition, the research team performed an online survey of small airport incentive programs; the results of that survey, including analysis of the structure and composition of such programs, are presented at the end of Chapter 4.

Twelve airports were identified as case study sites, and five of them were selected for more in-depth analysis based on focus group visits. **Chapter 5** provides details on the seven case study airports that were not selected for further focus group analysis:

- Burlington, Vermont (BTV)
- Akron-Canton, Ohio (CAK)
- Panama City, Florida (ECP)
- Phoenix-Mesa, Arizona (AZA)
- Bozeman, Montana (BZN)
- Augusta, Georgia (AGS)
- Wichita Mid-Continent Airport (ICT)

Information about these airports, the data collection process used, and specific details regarding their levels of service and incentive programs are provided in Chapter 5.

The five facilities selected as focus group airports are the subject of **Chapter 6.** These airports are

- Toledo, Ohio (TOL)
- Sonoma County, California (STS)
- Redding, California (RDD)
- Fargo, North Dakota (FAR)
- Asheville, North Carolina (AVL)

Chapter 6 presents the method used in the focus groups and detailed analysis of each airport, including analysis of their local air service and economic activity, history of air service development, and themes and general conclusions derived from the focus groups themselves.

Chapter 7 provides a synthesis of the lessons learned from the ASD case studies and the focus groups conducted in five communities. Additionally, analysis of key variables surrounding the success of ASD efforts are presented to support the lessons learned.

Key overarching findings are discussed, along with specific lessons learned relating to

- Relationships between air service development and local economic variables
- Origins of ASD efforts
- Forming local coalitions
- Identifying an air carrier and new destinations
- Developing an incentive program
- Meeting with air carriers and community leaders
- Ensuring sustainability

In prior chapters, airport service levels—described primarily in terms of non-stop flights and seats—are presented to help illustrate how small- and non-hub airports have fared as major changes in the industry have taken hold. **Chapter 8** extends the understanding of the actual effect of these changes in terms of accessibility to the national air transportation network.

For most small- and non-hub networks, an actual count of non-stop flights and/or seats presents an incomplete picture of how effectively travelers can access the larger air transportation

network. This is because in most cases such access depends on how those non-stop services mesh with the schedule banks of the major carriers' hubs.

For the current analysis, the research team undertook an analysis that specifically tracked both non-stop and connecting services from small- and non-hub airports (categorized as of 2013) to the 50 largest U.S. airports as well as 17 major foreign airports. The analysis is based on a proprietary Quality of Service Index (QSI) model that identifies and evaluates all non-stop, one-stop, and two-stop services that may be available from a given schedule of flights. Chapter 8 includes a direct comparison of the new QSI measure with more traditional non-stop service metrics at small-hub and non-hub airports and discusses QSI-based changes in service at the case study airports.

A primary takeaway from the analysis is that access to the air transportation network from small- and non-hub airports has declined significantly on average, but can vary significantly across individual airports. The specifics of flight connection opportunities at major carriers' network hubs are an important factor in determining the observed changes. While caution should be exercised when using any single metric to identify service levels, the analysis suggests that airports should go beyond simply counting the numbers of non-stop flights and should look closely at how those flights hook into the major carriers' networks.

Chapter 9 presents ASD strategies for airport managers and community leaders in communities with small- or non-hub airports to use in retaining or attracting new air service. The strategies presented here were developed through a synthesis of quantitative data contained in Chapters 3, 7, and 8 and qualitative data presented in Chapters 4, 5, 6, and 7. Users of these strategies can customize their strategies based on their responses to a self-assessment tool that determines the specific needs and air service environment of the airport and community. Based on the results from the assessment tool, a detailed list of relevant strategies most likely to be effective can be tailored to enhance the specific ASD efforts needed to attract and retain service at the specific airport. In addition, Chapter 9 discusses the importance of uncertainty and risk in air service development that may result from factors such as global and local economic conditions, airline industry strategies and consolidation, the growth of LCCs, competition from other airports, and federal regulatory policy.

CHAPTER 2

Literature Review of Airline Industry Trends

2.1 Introduction

The U.S. aviation industry has undergone major changes in the past 15 years. First, the events of September 11, 2001, led to a drop-off in flying, and the imposition of new security procedures have affected the costs of providing air service and lengthened passenger travel times. In addition, recessions in 2001 and 2007–2009 reduced demand for air travel, while the price of jet fuel increased substantially. These factors caused billions of dollars in losses to U.S. airlines, leading to bankruptcies, liquidations, mergers, and acquisitions.

The industry responded by reducing capacity, retiring inefficient aircraft types, and raising revenue through the imposition of new and expanded ancillary fees. These responses allowed the industry to return to profitability in the past few years. In addition, new "ultra LCCs" (ULCCs) have emerged that focus on point-to-point air service instead of hub-and-spoke network structures.

However, the changes in the industry have not had a uniform effect on all airports. Airports serving smaller communities have been particularly affected by the changes, resulting in reduced service levels, less airline competition, and poorer service quality.

Reduced air service is a concern for smaller communities—several applied and academic studies have found positive, significant relationships between increased access to commercial air service and factors related to economic development in local communities (Goetz 1992; Brueckner 2003; Green 2007). Officials at airports serving smaller communities need to understand how the recent history and performance of the U.S. aviation industry has affected air service in their communities, so that they can develop air service to promote local economic development.

2.2 Risk and Uncertainty

The recent history and performance of the U.S. aviation industry provides important lessons on the risks and uncertainties of air service at small- and non-hub airports. Smaller communities have had very limited ability to respond to major trends affecting the aviation industry in recent years, including economic recessions and the price of jet fuel. Smaller communities also have had little influence on airlines' responses to these trends, which have included reducing service levels and retiring inefficient aircraft types.

Although some smaller communities have tried to reduce the risk of losing air service by providing incentives or subsidies for air service, these efforts have involved much uncertainty. In some cases, carriers exited markets when incentives or subsidies ended. Although smaller communities may try to reduce risk, there will still be uncertainty because of factors outside the

control of the community. A review of the recent history of the U.S. aviation industry provides lessons in the risks and uncertainty of air service at small- and non-hub airports.

2.3 Recent History and Performance of the U.S. Aviation Industry

The recent history and performance of the U.S. aviation industry can be seen in the context of external shocks, the industry's response to those shocks, and the results of the industry's response.

The main external shocks to the U.S. aviation industry in recent years were economic recessions, which reduced the demand for air travel, and the increased price of jet fuel, which increased airline costs, further reducing the overall level of air travel demand. The aviation industry responded to these external shocks by reducing capacity, consolidating, retiring inefficient aircraft types, and developing new sources of revenue.

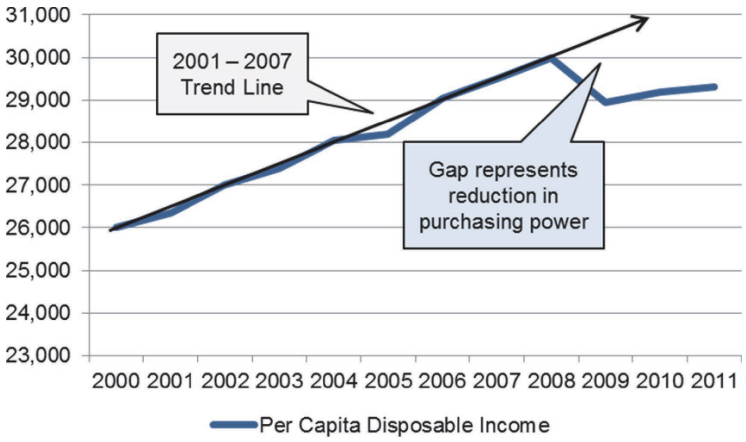
2.3.1 External Shocks

The U.S. economy has experienced two recessions since 2000, which have negatively affected the demand for air travel. According to the National Bureau of Economic Research, the two recessions in the past 15 years occurred from March 2001 to November 2001 and from December 2007 to June 2009 (NBER 2014).

In 2012, the U.S. DOT's Office of Inspector General (OIG) issued a wide-ranging report on the performance of the aviation industry between 2008 and 2011 (USDOT OIG 2012). The report found significant evidence of the 2008–09 recession's negative effects on the demand for air travel. Exhibit 2-1 shows the trend line and actual amount of per capita disposable income for the United States from 2000 to 2011. This reduction in purchasing power reduced the demand for leisure air travel; the slowdown in the economy also reduced business travel demand. Per capita disposable income declined during the 2008–2009 economic recession and has grown very slowly since the recession, relative to historical growth rates.

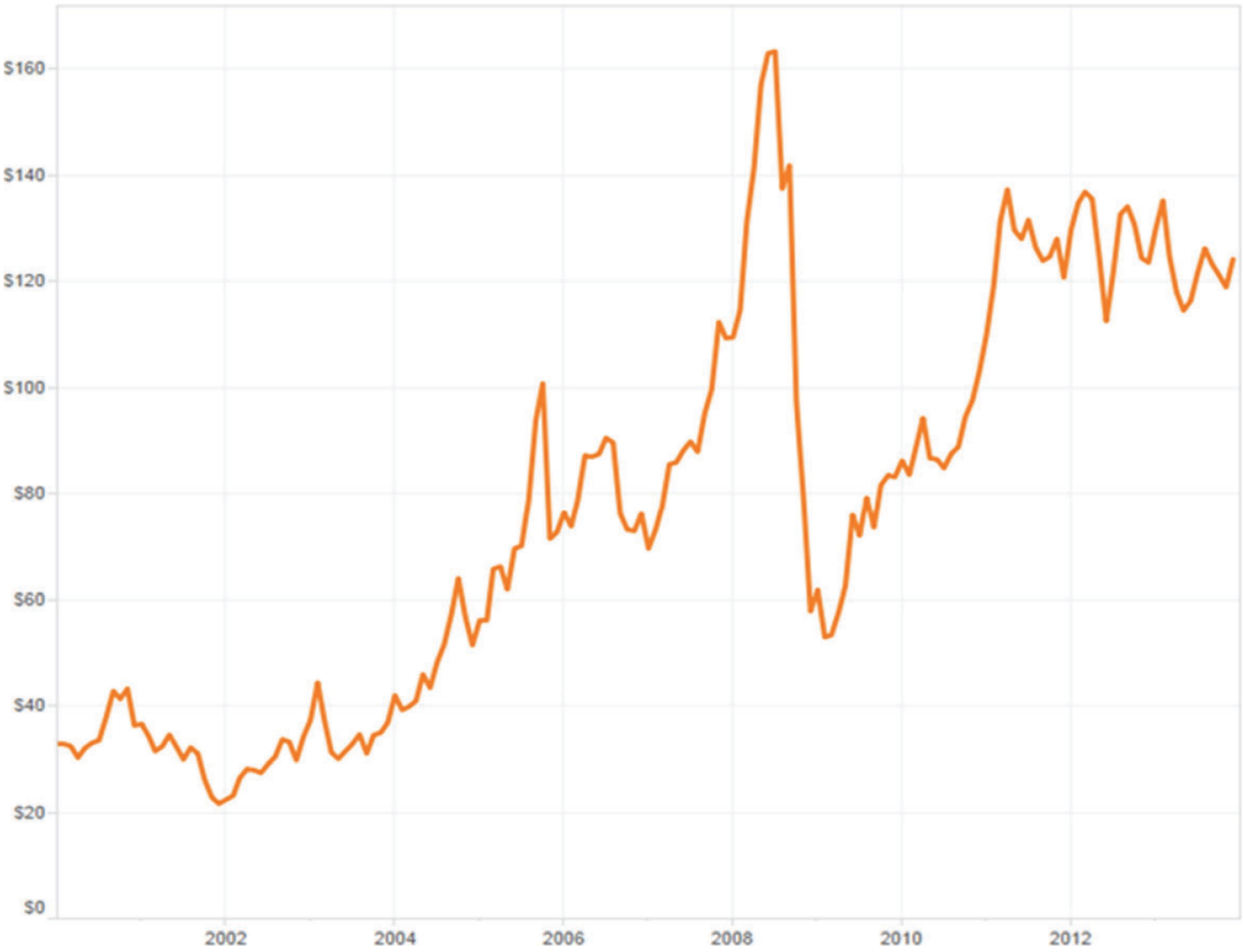
On the cost side, the price of jet fuel rose dramatically between 2004 and 2008, then temporarily crashed, and returned to historically high levels by 2011. These increases have been a major source

Exhibit 2-1. Inflation-adjusted per capita disposable income, 2000–2011 (USDOT OIG 2012, p 4).



Source: Bureau of Economic Analysis (Census Bureau)

Exhibit 2-2. Average jet fuel spot price ($ per barrel), 2000–2013 (Airlines for America 2014).



Sources: Bureau of Transportation Statistics (recent months are preliminary and subject to restatement); Energy Information Administration

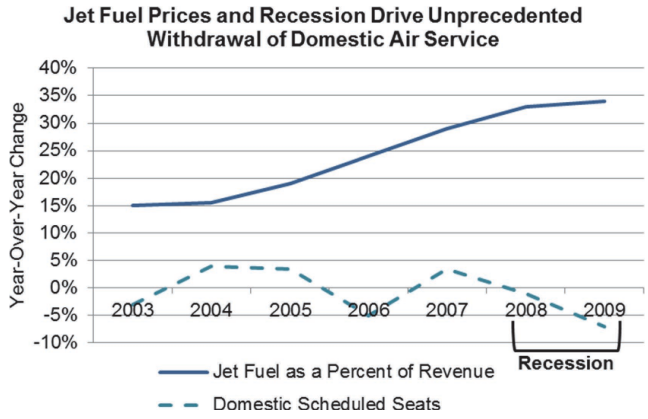
of financial difficulty for airlines (USDOT OIG 2012, p. 4). Exhibit 2-2 shows the average monthly spot price per barrel of jet fuel from January 2000 to December 2013. The price nearly quadrupled during the period, from $33 per barrel in January 2000 to $124 per barrel in December 2013.

ACRP Report 48 found that, as a result of rising jet fuel prices, fuel comprised approximately 35% to 40% of total airline operating expenses in 2009, relative to the 15% of operating expenses in 2001 as shown in Exhibit 2-3. The report also found this was accompanied by a decline in overall domestic seat capacity offered by commercial carriers. (Though not shown in the exhibits above, the recent sharp decline in oil prices in the second half of 2014 has clearly benefitted the major air carriers, but there is not yet any indication that they plan to increase capacity as a result.)

2.3.2 Industry Response

The airline industry has responded to the financial strain caused by high fuel prices and reduced demand for air travel in several ways, including consolidation, capacity reduction, retirement of inefficient aircraft types, fare increases, and growing reliance on ancillary revenue.

Exhibit 2-3. Fuel prices and domestic scheduled seats, 2003–2009 (Spitz and Berardino 2011).



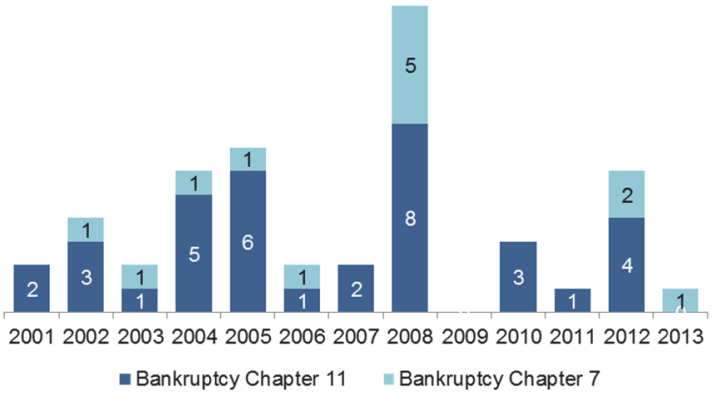
The effects of the fuel cost increase on the air transportation system can be explained through supply-side and demand-side effects. According to a recent study, "Supply-side effects include increases in direct operating costs of airlines, resulting in changes to networks and fleet assignments. Demand-side effects are due to reductions in overall economic activity, as well as passenger and freight sensitivity to fare increases" (Morrison, Bonnefoy, and Hansman 2010, p. 7).

During the fuel cost increase, airlines responded by reducing use of fuel-intensive aircraft and by increasing fares to pass fuel costs on to passengers, both of which are supply-side effects. Airlines passed some of the increase in fuel costs on to passengers through fare increases, fuel surcharges, and unbundling of services by introducing ancillary fees for services (e.g., checked baggage and onboard meals) (Morrison, Bonnefoy, and Hansman 2010, p. 9).

The financial strain on airlines resulted in the bankruptcies of 49 U.S. passenger and cargo airlines between 2001 and 2013, of which 13 occurred in 2008. Most bankruptcies did not result in a carrier ceasing operations, because the U.S. Bankruptcy Code allows companies to reorganize under Chapter 11. Exhibit 2-4 shows U.S. airline bankruptcies from 2001 to 2013 by type: Chapter 7 (liquidation) or Chapter 11 (reorganization).

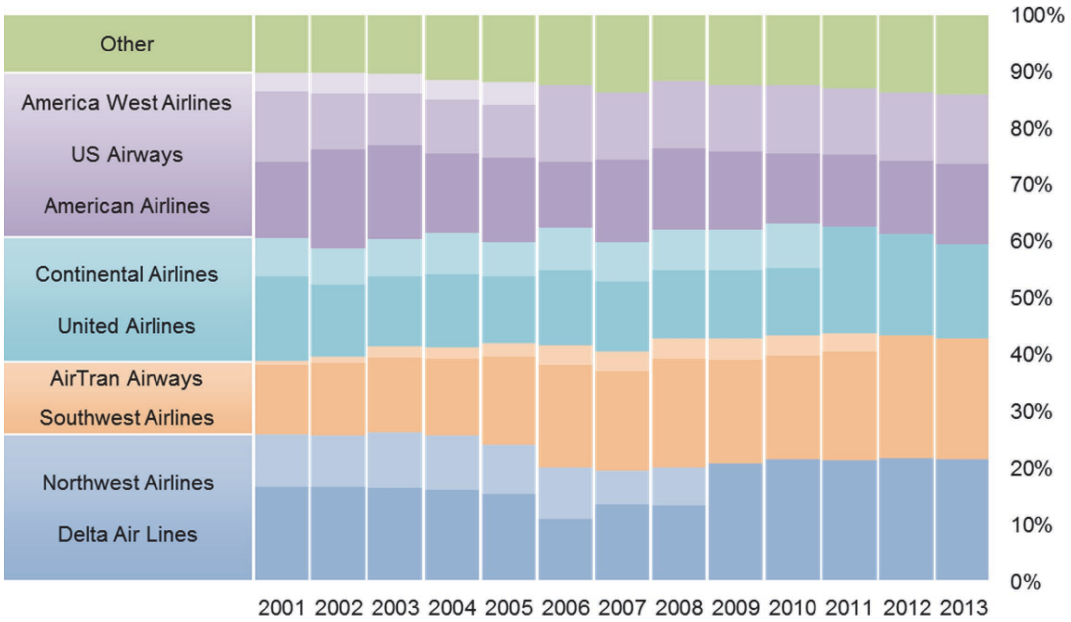
In some cases, bankruptcy reorganizations made it easier for carriers to merge with one another. A series of airline mergers during the 2000s resulted in substantial consolidation of seat capacity as

Exhibit 2-4. U.S. airline bankruptcies, 2001–2013.



Source: Airlines for America (A4A) data, U.S. Bankruptcies and Services Cessations

Exhibit 2-5. Seat shares of top U.S. carriers, 2001–2013.



Source: Official Airline Guide (OAG), October data, 2001-2013; consolidations shown based on effective date of mergers.

shown in Exhibit 2-5. In 2001, 90% of domestic seats were split among 10 major carriers (Trans World Airlines is not shown because it merged with American Airlines during 2001). After the American Airlines–US Airways and the Southwest Airlines–AirTran Airways mergers are completed, four carriers (i.e., American, Delta, Southwest, and United) will control approximately 85% of domestic passenger capacity.

As a result of industry consolidation and bankruptcies, airlines closed some under-performing hubs (USDOT OIG 2012). Exhibit 2-6 shows the change in the number of flights at five airline hubs that experienced particularly drastic service decreases in recent years. The number of scheduled passenger flights at Cincinnati, Cleveland, Memphis, Pittsburgh, and St. Louis declined by nearly 40% from 2007 to 2012.

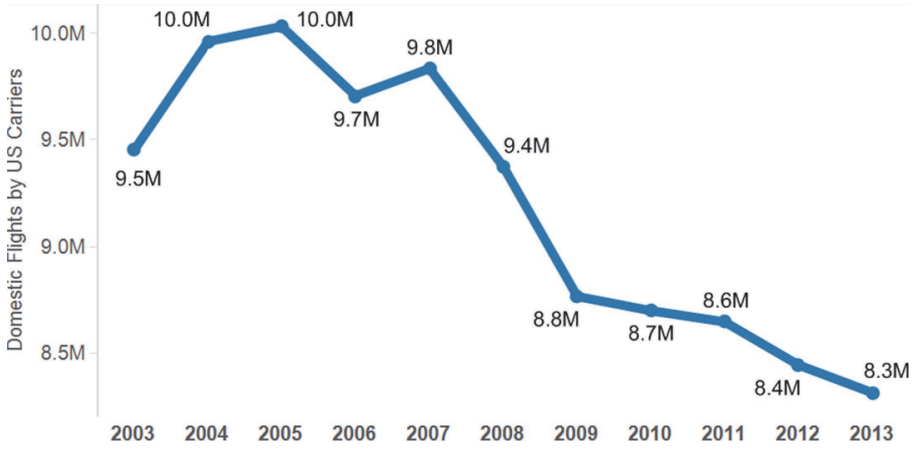
In 2012, the U.S. DOT OIG noted that "the rising and volatile price of fuel now has a much greater influence on whether the airlines add or cut a flight and how frequently fares need to be adjusted" (USDOT OIG 2012, p. 4). The influence of the price of fuel and the reduced demand for air travel due to the economic slowdown and airline consolidation can be seen in the dramatic decline in the number of domestic flights operated by U.S. passenger carriers from 2003

Exhibit 2-6. Flight changes at selected hub airports (USDOT OIG 2012, p. 12).

Hub Airport	Hub Airline	Scheduled Passenger Flights June 2007	Scheduled Passenger Flights June 2012	Percent Change
Cincinnati	Delta	12,781	4,710	-63.1%
Cleveland	Continental	9,070	6,684	-26.3%
Memphis	Northwest	8,227	5,308	-35.5%
Pittsburgh	US Airways	7,462	4,470	-40.1%
St. Louis	American	9,503	7,127	-25.0%
Total 5 Hubs		**47,043**	**28,299**	**-39.8%**

Source: Federal Aviation Administration

Exhibit 2-7. U.S. passenger carrier domestic flights, 2003–2013.



Source: Bureau of Transportation Statistics, T-100 Segment Data

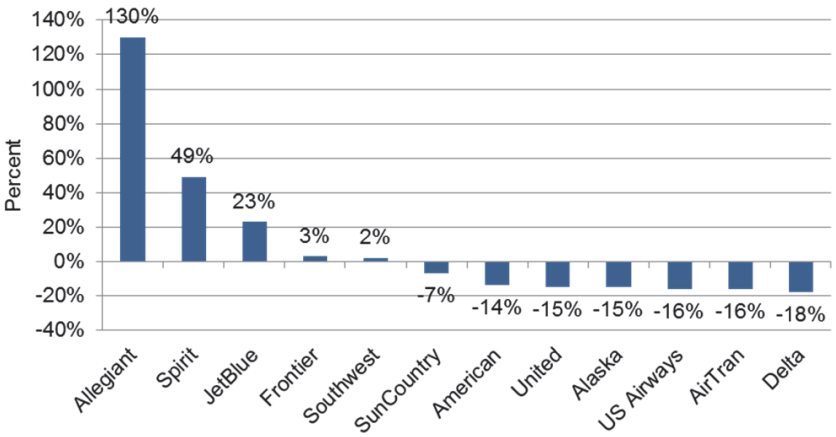
to 2013. The number of flights declined by more than 12% during the period, from 9.5 million in 2003 to 8.3 million in 2013 as shown in Exhibit 2-7.

The decline in flights in recent years was not uniform across all U.S. carriers. While all of the network carriers reduced flights by more than 10% between 2007 and 2012, most LCCs and ultra-low-cost carriers (ULCCs) increased flights during the same time period (USDOT OIG 2012, p. 28). Exhibit 2-8 shows the change in scheduled flights by carrier between June 2007 and June 2012.

Much of the decline in flights by network carriers occurred in the short-haul sector. The U.S. DOT OIG investigated the change in flights from 2007 to 2012 by length of haul. The number of available short-haul flights of less than 250 miles in 2012 was 24% lower than in 2007. Exhibit 2-9 shows the percent change in scheduled flights by flight distance from June 2007 to June 2012.

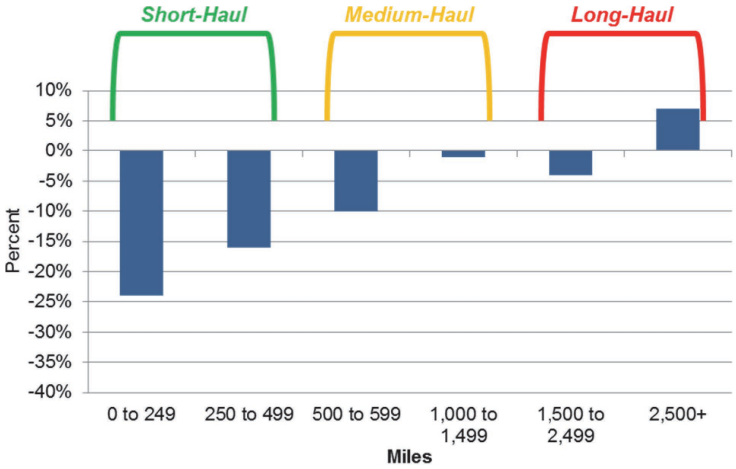
The change in flights by length of haul can be explained by passenger demand elasticity, relying on the well-established observations that short-haul air travel is more price elastic than long-haul air travel, domestic air travel is more price elastic than international air travel, and leisure travel is more price elastic than business travel. Higher price elasticity indicates that consumers are more sensitive to changes in price. In response to these factors, a recent study suggests that airlines made strategic

Exhibit 2-8. Change in scheduled flights by carrier, 2007 versus 2012 (USDOT OIG 2012, p. 28).



Source: Federal Aviation Administration

Exhibit 2-9. Change in flights by length of haul, 2007 versus 2012 (USDOT OIG 2012, p. 29).



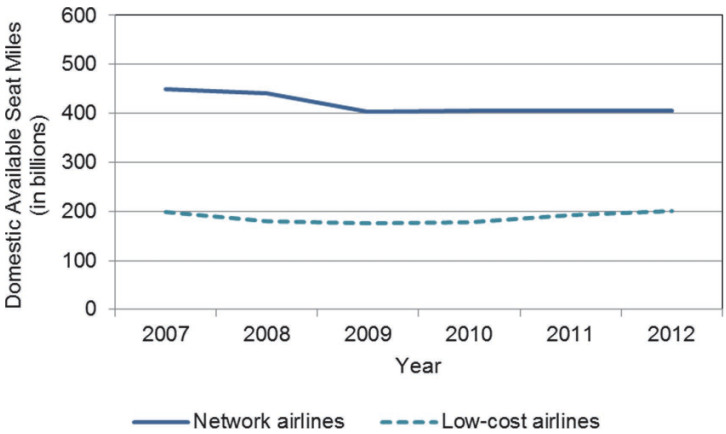
Source: Federal Aviation Administration

decisions to reduce service in markets that were more price elastic and to maintain or increase service in markets that were more price inelastic (Morrison, Bonnefoy, and Hansman 2010).

Despite the substantial reduction in the number of flights since 2007, the number of available seat miles has been largely unchanged. Airlines targeted short-haul flights and flights with smaller aircraft for most of the flight reductions, which means that the overall number of available seats was not impacted as significantly as the overall number of flights. Exhibit 2-10 shows domestic capacity by carrier type (network airline or low-cost airline) from 2007 to 2012. According to an OIG report, the recent changes in domestic capacity "demonstrate that the airlines have adapted and developed new means for managing excess capacity" (USDOT OIG 2012, p. 8).

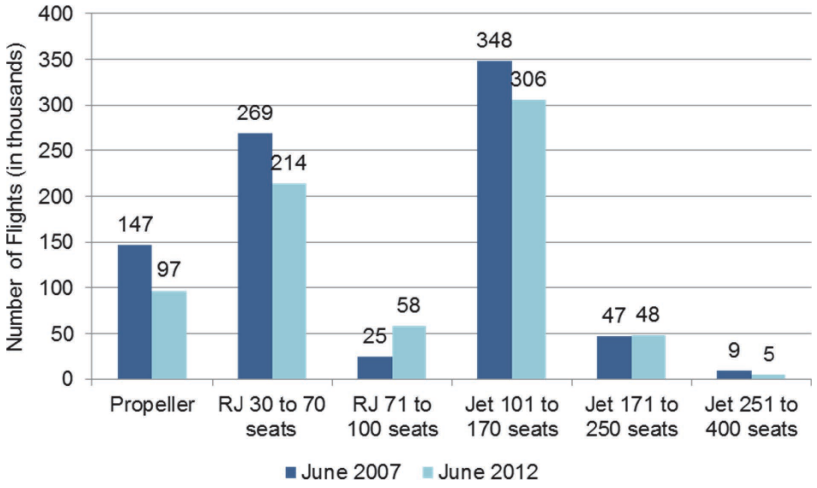
When adjusted for stage length and seat size, smaller aircraft (such as regional jets) are generally more fuel intensive than larger aircraft, so airlines reduced the miles flown of fuel-inefficient smaller aircraft while increasing the miles flown of fuel-efficient larger aircraft (Morrison, Bonnefoy, and Hansman, 2010). The number of domestic flights by regional jet aircraft with 30 to 70 seats decreased by 20% from June 2007 to June 2012, as shown in Exhibit 2-11 (USDOT OIG 2012, p. 31).

Exhibit 2-10. Domestic capacity changes by carrier type, 2007–2012 (GAO 2014a, p. 15).



Source: GAO analysis of DOT data.

Exhibit 2-11. Scheduled domestic flights by aircraft size, 2007 versus 2012 (USDOT OIG 2012, p. 31).

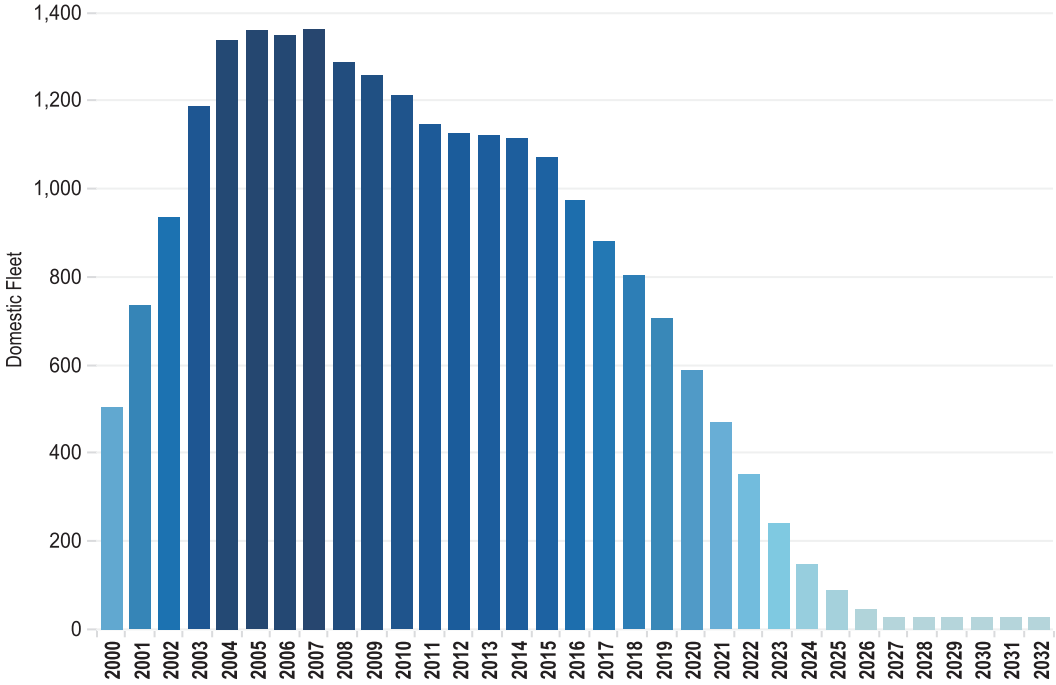


Source: Federal Aviation Administration

The trend of fewer flights by aircraft with fewer seats is expected to continue as virtually the entire small regional jet fleet in the United States will be retired over the coming years, as shown in Exhibit 2-12.

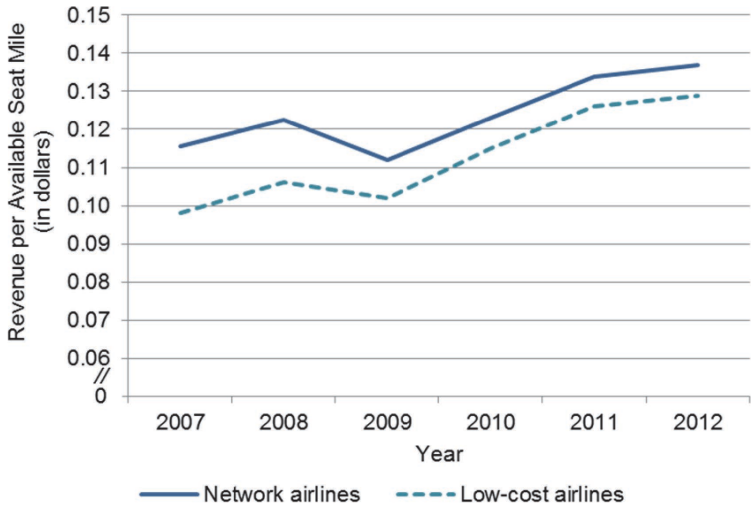
Despite the recent decrease in use of small regional jets, network carriers increased their reliance on regional carriers in the past decade. The share of flights marketed by American, Delta, United, and US Airways and operated by regional partners increased from 40% in 2000 to 61% in 2011 (USDOT OIG 2012, p. 8).

Exhibit 2-12. Historical and projected domestic small regional jet fleet, 2000–2032.



Source: Greenslet/ESG Aviation Services, United States Airlines Fleet Forecast data, 2011-2032

Exhibit 2-13. Unit revenue by carrier type, 2007–2012 (GAO 2014a, p. 16).

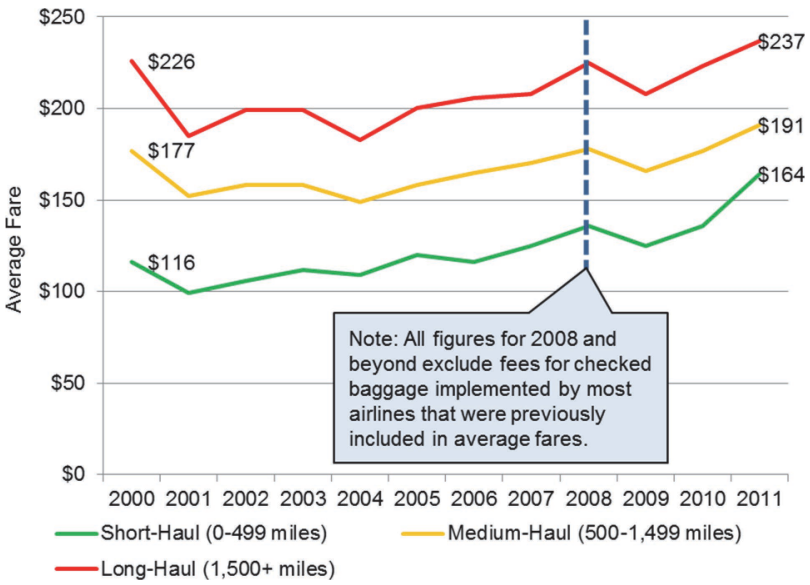


Source: GAO analysis of DOT data.
Note: Unit revenues, or revenue per available seat mile, are calculated as operating revenues excluding transport revenues divided by total available seat miles.

By reducing capacity, carriers were able to increase load factors on flights. With fuller planes, carriers were able to reduce the number of discounted fares offered (USDOT OIG 2012, p. 8). With reduced capacity and increased fares, network airlines were able to increase revenue per available seat mile (RASM) by 23% from 2007 to 2012, while low-cost airlines increased RASM by 27% during the same period (GAO 2014a, p. 15–16). Exhibit 2-13 shows RASM by carrier type (network airline or low-cost airline) from 2007 to 2012.

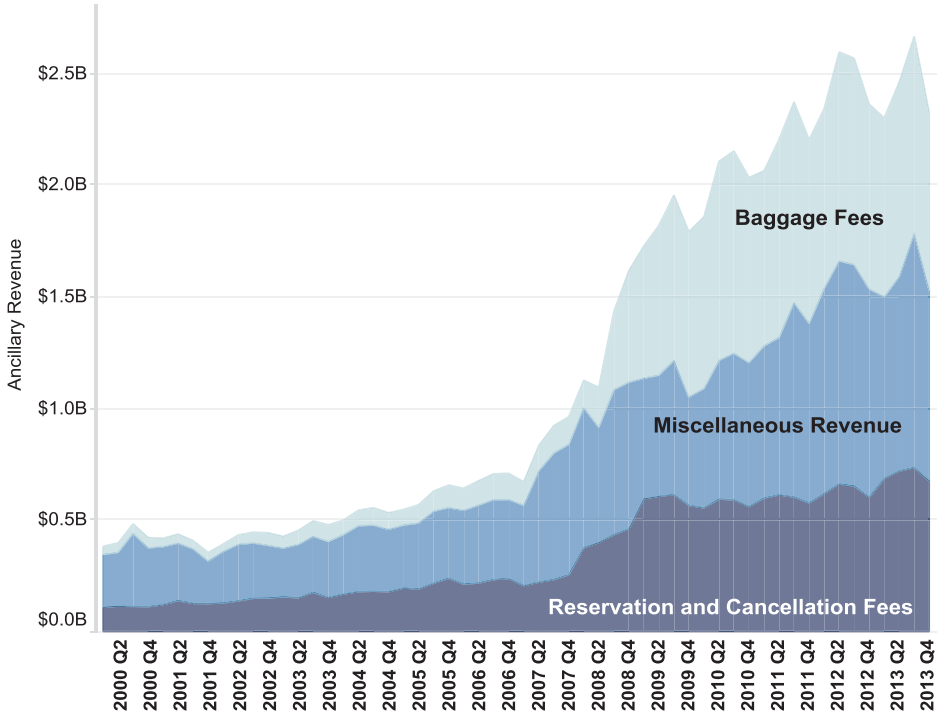
Exhibit 2-14 shows average fares by flight length from 2000 to 2011. Carriers increased fares most sharply in short-haul markets that experienced the greatest capacity reduction.

Exhibit 2-14. Average fares by flight length, 2000–2011 (USDOT OIG 2012, p. 9).



Source: Bureau of Transportation Statistics

Exhibit 2-15. Ancillary revenue collected by U.S. passenger airlines, 2000–2013.



Source: Bureau of Transportation Statistics, Form 41, Schedule P-1.2

According to DOT, short-haul fares increased from $116 in 2000 to $164 in 2011 (USDOT OIG 2012, p. 9).

In addition to increasing passenger fares, airlines increased revenue by adopting ancillary fees to recapture some revenue lost because of reduced demand for air travel and to offset increased fuel costs. The recent growth in ancillary fees results from new fees and expanded existing fees for services that were previously included in base airfares to generate additional ancillary revenue. Examples of services include checked baggage, reservation changes and cancellations, seat selection, food, and other miscellaneous items. Between 2000 and 2010, average round-trip passenger fees increased from $3 to $22 (USDOT OIG 2012, p. 9).

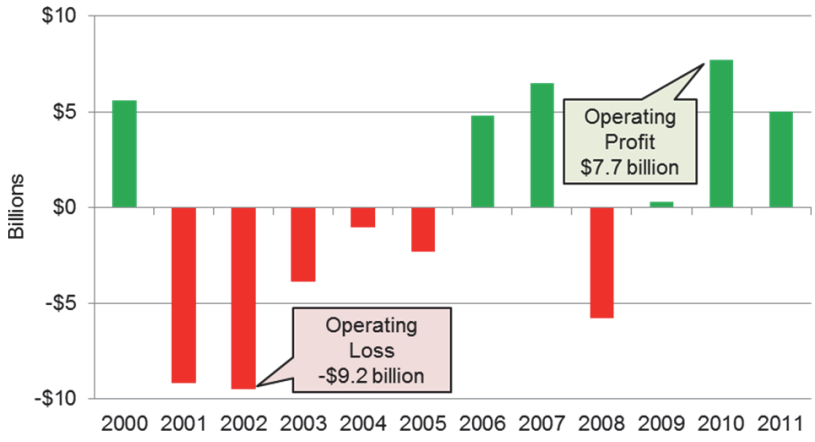
Exhibit 2-15 shows the amount of baggage fees, reservation and cancellation fees, and miscellaneous revenue collected by scheduled U.S. passenger airlines from 2000 to 2013. Ancillary revenue increased from approximately $1.7 billion in 2000 to approximately $9.8 billion in 2013.

2.3.3 Results

High fuel costs and reduced demand for air travel resulted in increased financial stress for airlines in the past 15 years. Legacy carriers accumulated more than $62.8 billion in financial losses between 2000 and 2009, while LCCs accumulated limited profits of $2.1 billion during the same period (USDOT OIG 2012, p. 5). The same overall pattern of profit and loss is evident if looking at net income (which includes the effects of non-operating revenues and expenses, taxes, and interest) rather than operating income.

Exhibit 2-16 shows overall operating income of U.S. passenger airlines from 2000 to 2011 (USDOT OIG 2012, p. 10). Since 2009, industry consolidation, capacity reduction, fare increases, and increased ancillary revenue have resulted in improved financial performance. Major U.S.

Exhibit 2-16. U.S. passenger airlines operating income, 2000–2011 (USDOT OIG 2012, p. 10).



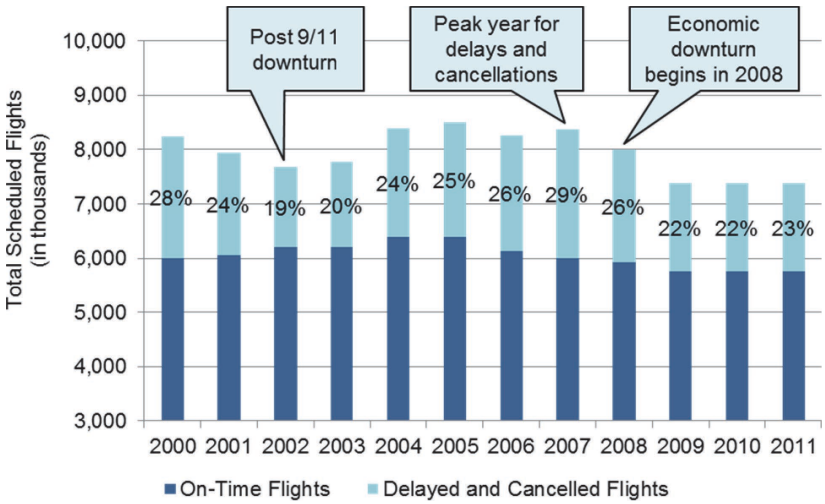
Source: Bureau of Transportation Statistics

airlines broke even in 2009 and generated operating profits in 2010 and 2011, in sharp contrast to the operating losses in 2001 through 2005 and 2008.

The improved financial performance of U.S. airlines is partially a result of reduced competition in the industry. According to OIG, "Since 2007, overall competition as measured by the number of airlines serving an airport has declined substantially" (USDOT OIG 2012, p. 31). But in addition, the U.S. airline industry has benefitted greatly from the significant economic recovery that has taken place since 2010 and has been further buoyed by the continued growth of new and enhanced ancillary (non-fare) revenues.

In recent years, airline service quality has improved markedly (as measured by the percentage of on-time and completed flights). Exhibit 2-17 shows the number of flights by outcome (on-time or delayed/cancelled) from 2000 to 2011. The peak year for delays and cancellations was 2007 when 29% of flights were delayed or cancelled. By 2011, the rate had declined to 23% (USDOT OIG 2012, p. 13). Part of this improvement likely resulted from the recent trend of

Exhibit 2-17. Total flight operations by outcome, 2000–2011 (USDOT OIG 2012, p. 13).



Source: Federal Aviation Administration

providing fewer flights but with larger aircraft and from rationalizing scheduled block times so that more flights arrive "on time."

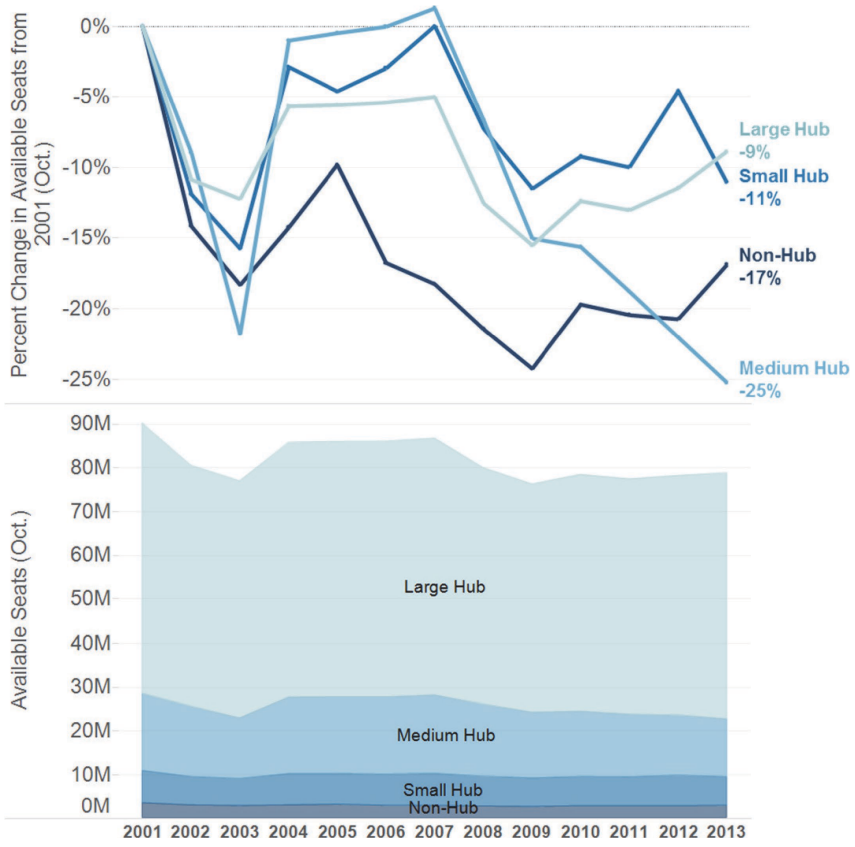
2.4 Effects on Airports Serving Small Communities

The airline industry's response to external shocks in the past 15 years has had a particularly severe effect on service at airports serving small communities as identified in a number of studies (USDOT OIG 2012; GAO 2014a and b, 2011a, 2003a and b, 2005; Morrison, Bonnefoy and Hansman 2010; Wittman 2014; Wittman and Swelbar 2013a and b). Airlines often look to reduce service at airports serving smaller communities first because the opportunity for profit at these airports is smaller because the population base of potential travelers is smaller. In addition, if a small community is within a reasonable driving distance of a larger airport, residents may choose to drive to the larger airport that has better service options (further reducing the demand for air service at the airport serving the smaller community) (GAO 2003a).

2.4.1 Impact on Seats

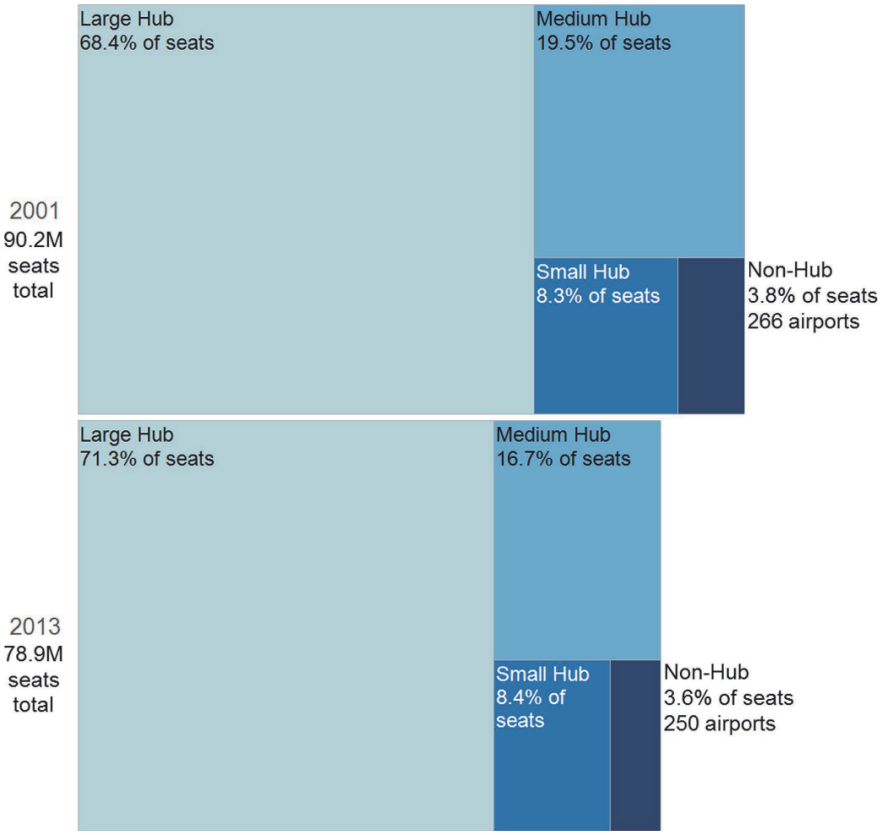
Exhibit 2-18 shows the annual change in available seats relative to October 2001 by airport hub group and the number of available seats for October of each year. The overall number of available seats was lower in 2013 than in 2001 for each hub group, although the decline was much greater at medium-hub airports than at other hub groups. Airport hub groups are determined annually by FAA based on the number of enplanements. Thus, part of the medium-hub

Exhibit 2-18. Available seats by airport hub group, 2001–2013.



Source: OAG, October data, 2001-2013; includes domestic service only.

Exhibit 2-19. Changes in the share of seats and number of airports by airport hub group from 2001 to 2013.



Source: OAG, October data, 2001-2013; includes domestic service only.

airport group's performance can be explained by the reassignment of some medium-hub airports to the small-hub airport group during the study period.

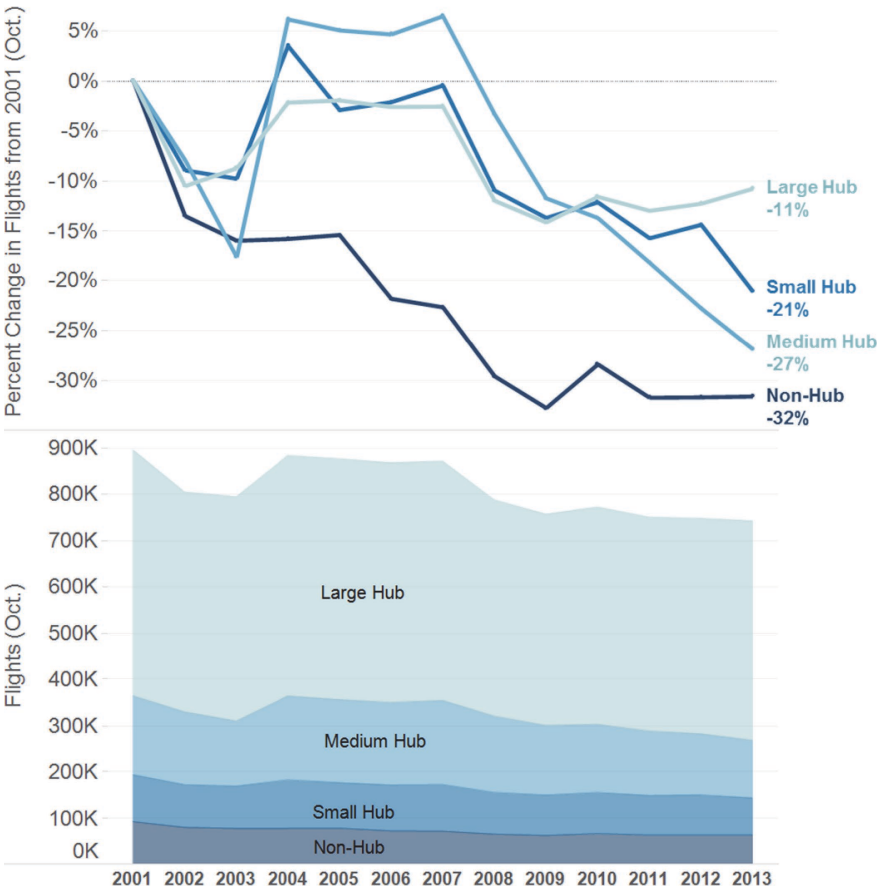
Exhibit 2-19 provides snapshots of the U.S. passenger airline industry by airport hub group in October 2001 and October 2013. The number of large- and medium-hub airports decreased while the number of small-hub airports increased. This reflects the reclassification of some of the larger airports as small-hub airports because of fewer enplaned passengers at the larger airports. There were also 16 fewer non-hub airports in 2013 relative to 2001, reflecting reduced service at the nation's smallest airports with scheduled service.

The increasing consolidation of passenger service at larger airports is evident when examining the share of seats and number of airports in each airport group. The 67 large- and medium-hub airports in 2001 accounted for 87.9% of total seats. Although the total share of seats in 2013 was essentially identical (88.0%), there were only 63 large- and medium-hub airports in 2013, which means that the number of seats at large- and medium-hub airports increased, on average, from 2001 to 2013.

2.4.2 Impact on Flights

Exhibit 2-20 shows the annual change in flights relative to October 2001 by airport hub group and the number of flights for October of each year. The number of overall flights in 2013 was lower than in 2001 for each of the airport hub groups, although the decline at large-hub airports was less substantial than at airports in the small-hub groups.

Exhibit 2-20. Flights by airport hub group, 2001–2013.



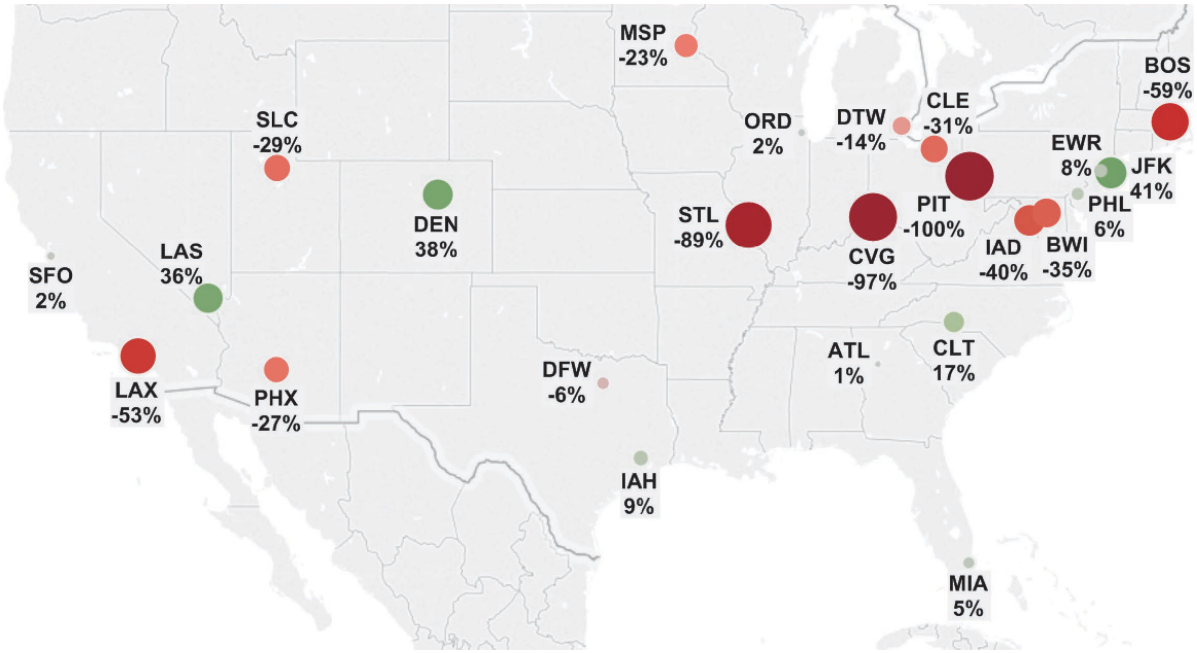
Source: OAG, October data, 2001-2013; includes domestic service only.

Part of the change in flights to smaller airports can be explained by the growth of LCCs relative to network carriers. Network carriers traditionally provided service to smaller airports to feed hub operations at larger airports. LCCs typically only serve larger airports with point-to-point service. The low fares offered by LCCs often induce residents of smaller communities to drive to larger airports, which reduces the demand for air service at smaller communities. According to a survey conducted by GAO, "Eighty-one percent of [small community airport officials] attributed the leakage to the availability of lower fares from a major airline at the alternative airport" (GAO 2003b, p. 5).

Airlines reduced service, sometimes dramatically, at some under-performing hubs as a result of industry consolidation and bankruptcies. Small- and non-hub airports were significantly affected by these changes in the airline hub structure. Exhibit 2-21 shows the change in flights from small- and non-hub airports to airline hub airports. The size and color of the circle reflects the absolute change from 2001 to 2013. Pittsburgh International Airport (PIT) experienced the largest negative change; in 2013 there were no flights from small- and non-hub airports to PIT in contrast to the 7,240 flights in 2001. John F. Kennedy International Airport (JFK) in New York experienced the largest positive change; in 2013, there were 41% more flights from small- and non-hub airports to JFK than in 2001. For ease of discussion, this section refers to airports by their FAA location identifiers. Appendix A contains a table with descriptive information for each airport in the data set used for this report.

Changes were not uniform across all airports. Those airports that served as hubs for network carriers (e.g., American Airlines [STL], Delta Air Lines [CVG], and US Airways [PIT]) often

Exhibit 2-21. Change in flights from small- and non-hub airports to airline hub airports, 2001 vs. 2013.



Source: OAG, October data, 2001-2013; includes domestic service only.

suffered a substantial decline in flights. Conversely, those airports that served as hubs for LCCs (e.g., JetBlue Airways [JFK] and Southwest Airlines [DEN and LAS]) often attracted more flights.

2.4.3 Impact on Connectivity

A study by Morrison, Bonnefoy, and Hansman (2010) provides more evidence of the connection between fuel prices and observed carrier network and fleet changes. The study found that air transportation networks did not change uniformly in response to fuel cost increases and attempts by airlines to improve fleet fuel efficiency; non-hub airports lost 12% of connections to the air transportation network, compared to an average loss of 2.8%.

Analyses were performed over medium-term (July 2004 to July 2008) and short-term (July 2007 to July 2008) periods. These periods were selected because the price of fuel changed substantially, while the potential effect of exogenous events (e.g., changes in GDP, airline competition, and accidents and security incidents) was low.

In the short term, service was reduced for small and remote communities. For airports that lost all service, the average driving distance to the next nearest airport with service was 57 miles. The share of the continental U.S. population living within 40 miles of an airport with regular service declined to 88.9% in July 2008 from 90.3% in July 2007.

Wittman and Swelbar (2013b) examined recent commercial airline domestic scheduling trends, with particular emphasis on trends at smaller airports (defined as non-, small-, and medium-hub airports). Most airports have seen reductions in scheduled domestic flights, stemming from economic conditions and the airlines' response of capacity discipline, but some airports have seen larger reductions than others.

The major network airlines (i.e., American, Delta, United, and US Airways) and Southwest Airlines responded to recent difficult economic conditions by shifting from a strategy of

prioritizing market share to a strategy of prioritizing profitability. The new strategy entailed rationalizing capacity to reduce operating losses and increase yields by increasing load factors. The strategy resulted in an overall small number of domestic flights and a concentration of the remaining flights at large-hub airports. In some instances, the network carriers relied more on their regional partners flying small regional jets to serve smaller markets; in other cases, LCCs such as JetBlue, ULCCs such as Spirit Airlines, and/or ultra-regional carriers such as Cape Air and Great Lakes Airlines have filled the void in whole or in part left by network airlines at smaller airports.

Flying at small- and non-hub airports changed during recent years in many cases. The number of flights by 37 to 50 seat regional jets declined substantially at small-hub airports as network airlines reduced frequency to their connecting hubs and/or replaced multiple flights with 37–50 seat regional jets with fewer flights by 50–76 seat regional jets. In other cases, network airline service from smaller airports to connecting hub airports was terminated entirely and LCCs or ULCCs began service from the smaller airports to vacation destinations or other smaller airports.

By analyzing the smaller airports that experienced reduced domestic flights in recent years, Wittman and Swelbar developed a taxonomy that could be used to identify airports which may be at risk of future service loss. They identified lack of local demand, proximity to a nearby hub, and presence of ULCCs (given ULCCs history of filling voids left by network airlines) as the main risk factors for future service losses. The authors also identified several other exogenous factors that could result in future service loss at smaller airports, including potential pilot shortages at regional airlines resulting from changed federal regulations, the effect of federal sequestration on air traffic control service at smaller airports, and the future budget of the Essential Air Service Program.

In a subsequent paper, Wittman and Swelbar (2013a) developed a metric they call the Airport Connectivity Quality Index (ACQI) to assess an airport's connection to the global air transportation system and to assess changes over time. The ACQI uses the frequency of available scheduled flights, the quantity and quality of destinations served, and the quantity and quality of connecting destinations to produce a relatively easy-to-compute metric.

The ACQI includes two parameters that influence the model outcome. One parameter reflects the relative quality of a destination airport, by weighting FAA hub airport types based on average enplanements such that service to airport types with more enplanements is weighted more heavily than service to airport types with fewer enplanements. The other parameter reflects the relative values of non-stop and one-stop service, by weighting service based on values derived from the literature showing that passengers value a non-stop itinerary up to 8 times more than a connecting itinerary.

The report places special emphasis on connectivity at smaller airports, which had not received much attention in previous work on airport connectivity. ACQI connectivity scores were computed for 462 U.S. airports for each year from 2007 to 2012.

Smaller airports experienced greater declines in ACQI connectivity scores (15.6% at medium-hub airports and 11.0% at small-hub airports) than large-hub airports (3.9%). Non-hub and EAS airports experienced a smaller decline (8.2%) than medium-and small-hub airports, but a greater decline than large-hub airports. However, there was great variation in the ACQI connectivity scores for individual non-hub and EAS airports because some airports gained new service by network airlines (causing large increases in scores), lost all service (causing scores to drop to zero), or had service by LCCs or ULCCs replace service previously provided by network airlines (causing lower scores).

Percent change declines in capacity (flights and available seats) were greater than percentage declines in ACQI connectivity scores, which suggests that airlines' recent strategy of rationalizing

capacity resulted in reducing frequency or eliminating service to secondary connecting hubs, rather than eliminating all service to both secondary and primary connecting hubs. However, ACQI connectivity scores did indicate that the secondary connecting hubs themselves were adversely affected by recent changes in airline service.

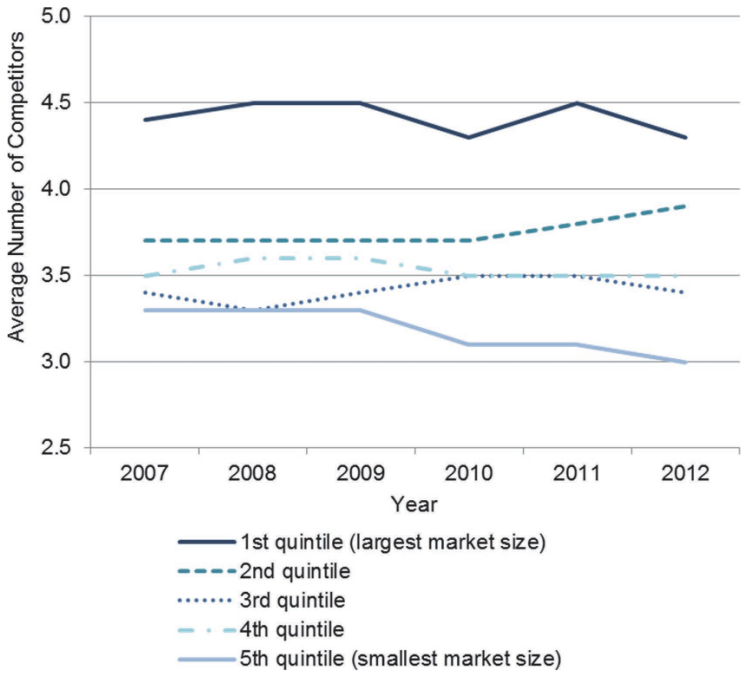
2.4.4 Impact on Airline Competition

In response to concerns about competition in the U.S. passenger airline industry given recent airline mergers, GAO analyzed passenger itinerary data from 2007 through 2012 (GAO 2014a). GAO found that the average number of competitors in most markets and market concentration has not changed substantially in recent years. However, when markets were categorized in quintiles based on the number of passengers served, the smallest (5th) quintile showed a decrease in competitors from 3.3 in 2007 to 3.0 in 2012, as shown in Exhibit 2-22. Similarly, market concentration in the smallest quintile has also increased since 2007.

2.4.5 Impact on Service Quality

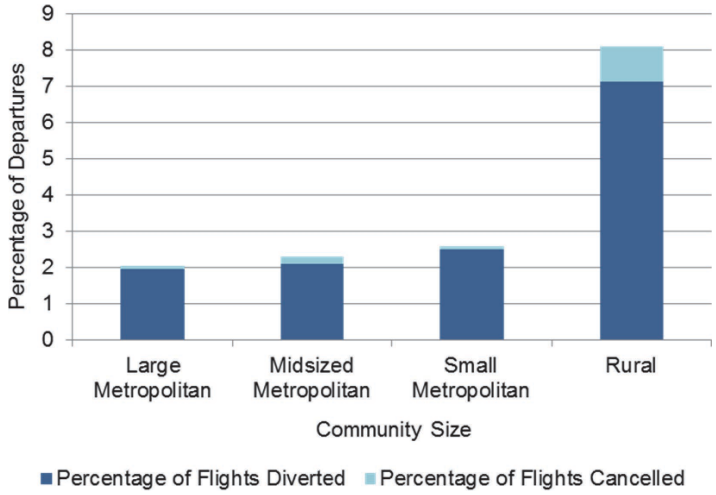
Service quality is a concern for smaller airports, because there are fewer opportunities for passengers to recover from delayed, cancelled, or diverted flights at small airports with few scheduled flights relative to larger airports. Furthermore, smaller airports may be more likely to suffer from airline service disruptions because the aircraft serving smaller airports generally have less capacity, resulting in fewer affected passengers if service is disrupted. Recent studies have found that airports in smaller communities experience higher rates of service disruptions than larger communities (GAO 2011a).

Exhibit 2-22. U.S. passenger airline competition by city-pair market size, 2007–2012 (GAO 2014a, p. 24).



Source: GAO analysis of DOT data.
Note: Each quintile contains approximately the same number of passengers, but the number of city-pair markets differs. For example, in 2012 the first, second, third, fourth, and fifth quintiles contained 37, 99, 237, 682, and 9,379 city-pair markets, respectively, each with 20 percent of the 411 million passengers in our sample.

Exhibit 2-23. 2010 cancellations and diversions by community size (GAO 2011a, p 14).



Source: GAO analysis of FlightStats data.
Note: Community sizes are as follows: large metropolitan (greater than or equal to 1 million), midsized metropolitan (250,000 to 999,999), small metropolitan (50,000 to 249,999), and rural (fewer than 50,000). These data reflect the vast majority of scheduled passenger flights. In 2010, for example, the data included performance information for about 98 percent of U.S. scheduled passenger flights from primary airports excluding airports in U.S. territories.

Exhibit 2-23 shows the percentage of cancelled or diverted departures by community size in 2010. Rural communities suffered substantially greater rates of cancellations and diversions than larger communities. Although the percentage of delayed arrivals was also higher at rural communities than at larger communities, the difference was not as substantial.

Service quality is related to the level of airline competition at an airport. A recent OIG study found that, "when airline markets become less competitive both the average length of flight delays and percentage of late flights increased." When the number of airlines serving a market decreased from three to two, the length of delays increased by more than 25% and the rate of cancellations increased by 7% (USDOT OIG 2012, p. 2). These statistics are particularly relevant to airports serving smaller communities because competition has decreased in recent years.

2.5 Links Between Local Economic Development and Air Service

In 2011, the FAA estimated that commercial aviation activity supported 10.5 million jobs and contributed over $650 billion (5.0% of GDP) to the U.S. economy (FAA 2011). Commercial air service to cities and regions across the United States and the world is viewed as a critical resource by local economic development officials. Specifically, economic development officials use a region's access to reliable and affordable air service as a selling point to potential businesses looking to relocate to an area. In an increasingly interconnected world, access to a large network of destinations has become a significant factor for large corporations in deciding where to expand business operations. Access to commercial air service helps connect existing businesses and community members with economic opportunities around the globe through enterprises such as tourism and the just-in-time delivery industry.

Several applied and academic studies have found positive and significant relationships between increased access to commercial air service and factors related to economic development in local

communities. Exploring commercial air service and urban development, Goetz (1992) found a positive and significant relationship between per capita commercial passenger flows and future growth in urban areas. Brueckner (2003) found that a 1% increase in enplanements increased employment in service-related industries by 0.1% in the Chicago metropolitan area. The results of Brueckner's study indicate that expanding the number of enplanements in a metropolitan area may expand employment opportunities for the most vulnerable members of a community. A study by Green (2007) found a positive and significant relationship between enplanements and a local community's population and employment growth.

In exploring what drives per capita incomes in counties in Arkansas, Fullerton, Licerio, and Wangmo (2010) found that per capita incomes were significantly higher in counties with airports with commercial air service. A recent study by Tittle, McCarthy, and Xiao (2013) found a positive and significant relationship between runway length at large- and medium-hub airports and a region's gross metropolitan product (GMP). Finally, a GAO study found a positive correlation between the number of enplanements and the number of air carriers serving a market and a host of economic indicators including per capita income and manufacturing employment (GAO 2011b).

The strong evidence of the link between commercial air service availability and local economic development helps explain the sense of urgency among many local officials in trying to retain or attract new service to their communities. However, economic development officials in smaller communities (e.g., those home to small- and non-hub airports) face several demand-related challenges in trying to attract air service to their communities. First, demand for air service is often positively correlated to a region's population, which is often quite small in communities with small- and non-hub airports. Operating a flight to a community is in essence a series of fixed costs (e.g., labor, fuel, and maintenance) that remain the same, regardless of the number of passengers on a plane. Therefore, before an air carrier will risk starting new service, they must be convinced that a community's population base will provide enough demand or revenue for the airline to operate the flight profitably. Second, demand for air service is also strongly correlated with per capita income and employment status of a region.

The relationship between per capita income and employment and air service is often viewed as a "chicken and the egg" dilemma, with many officials believing that air service is the key ingredient to improving the economic condition of a region, but not being able to attract air service due to the same set of economic indicators. The air service cycle is built on the assumption that increased service will lead to more service as the economic indicators of a region improve, leading to a larger market for travel and therefore, more air carriers (Hazel 2011).

Finally, because smaller communities are often served by smaller regional aircraft and have fewer air service choices, the fares for air service at smaller communities are often higher than at larger airports. If a smaller airport is within driving distance of a larger airport with more service and lower fares, the smaller airport may experience demand "leakage," where members of the local community will drive to the larger airport to access greater choice and lower fares. Leakage occurs for several reasons including proximity to a legacy-carrier network hub (with more direct flight options), proximity to an airport with LCCs (often with lower fares), or due to a fragmented catchment area where competition is high (Martin et al. 2009). A GAO study reported that of the 98 small- or non-hub airports surveyed, 83 indicated leakage was a significant problem in trying to retain or attract new air service (GAO 2011b). A study by Zhang and Xie (2005) studied the Golden Triangle Regional Airport in Mississippi which is less than 3 hours' drive time from larger airports in Jackson, Birmingham, and Memphis. The authors found that fares, flight schedules, and distance to the airport were the most significant factors affecting airport choice behavior. An econometric study by Bhadra (2004) found that air travel

from smaller communities without an airport is structurally different than those with small hubs—travel from communities with small hubs is relatively elastic, suggesting that travelers are willing to travel to other airports.

Therefore, to attract service to their communities, local economic development officials must overcome two problems: unattractive market economics and leakage of passengers to other airports. However, local officials are often quite limited in the tools and resources that can be used to solve the public policy problems of growing their market or stopping leakage to other airports. Most evident, a community's population and its geographic location (in relation to other communities) are fixed in the short run. Ultimately, however, some communities may not have the sheer size or level of economic activity or be able to compete with the lower fares and/or better service of a nearby airport, to maintain the necessary demand for air service. Thus, for certain smaller communities, sustainable service, without some form of government intervention, may be unachievable in the long term.

CHAPTER 3

Data Analysis, Airline Industry Changes, and Case Study Selection

3.1 Population

The study population includes airports classified as small- or non-hub airports at any time during the study period (2001 to 2013). Only airports in the continental United States were included in the study population. Airports in Alaska, Hawaii, and U.S. territories were excluded because they have unique qualities that make comparisons to airports in the continental United States difficult.

The Bureau of Transportation Statistics (BTS), a division of the U.S. DOT, publishes a list of air traffic hubs annually. The classifications are based on an airport's share of all enplaned (boarded) passengers in the United States. Small-hub airports enplane between 0.05% and 0.24% of all enplaned passengers. In 2013, small-hub airports enplaned approximately 1,000 to 5,000 passengers per day. Non-hub airports enplane more than 10,000 passengers per year, but less than 0.05% of all enplaned passengers. In 2013, non-hub airports enplaned approximately 27 to 1,013 passengers per day.

Given that airport classifications are published each year, an airport in the study population might have been classified as a small- or non-hub airport for only 1 year of the study period, all of the years of the study period, or some number of years between these extremes. In any case, all data for each airport were collected for every year of the study period.

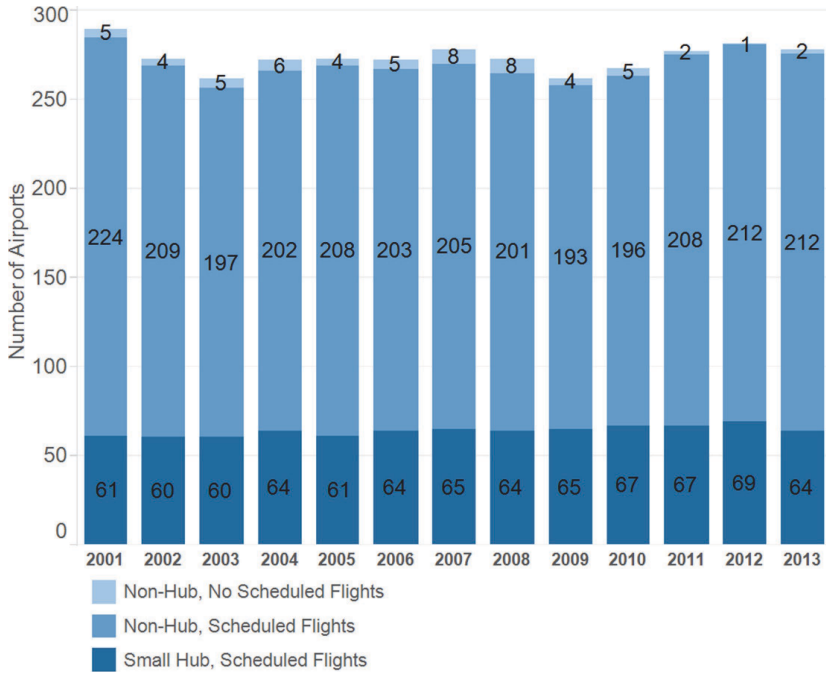
Exhibit 3-1 shows the number of small- and non-hub airports in the continental United States from 2001 through 2013. All of the small-hub airports received scheduled service in each year. The number of small-hub airports ranged from a low of 60 in 2002 and 2003 to a high of 69 in 2012. A few non-hub airports did not receive any scheduled service in each year. The number of non-hub airports with scheduled service ranged from a low of 193 in 2009 to a high of 224 in 2001. The combined number of small- and non-hub airports ranged from a low of 262 in 2003 and 2009 to a high of 290 in 2001.

For reference, small- and non-hub airports in the continental United States in 2013 were categorized by FAA region, as shown in Exhibit 3-2. The number of small-hub airports ranged from a low of 3 in the Central and New England Regions to a high of 19 in the Southern Region. The number of non-hub airports ranged from a low of 12 in the Central and New England Regions to a high of 48 in the Great Lakes Region. The combined number of small- and non-hub airports ranged from a low of 15 in the Central and New England Regions to a high of 56 in the Great Lakes Region.

3.2 Data Elements

A database of the airports in the study population containing a number of data elements was created, including information on scheduled commercial service, community demographics, market data, and airport financial data.

Exhibit 3-1. Number of small- and non-hub airports, 2001–2013.



Not all data elements were available for each year of the study period for each airport in the study population. For instance, some airports did not have scheduled commercial service in some years of the study period. Similarly, not all airports reported financial data for all years. The database contains all data available when this research was being conducted. A spreadsheet containing many of the airport-specific and year-specific data items discussed in the following sections is available for download from the TRB website by searching for ACRP Report 142. This file also includes the QSI metric discussed separately in Chapter 8.

Exhibit 3-2. Number of small- and non-hub airports by FAA region, 2013.

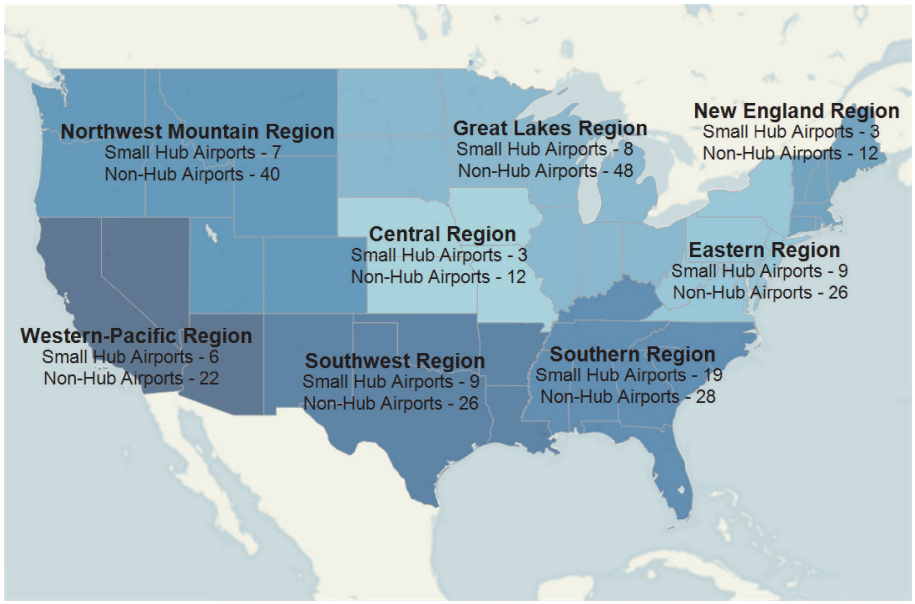
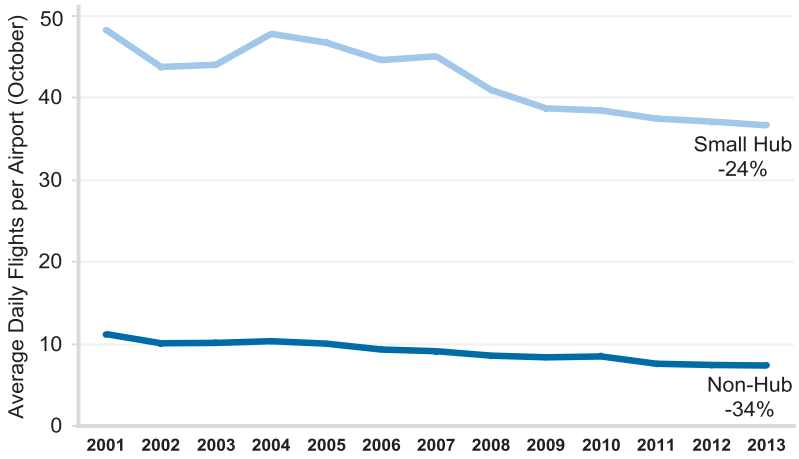


Exhibit 3-3. Average daily flights per small- and non-hub airport, 2001–2013.



3.2.1 Scheduled Commercial Service

Scheduled commercial service data were retrieved from the OAG. The OAG contains flight schedule information for all scheduled commercial service. Data for each airport in the study were retrieved for October of every year in the study period. The month of October was selected because it is considered a "shoulder" month for airline traffic; on average, it is neither the busiest nor the slowest month of traffic for U.S. airlines.

3.2.1.1 Metrics

The number of departures, seats, and available seat miles (ASMs) were the metrics selected for inclusion in the database from the OAG scheduled commercial service data. Exhibit 3-3 shows the average daily flight departures per small- and non-hub airport during the research period. The number of average daily flights per small-hub airport declined from 48 in 2001 to 37 in 2013. The number of average daily flights per non-hub airport declined from 11 in 2001 to 7 in 2013.

Despite the substantial decline in flights at small-hub and non-hub airports over the research period, the number of seat departures did not decline as substantially because the average number of seats per aircraft (hereafter referred to as average aircraft seat size) increased, as shown in Exhibit 3-4. From 2001 to 2013, the average aircraft seat size at small-hub airports increased from 73 to 82 seats and the average aircraft seat size at non-hub airports increased from 40 to 52 seats. Changes in aircraft size serving small-hub and non-hub airports are analyzed in more detail later in this section.

Exhibit 3-5 shows the average daily seat departures per small- and non-hub airport during the research period. The number of average daily seat departures per small-hub airport declined from 3,537 in 2001 to 3,022 in 2013. The number of average daily seat departures per non-hub airport declined from 446 in 2001 to 383 in 2013. These declines were less dramatic than the declines in average daily flights per airport.

To explore the effect of seasonality on small-hub and non-hub airports, the number of seats available in February and July were compared to the number of flights available in October to estimate winter and summer seasonality, respectively. Seats for the entire 2001 to 2013 period were summed for each of the 3 months for this analysis. Only airports classified as small- or non-hub in 2013 were included in this analysis.

Exhibit 3-4. Average aircraft seat size per departure for small- and non-hub airports, 2001–2013.

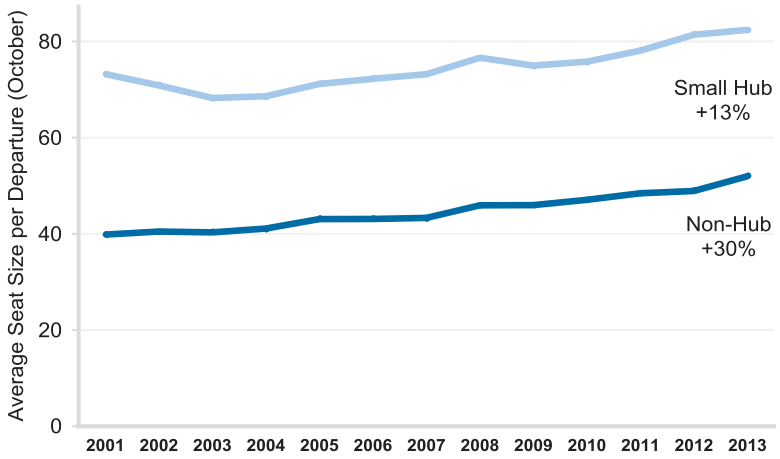


Exhibit 3-5. Average daily seat departures per small- and non-hub airport, 2001–2013.

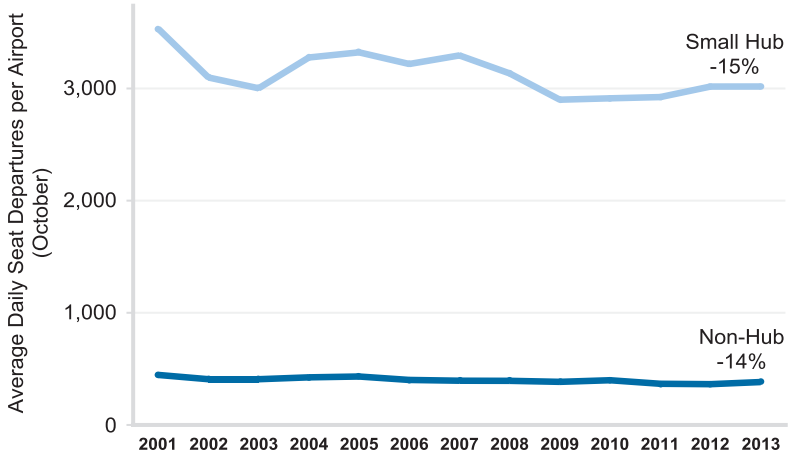


Exhibit 3-6 shows winter seasonality for small-hub and non-hub airports. Airports with 85% or fewer flights in February relative to October are in red and airports with 115% or more flights in February relative to October are in green.

Airports with more flights in the winter include airports near ski areas (e.g., EGE, HDN, ASE, and MMH) and airports in warm-weather vacation areas (e.g., DAB, PIE, SRQ, and AZA). Airports with fewer flights in the winter include airports in northeast vacation areas (e.g., ACK, MVY, and BGR) and Gulf Coast vacation areas (VPS and ECP). For ease of discussion, this section refers to airports by their FAA location identifiers. Appendix A contains a table with descriptive information for each airport in the data set used for this report.

Exhibit 3-7 shows summer seasonality for small-hub and non-hub airports. Airports with 85% or fewer flights in July relative to October are in red and airports with 115% or more flights in July relative to October are in green.

Airports with more flights in the summer include airports in northeast vacation areas (e.g., ACK, MVY, PVC, and BGR), airports in the northern Great Lakes Region (e.g., TVC, PLN, and

Exhibit 3-6. Small- and non-hub airports with substantial winter seasonality, 2001–2013.

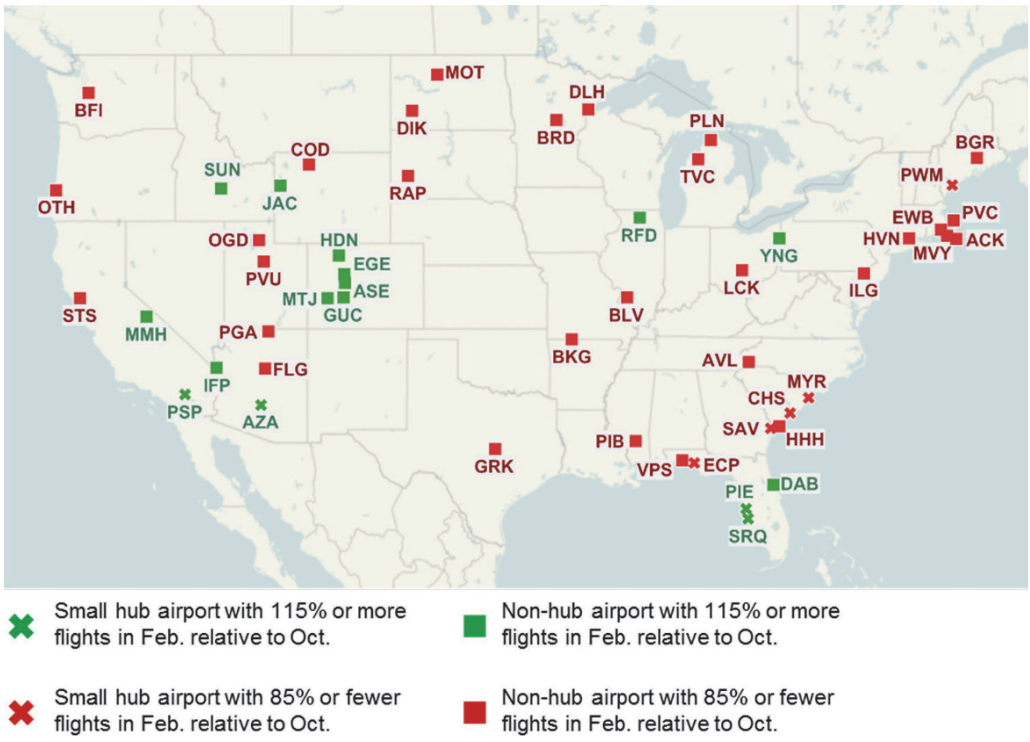
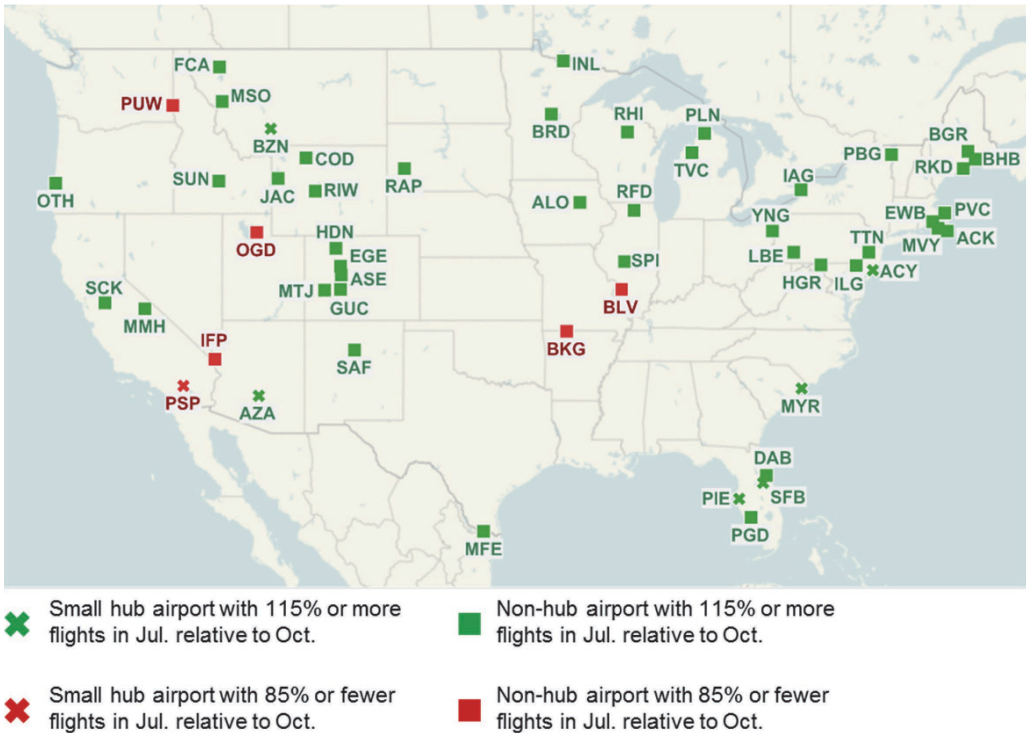


Exhibit 3-7. Small- and non-hub airports with substantial summer seasonality, 2001–2013.



RHI), airports in warm-weather vacation areas (e.g., DAB, SFB, PIE, and PGD) and airports in the Rocky Mountain range (e.g., MSO, BZN, JAC, HDN, and ASE). Only a few airports had fewer flights in the summer (BKG, BLV, IFP, OGD, PSP, and PUW).

3.2.1.2 Details

The OAG data can be analyzed at several levels of detail associated with the carrier and service type. Given that carrier identity was known, carriers could be grouped for analysis. For this study, carriers were assigned to mainline, regional, low-cost (LCC) and "other" carrier groups. Over the 2001–2013 period, the LCC group included the following carriers: AirTran Airways, Allegiant Air, America West Airlines, ATA Airlines, Frontier Airlines, JetBlue Airways, Midwest Airlines, Southwest Airlines, Spirit Airlines, Sun Country Airlines, USA3000 Airlines, and Virgin America. The service type characteristics included whether the service was domestic or international and the equipment type that provided the service.

The top chart in Exhibit 3-8 shows the number of October seat departures offered by carrier type at small-hub airports for each year of the study period. The aggregate number of seats offered at small-hub airports declined from 6.7 million in 2001 to 6.0 million in 2013, a reduction of 10%. However, there were substantial differences in the change in seats by carrier type, as shown in the bottom chart of Exhibit 3-8. The number of seats offered by LCCs increased by 73%, while the number of seats offered by mainline carriers (and their regional partners) declined by 24% and the number of seats offered by other carriers declined by 57% (this latter group had few flights).

Exhibit 3-8. Small-hub seat departures by carrier type, 2001–2013.

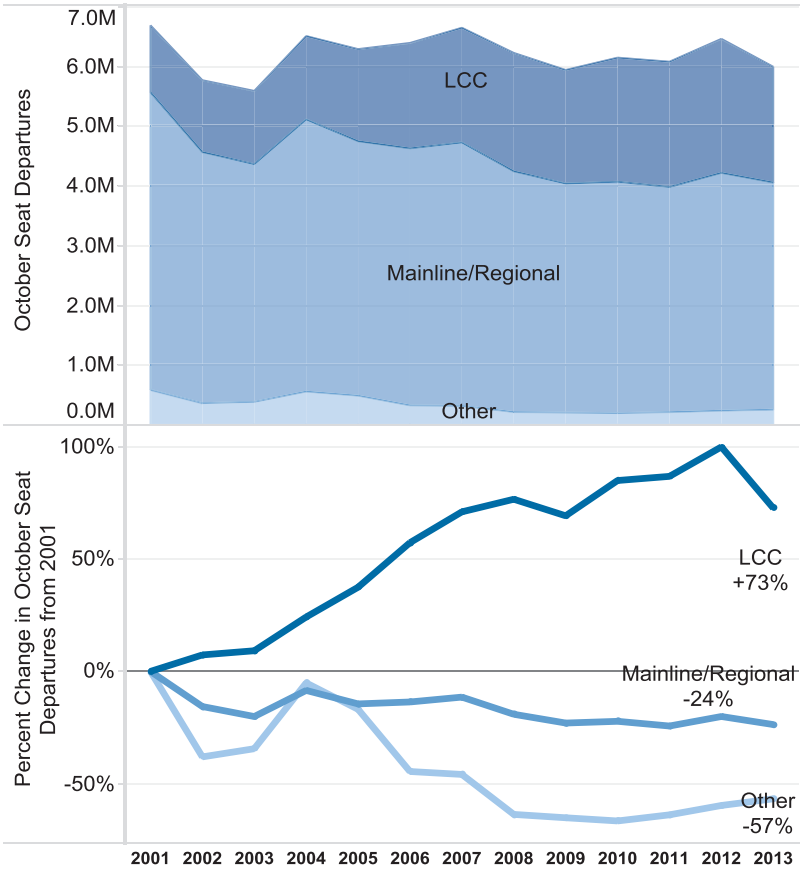
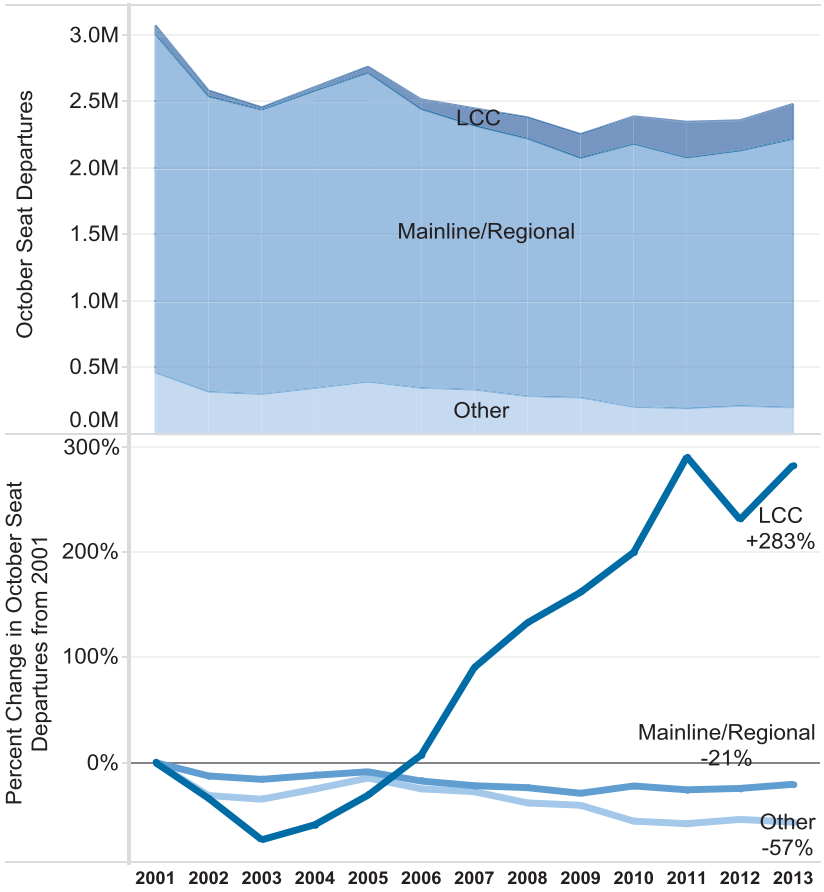


Exhibit 3-9. Non-hub seat departures by carrier type, 2001–2013.



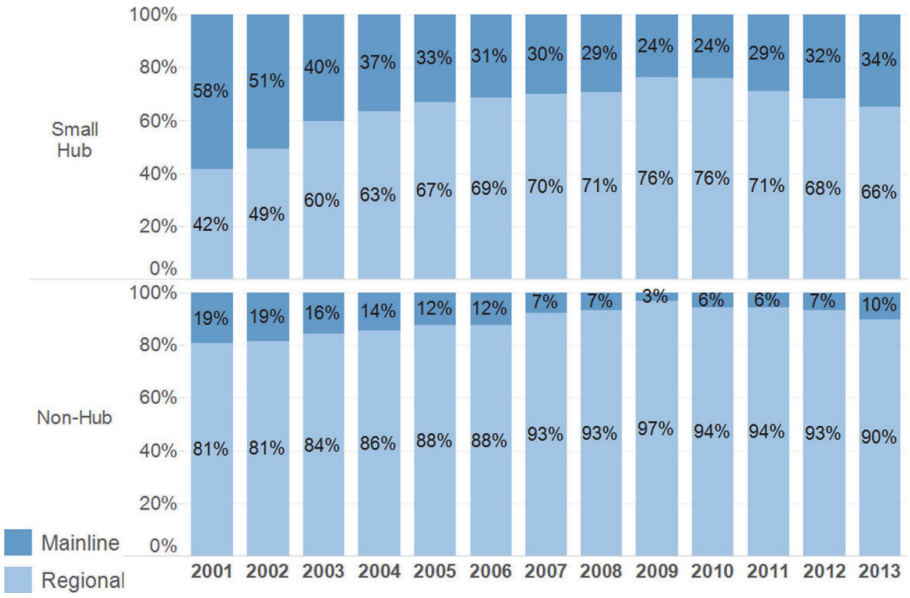
The pattern of seats offered by carrier type at non-hub airports followed the same pattern as that of small-hub airports, although at a greater degree. As shown in the top half of Exhibit 3-9, the aggregate number of seats offered at non-hub airports declined from 3.0 million in 2001 to 2.5 million in 2013, a reduction of 19%. The bottom half of Exhibit 3-9 shows the percent change in seat departures relative to 2001 for each of the carrier groups. By 2013, the number of seats offered by LCCs had increased by 283%, while the number of seats offered by mainline carriers (and their regional partners) declined by 21% and the number of seats offered by other carriers declined by 57%.

Exhibits 3-8 and 3-9 do not fully capture the changing service by carrier type at small- and non-hub airports during the research period because they combine the types of service offered by mainline carriers. Mainline carriers either offer service on their own aircraft or on aircraft operated by regional partners. The aircraft operated by regional partners are smaller aircraft (regional jets and turbo-prop aircraft) relative to the aircraft operated by mainline carriers (typically narrowbody jet aircraft) at small- and non-hub airports.

Exhibit 3-10 shows the share of combined mainline and regional seats offered on mainline and regional partner aircraft during the research period. At small-hub airports, the share of seats on regional partner aircraft increased from 42% in 2001 to 66% in 2013. At non-hub airports, the share of seats on regional partner aircraft increased from 81% in 2001 to 90% in 2013.

The increase in the average number of seats illustrated in Exhibit 3-4 can be explained by changes in the types of aircraft serving small- and non-hub airports over the research period. The most

Exhibit 3-10. Mainline/regional seat share by operating carrier type at small- and non-hub airports, 2001–2013.



substantial effects have been the reduced service on turbo-prop aircraft and the increased service on large regional jet (RJ) aircraft. Small RJs are defined as regional jet aircraft with 50 seats or fewer and large RJs are defined as regional jet aircraft with more than 50 seats.

The top half of Exhibit 3-11 shows the number of flights by aircraft type from 2001 to 2013 for small-hub airports. The number of large RJ flights increased from approximately 3,000 in 2001 to 13,000 in 2013, while the number of turbo-prop flights decreased from approximately 29,000 to 6,000. The bottom half of Exhibit 3-11 shows the share of flights by aircraft type from 2001 to 2013. The share of flights by turbo-prop aircraft decreased substantially, while the large RJ and small RJ shares increased substantially. Most of the changes occurred from 2001 through 2004, after which the shares of flights by aircraft type remained relatively stable.

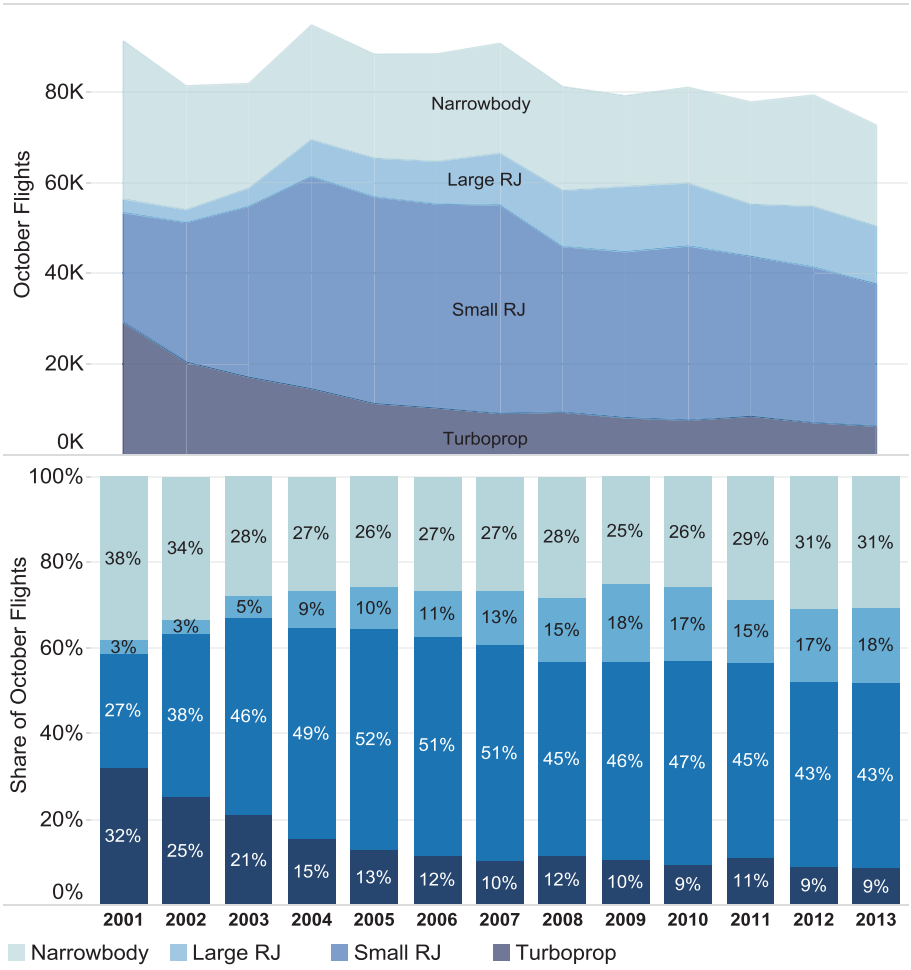
Exhibit 3-12 presents similar flight by aircraft type data for non-hub airports. The top half of Exhibit 3-12 shows the number of flights by aircraft type from 2001 to 2013. The number of small RJ flights increased from approximately 10,000 in 2001 to 27,000 in 2013, while the number of turbo-prop flights decreased from approximately 59,000 to 15,000. The bottom half of Exhibit 3-12 shows the share of flights by aircraft type from 2001 to 2013. The share of flights by turbo-prop aircraft decreased substantially, while the small RJ share increased substantially. The shift from turbo-prop aircraft to small RJs continued throughout the 2001 to 2013 period for non-hub airports, unlike the aircraft type share changes for small-hub airports which mostly occurred from 2001 to 2004.

3.2.2 Community Demographics

Demographic data for the community in which each airport was located were retrieved from U.S. Census Bureau data sources. The Core Based Statistical Area (CBSA) in which the airport was located was identified. CBSAs include both metropolitan (core urban area of 50,000 or more population) and micropolitan (between 10,000 and 50,000 population) areas. Using the identified CBSA, population and per capita income data were retrieved for each year in the research period.

Exhibit 3-13 shows 2013 per capita income for the CBSA in which each airport is located, for the top ten and bottom ten small-hub and non-hub airports when ranked by per capita income.

Exhibit 3-11. Small-hub flights by aircraft type, 2001–2013.



The median per capita income for each hub group is also shown, to demonstrate the ranges in per capita income. The median per capita income for CBSAs with small-hub airports in 2013 was $41,627 and the median per capita income for CBSAs with non-hub airports was $39,381.

3.2.3 Market Data

3.2.3.1 Traffic

Traffic data for each airport were calculated using BTS Airline Origin and Destination Survey (DB1B) data. The DB1B is a 10% sample of airline tickets from reporting carriers collected by BTS. The number of O&D passengers per day and average yield for each airport were calculated for the third quarter of the year of the research period.

Yield is a measure of the average fare paid by all passengers per mile flown. Two versions of the average yield were calculated: raw and stage-length-adjusted (SLA). Raw yield may not be comparable among different airports because the average flight distance may differ. Given that airline costs consist of both fixed and variable costs, yield decreases as flight distance increases because fixed costs are spread over increasingly larger flight distances. By establishing a common assumed flight distance and adjusting yields appropriately, stage-length-adjusted yield permits yield comparisons among airports. The stage length adjustment uses the following formula: Stage-Length-Adjusted Yield = Raw Yield * sqrt(observed length of haul / industry avg length of haul).

Exhibit 3-12. Non-hub flights by aircraft type, 2001–2013.

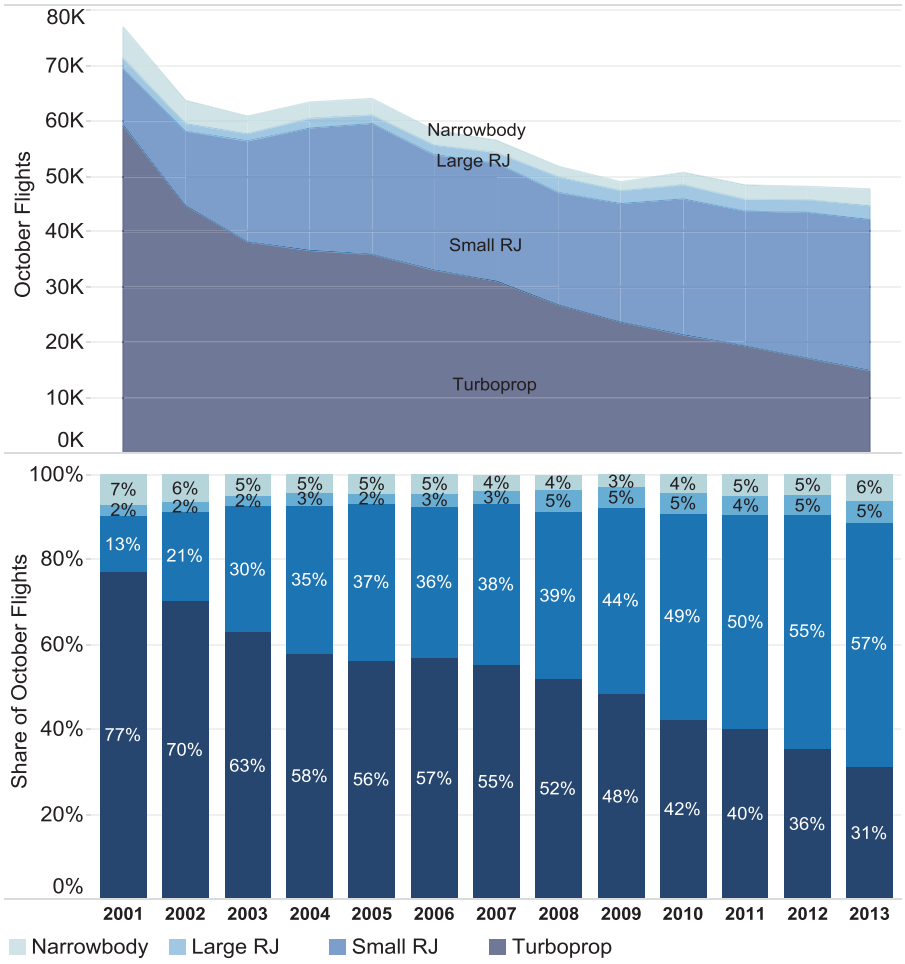


Exhibit 3-13. Per capita income for top 10 and bottom 10 ranked small- and non-hub airport core based statistical areas, 2013.

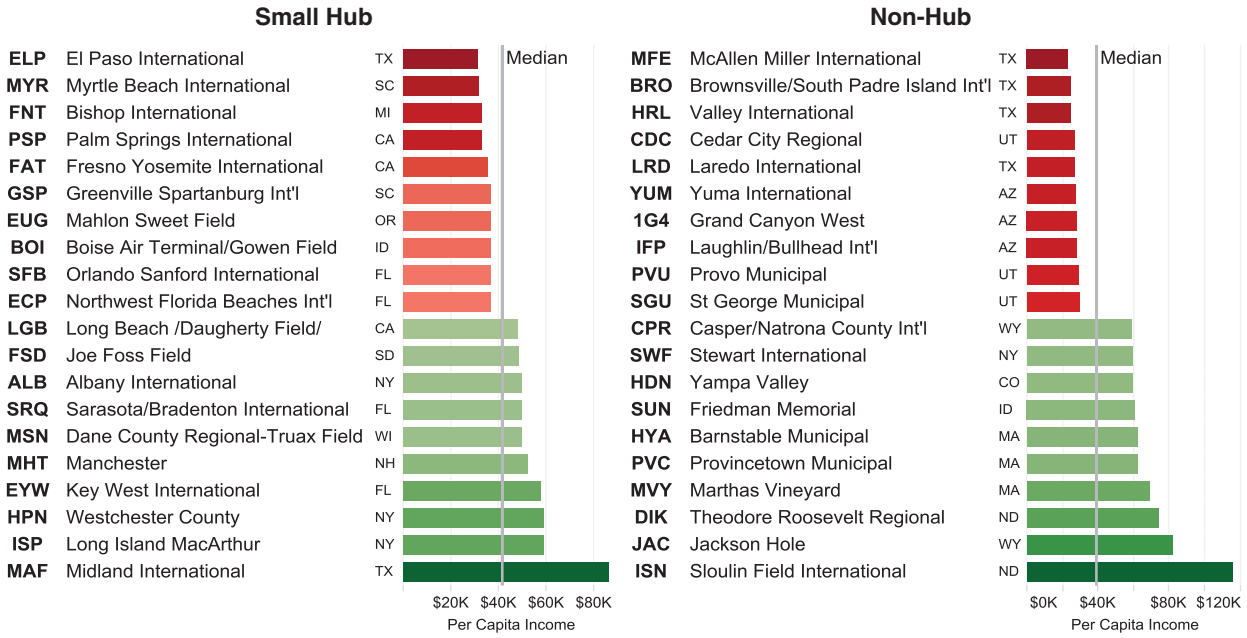
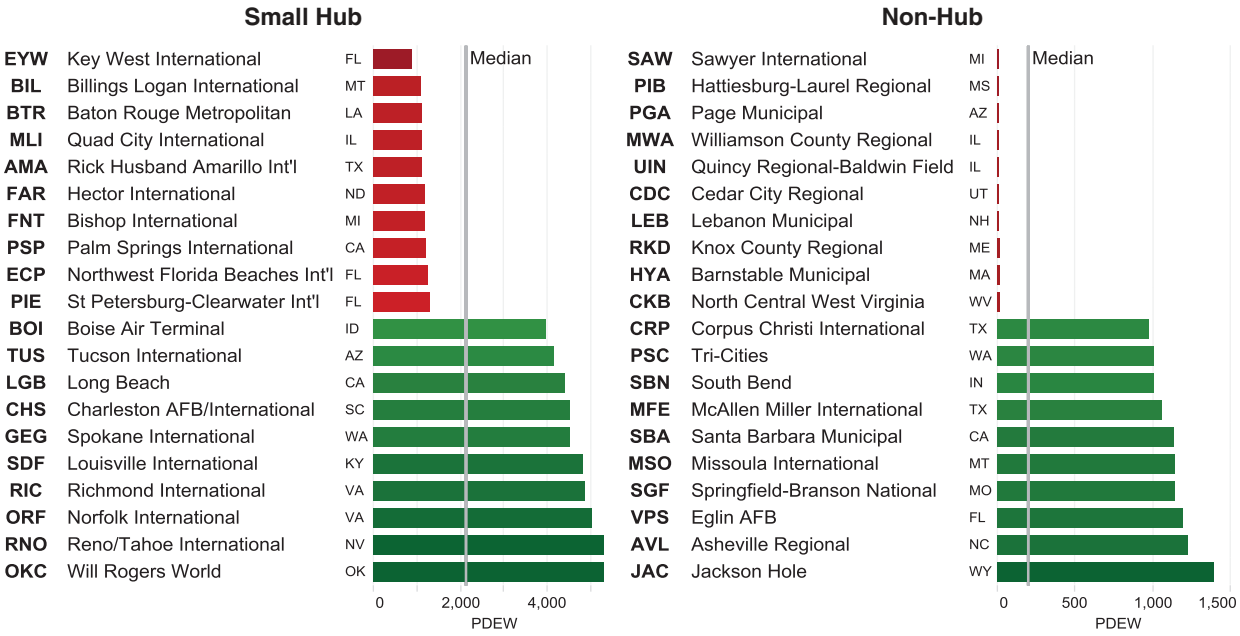


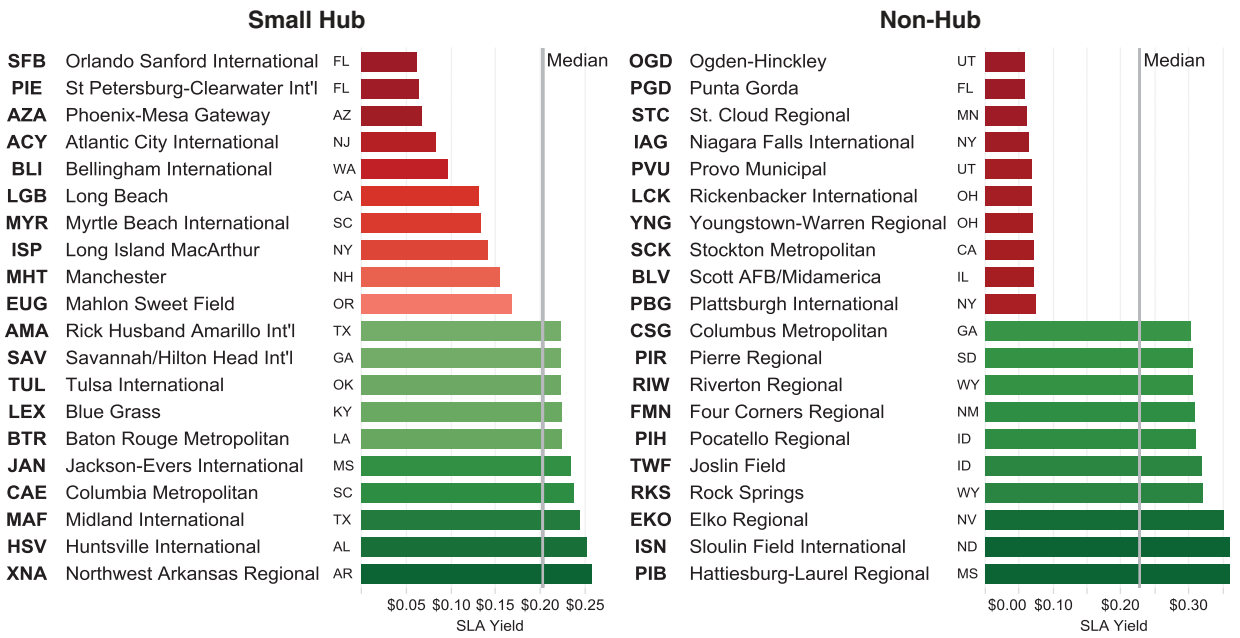
Exhibit 3-14. Daily O&D passengers for top 10 and bottom 10 ranked small- and non-hub airports, 2013.



Airports were ranked by 2013 O&D passengers; the top ten and bottom ten small-hub and non-hub airports are shown in Exhibit 3-14. The median number of O&D passengers departing each way (PDEWs) in 2013 at small-hub airports was 2,126 and the median number of PDEWs at non-hub airports was 201.

Airports were also ranked by 2013 stage-length-adjusted yield. The top ten and bottom ten small-hub and non-hub airports are shown in Exhibit 3-15 (airports without DB1B traffic data are excluded from this exhibit). The median SLA yield in 2013 at small-hub airports was 20.2 cents per mile and the median SLA yield at non-hub airports was 22.7 cents per mile.

Exhibit 3-15. SLA yield for top 10 and bottom 10 ranked small- and non-hub airports, 2013.



3.2.3.2 Airport Uniqueness

An airport uniqueness metric was calculated for each airport using the variation in user types operating from the airport and airport catchment areas. The user types consisted of commercial, fractional ownership program, general aviation (GA), rotor, and freight operators. The airport catchment areas were determined using the full price of travel, which includes the cost of a flight and the access, egress, and flight time costs.

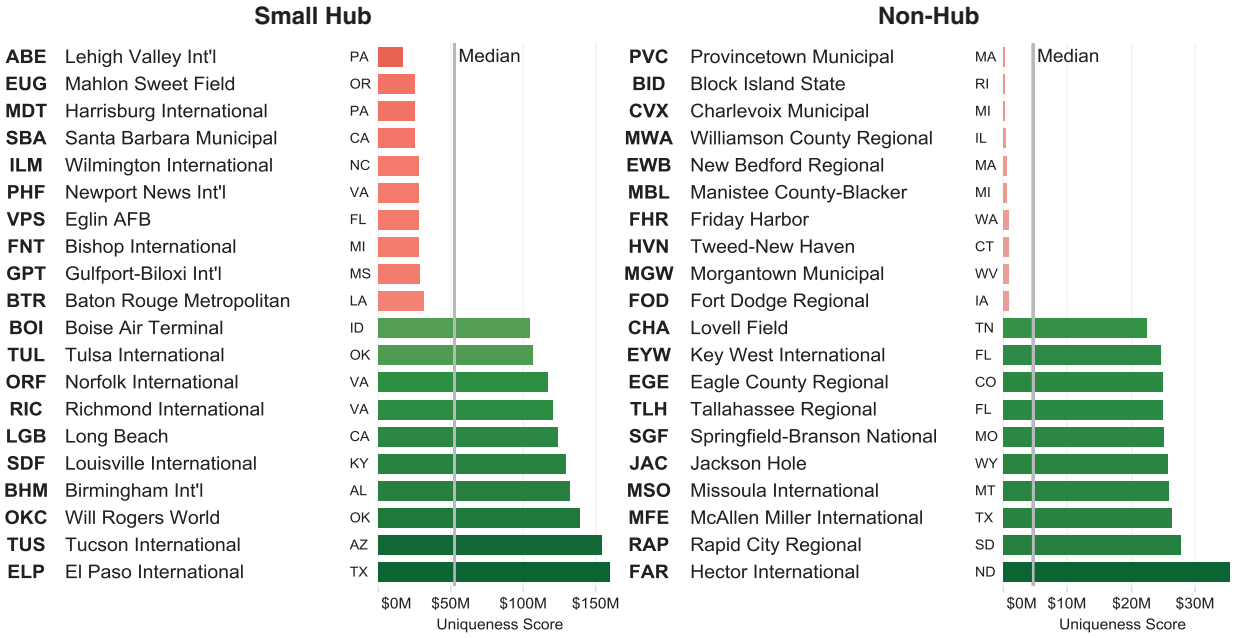
A uniqueness value was derived for each airport that is meant to represent the economic surplus value associated with all current flight activity (excluding freight). The primary driver of the analysis is based on the idea of opportunity cost—the value of the next best alternative. The metric assesses value by estimating the economic loss (in dollars) that would be incurred by current airport users if the airport were to close entirely, the basic idea being that users' next best alternative would be to use a suitable nearby airport. This option of course will depend on multiple factors, including distance from the current airport, associated increased travel time and cost to an alternative airport, service characteristics of the alternative airport, and the users' value of time and sensitivity to increased costs.

Exhibit 3-16 shows the top ten and bottom ten small-hub and non-hub airports in terms of uniqueness values for 2011. Uniqueness values were not able to be estimated for a few very small non-hub airports, which are not shown in Exhibit 3-16. These values were only available for 2011. The median value for small-hub airports in 2011 was $52.6 million and the median value for non-hub airports was $4.6 million. These values in essence represent the value of an airport to its users, relative to nearby substitute airports.

3.2.4 Airport Financial Data

Airport financial data were retrieved from a database of airport responses to FAA Form 5100-127 (Data retrieved October 15, 2014). This form is used for reporting airport revenues, expenses, and other financial information. The airport financial data are not available for every

Exhibit 3-16. Uniqueness score for top 10 and bottom 10 ranked small- and non-hub airports, 2011.



airport in the study database because some airports do not file these reports or do not file the reports in full.

Operating margin is equal to operating revenue less operating expenses. The operating margins for small- and non-hub airports in FY 2013 are shown in the left chart of Exhibit 3-17 arrayed against annual enplanements. As seen there, few of these airports show a positive operating margin, regardless of the number of passengers handled.

However, airports of all sizes receive significant non-operating funds. The operating margins shown on the left of Exhibit 3-17 do not include the effects of non-operating revenues or expenses, which consist of the following:

- Interest income
- Interest expense
- Grant receipts (primarily Airport Improvement Program [AIP] funds)
- Passenger facility charges (PFCs)
- Capital contributions
- Other non-operating revenue
- Special items

If all non-operating income and expense categories are included, this yields the "net margin" for each airport; these figures are shown in the right chart of Exhibit 3-17. Now most small- and non-hub airports show a positive net margin.

However, for this analysis, we are primarily interested in whether these airports have sufficient funds to engage in meaningful air service development. As discussed in Section 4.3 below, the FAA places significant restrictions on how AIP grants may be used, and as a practical matter they cannot be used for common ASD efforts (e.g., destination or tourism marketing, direct subsidies to carriers, revenue guarantees, and specific carrier targeting).

Exhibit 3-17. Operating and net margin by number of enplanements for small- and non-hub airports, FY 2013.

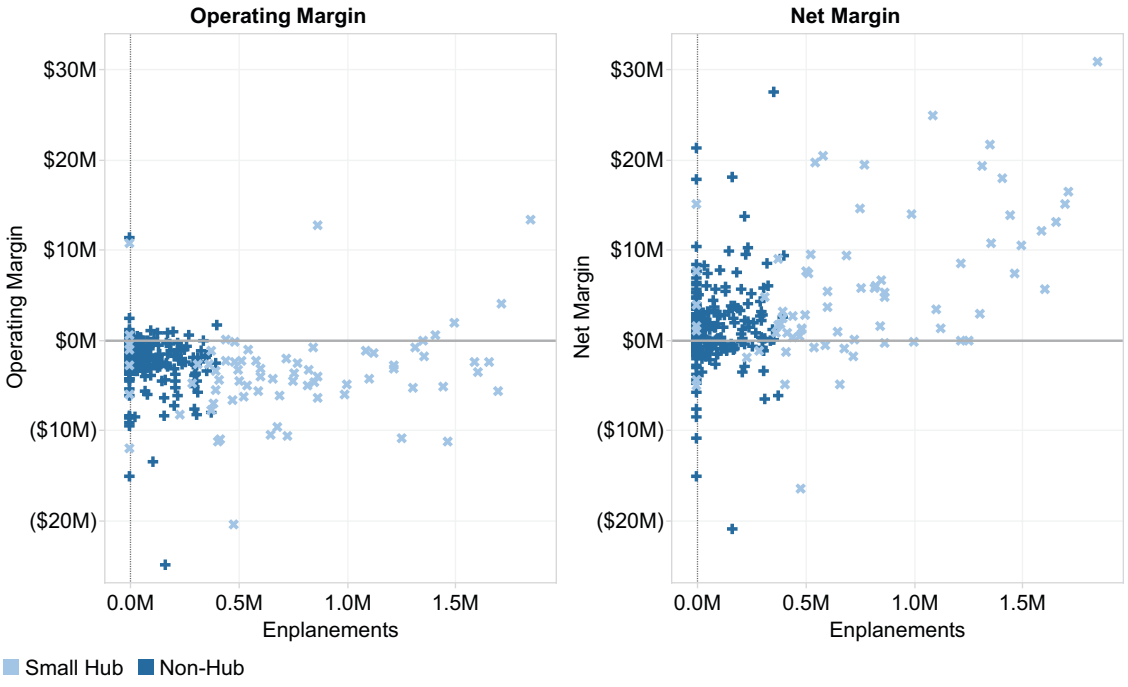
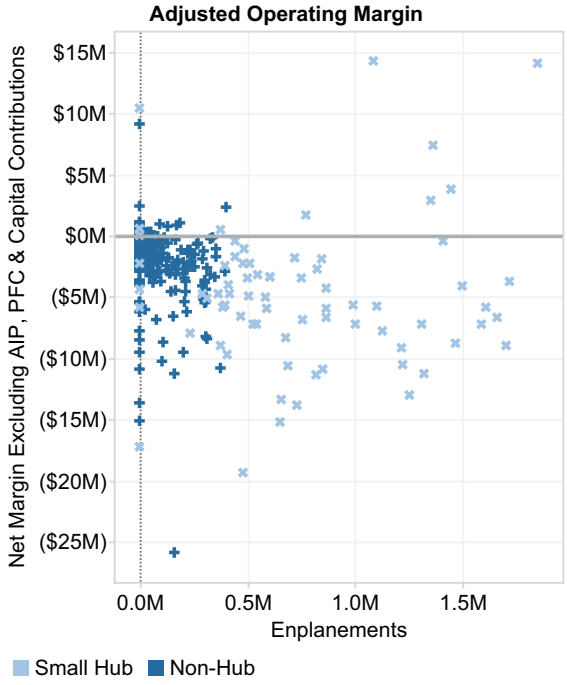


Exhibit 3-18. Adjusted operating margin by number of enplanements for small- and non-hub airports, FY 2013.



Similarly, the use of PFCs collected from boarded passengers are restricted to projects that enhance safety, security, or capacity; reduce noise; or increase carrier competition. Although such projects may have a positive influence on a carrier's decision to provide service at a given airport, these are not the sorts of primary ASD efforts that are the focus of this analysis. Finally, capital contribution revenues are also funds that cannot be used for direct air service development.

Exhibit 3-18 presents a third view of the financial performance of small- and non-hub airports by including operating revenues and expenses, plus non-operating funds except for those involving grant receipts, PFCs, or capital contributions. The research team believes this provides a relevant picture of the potential of these airports to fund primary ASD efforts.

Although the above financial results should be viewed cautiously because they are self-reported by airports and often include incomplete information, the numbers suggest that small- and non-hub airports struggle financially from an operational standpoint and may have few resources available for air service development.

3.3 Case Studies

3.3.1 Selection Process

The research team used a data-driven approach to develop the list of case study airports. Specifically, using the data on changes in air service at small- and non-hub airports, the research team identified small- and non-hub airports with successful and unsuccessful recent air service histories. The researchers looked at variables such as the percent change in available seats from 2001–2012, the percent change in flights from 2001–2012, and the percent change in the number of air carriers from 2001–2012. At the time of case study selection, 2012 data were the most recently available data. Using the literature review of incentives as a point of departure, the research team

evaluated the most successful and least successful airports in retaining or attracting service for evidence of the use of innovative incentive programs. This allowed the research team to follow best practices in case study research (see Yin 2003) by identifying both unique and representative case sites.

In response to ACRP Project Panel comments, the research team also considered geographical diversity and the presence of Allegiant Air when developing the list of case study airports. The research team also included consideration of statewide programs designed to provide incentives for air service development at multiple airports.

3.3.2 Case Study Airports

Based on the described selection process, the research team developed the following list of case study airports:

- Small-hub airports
  - Burlington International Airport (BTV)
  - Akron-Canton Airport (CAK)
  - Northwest Florida Beaches International Airport (ECP)
  - Phoenix-Mesa Gateway Airport (AZA)
  - Bozeman Yellowstone International Airport (BZN)
  - Hector International Airport-Fargo (FAR)
- Non-hub airports
  - Toledo Express Airport (TOL)
  - Redding Municipal Airport (RDD)
  - Augusta Regional Airport (AGS)
  - Charles Schulz-Sonoma County Airport (STS)
  - Monterey Peninsula Airport (MRY)
  - Asheville Regional Airport (AVL)
- Statewide programs
  - Kansas Affordable Airfares Program (Wichita-ICT)

The case study airports have the following characteristics:

- 7 with increased scheduled service from 2001–2012; 5 with decreased service
- Geographic distribution—1 Northeast, 3 Southeast, 2 Midwest, 1 Central, 1 Mountain West, 1 Southwest, 3 West
- 6 with Allegiant service, 6 without Allegiant service

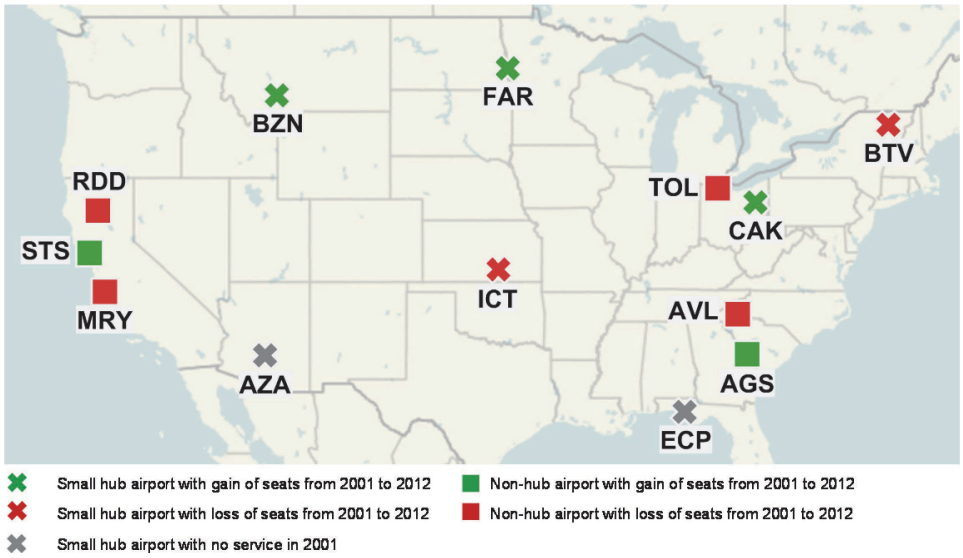
The selected airports are identified in Exhibit 3-19, with indicators for 2012 hub status and the change in seats from 2001 to 2012.

3.3.3 Data Analysis of Case Study Airports

In-depth data analysis of case study airports was performed to describe the airports, identify trends in airline service, and reveal factors influencing the changes in airline service experienced by the airports.

Communities are often interested in both the number of carriers serving an airport and the types of carriers serving an airport. For this analysis, airlines were classified as one of four types: LCC, mainline, other, or regional. LCCs generally have lower fares than their competitors and offer point-to-point service. Mainline carriers offer extensive hub-and-spoke networks and service on narrowbody or widebody aircraft. Regional carriers operate smaller regional jet or turboprop aircraft on behalf of mainline carriers to provide service to markets without sufficient

Exhibit 3-19. Case study airports.



demand for service on narrowbody or widebody aircraft or to provide increased frequency in markets. Other carriers include those that do not fit any of the other three categories, such as Alaska Airlines and foreign carriers such as Air Canada. In this analysis, if a mainline carrier serves an airport also served by one of the mainline carrier's regional partners then the statistics reflect service by two carriers (one mainline and one regional).

Exhibit 3-20 shows the number and types of carriers serving small-hub case study airports from 2001 to 2013. All of the small-hub case study airports had scheduled service in every year of the period except for ECP (which opened for scheduled service in 2010) and AZA (which did not have scheduled service from 2001 to 2006). The airport with the largest increase in the number of carriers from 2001 to 2013 was FAR (+3) and the airport with the largest decrease was BTV (–4).

Exhibit 3-20. Number and types of carriers serving small-hub case study airports, 2001–2013.

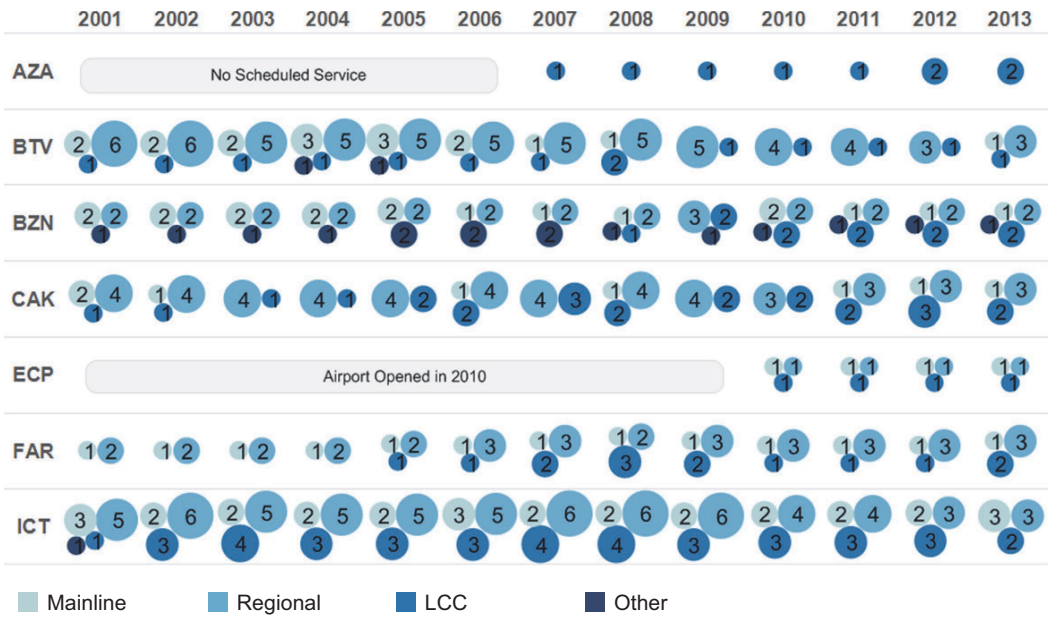
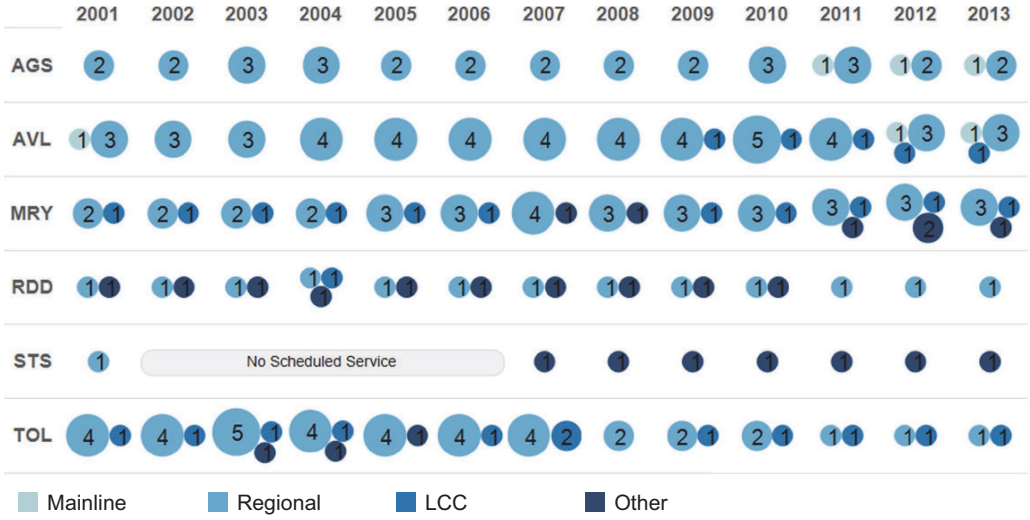


Exhibit 3-21. Number and types of carriers serving non-hub case study airports, 2001–2013.



In 2013, all of the airports except AZA received service from at least one low-cost, one mainline, and one regional carrier. AZA received service only from LCCs in 2013.

Exhibit 3-21 shows the number and types of carriers serving non-hub case study airports from 2001 to 2013. All of the non-hub case study airports had scheduled service in every year of the period except for STS, which did not have scheduled service from 2002 to 2006. The airport with the largest increase in the number of carriers from 2001 to 2013 was MRY (+2) and the airport with the largest decrease was TOL (–3).

All of the non-hub case study airports had service from at least one regional carrier in 2013, except STS. It was very rare for non-hub case study airports to be served by mainline carriers—only AGS and AVL were served by mainline carriers at any point during the study period.

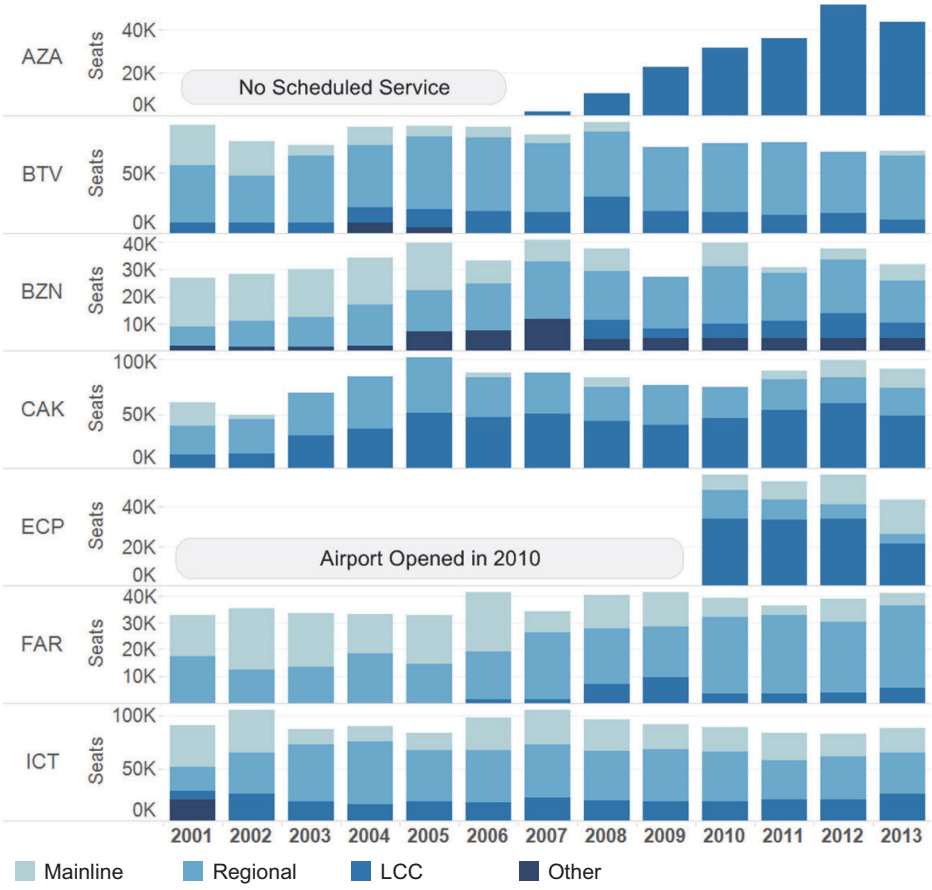
Exhibit 3-22 shows the number of seats offered by carrier type at small-hub case study airports from 2001 to 2013. Often, the change in the number of available seats was not as great as would be expected from the change in the number of carriers shown in Exhibit 3-22. This can be partially explained by the consolidation that occurred in the airline industry during the study period.

For instance, BTV had regional service from six carriers in 2001: American, Continental, Delta, Northwest, United, and US Airways. In 2013, after the Continental-United and Delta-Northwest mergers, BTV had regional service from three carriers: Delta, United, and US Airways. The number of seats offered by United regional carriers in 2013 was more (21,088) than the number of seats offered by Continental and United regional carriers in 2001 (16,047).

Exhibit 3-23 shows the number of seats offered by carrier type at non-hub case study airports from 2001 to 2013. Although the number of seats at most non-hub case study airports was fairly steady throughout the study period, TOL experienced a dramatic decline in available seats. The number of available seats at TOL declined from approximately 47,000 in 2001 to 7,000 in 2013, a decrease of 85%.

Exhibit 3-24 depicts average daily commercial passenger traffic measured as passengers per day each way (PDEWs) for the small-hub case study airports. The lines labeled Maximum, Average, and Minimum refer to PDEWs for all small-hub airports in the applicable year. FAR and AZA had PDEWs less than the minimum in some years—this is because FAR and AZA were classified as small-hub airports in 2012, but were classified as different hub sizes in previous years.

Exhibit 3-22. Seats by types of carrier for small-hub case study airports, 2001–2013.



The PDEWs for each of the small-hub case study airports were below the small-hub average for nearly every year, except in 2011 to 2013 when CAK had more PDEWs than the average.

Exhibit 3-25 depicts similar information for the case study airports classified as non-hubs. AVL, AGS, and MRY all had above-average PDEWs throughout the research period, and their PDEW figures generally increased over the research period. Although TOL had many more PDEWs than the average in 2001, the PDEWs for the airport declined steadily throughout the research period until it ended below the average in 2013. After beginning service in 2007, the PDEW figure at STS closely tracked the average. Finally, RDD PDEWs were below-average throughout the research period.

Exhibit 3-26 shows SLA yield for small-hub case study airports from 2001 to 2013. Average refers to SLA yield for all airports classified as small hubs in the applicable year. SLA yield at FAR, ICT, BZN, and ECP was above-average in most years and SLA yield was below-average in most years at BTV, CAK, and AZA.

Exhibit 3-27 depicts similar information for the case study airports classified as non-hubs. SLA yield was below-average at all non-hub case study airports in most years except for AGS in most years and RDD in 2013.

Exhibit 3-28 shows year-over-year (YOY) population and PDEW change for small-hub case study airports from 2001 to 2013. The population change is represented as bars and is graphed on the left axis. The PDEW change is represented as the lines and is graphed on the right axis. Nearly all of the communities with small-hub case study airports had positive population growth

Exhibit 3-23. Seats by types of carrier for non-hub case study airports, 2001–2013.

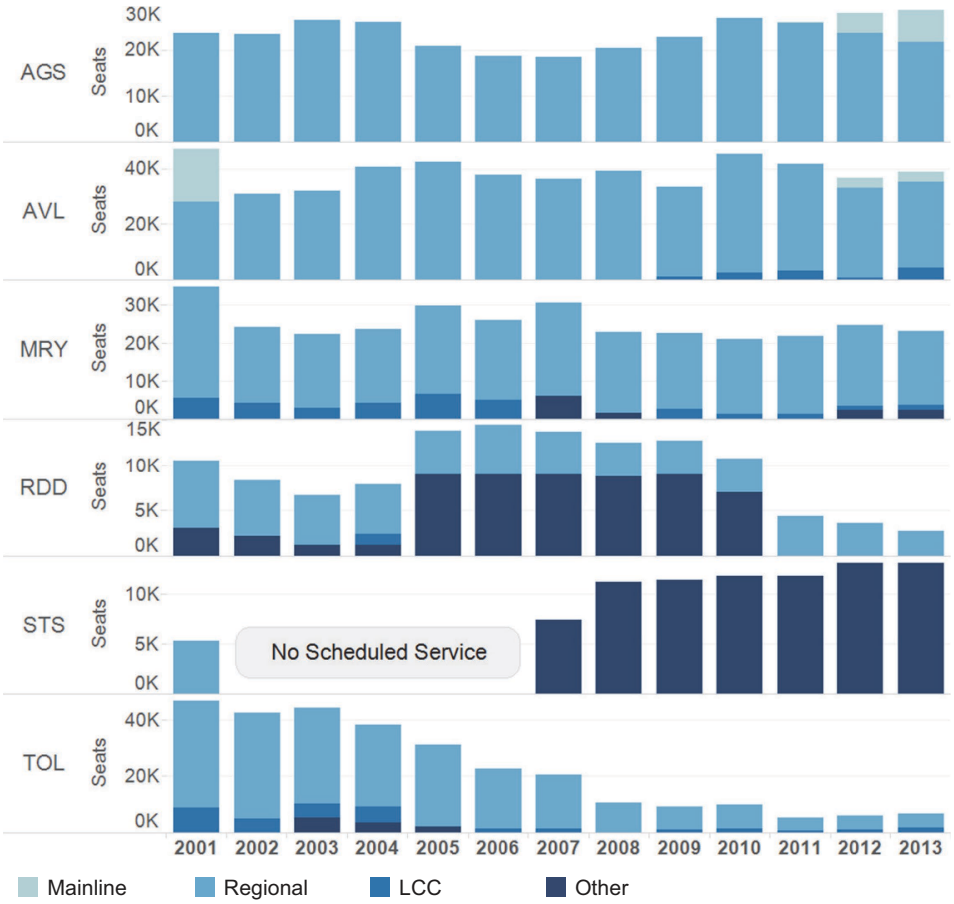


Exhibit 3-24. PDEWs for small-hub case study airports, 2001–2013.

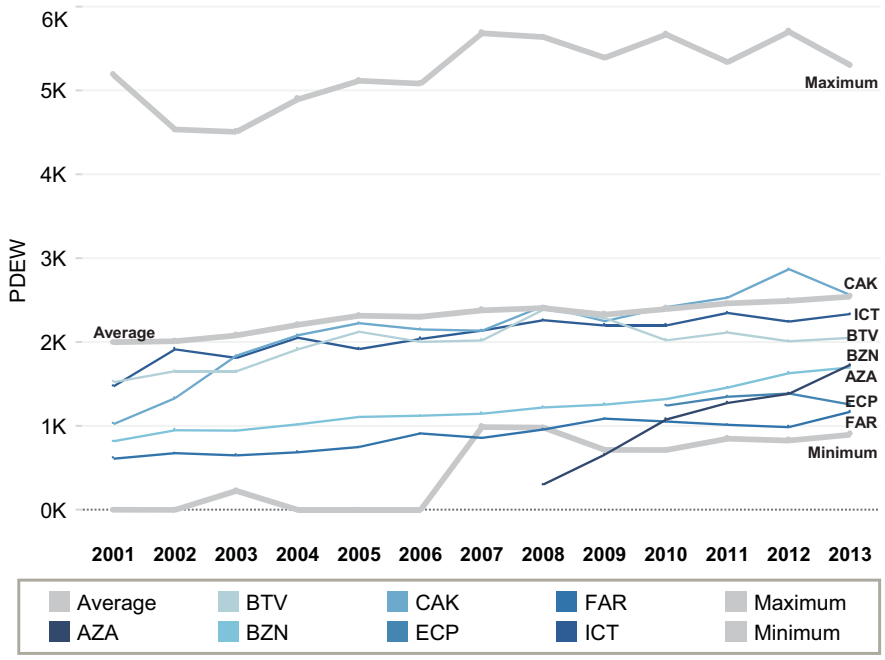


Exhibit 3-25. PDEWs for non-hub case study airports, 2001–2013.

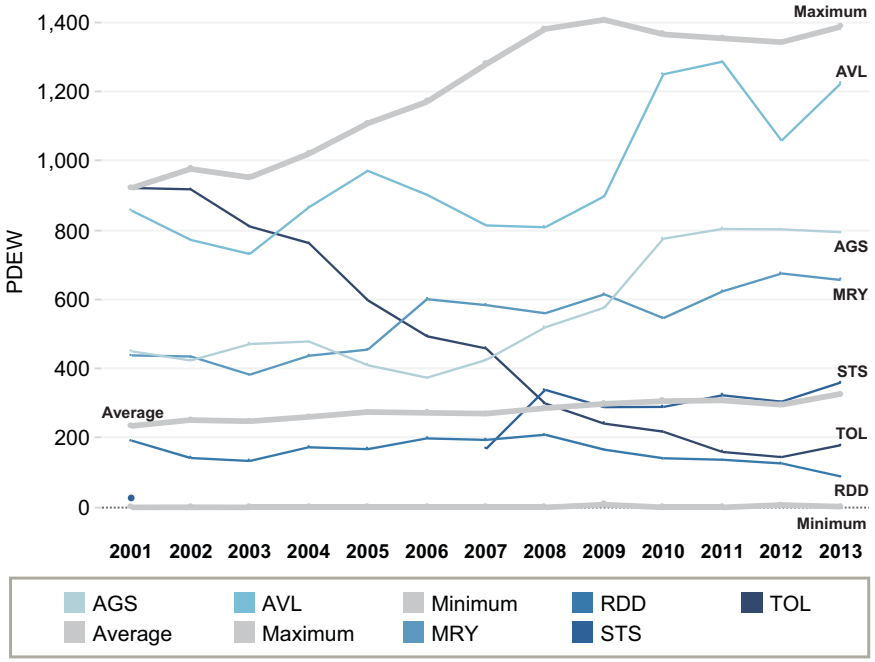


Exhibit 3-26. SLA yield for small-hub case study airports, 2001–2013.

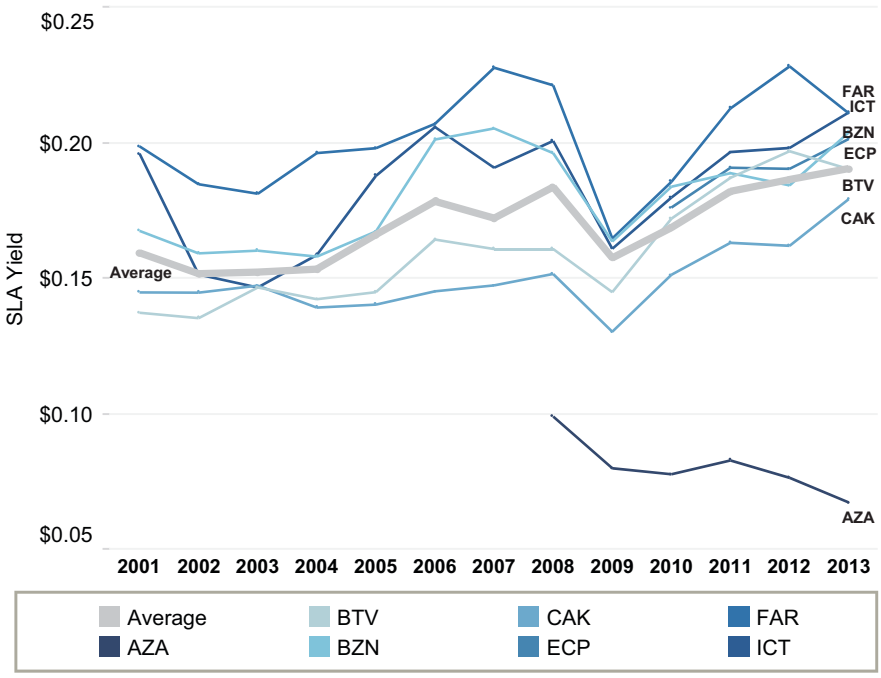


Exhibit 3-27. SLA yield for non-hub case study airports, 2001–2013.

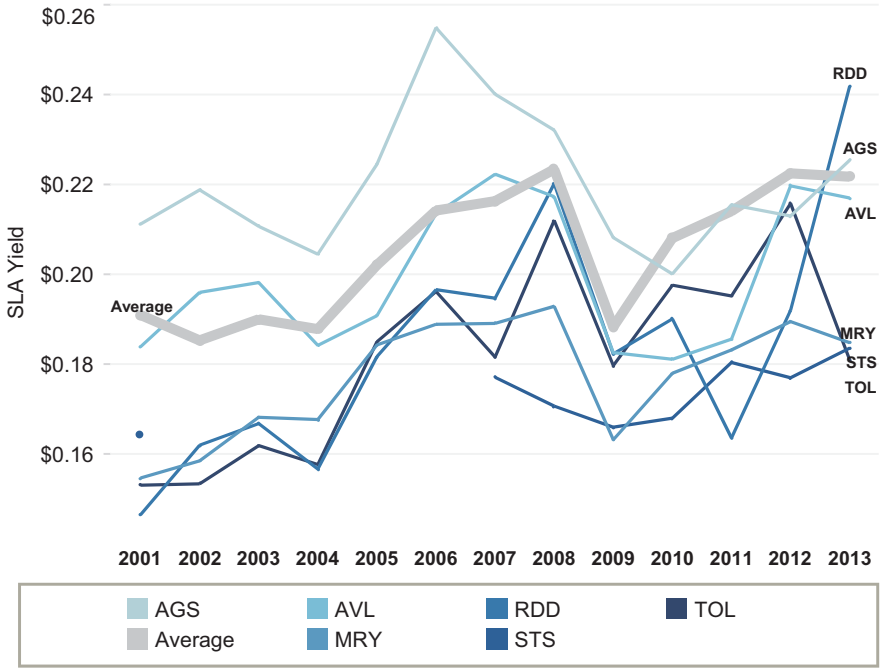
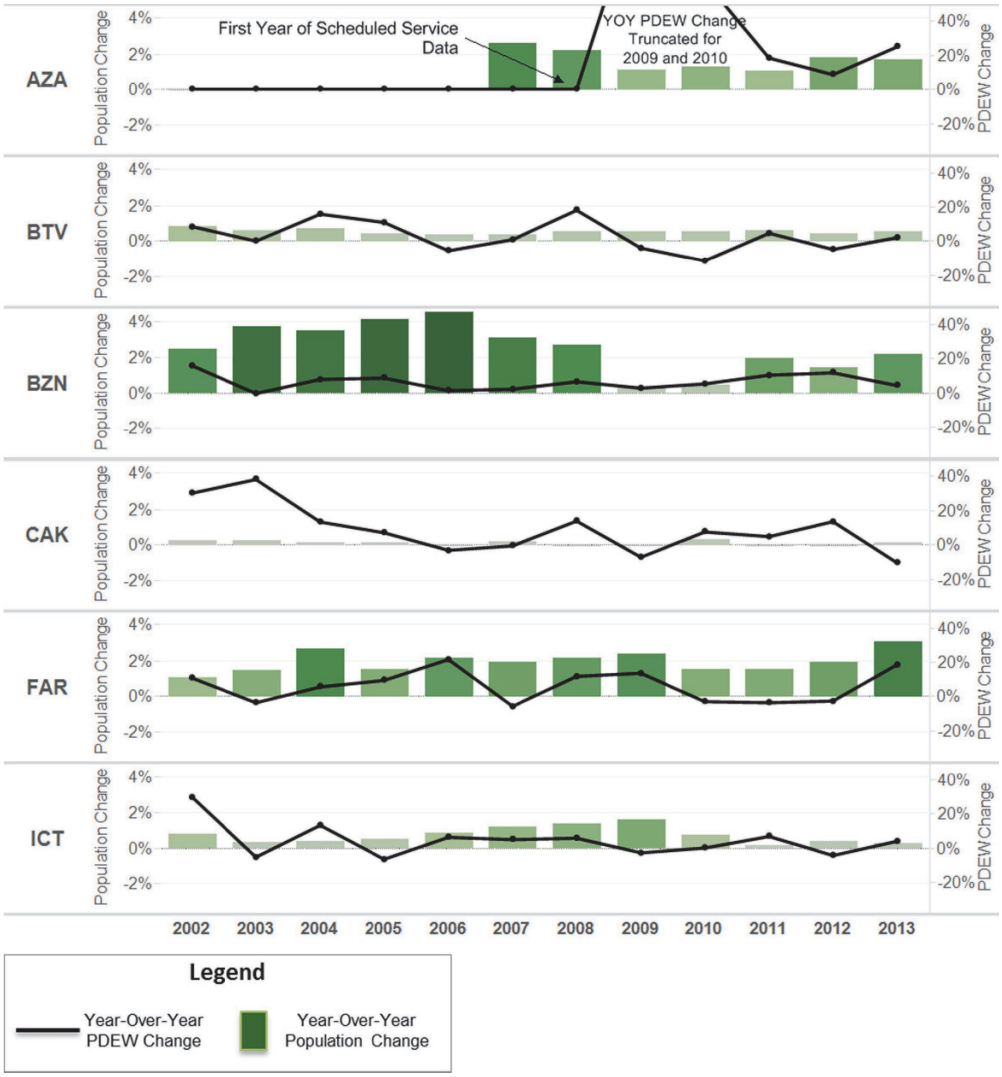


Exhibit 3-28. Population and PDEW change for small-hub airports, 2002–2013.



in every year of the research period. Most small-hub case study airports also had positive PDEW growth in most years of the research period.

The PDEW change axis is truncated at a maximum of 50% for presentation purposes, so two data points are not shown, both for AZA: 117% in 2009 and 63% in 2010. These high growth rates are a result of AZA receiving scheduled service for the first time in 2008, as noted in the exhibit. ECP is excluded from the exhibits on PDEW change because it only began receiving scheduled service in 2011.

Exhibit 3-29 shows year-over-year population and PDEW change for non-hub case study airports from 2001 to 2013. The population change is represented as bars and is graphed on the left axis. The PDEW change is represented as the lines and is graphed on the right axis. Nearly all of the communities with non-hub case study airports had positive population growth in most years of the research period, except for TOL. Most non-hub case study airports also had positive PDEW growth in most years of the research period, with the exception of TOL.

Exhibit 3-30 shows the relationship between year-over-year change in CBSA per capita income and PDEW for small-hub airports. Average refers to the average per capita income and PDEW

Exhibit 3-29. Population and PDEW change for non-hub airports, 2002–2013.

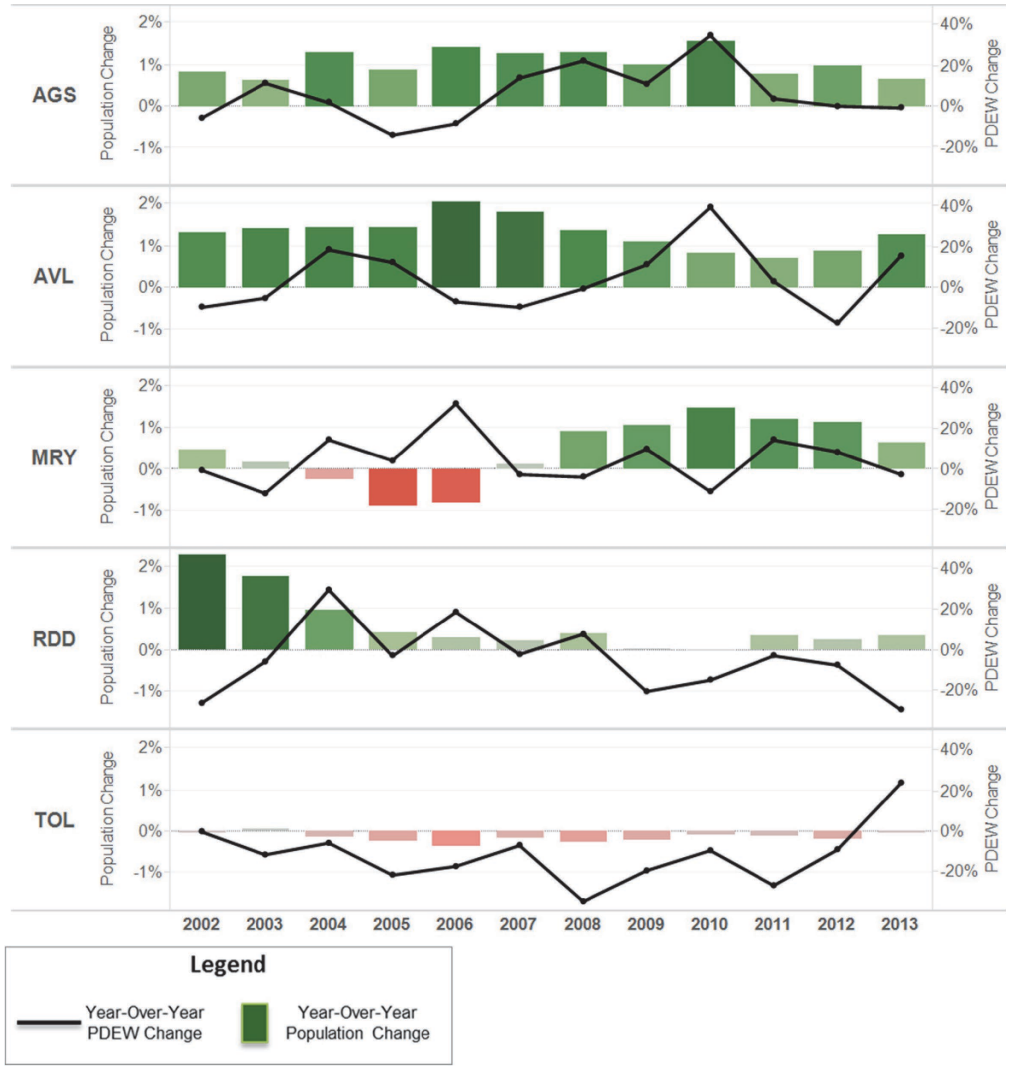
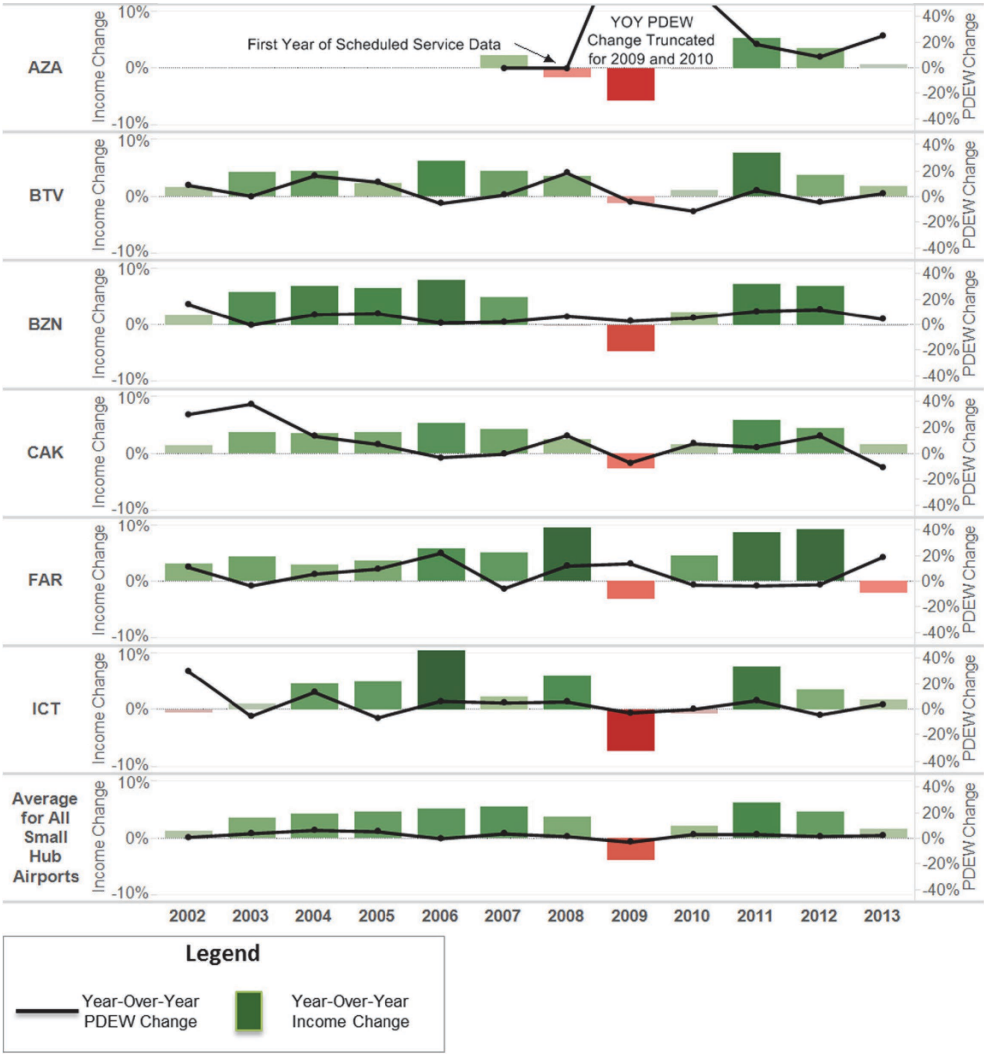


Exhibit 3-30. Income and PDEW change for small-hub airports, 2002–2013.



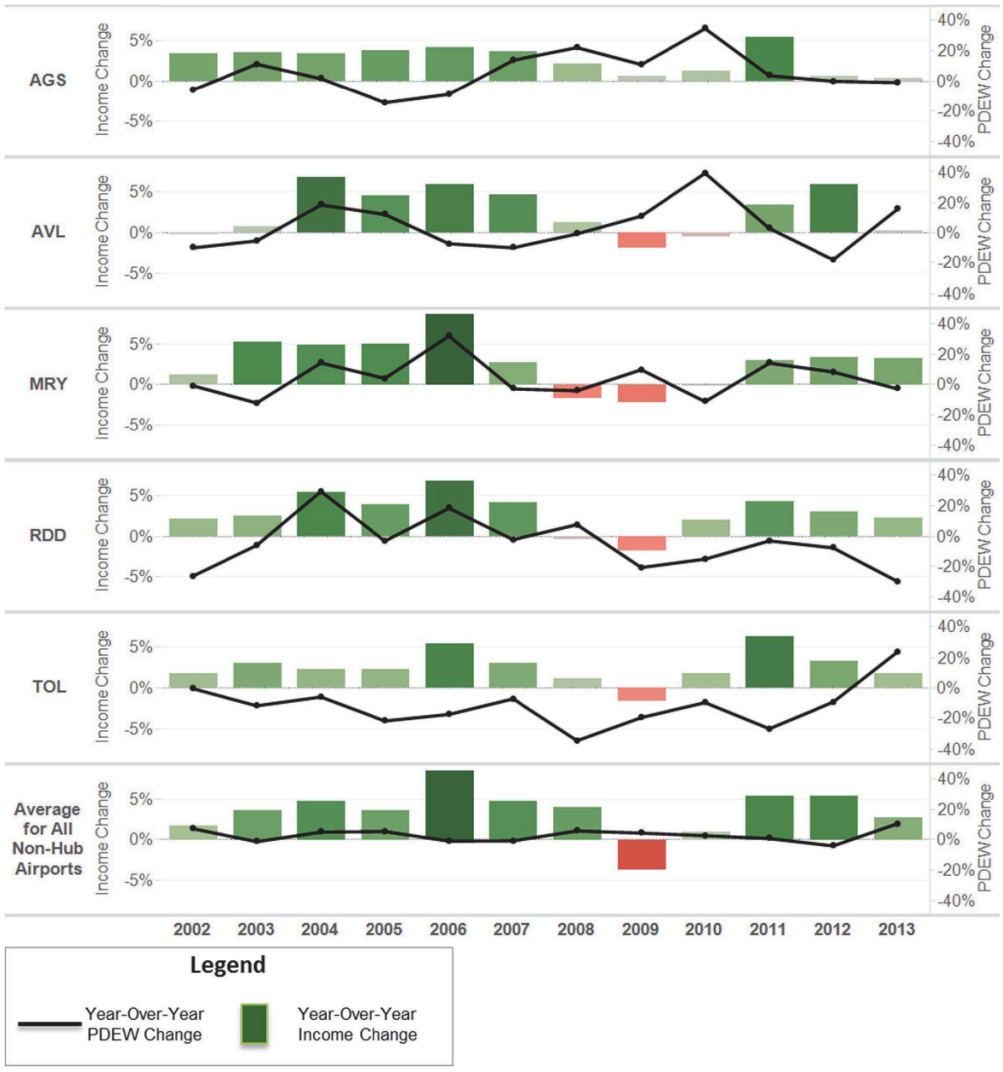
for all airports classified as small hubs in the applicable year. The annual change in CBSA per capita income is shown in green bars (positive change in income) and red bars (negative change in income) and is charted on the left axis. The annual change in PDEWs is shown as black lines and is charted on the right axis.

The PDEW change axis is truncated at a maximum of 50% for presentation purposes, so two data points are not shown, both for AZA: 117% in 2009 and 63% in 2010. These high growth rates are a result of AZA receiving scheduled service for the first time in 2008, as noted in the exhibit.

The effect of the 2008–2009 recession is seen in the sharp decline in per capita income in 2009. Other than that year, year-over-year per capita income increased in nearly all years for most small-hub case study airports, similar to the PDEW trends.

Exhibit 3-31 shows the relationship between year-over-year change in CBSA per capita income and PDEWs for non-hub airports. Average refers to per capita income and PDEWs for all airports classified as non-hubs in the applicable year. The annual change in CBSA per capita income is shown in green bars (positive change in income) and red bars (negative change in income) and

Exhibit 3-31. Income and PDEW change for non-hub airports, 2002–2013.



is charted on the left axis. The annual change in PDEW is shown as black lines and is charted on the right axis. STS is excluded from the chart due to data limitations (2002 to 2005 data are missing for STS).

The effect of the 2008–2009 recession is seen in the sharp decline in per capita income in 2009. Other than that year, year-over-year per capita income increased in nearly all years for most non-hub case study airports. In many cases, the PDEW changes did not follow the same trends as the income changes for the non-hub case study airports.

The primary takeaway from these comparisons of the case study airports is that, despite some similarities with each other, there is a wide variety of airport activity, local demographics, and economic variables among the group. Thus, the research team is confident that the case study airports represent a good cross-section of small- and non-hub airports.

CHAPTER 4

Air Service Development Programs

4.1 Introduction

To be responsible stewards of an important part of the community's essential infrastructure and to be responsive to their stakeholders, airports need to understand the forces driving the future of airline services in the United States. In addition, small airports need to understand the actions that they and their communities can take to retain and attract air services. These actions are constrained by FAA policies on the allowable uses of airport revenues for airports that receive federal airport grants. FAA also limits the role that an airport can play (and what it must avoid) in terms of economic assistance that the surrounding community provides to carriers to retain or obtain air service (FAA 2010).

Local economic development officials have brought to bear various approaches and tools in trying to attract air carriers to offer service in their communities. One of the most common approaches to attracting air service has been the use of incentives. Although several studies have found that incentives do not guarantee achieving greater levels of air service, many carriers have come to expect that communities will offer some package of incentives to entice the carrier to begin service. A study of ASD techniques found that air carriers now view small communities who are seeking service as partners and therefore require them to participate in the financial risk of developing the new service (Martin et al. 2009). As a result, many local and, in some cases, state economic development officials design and implement their own incentive programs to try to attract air carriers to their communities.

Federal programs, such as the Essential Air Service (EAS) Program and the Small Community Air Service Development (SCASD) program, provide financial assistance to communities to continue air service or to attract new air service. These programs can help to meet air service needs, but are subject to program restrictions and limited available funding. Some states also have similar programs. However, a major purpose of this project was to focus on additional actions that an airport sponsor or the local community can take regarding air services, rather than the federal programs.

4.2 Airline Decision-Making Process

It is important to understand how airlines make air service decisions when designing ASD programs. At the most basic level, the success and potential sustainability of a flight is a product of the revenue it generates minus the cost to operate that flight. Revenue is determined by the number of passengers and the amount those passengers paid for their tickets and ancillary services. For most legacy carriers and some LCCs, a particular flight is likely to generate greater numbers of passengers if it offers connectivity to the carrier's route network, rather than serving only passengers traveling between the flight's O&D locations. The mix of O&D and connecting

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passengers aboard a flight allows the airline to determine what percentage of a flight's revenue is attributable to the individual flight (referred to as segment profitability) and the revenue derived from supplying passengers across the airline's network through connections to other flights (known as beyond profitability). Segment profitability is calculated by determining the revenue in excess of costs generated by the portion of passengers on a flight who are O&D while beyond profitability is the portion of revenue over costs generated by passengers who connect to other flights. When deciding whether to enter a new market, airline route planners have desired financial returns for segment and beyond profitability that they use to determine the overall profitability of a flight and then compare that profitability to other *existing or potential flights in their network* (Stanley 2012, Oimet 2010).

The overall profitability of a flight is also a function of the costs of operating the flight, which include fuel costs, labor costs, and airport fees (e.g., terminal rent, fuel flowage fees, baggage handling fees, and landing fees). Other data considered by air carriers include an analysis of the current actions of competitors, community economic or tourism profiles, and strategic considerations and the likely responses of competitors (Mead & Hunt, Inc. 2006). Many airport incentive programs are designed to reduce or eliminate many of the on-airport costs. However, the ability of a flight to generate sustainable revenue is often the primary driver of an airline's decision to start new service or end existing service. Many community incentive programs that focus on revenue guarantees are designed to offset early market entry costs experienced by carriers. Potential flights that are longer distances, less populated, and overfly competing hubs along the way are viewed by many legacy carriers as high-risk and are less likely to be considered. However, many LCCs are looking to fill this gap by offering point-to-point flights that fit within their networks. The challenge is magnified for small airports.

A GAO report on efforts to improve service at small community airports (GAO 2011b) examined the challenges that small communities face in attracting and keeping air service and the steps that they have taken to overcome those challenges. GAO examined 292 small communities (defined as small- and non-hub airports in FAA's hub classification system) that had taken steps to increase air service in 2002. Fundamental economic forces challenge the efforts made by small communities to obtain and retain air service. The smallest communities often do not generate sufficient demand to make them a profitable location for air carriers due to their small populations and economic activity levels. Small communities near larger airports also may lose potential passengers to the larger airports that offer greater ranges of destinations and lower fares.

4.3 Airport Incentive Review

The FAA's AIP grant assurances greatly restrict and limit the airport governing board's ability to provide and participate in local economic development efforts to offer more direct forms of subsidies to air carriers. Typically, airports can offer incentives through marketing and advertising and by reducing rates and charges if airports meet the following criteria (FAA 2010):

- Cannot target certain types of carriers (e.g., LCC) or particular air carriers/aircraft types (this is to prevent cross-subsidizing of carriers)
- One-year time limit on incentives offered only to new entrants
- Two-year time limit on incentives offered to both incumbents and new entrants
- Airport revenue may be used to
  - Promote competition
  - Increase air service
  - Raise public and industry awareness of airport facilities and services
  - Pay for a share of promotional expenses designed to increase travel using the airport

Exhibit 4-1. Air service development efforts of small- and non-hub airports (GAO 2003b, p. 8).

Type of Effort	Non-hub Airports (81 airports)		Small-Hub Airports (17 airports)		Combined Total (98 airports)	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Studies	60	74%	15	88%	75	77%
Marketing	60	74%	16	94%	76	78%
Financial Incentives	33	41%	11	65%	44	45%
Other	15	19%	0	0%	15	15%

Source: GAO analysis

Notes: Columns will not add to total number of airports shown because some airports undertook multiple efforts. The ASD programs were in various stages at the time the researchers spoke with officials. The research team did not include programs in the table above that were in the proposal stage at the time of the discussions. The researchers included communities with ongoing programs and communities that had completed their programs. In a few cases, the research team included communities that had developed financial incentive programs but had to put them on hold or discontinue their efforts due to the events of September 11, air carrier problems, or for other reasons.

*Studies included both those conducted at a statewide level and those conducted or commissioned by an individual airport.

- Airport revenue may not be used for
  - Destination or tourism marketing
  - General economic development/marketing not related to the airport
  - Direct subsidies to air carriers
  - Guarantees of passenger revenue, ticket sales, or seats filled
  - Influence of ticket prices

A report issued by GAO in 2003 (GAO 2003b) found that the most common ways that small communities have attempted to obtain and retain air service include conducting studies to determine whether adequate demand for new or enhanced service exists, marketing to increase passenger demand, and offering financial incentives to airlines. The financial incentives were the most effective at attracting new service, but the new service often ended when the incentives ended. Exhibit 4-1 summarizes the types of ASD strategies executed by small- and non-hub airports.

The two most common types of ASD strategies likely to have a direct effect on airline service decisions are marketing support and financial incentives. The remainder of this section discusses these strategies in depth.

4.3.1 Marketing or Promotional Support

A common incentive offered to air carriers is the marketing and advertising of new service. In smaller communities, it is often a challenge for air carriers to market their new service effectively to a new group of travelers who may have loyalties to another carrier or may travel to a nearby airport for their air travel needs. Therefore, local communities often offer to provide marketing or promotional assistance as part of incentive packages. A 2009 study of small- and non-hub airports found that 80% of airports surveyed offered marketing or financial support as part of their incentive packages (Martin et al. 2009). The SCASD grants distributed by DOT often are used by communities to provide marketing and promotional support to air carriers.

Although the FAA's grant assurances allow airports to directly provide marketing or promotional support for new service, airport staffs usually lack the expertise necessary to implement an effective marketing campaign. Therefore, local economic development agencies, chambers of commerce, or other private partners may provide financial assistance in the form of marketing

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and advertising as part of a community incentive program. Other community partners, particularly the media and billboard owners, may provide in-kind assistance through free or reduced advertising rates. In-kind contributions for marketing and advertising support provide substantial value to the local airport, demonstrating local support of the air carrier while showing a high level of community buy-in to the new service. More recently, the use of social media (e.g., Facebook and Twitter) have become ubiquitous and inexpensive tools that airports and local communities can use to market and promote new air service in their communities. Examples of innovative marketing campaigns used by airports to promote new service follow:

- **State of Wyoming Department of Transportation's *Fly Wyoming* Campaign:** In 2005, the DOT of the State of Wyoming was awarded a SCASD grant for $800,000 to start a statewide marketing campaign for its 10 airports. The marketing campaign, titled *Fly Wyoming*, focused on changing the negative perception of commercial air service in the state that had emerged due to high flight cancellation rates, high fares, and small, unconformable aircraft. The Wyoming DOT marketing campaign targeted all citizens of the state, but focused on business travelers who lived in Wyoming but traveled great distances to work, energy-related travelers, and Native American travelers. The $800,000 for print, radio, TV, and internet marketing was supplemented by more than $100,000 in in-kind contributions from local media outlets. The state DOT's evaluation of the program in 2008 found that overall awareness of Wyoming airports had risen significantly (Wyoming DOT 2013).
- **Niagara Falls International Airport (IAG):** IAG first established commercial service in 2011 with the arrival of two LCCs. To retain its current service while attracting a legacy network carrier, IAG and its community partners formed the Niagara Falls International Airport Stakeholders Group, Inc., a non-profit entity consisting of 14 area governmental entities and private-sector businesses. The group is charged with conducting marketing and promotional activities funded by contributions from its members, including a $1 million contribution from the Seneca Gaming Corp. The group has focused on producing print, billboard, and radio ads in Toronto that market IAG's direct flights to Florida (Scheer 2012).

ACRP Report 28 (Kramer et al. 2010) is a marketing guidebook specifically geared toward small airports. Such airports are generally run by an airport manager with a small budget and little or no formal training in marketing. However, marketing is essential for small airports (defined as GA and commercial service airports in FAA's hub classification system) to attract activity and achieve financial self-sufficiency. This ACRP report is an easy-to-use guidebook for airport managers dealing with various marketing issues.

The guidebook was developed through interviews with airport managers and other people involved with marketing at small airports to identify best practices. The guidebook summarizes these best practices and explains the basics of what goes into a marketing plan. Specific steps are provided to enable an airport manager to prepare and implement a marketing plan at a small airport, along with descriptions of tools that an airport can use to ensure successful implementation of the plan. Recognizing that small airports have limited resources available for marketing, one of the main objectives of the guidebook was to present cost-effective marketing tools for airport managers.

The guidebook contains case studies that describe how airports developed marketing plans, specific strategies adopted by airports, marketing messages developed by airports, and other marketing-related issues. The case studies were developed through interviews with officials at more than 20 airports conducted as part of the research effort.

4.3.2 Financial Incentives

Financial incentives offered to air carriers for new service most commonly involve waivers of airport-levied fees and charges. When an air carrier provides new service at an airport, there

are a host of costs associated with establishing a new ground station at an airport including training of new personnel. Airports also charge for the use of their property including landing fees, terminal rental fees (e.g., baggage claim, ticket counter, and gate and ramp services), and federal inspection charges. Start-up costs for an air carrier can be upward of $200,000 (Martin et al. 2009).

The waiving of airport landing fees and rents tends to be one of the most common forms of incentives offered by local communities because they can be administered through the airport governing body and often require little involvement from community partners. Cost waivers by themselves will not differentiate an airport seeking service, because most air carriers regard some level of cost subsidy as a requirement for entering a market. As such, many airports openly advertise their landing fee incentives on their official websites. Given that cost waivers do not typically require substantial community involvement, they are a signal to air carriers of weak community commitment to new service.

Many communities offer reductions or waivers of landing fees or terminal rent to air carriers to attract new service. However, notable examples of communities that have provided start-up cost relief or waivers of fees related to doing business at an airport follow:

- **Mobile Regional Airport (MOB):** Following the departure of United Airlines in 2001, airport officials at MOB decided to create a Station Services program, where MOB would provide complete ground-handling services (e.g., ticket counter, baggage claim, and gate and ramp services) for air carriers. MOB would own, operate, and staff the carrier's entire station operation in exchange for a fee. MOB received a SCASD grant of $450,000 in 2002 to purchase equipment, hire and train staff, and set up a management system for the program. Because MOB charges for the service, it can offer a waiver or reduction in the cost to carriers for their ground-handling services as part of an incentive package (Kentucky Legislative Research Commission 2011).
- **Springfield/Branson Airport (SGF):** Following the bankruptcy of Trans World Airlines (TWA) in 2001, SGF lost over 70% of its commercial air service. To attract a new carrier, the airport decided to invest over $500,000 in tugs and baggage equipment to provide airport-operated baggage services. Delta Air Lines subsidiaries Comair and Sky West decided to offer service to Cincinnati and Salt Lake City as a result of the incentive. Airline officials estimated that SGF's baggage service saved them $300,000 in start-up costs. In 2005, the airport estimated that the baggage service had covered the initial capital costs and was providing an annual profit of over $130,000 (Aviation Today 2005).

4.4 Community Incentive Review

Community incentives for air service differ from airport incentives in that they are not bound by FAA grant assurances, so the program administrator can design the program in any manner. Airport sponsors must not be involved with the program and airport revenue cannot be used. Community incentives are less common than airport incentives and are often used to attract or retain specific service, such as service to a particular destination.

4.4.1 Minimum Revenue Guarantees

Revenue guarantees are agreements, between air carriers and communities, that establish a target amount of revenue the air carrier will receive for operating service on a route over a specified period of time. Communities commit to a certain revenue level agreed upon with the carrier and if the carrier does not achieve the desired revenue level, community funds are used to bridge the gap. If the new service achieves the desired level of revenue, it is an indication of

the success of the route and indicates to the carrier that the new service may be self-sustaining without future subsidy. Many communities place performance requirements on the carrier as conditions for the payout of the revenue guarantees. Such requirements can include on-time performance benchmarks or limits on the number of cancelled flights. A 2009 study of air carrier incentive programs found that although many airports offered revenue guarantees as part of their incentive packages, very few offered only revenue guarantees to attract air carriers (Martin et al. 2009).

Many communities also offered revenue guarantees through funds received through SCASD grants from the U.S. DOT, which shifted the risk of the service failing to the federal government. Of the 33 SCASD grants awarded in 2012, 20 contained provisions to provide federal funds to air carriers in the form of revenue guarantees. As more communities try to attract fewer available air carrier flights to their airports, the amount of revenue guarantees communities are offering to air carriers continues to rise. For example, in its successful 2012 SCASD grant, Bentonville, Arkansas, proposed a $1,000,000 revenue guarantee to attract an air carrier to their community (Northwest Arkansas Regional Airport Authority 2012). While revenue guarantees are an effective incentive, they also have some challenges. Many carriers may be hesitant to take a revenue guarantee if they know the route will be unprofitable because of the negative brand image it may leave in the community. Also many airports noted in a 2009 study of incentive packages that raising money from the community for revenue guarantees was difficult (Martin et al. 2009). Hundreds of communities have tried to attract air service with revenue guarantees; notable programs that used revenue guarantees to attract service follow:

- **Greenbrier Valley Airport (LWB):** In 2010, the Greenbrier Resort, a golf, casino, and conference facility in White Sulfur Springs, WV, entered into an agreement with Delta to provide service from LWB to ATL and LGA. The Greenbrier sought the service due to being selected to host an annual PGA Tour golf tournament along with the opening of a new casino facility. As part of the incentive package provided to Delta, the resort agreed to provide revenue guarantees if the service was not cost effective for Delta. At the end of the first year of service, the two routes were a combined $4 million below the guaranteed revenue amount. Facing other financial hardships, the Greenbrier Resort decided not to remit the difference to Delta Airlines. In January 2012, Delta Airlines sued the Greenbrier Resort for the $4 million owed in revenue guarantees. The case is still pending in the U.S. Court of Appeals (Raby 2012).
- **Fort Wayne International Airport (FWA):** In 2013, FWA applied for and received a $600,000 SCASD grant to provide a minimum revenue guarantee to US Airways for non-stop daily service to its hub in Philadelphia. The $600,000 in funds from the DOT was matched by $1,400,000 in funding from the City of Fort Wayne and the Greater Fort Wayne Chamber of Commerce for a revenue guarantee and $60,000 in marketing support. In addition, to the $2,000,000 in minimum revenue guarantees, the Fort Wayne-Allen County Airport Authority waived over $500,000 in airport fees. In May 2014, US Airways announced two daily flights to Philadelphia International Airport and one daily flight to Charlotte Douglas International Airport on 50 seat CRJ regional jets.

4.4.2 Guaranteed Ticket Purchases (Ticket Banks)

Guaranteed ticket purchases, or travel banks, ensure that the air carrier being targeted will have a certain level of passenger traffic worth a certain volume of revenue. Local businesses or individuals deposit funds in a back account that can be used only for purchasing tickets on the specified air carrier during a given period of time. Typically, local or state governments will match funds provided by businesses in the form of additional revenue guarantees.

Travel banks, unlike revenue guarantees from local governments, indicate to the airline the community's commitment to use the proposed service. Travel banks also indicate the interest of the business community, which often provides the greatest source of funds to the travel bank and which is typically the type of client the air carrier is most interested in securing for new service (typically high-yield customers). Ticket banks also signal the level of commitment to existing carriers at an airport. A lack of support for a travel bank to attract a new carrier may signal to the air carrier that there is already a great deal of customer loyalty to an existing carrier at the airport or at a nearby airport.

Although travel banks offer benefits, implementing travel banks as part of an incentive program can present challenges. First, travel banks require a great deal of local initiative to organize and implement. Travel banks often are most successful when implemented through a grassroots organization led by a significant community champion. Second, airline acceptance of travel banks is not uniform. A 2005 GAO report found that most airline officials viewed travel banks unfavorably due to the difficulty and unreliability of their implementation (GAO 2005). Finally, funds from SCASD grants cannot be used to support travel banks, which limits the ability of local communities to supplement local contributions with federal funds. Examples of communities that have implemented travel banks follow:

- **Roberts Field-Redmond Municipal Airport (RDM):** In 2003, Economic Development for Central Oregon (EDCO) sought to attract an air carrier to offer eastbound service from RDM to complement the major population, employment, and business growth of the region. EDCO led a team effort along with RDM, the Central Oregon Visitors Association (COVA), the Redmond Chamber of Commerce, and the Central Oregon Air Service Taskforce (COAST) to establish a $500,000 travel bank as part of an incentive package. EDCO also applied for and won a SCASD grant for $500,000 in revenue guarantees as part of the incentive package. Delta committed to offer service to Salt Lake City, with a start date of March 2005. EDCO secured $640,000 from 120 local companies for the travel bank, which were converted into prepaid travel. Load factors for the service were high and ranged from 73%–80% in the first 3 months of service. As a result of the commitment secured by the travel bank and the publicity of the effort, the Delta flight was so successful in the first year that EDCO needed to use only minimal revenue guarantee funds (EDCO 2013).
- **St. George Airport (SGU):** The St. George Airport in St. George, UT, opened in 2011 as a replacement airport. The airport had existing service from Delta Airlines to Salt Lake City (SLC) and United Express to LAX, however, airport officials wanted a direct flight to Denver to provide eastbound service. SGU applied for and won a $500,000 SCASD grant to provide revenue guarantees to a carrier for Denver service (St. George Airport 2012). The St. George Chamber of Commerce also developed a travel bank for $100,000 in advance purchase tickets. United Express began SGU to Denver in June of 2013.
- **Youngstown-Warren Regional Airport (YNG):** In 2012, YNG applied for and received a $780,000 SCASD grant to support a $1.2 million revenue guarantee to attract a legacy network carrier to the airport. YNG is served by Allegiant Air and the Total Rewards casino air carrier, but has not had legacy network carrier service since 2000. To show community support for the service, a non-profit organization composed of local economic development officials and community leaders called YNG Air Partners, along with several chambers of commerce from both eastern Ohio and western Pennsylvania created the Youngstown-Warren Air Service Initiative. The Initiative is a non-binding collection of pledges from local businesses and organizations to quantify local demand for regularly scheduled air service. The Initiative eclipsed its initial goal of $5 million in pledges and reached a total of $6.3 million in ticket purchase pledges in early 2013 (YNG 2013). Despite this support for the service, YNG remains without service from a legacy network carrier.

4.5 FAA and DOT Programs for Small Community Air Service

Although federal programs designed to promote air service at small communities are not the main focus of this ACRP project, a short review of the programs is necessary because the programs are closely linked with airport and community ASD efforts. In some cases, the marketing incentives offered by airports make use of grant funds from the SCASD program. Many of the community incentive programs are also part of a SCASD grant.

4.5.1 SCASD Grant

The DOT's SCASD program offers grant funding for communities that wish to offer subsidies to air carriers to obtain air service. The program has offered between $6 million and $20 million for up to 46 grants each year. Created in 2002 as part of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), the program offers funds to attract air service in communities with small- or non-hub airports where air fares are higher than the national average, a portion of the cost of the activity contemplated is supplemented by local non-airport revenue sources, a public-private partnership has been or will be established to facilitate air carrier service to the public, where improved service will bring material benefits of scheduled air transportation to a broad section of the traveling public, and where multiple communities cooperate to submit a regional or multistate application to consolidate air service into one regional airport (49 U.S. Code § 41743 (c)(5)).

Exhibit 4-2 summarizes total SCASD appropriations, awards, grants awarded, and average grant amount for each year of the program from FY2002 to FY2013. The number of grants awarded per year has ranged from 15 to 46 and the average grant award amount has ranged from $200,000 to $600,000.

Two major studies evaluating SCASD outcomes have been completed to date. The first study was performed by GAO in 2005 and evaluated SCASD grants awarded from 2002 to 2005. The most common goals of grants awarded during this period were generally related to increasing service and enplanements. The strategies employed to meet these goals included start-up subsidies, revenue guarantees, travel banks, airline station operations provided by an airport, and marketing support.

Exhibit 4-2. SCASD summary, FY 2002–2013 (GAO 2014b).

Fiscal Year Funding	Total SCASD Appropriations (in millions)	Total Annual Grant Awards (in millions)	Number of Grants	Average Grant Award Amount (in millions)
2002	$20.0	$20.0	40	$0.5
2003	$20.0	$19.9	36	$0.6
2004	$20.0	$21.8	46	$0.4
2005	$20.0	$19.0	35	$0.6
2006	$10.0	$9.7	25	$0.4
2007	$10.0	$9.0	26	$0.4
2008	$8.0	$6.5	15	$0.5
2009	$8.0	$6.9	20	$0.3
2010	$6.0	$7.0	19	$0.4
2011	$6.0	$15.0	29	$0.2
2012	$6.0	$13.9	33	$0.2
2013	$6.0	$11.4	25	$0.2

Source: DOT

Note: For fiscal year 2010, Congress appropriated $6 million for SCASDP, but DOT added additional funds that could be reallocated from prior year recoveries to make funding available for additional grant awards, which continued into fiscal year 2013.

Exhibit 4-3. Airport directors' views on success of SCASD grants awarded from 2002 to 2005 (GAO 2005).

	Very Effective or Effective	As Effective as Ineffective	Not Very Effective or Ineffective	NA or No Basis to Judge	Total Responses
Increasing passenger traffic	60	7	1	52	120
Improving air service quality	54	11	2	51	118
Resolving fare issues	38	9	8	63	118

Source: GAO survey of grantee airport directors.

Of the 23 projects completed as of September 30, 2005, 22 contained a marketing component. Most airports (19 of 23) reported improvements to air service or fares during the life of the grant. About one-half of the airports reported air service improvements that were self-sustaining after the grant was over. The GAO identified possible explanations for the low success rate, including airline decisions to reduce flights at a hub airport, and some smaller airlines that went bankrupt during or after the grant period. Exhibit 4-3 summarizes airport directors' view on the success of grant projects.

Michael Wittman (2014) evaluated the outcomes of 115 SCASD grants awarded from 2006 to 2011. Most of these grants were intended to attract new air service that had not previously existed. Almost all of the grants offered a revenue guarantee to the targeted airline.

The criteria for evaluation of the grants depended on whether the grant was to provide new service or to market existing service. Grants to provide new service were deemed successful if the airport achieved the new scheduled service identified in the SCASD application within 28 months of grant acceptance and maintained that service throughout the remainder of the 28-month period. Grants to market existing service were deemed successful if the airport maintained or improved its level of service (±10%) present at grant acceptance for at least 28 months afterwards. Of the 115 grants evaluated, 36.5% were found to be successful as shown in Exhibit 4-4.

Possible explanations for the relatively low success rate included unrealistic expectations of grantees regarding how much traffic would be stimulated or diverted from nearby airports, the macroeconomic slowdown, and the spike in jet fuel prices during the period. In addition, airlines already operating unsubsidized service at the airport prior to the SCASD grant objected to the incentives being provided to the new entrant and exited the market in some cases.

4.5.2 Essential Air Service

The Essential Air Service program was established as part of the Airline Deregulation Act in 1978 to ensure that small communities would continue to be served by airlines after deregulation. The DOT administers the program and ensures air service to small communities by subsidizing

Exhibit 4-4. Results of SCASD grants, 2006–2011 (Wittman 2014).

Year	Total Grants	Grants Evaluated	Successes	Failures	Success Rate	Not Evaluated
2006	25	24	9	15	**37.50%**	1
2007	26	21	8	13	**38.10%**	5
2008	15	13	4	10	**30.80%**	2
2009	19	17	6	11	**35.30%**	2
2010	19	14	6	8	**42.90%**	5
2011	29	26	9	17	**34.60%**	3
Total	**133**	**115**	**42**	**74**	**36.50%**	**18**

Exhibit 4-5. Essential air service summary, FY2002–2013 (GAO 2014b, p. 10).

Fiscal Year	Total EAS Appropriations (in millions)	Includes only non-Alaska		
		Total Annual Subsidies (in millions)	Number of Communities Served	Average Subsidy Amount per Community (in millions)
2002	$113.0	$89.6	94	$1.0
2003	$101.8	$93.1	103	$0.9
2004	$101.7	$89.1	108	$0.8
2005	$101.6	$93.3	115	$0.8
2006	$109.4	$99.1	116	$0.9
2007	$109.4	$98.1	109	$0.9
2008	$109.4	$97.7	103	$0.9
2009	$138.4	$151.8	107	$1.4
2010	$200.0	$163.0	109	$1.5
2011	$199.7	$176.0	109	$1.6
2012	$215.5	$225.0	120	$1.9
2013	$232.2	$219.9	117	$1.9

Source: DOT

Note: The appropriations dataare for the entire EAS program, including Alaska, Hawaii, and Puerto Rico. However, DOT's data, for information about the communities and airlines receiving EAS subsidies and their amounts, exclude EAS operations to communities in Alaska. These data do not represent a continuous picture of service provided under the EAS program within each fiscal year. The appropriations include the annually appropriated $50 million from overflight fees.

two to four round trips a day with small aircraft between small communities and major hub airports. Exhibit 4-5 provides an overview of the EAS program from FY2002 to FY2013.

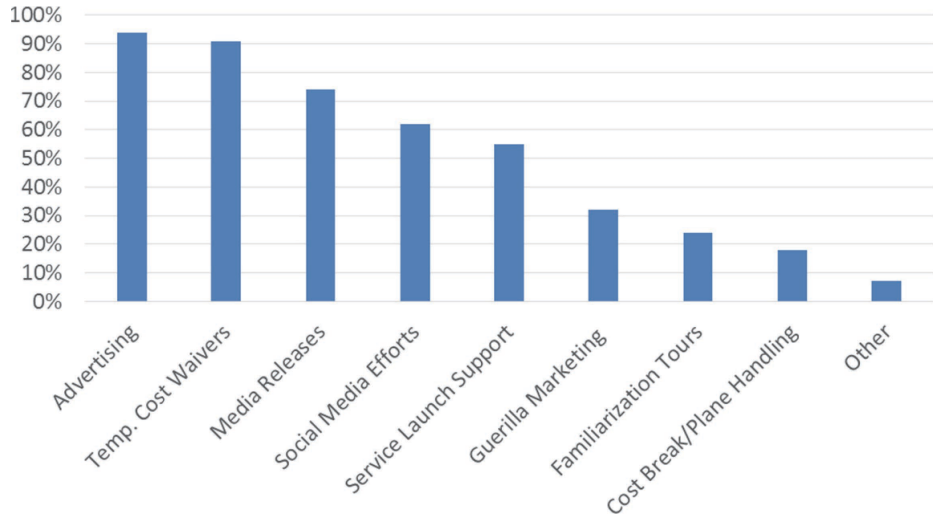
A 2014 GAO report found that airports that received EAS-subsidized service were the only group of airports to experience increased flights since 2007. However, EAS may not always be the most cost-effective way of connecting communities to the national transportation network. Total and per-community EAS subsidies have grown since 2008. In 2013, load factors for EAS service were approximately 49%, compared with an industry average of approximately 83%. The population of some EAS communities is too small to support higher passenger loads (GAO 2014b, p. 11). Recent legislation has been enacted to control EAS costs by making eligibility requirements more stringent. The legislative changes will likely lead to fewer communities receiving EAS subsidies in the future.

The effectiveness and overall value of the EAS programs has been debated in both the popular press and the scholarly literature. Several organizations, including the Cato Institute, the Heritage Foundation, and the Reason Foundation have criticized the EAS program as an example of wasteful government spending due to the mostly empty aircraft operating under a government subsidy and as a program that exists because of politics (Reidl 2003). Matisziw, Lee, and Grubesic (2012) found that the overall level of connectivity provided by the EAS program has declined since 2001 as many former large and medium hubs have lost connecting service. Özcan (2014) found that EAS service raised per capita income in communities that led to the sustainability of service after a community's eligibility for subsidies expired.

4.6 Small- and Non-Hub Airport Air Service Incentive Program Survey

SPA conducted an air service incentive survey of small- and non-hub airports in November and December 2013. The survey was received by 150 airports and more than one-half (78 airports) of the survey recipients responded. The survey respondents were equally divided between small- and non-hub airports.

Exhibit 4-6. Incentive types offered by small- and non-hub airports.



4.6.1 Structure of Airport Incentive Programs

More than 81% of the airports have an existing air service incentive program, while 19% do not. (The values sum to more than 100% because airports can offer multiple incentives.) Cost waivers, advertising, and media support are the top incentives offered by airports for new or enhanced service. Exhibit 4-6 shows the share of airports offering various types of incentives.

The top goals for airports with incentive programs are attracting new entrant carriers and attracting new non-stop service. Exhibit 4-7 provides an overview of goals cited by respondents with an airport incentive program. (The values sum to more than 100% because airports were allowed to select more than one goal.)

Most airports (61%) provide 1-year incentives, while the remainder (39%) offers incentives for 2 years, which is the maximum time permitted by FAA policy.

4.6.2 Results of Airport Incentive Programs

Airports with incentive programs have generally been successful at attracting and retaining new service. Among airports with incentive programs, 76% secured an increase in service. About

Exhibit 4-7. Small- and non-hub airport incentive program goals.

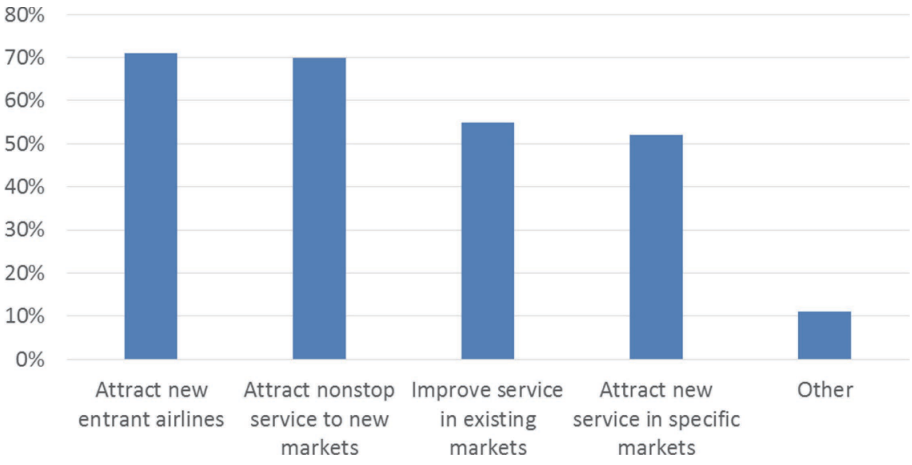
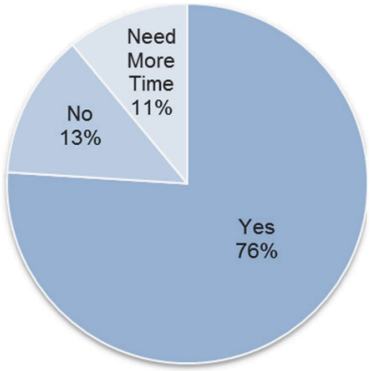


Exhibit 4-8. Has an airport incentive program resulted in new service or enhanced existing service?



11% of airports need more time to evaluate the results of the incentive program. Exhibit 4-8 shows the responses to the question of whether an airport's incentive program has resulted in new service or enhanced existing service.

Of those airports that secured an increase in service, 76% experienced sustained service. Exhibit 4-9 shows the responses to the question of whether an airport's new service has proven to be sustainable.

Given that a carrier may have been planning on initiating or expanding service at an airport, regardless of the existence of an airport incentive program, that a carrier initiates or expands service is not enough to determine that it was a result of the airport incentive program. Airports were asked whether their incentive programs have made a difference. About two-thirds of airports with incentive programs believe that the incentive program has made a difference, as shown in Exhibit 4-10.

Those airports reporting that their incentive program has not made a difference were asked to explain the reasons for the lack of success. The reasons included

- Insufficient funds for marketing
- Airport marketing does not reduce total airline costs enough to influence air service decisions
- Program is not flexible enough

Exhibit 4-9. Has new service proven to be sustainable?

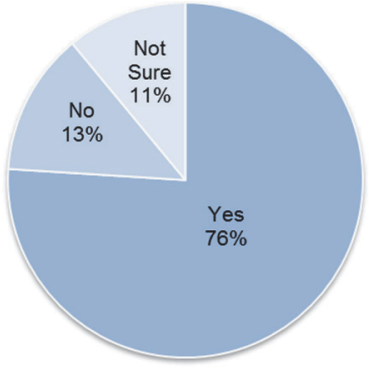
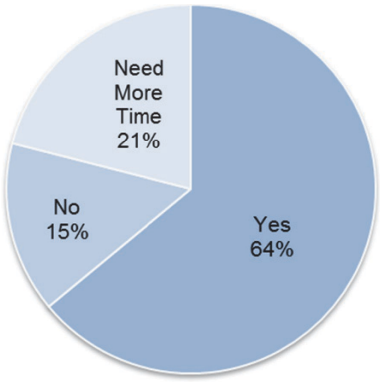


Exhibit 4-10. Has your incentive program made a difference?



More than two-thirds of airports with incentive programs believe that the incentive program has helped improve service. Exhibit 4-11 shows airport responses to the question of whether an incentive program has made a difference in service levels.

Respondents were asked to explain how an air service incentive program has helped. Some of the responses included

- Makes us competitive with other communities across the nation, taking away one reason for an airline to say no
- Mitigates the risk for airlines to give time to try unproven markets
- Helps mitigate airline start-up costs
- Assists the carrier to become established
- Have gained, retained, and kept doors of communication open on many levels with various individuals within the airport and airline to keep track of successes and so forth

One sign of airports' belief in the benefits of incentive programs is the fact that 75% of airports offering incentives have had the program in effect for 5 years or more. Exhibit 4-12 shows the number of years that survey respondents have had an incentive program in place.

More than one-half of airports without an incentive program (60%) are not sure whether incentives will make a difference, while the remaining 40% believe that an incentive program

Exhibit 4-11. Has an incentive program made a difference in service levels?

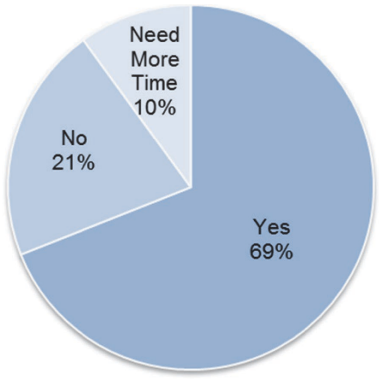
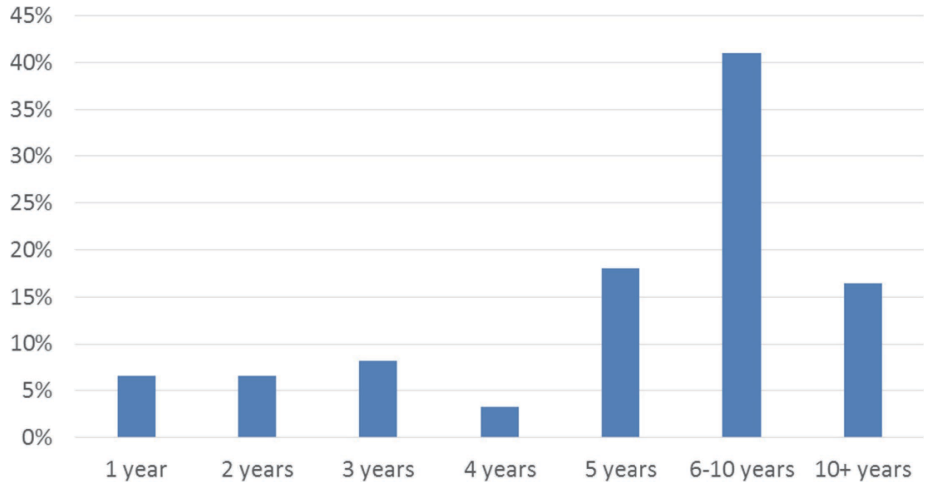


Exhibit 4-12. Length of time that small- and non-hub airport incentive programs have been in effect.



may make a difference. About one-third of airports without an existing incentive program plan to implement a program within the next 1 to 3 years.

The airports that plan to implement a program cite attracting new non-stop service and new entrant carriers and improving existing service as the top goals. Each of the airports developing programs plan to offer incentives for 1 year. The airports that do not plan to develop an air service incentive program cite several reasons, including

- Lack of funding/resources
- Philosophically believe that incentives should not be offered—that the market demand is there or it is not and incentives will not change the outcome
- Skeptical that airlines will operate beyond the incentive timeframe

CHAPTER 5

Case Studies

5.1 Selection Process

The research team used a data-driven approach to develop the list of case study airports. Specifically, using the data on changes in air service at small- and non-hub airports (see Chapter 3), the research team identified small- and non-hub airports that both gained and lost scheduled service during the research period, which covered the 2001–2012 period. The research team looked at variables such as the percent change in available seats, flights, and number of air carriers. Using the literature review of incentives as a point of departure, the research team evaluated the most successful and least successful airports in retaining or attracting service for evidence of the use of innovative incentive programs. This allowed the team to follow best practices in case study research by identifying both unique and representative case sites (Yin 2003).

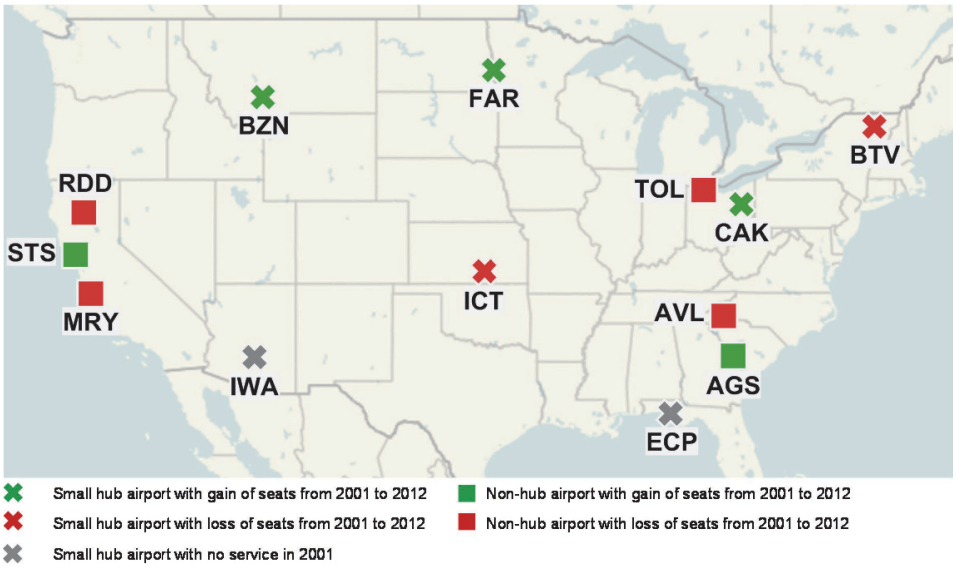
In response to ACRP Project Panel comments, the research team also considered geographical diversity and the presence of Allegiant Air when developing the list of case study airports. The research team also included consideration of statewide programs designed to provide incentives for air service development at multiple airports.

5.2 Case Study Airports

Based on the described selection process, the researchers developed the following list of case study airports:

- Small-hub airports
  - Burlington International Airport (BTV)—Vermont
  - Akron-Canton Airport (CAK)—Ohio
  - Northwest Florida Beaches International Airport (ECP)—Florida
  - Phoenix-Mesa Gateway Airport (AZA)—Arizona
  - Bozeman Yellowstone International Airport (BZN)—Montana
  - Hector International Airport-Fargo (FAR)—North Dakota
- Non-hub airports
  - Toledo Express Airport (TOL)—Ohio
  - Redding Municipal Airport (RDD)—California
  - Augusta Regional Airport (AGS)—Georgia
  - Charles Schulz-Sonoma County Airport (STS)—California
  - Monterey Peninsula Airport (MRY)—California
  - Asheville Regional Airport (AVL)—North Carolina
- Statewide programs
  - Kansas Affordable Airfares Program (Wichita-ICT)

Exhibit 5-1. Case study airports.



The case study airports have the following characteristics:

- Service changes from 2001 to 2012
  - 7 with increased traffic
  - 6 with decreased traffic
- Geographical distribution
  - 1 Northeast
  - 3 Southeast
  - 2 Midwest
  - 3 West
  - 1 Southwest
  - 2 Central
  - 1 Mountain West
- Allegiant Service
  - 7 with Allegiant Service
  - 6 without Allegiant Service

The selected airports are shown in Exhibit 5-1, with indicators for 2012 hub status and the change in seats from 2001 to 2012.

Five of the 13 case study sites received additional review. For these five sites, the research team also used a focus group method. In this report, discussions of sites are broken into case study sites and focus group sites. Case study sites (i.e., sites that were not explored through the use of focus groups) are presented in the rest of this chapter. These case study sites are as follows: Burlington International Airport (BTV), Akron-Canton Airport (CAK), ECP, AZA, BZN, AGS, MRY, and ICT. Focus group sites—Toledo Express Airport (TOL), Charles M. Schulz—Sonoma (STS), Redding Municipal Airport (RDD), Hector International Airport (FAR), and Asheville Regional Airport (AVL)—are presented in Chapter 6.

5.3 Case Study Data Collection Process

The research team used various data sources to compile the ASD case studies. The researchers conducted and transcribed a series of interviews with airport managers to gain insights into their ASD efforts. Four interviews were conducted in-person and eleven interviews were

conducted via telephone. Each interview was recorded using the Notability App for iPad and transcribed to ensure that the statements given by participants were accurately captured. Interviews were conducted in a semi-structured fashion. Interviewers used the same set of questions for each interview (Exhibit 5-2), but did not necessarily ask each question during the interview because questions were often answered naturally during the conversation. Each interviewee was assured that confidentiality would be maintained, so each interview has been de-identified.

Exhibit 5-2. Sample interview protocol.

Opening Questions

1. Could you please give a brief description and history of the level of air service at your airport?
    a. How has the level of service changed in recent years?
    b. How has the shift from mainline to regional carriers and smaller regional jets affected the level of air service at your airport?
    c. What have you identified as the main factors that have led to the increase or decrease in service at the airport?

Location

2. What is your proximity to other, larger airports and do your fares and level of service compare to those other airports?
3. What strategies have you employed to keep both fare prices and leakage rates low at your airport?

Federal/State Funding

4. Has your airport applied for or received a DOT SCASD Grant?
    a. If no, what are some of the reasons you have not applied for the grant?
    b. If yes, did you find the grant to be helpful in trying to attract or retain service at your airport? Were the reporting requirements for the grants overbearing or restrictive?
5. Do you receive state grants/funds, marketing grants/funds, or community grants/funds, and how do you allocate this money?

Airport Revenue Incentives

6. What types of financial incentives does your airport offer using "on-airport" revenue? (i.e., block hour guarantees, reduced operational costs, waived landing fees, or reduced moving costs)
    a. Do you find the FAA's AIP grant assurances to be burdensome in how you can structure your incentive programs?
    b. How much revenue do you allocate to either/both your financial incentive program or marketing program, and how do these costs weigh in to your airport's overall budget?
    c. Are your airport's incentives aimed at incumbent carriers, new carriers, or carriers preparing to cease their services with your airport?
7. In your conversations with carriers, what incentives have they identified as most attractive?
    a. Were you able to offer these incentives to try to retain or attract air service?
8. What mediums do you use to proliferate your airport's advertisements and services information, i.e.,: TV, radio, internet – Facebook/Twitter, newsletters, blogs, or surveys?
9. In what ways have you specifically marketed toward/retained your frequent flyer or business clientele?
10. How has ridership been affected by your specific incentive program (or absence of an incentive program)? Have you been able to increase your market share relative to other airports in the area?

(continued on next page)

Exhibit 5-2. (Continued).

Community-Based Incentive Programs

11. Could you provide some basic information on the major economic entities in the community?
12. Has your airport explored working with local economic development agencies, governments, chambers of commerce, or the private sector to offer incentives such as revenue guarantees or travel banks?
    a. If no, what have been the barriers to initiating such efforts?
    b. If yes, how did this effort begin? What was the catalyst for exploring "off-airport" incentive programs?
    c. What were the challenges associated with developing the community-based incentive program?
    d. How did the group institutionalize the effort? What resources did they commit to the retention or attraction effort?
    e. What were the advantages or disadvantages of using a community-based incentive program compared to an airport revenue incentive structure?
    f. How did the group attempt to gain buy-in from the larger community to ensure the sustainability of the service?
13. How has ridership been affected by your specific incentive program (or absence of an incentive program)? Have you been able to increase your market share relative to other airports in the area?

Requests for More Information

14. Would you be willing to put us in contact with local economic development, state or local officials, or private-sector firms who you have worked with in developing incentive programs?

To ensure the accuracy and validity of the interviews, the research team triangulated the data contained in the interviews with several other sources of data including Small Community Air Service Development (SCASD) grant applications, FAA enplanement data, news accounts of air service changes at airports from LexisNexis, publicly available consultant reports, and public documents that outline agreements between airports and air carriers. The triangulation of the data helped to provide a rich historical examination of ASD efforts at each airport. An attempt was made to solicit a review of each case from the manager of the airport described in the case. The research team allowed airport managers to make factual (but not editorial) changes to the case write-ups.

The demographic and firm data were derived using a mapping system from Research 360, Decision Data Resources. Research 360 uses several sources of federal, state, and academic economic and demographic information to populate its database. The research team used a 25-mile radius around the airport to keep a consistent format as opposed to using actual documented catchment areas that would vary in size from airport to airport.

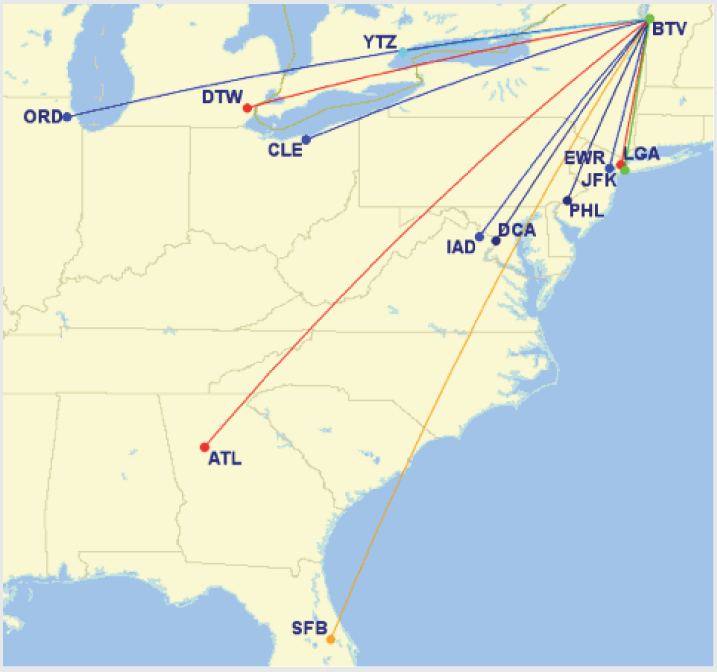
The changes in flights and seats from 2001 to 2013 were derived from OAG data from October of each of the years. OAG includes scheduled flights of U.S. and foreign air carriers. The enplanements and air carrier departures come from BTS Air Carrier Summary Data (T3: U.S. Air Carrier Airport Activity Statistics) and include T-100 traffic data reported by U.S. air carriers. Enplanements reflect revenue passengers enplaned and departures reflect revenue aircraft departures performed. Both enplanements and departures include scheduled service only. The key data for each airport are presented below, along with a description of the airport's air service development history.

5.4 Burlington International Airport (BTV)

Key Attributes

Hub Designation: Small hub
Airport Governance: City Department
% Change in Seats (2001–2013): –23%
% Change in Flights (2001–2013): –34%
Enplanements (2013): 603,786 (–1.5% from 2012)
Air Carrier Departures (2013): 11,242
Competing Airports: Boston Logan (BOS), Manchester (MHT), Albany (ALB)
Allegiant Airport: Yes
SCASD Grant Recipient: Yes (2012)
Tourism or Business Destination: Tourism
Major Employers (25 mile radius): Simmonds Precision Products, IBM, Georgia Pacific LLC and Vermont State Colleges
Population: 90,477 (2013 estimate)
Population % change (2000–2013): +9.2%
Median Household Income: $58,618
Incentives Offered: Revenue Guarantees (SCASD), Marketing, Waived Landing Fees and Terminal Rents

BTV Route Map (as of July 1, 2014)



Red-Delta, Blue-United, Navy-US Airways, Yellow-Allegiant, Cyan-Porter, Green-JetBlue

5.4.1 About BTV

Burlington International Airport (BTV) is a small-hub airport in Chittenden County, Vermont, and owned by the City of Burlington. Serving the Northern New York, Northern New Hampshire, and Greater Burlington areas, BTV has a core market population of 302,000 residents. BTV's primary catchment area serves approximately 50% of Vermont's population (BTV 2012). BTV has non-stop service to nine destinations on six carriers: Delta (Atlanta and Detroit), US Airways (Washington DC-DCA, Philadelphia, and New York-LGA), JetBlue (New York-JFK), United (Cleveland, Chicago-ORD, Washington DC-IAD, and New York-EWR), Allegiant (Orlando-SFB), and Porter (Toronto).

Historically, the airport has faced competition and leakage to three larger airports within a 215-mile radius: Albany (ALB—150 miles southwest), Manchester (MHT—175 miles southeast), and Boston (BOS—215 miles southeast). Drawing not only on its strengths as a gateway to Vermont's prospering Greater Burlington area (an area supporting over one-third of the state's employment), Burlington International Airport also benefits as a gateway to Vermont's four-season tourism industry. BTV attracts students from the University of Vermont and SUNY College at Plattsburgh; avid skiers and snowboarders looking to enjoy winter resorts such as Smuggler's Notch, Stowe Mountain, and Sugarbush; and Canadian tourists (mainly from Montreal).

5.4.2 Looking Beyond Borders and Catering to Existing Markets to Reverse Downward Trends

The period from 2000 to 2008 was marked by significant growth and upward momentum for Burlington International Airport. The period was marked by a 53% increase in the number of available seats and a 62% increase in passenger enplanements to a high of 759,000 in 2008. In an effort to secure the growth at BTV, airport officials applied for (but did not receive) a SCASD grant from the U.S. DOT in 2007. BTV's 2007 SCASD Grant Application requested $500,000 for a comprehensive advertising campaign to attract new service and promote awareness of the airport. With regard to new service, BTV aimed to attract non-stop service to one of their top O&D markets, predominantly served by an LCC. To promote awareness of the airport, BTV officials focused on marketing to a broader catchment area, with great emphasis placed on attracting Canadian passengers from across the border.

In 2007, BTV estimated that 20% of its travelers originated from Quebec Province; therefore, seeking additional service attractive to Canadian residents was a cornerstone of BTV's 2007 SCASD Grant Application. The Canadian population of interest to BTV resides in Montreal, which is Canada's third largest metropolitan area. Only 108 miles from Burlington, this proximity to an expansive Canadian market makes BTV unique as a small airport. With no prior "formal marketing" directed across the border, BTV proposed an "aggressive information and awareness campaign" to lure new Canadian air travelers. This proposed campaign would initiate multilingual outreach to eight community newspapers within Montreal, such as *La Tribune* and *Le Regional*, and the four main radio stations within Montreal, such as CFGE and CITE.

Despite BTV's growth and prime tourist location, 2008's end saw a substantial decline in both passenger enplanements (−14%), and available seats (−20%) at BTV—a decline that would persist through 2012. This decline was blamed in part on the economic recession, high jet fuel costs, and leakage to nearby hubs. BTV was losing (and continues to lose) travelers within its catchment area to three larger airports: Albany, Manchester, and Boston-Logan.

To combat these downward trends from 2008 through 2012, BTV officials have focused on building rapport the "old fashioned way"—by being on the ground in the local community and by sustaining positive relationships with incumbent airlines. BTV has an active relationship with the local Rotary Clubs, regularly attending meetings—even in Stowe, which is 45 minutes from Burlington. BTV officials also regularly meet with local business groups such as IBM and Nationwide, updating them about what's happening at the airport and the value of BTV for business travelers. Also, BTV is in constant contact with the Lake Champlain Regional Chamber of Commerce and the Greater Burlington Industrial Corporation (GBIC), a non-profit economic development agency. Finally, officials at BTV noted that they find it is increasingly important to cater to the needs of their incumbent airlines, including US Airways and Delta.

In an example of BTV's catering to incumbent airlines, BTV officials applied for and received a $450,000 SCASD program grant from DOT in June 2012 to attract an *existing carrier* to begin new non-stop service. BTV's goals for the SCASD grant included creating better access to either Atlanta or Charlotte and connecting markets in the Southeast via Delta or US Airways, reversing declining passenger traffic, reducing their higher than average airfares, and reducing their dependence on congested airports in the Northeast Metropolitan area (BTV 2012). BTV's SCASD grant application proposed short-term (12–18 month) revenue guarantees, a new service marketing campaign, and landing fee waivers. The $450,000 grant would be supplemented with $45,000 in marketing support from the State of Vermont and another $50,000 in marketing funds from the airport. Using this package of incentives and repeated personal meetings with Delta's chief of planning, BTV was able to obtain non-stop service to Atlanta in June 2013 (BTV 2012). On February 19, 2014, BTV's Aviation Director and Allegiant Air representative, Micah Lillard, celebrated Allegiant Air's inaugural flight to Orlando Sanford International Airport (SFB), which also marked the first time Allegiant Air has serviced BTV.

5.5 Akron-Canton Airport (CAK)

Key Attributes

Hub Designation: Small hub
Airport Governance: Airport Authority
% Change in Seats (2001–2013): +50%
% Change in Flights (2001–2013): –5%
Enplanements (2013): 847,281 (–6.4% from 2012)
Air Carrier Departures (2013): 12,218
Competing Airports: Cleveland Hopkins (CLE), Youngstown (YNG), Pittsburgh International (PIT)
Allegiant Airport: No
SCASD Grant Recipient: Yes (2002)
Tourism or Business Destination: Business
Major Employers (25 mile radius): Timken, University of Akron, and Goodyear Corporation
Population: 1,103,576 (2013 estimate)
Population % change (2000–2013): +0.3%
Median Household Income: $47,032
Incentives Offered: Marketing, Waiver of Landing Fees, Revenue Guarantee (SCASD)

CAK Route Map (as of July 1, 2014)

Blue-Delta Airlines, Red-US Airways, Purple-Southwest Airlines, Black-United Airlines

5.5.1 About CAK

Akron-Canton Airport (CAK) in North Canton, Ohio, is a small-hub airport in northeastern Ohio that serves as an alternative airport to Cleveland Hopkins International Airport (CLE) in the Cleveland metropolitan area. CAK is in a highly competitive market served by not only CLE (55 miles to the northwest), but also Pittsburgh International Airport (110 miles southeast) and Youngstown-Warren Regional Airport (65 miles to the east). The airport is served by four airlines (i.e., Southwest, US Airways, United, and Delta) and has non-stop service to 13 destinations.

5.5.2 Airport-Centric Marketing and Branding Pays Off

Prior to 1997, CAK had the reputation in the region of an airport whose flights were too expensive and whose planes were too small. The airport was served by four carriers, but only had service to four destinations. In 1996, the airport hired a marketing director to help generate community support to attract a little-known low-cost carrier to CAK, AirTran Airways. AirTran was looking for proof from CAK that the community could sustain service to Orlando. In 1996, AirTran took the risk and started service from CAK to Orlando. Also, another LCC, ValuJet, began service from CAK to Atlanta in April of 1997. After AirTran and ValuJet merged, they continued to operate their flights to Atlanta and Orlando under the AirTran name. While the airport was successful in attracting these LCCs, increasing air service would require the airport to develop a unique brand and to market the airport to the Greater Cleveland region.

Initially, CAK focused on affecting the dominant air ticket distribution system at the time, travel agencies. The airport launched an incentive program called Check CAK First, where the airport would give away $200 per month to travel agents who checked for a flight from CAK. These initial efforts paid off—AirTran's load factors on its ATL flight were at 86% in the first month (compared to a 39% systemwide load factor). However, as the travel agency model began to wane in the late 1990s and early 2000s, CAK had to evolve its strategy.

Due to the initial success of AirTran, Delta began offering service to Atlanta at CAK in 2001. Officials at CAK began to realize that to maintain this new service, they would need to market the airport not only to the 1.1 million people in the CAK region, but also to the 4.2 million people in the Cleveland metropolitan area. CAK decided to market itself as the low-cost, no-hassle alternative to CLE. Working closely with AirTran and other carriers using various media outlets including billboards, newspapers, and radio, the airport reached out to the region. Focusing on *Price + Experience = A Better Way to Go®*, CAK was able to differentiate itself from the dominant hub in the region. Also, the marketing team touted the terminal's compact layout with cheaper parking, shorter lines through security, and quicker access to gates that was difficult to match at the much larger and busier terminal at CLE. The marketing effort was largely implemented by airport staff and not local economic development or business organizations.

In 2002, CAK officials partnered with AirTran to pursue a SCASD program grant from the DOT to offer marketing assistance and a revenue guarantee for new service. Initially, AirTran wanted to offer service from CAK to its Baltimore-Washington International (BWI) hub. However, AirTran decided to take a risk and offer service to LaGuardia (LGA) to serve business passengers traveling from CLE and CAK who were paying over $1,000 for a round-trip ticket to LGA. DOT awarded CAK a $950,000 grant to pursue the LGA service. AirTran decided to initially offer $49-each-way fares to LGA. CAK spent $350,000 of the grant priming the market for the LGA service through print, radio, and television advertisements. Again, much of this marketing was done by airport staff and their creative agency, rather than local economic development or business officials. The LGA service was so successful that the DOT allowed CAK to work with AirTran on service to Boston on the same grant. From the SCASD grant, CAK received non-stop service to LGA and BOS and returned $230,000 in unused revenue guarantees to DOT.

CAK officials decided to use their success with AirTran to attract westbound service with another LCC. In 2006, Frontier Airlines began twice-daily service to Denver (DEN). The airport also expanded its Florida flights by partnering with AirTran to market new service to Fort Myers (RSW). In 2009, the airport expanded options for business travelers by adding daily service from CAK to Ronald Reagan National Airport in Washington DC (DCA) on US Airways. AirTran expanded its network from CAK in 2010 by offering direct service to Milwaukee (MKE).

In May 2011, Southwest Airlines announced that it was purchasing AirTran Airways for $1.4 billion. In late 2011, Southwest announced that it would fly AirTran-operated flights to DEN. However, the merger of the two LCCs left many analysts wondering if Southwest Airlines would make CAK part of its route structure, given the airport's size (smaller than a typical Southwest destination) and its proximity to a larger airport (Cleveland) that it already served. In 2012, CAK became solidified in the Southwest route structure when the airline announced that it would add twice-daily service to Chicago Midway (MDW) (although the carrier announced that it would drop the service to MKE) (Mutzabaugh 2012).

Since 2012, the airport's ASD efforts have focused on promoting existing service and prepping the market for the conversion from AirTran, which had significant brand recognition and loyalty in northeast Ohio, to Southwest Airlines. The marketing campaign was viewed as particularly important because Southwest Airlines does not advertise its fares on aggregate travel sites commonly used by travelers. The airport applied for a second SCASD grant in 2011 for $350,000 to "help CAK customers fall in love with Southwest Airlines" (CAK 2011). While the grant application was unsuccessful, the airport continued its efforts to market Southwest Airlines to the region with the assistance of local business groups including the Canton Regional and Greater Akron Chambers of Commerce, the Stark Development Board, and the Akron/Summit and Canton/Stark Convention and Visitor's Bureaus. Although the Akron-Canton Airport Authority has traditionally not partnered with the local business community on ASD efforts, the scope and grassroots nature of the outreach for the Southwest conversion necessitated significant outreach. The local convention and visitors' bureaus see benefits from growing the route map of Southwest to bring more visitors to the region while saving residents of the region over $1 billion in air fares since 1997 (CAK 2014).

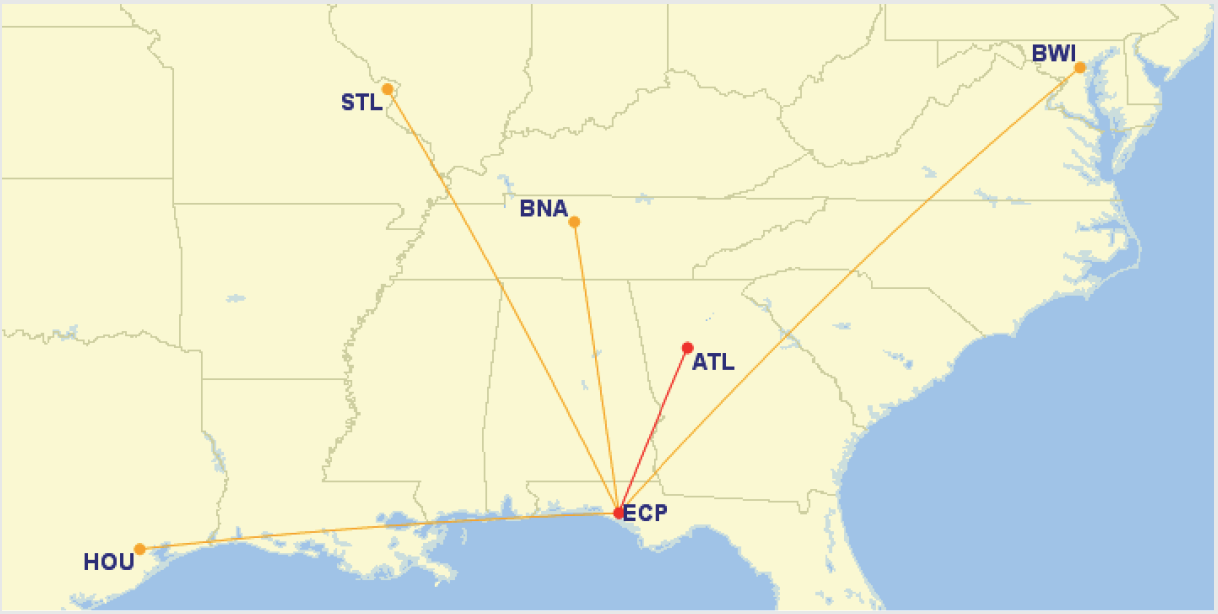
The result of the partnership between the airport and the business community is the #LUVCAK campaign (LUV is Southwest's airline stock ticker code while CAK is the FAA airport identifier for the airport). The purpose of the campaign is to build brand loyalty for Southwest and remind travelers to check Southwest.com when booking travel. Southwest Airlines donated sixty $100 LUV vouchers and four round-trip tickets to be awarded to selected travelers who enroll in their Rapid Rewards loyalty program. The #LUVCAK campaign was advertised on both traditional (e.g., radio and television) and social (e.g., Twitter, Facebook, and web) media in northeast Ohio.

5.6 Northwest Florida Beaches International Airport (ECP)

Key Attributes

Hub Designation: Small hub
Airport Governance: Special Airport District
% Change in Seats (2010–2013): 58%
% Change in Flights (2010–2013): –40%
Enplanements (2013): 391,271 (–7.4% from 2012)
Air Carrier Departures (2013): 4,757
Competing Airports: Tallahassee (TLH), Pensacola (PNS), and Northwest Florida Regional Airport (VPS)
Allegiant Airport: No
SCASD Grant Recipient: No
Tourism or Business Destination: Tourism
Major Employers (25 mile radius): U.S. Dept. of the Navy, St. Joe Company, and Ingersoll-Rand Company
Population: 179,997 (2013 estimate)
Population % change (2000–2013): +15.1%
Median Household Income: $46,407
Incentives Offered: Revenue Guarantee (Private Company), Waiver of Landing Fees, Marketing (Airport and Community)

ECP Route Map (as of July 1, 2014)



Orange=Southwest Airlines, Red=Delta Air Lines

5.6.1 About ECP

Northwest Florida Beaches International Airport (ECP) is a small-hub commercial airport in Panama City, Florida. The airport opened for commercial service on May 23, 2010, making it the first international airport to open in the United States following the September 11, 2001, attacks. The airport replaced the Panama City-Bay County International Airport (PFN), which lacked the land necessary to expand runways or terminal facilities. ECP is owned and operated by the Panama City-Bay County Airport and Industrial District (the Airport Authority), which consists of seven members appointed by the Panama City Commission, the Bay County Commission, the Panama City Beach Commission, and the Walton County Commission.

Currently, ECP has non-stop service to five destinations and is served by two carriers: Southwest Airlines (HOU, STL, BWI, and BNA) and Delta Air Lines (ATL). In 2013, the airport recorded over 408,000 enplanements, down from about 439,000 enplanements in 2012 (a 7% decrease). However, these enplanement figures are much larger than enplanements at PFN, which were consistently between 150,000 and 200,000 from 2000 to 2008 (ECP 2012). While traffic was up on Delta Air Lines (+4% over 2012), enplanements on Southwest Airlines fell by 15% between 2012 and 2013 (ECP 2013). The airport handles about 25% of air passenger traffic in the Florida panhandle (which is served by Pensacola-PNS, Northwest Florida Regional-VPS, and Tallahassee-TLH, in addition to ECP) compared to about 9% prior to the opening of the new airport (St. Joe Company 2012).

5.6.2 Donating an Airport and a Revenue Guarantee—St. Joe Company and Air Service Development at ECP

In 2002, the St. Joe Company (St. Joe), a private land developer with a portfolio of over 700,000 acres, donated 4,000 acres to the Panama City-Bay County Airport and Industrial District to develop a new airport to replace PFN (Pittman 2002). St. Joe owned 71,000 acres of land adjacent to the 4,000-acre site for the new airport and hoped that the introduction of low-cost air service to the region would make the region more accessible to a broader market and significantly enhance the value of the adjacent lands, as well as other St. Joe properties in Northwest Florida (St. Joe Company 2009).

Although the new airport itself might have been able to spur more demand to fly from ECP, there were limited flight options at the new airport. St. Joe Company knew that in order for its investment to succeed, it would need to work with the airport authority and local business leaders to develop an incentive plan to attract a new carrier to the region. In October 2009, St. Joe Company entered into a Strategic Alliance Agreement for Air Service with Southwest Airlines to provide two flights per day to four different destinations in the Southwest network upon the opening of the new ECP airport. In exchange, St. Joe Company agreed to make quarterly payments to Southwest to cover revenue shortfalls during the first 3 years of service (up to $26 million over the first 3 years). St. Joe had the option of ending the agreement if it paid out $14 million in the first year or over $12 million in the second year while Southwest could end the agreement if its revenues were below thresholds established in the contract. Also, if Southwest received a payment from St. Joe Company during the 3-year period, it was obligated to share its profits on the routes in subsequent years with St. Joe (St. Joe Company 2009).

In addition to the monetary guarantees in the agreement, Southwest agreed to not commence new air service at any airport within 80 miles of ECP, which includes Northwest Florida Regional Airport (VPS). Southwest also agreed to pay a 10% penalty on its revenue guarantee from St. Joe if it started service at an airport between 80 and 120 miles from ECP, which includes both Pensacola (PNS) and Tallahassee (TLH). Finally, Southwest's participation was conditioned on receiving all available incentives (e.g., deferred landing fees and terminal rent relief) from the airport authority as well as the establishment of an agreement with the Panama City Beach Convention and Visitors Bureau (CVB) and the Beaches of South Walton Tourist Development Council (TDC)

to establish a collaborative marketing plan for the new service. One ECP official noted that while the airport authority was peripherally involved in marketing Southwest service, it was critical to have the local CVBs involved in marketing the Panama City region in the Southwest destinations. As the official remarked, "The airport does not stimulate travel, the community has to stimulate travel." To fund the marketing effort for Southwest, the Bay County Commission enacted a 1% hotel bed tax to fund marketing for LCCs through the Bay County TDC, which contracts with the Panama City Beach CVB. In exchange for the marketing agreement, Southwest agreed to operate two flights a day to four destinations for the first 3 years.

In May 2010, Southwest began service at ECP by offering twice-daily service to Nashville (BNA), Orlando (MCO), Houston Hobby (HOU), and BWI. The inception of Southwest service in May 2010 led to record enplanements at ECP for 2010 (325,000), 2011 (411,000), and 2012 (439,000). The service was so successful that in July 2012 both Southwest and St. Joe announced that they were ending their agreement a year early due to the fact that St. Joe had not "paid a dime to Southwest." Because St. Joe had not made a payment to the carrier, Southwest was exempted from profit-sharing requirements with St. Joe on future routes from ECP. Officials from Southwest and St. Joe supported the agreement because it helped bring people to the Panama City region and reduced airfares for residents (Mason 2012).

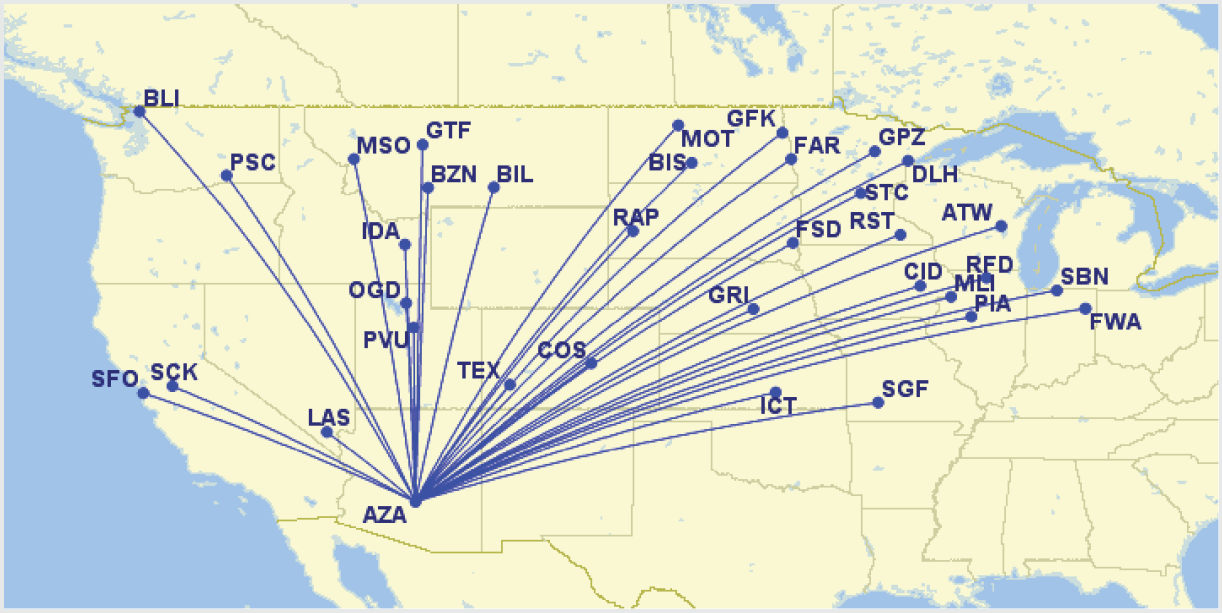
Shortly following the end of the agreement with St. Joe, Southwest announced that it was ending its service to Orlando while adding a seasonal flight to St. Louis. However, Southwest still had an agreement with the CVBs for marketing of the service—the cessation of the Orlando service resulted in a renegotiation of the agreement with the air carrier. The amended agreement dedicated half of the 1% hotel bed tax to Southwest, down from the full 1% that had been allocated. In the months following the ending of the St. Joe agreement, ECP officials have focused their efforts on keeping cost per enplanement (CPE) costs low to attract a new carrier to the region. However, officials noted that because of the seasonality of the Panama City region coupled with the relatively small population of the area, it will be difficult to attract a new carrier without business involvement in an incentive package. Officials at ECP noted that at this time, there have been no discussions with St. Joe regarding another revenue guarantee for a carrier.

5.7 Phoenix-Mesa Gateway Airport (AZA)

Key Attributes

Hub designation: Small Hub
Airport Governance: Airport Authority
% Change in seats (2001–2013): N/A
% Change in flights (2001–2013): N/A
Enplanements (2013): 679,588 (–2.0% from 2012)
Air Carrier Departures (2013): 4,670
Competing Airports: Phoenix Sky Harbor (PHX)
Allegiant Airport: Yes
SCASD Grant Recipient: No
Tourism or business destination: Tourism and Business
Major employers within a 25-mile radius of airport: Arizona State University, General Dynamics, and Agilent Technologies
Population: 488,661 (2013 estimate)
Population % change (2000–2013): 26.8%
Median household income: $52,969
Incentives offered: Waived landing fees, Marketing (Airport and Community), Reduced fuel rates

AZA Route Map (as of July 1, 2014)



Blue-Allegiant

5.7.1 About AZA

Phoenix-Mesa Gateway Airport (AZA) is a small-hub airport in the southeastern area of Mesa, Arizona, and is currently functioning as a *reliever* airport for Phoenix Sky Harbor International Airport (PHX). Rather uniquely, AZA has its beginnings not as an airport, but as Williams Air Force Base (WAFB)—the U.S. Air Force's foremost pilot training facility from 1942 to 1993. During that time, WAFB graduated more than 26,500 men and women and supplied 25% of the Air Force's pilots annually[1].

Closed in 1993 due to high operational costs, WAFB re-opened as the Williams Gateway Airport in 1994, with regular scheduled service commencing in October, 2007, via Allegiant Airlines. The Phoenix-Mesa Gateway Airport Authority—the owners and operators of AZA—applied for but did not receive a $500,000 SCASD grant from the DOT in 2009 to obtain east-bound service to a major hub such as Dallas-Ft. Worth (DFW) so as to provide air service to an underserved catchment area of about 563,000 travelers in the East Valley Phoenix Area, and 2.6 million travelers in the greater Mesa area. However, given that AZA is only 28 miles from the tenth largest airport in the country, Phoenix Sky Harbor International Airport (PHX), AZA has struggled to obtain service in addition to Allegiant Airlines while within the shadow of Sky Harbor.

5.7.2 Push and Pull Factors at AZA—a "Blank Canvas" Within the Shadow of Sky Harbor—and AZA's Rallying for Service

Given its history as an Air Force base, AZA was largely a blank canvas, ready to be converted to use as a commercial airport in 1994. AZA had three 10,000 foot runways, 3,020 acres of

[1]AZA Website: http://www.phxmesagateway.org/AboutGateway.aspx

space, easy access to the Loop 202 and US 60 freeways, and a "true market" catchment area of about 2.6 million travelers. AZA is now within a rapidly growing area known as East Valley, a segment of the Phoenix-Mesa metropolitan area that saw 25% growth from 2001 to 2010 (Phoenix-Mesa Gateway Airport 2009). East Valley has long been known as a vibrant economic and tourism center, with major corporate employers such as Boeing and Banner Health, and a recent opening of an Apple manufacturing plant, as well as 15 million tourists for spas and golf courses in 2007 alone. According to the U.S. Census Bureau, Mesa has swelled to a population of 439,041 people in 2010, making it the 38th largest city in the United States, larger than cities such as Pittsburgh, Miami, and Cleveland (US Census Bureau 2010). With 20 million square feet of office and industrial space within the City of Mesa, there is room to grow (Phoenix-Mesa Gateway Airport 2009).

Yet, despite these factors pulling "in-bound" traffic to AZA—about 70% in bound and 30% out bound at Allegiant's initiation in 2007—AZA has had a difficult time obtaining additional out-bound service, and especially service to a major eastbound hub. This difficulty in obtaining service and traffic out of AZA was due both to a lack of community knowledge and airlines' potential assumed risk of setting up an operation at AZA, which is only 28 miles from Phoenix Sky Harbor International.

In 2005, AZA officials conducted a community survey to gauge interest in commercial air service out of AZA; with only 648 responses, it was clear to AZA officials that the community did not know that Phoenix-Mesa Gateway Airport wanted to be a commercial airport. Thus, AZA officials developed a marketing campaign, "We Need You," to create awareness about AZA's potential as a commercial airport, and asked Mesa area residents where they would like to travel; with 13,500 responses, AZA determined Mesa residents wanted essentially the same service that Sky Harbor offered—service to Los Angeles, Las Vegas, San Diego, Chicago and Denver.

Furthermore, airlines were hesitant to initiate regular scheduled service out of AZA due to its proximity to Sky Harbor. Prior to Allegiant, three different airlines attempted chartered service out of AZA: Vision Airlines, Sky Value, and Western. Each was unsuccessful, so AZA officials turned to Allegiant and used the consulting partner Mead and Hunt to engage in route proposals and analytics for AZA service. As an LCC targeting leisure travelers, Allegiant prospered from October 2007 onward at Phoenix-Mesa Gateway Airport. AZA officials "incentivized" Allegiant to grow, offering waived landing fees, waived terminal rents, reduced jet fuel rates for 12-months, and a 24-month discount on the same rates and charges for every new city Allegiant added.

Yet, by 2009, AZA did not have service to any of their top 25 origin-destination markets, and AZA officials recognized that Allegiant was not offering what Mesa residents still needed: service to a connecting hub. Therefore, in 2009 AZA officials applied for a $500,000 SCASD grant from the DOT for a revenue guarantee to establish eastbound service to a major network carrier hub. The airport and its community partners pledged $238,000 in in-kind and cash contributions for marketing assistance, reduced landing fees, fuel flowage fees, and terminal rents. AZA's plan was to approach American Airlines for Dallas/Ft. Worth service first, followed by United Airlines (Denver), Continental (Houston), Delta Air Lines (Salt Lake City), and Frontier Airlines (Denver). Airport officials and community leaders said the new route to DFW on American Airlines would generate earnings of $4.5 million annually after the first year (Phoenix-Mesa Gateway Airport 2009). Phoenix-Mesa Gateway International Airport was *not* awarded this SCASD grant, however, and AZA officials believe that they were not awarded a grant due to their proximity to Sky Harbor. Spirit and Frontier did enter AZA's market shortly thereafter in 2011, but due to intense competition between the two airlines, consolidation, and operational challenges, both airlines left the airport.

Despite this seemingly bleak outlook for air service at AZA, and challenges encountered due to AZA's proximity to Sky Harbor, AZA saw enplanements increase from 521,437 in 2011 to 744,685 in 2012—a 43% increase.[2] Much of this growth could be attributed to Mesa's burgeoning economic and tourist environment, with the opening of an Apple manufacturing plant and potential for 1,400 jobs, the future opening of Grand Canyon University—a 10,000 student campus, and the completion of Eastmark—Mesa's 15,000 home, master planned community.

AZA officials note that they have a strong relationship with their Convention and Visitors Bureau (CVB). Prior to the start of new service, airport officials coordinate with CVB staff members to canvas each new destination that will be served by Allegiant from AZA. Specifically, CVB members advertise to these cities' travel agencies and conduct promotions, radio advertising, and free trip giveaways. AZA officials also focus on increasing the visibility of new service within the Mesa region, spending about $300,000 to $500,000 a year on marketing. Officials also work with the Chamber of Commerce and the City of Mesa to attract business travelers on Allegiant, which is known as more of a tourism-centered airline. AZA is involved at both the mayoral level and with the City of Mesa's Office of Economic Development to highlight the benefit of AZA's air service to the local economy.

AZA serves 35 cities with non-stop service via Allegiant Airlines and contributes $1.3 billion annually to the Arizona economy. AZA is also working to attract another low-cost carrier such as Frontier Airlines or Sun Country. Officials believe that with their ability to grow, strong economic and tourist environment, and responsiveness to community needs, Phoenix-Mesa Gateway Airport will "continue to be the fastest growing airport over the course of the next 5 years."

5.8 Bozeman Yellowstone International Airport (BZN)

Key Attributes

Hub Designation: Small-hub
Airport Governance: Airport Authority
% Change in Seats (2001–2013): +18%
% Change in Flights (2001–2013): +11%
Enplanements (2013): 439,787 (1.8% from 2012)
Air Carrier Departures (2013): 6,732
Competing Airports: Billings (BIL)
Allegiant Airport: Yes
SCASD Grant Recipient: Yes (2011)
Tourism or Business Destination: Tourism
Major Employers (25 mile radius): Montana State University, Bozeman Deaconess Health Services and Oracle
Population: 56,254 (2013 estimate)
Population % change (2000–2013): +26.6%
Median Household Income: $49,854
Incentives Offered: Revenue Guarantee (SCASD/Community), Marketing (Community), Waived Landing Fees

[2]ACAIS. Commercial Service Airports, based on Calendar Year 2012 Enplanements. 2013.

BZN Route Map (as of July 1, 2014)

Blue-United, Red-Delta, Cyan-Frontier, Green-Alaska, Orange-Allegiant

5.8.1 About BZN

Bozeman Yellowstone International Airport (BZN) is a small-hub airport in Gallatin County in Southwestern Montana. BZN serves a nine-county market area with a population of over 233,000. BZN has been one of the fastest growing airports in the United States, with enplanements increasing from 242,000 in 2000 to over 433,000 in 2013. BZN is a seasonal market with enplanements highest in July and August (55,000) and March (39,000). Five carriers serve the airport with a mix of both regional and mainline jets: Alaska Airlines (SEA and PDX), Allegiant (LAS and AZA), Delta Air Lines (MSP, SLC, LAX, ATL, and LGA), Frontier Airlines (DEN), and United (ORD, DEN, IAH, LAX, EWR, and SFO). In 2013, Delta had the highest market share at BZN (41%) followed by United (32%) and Alaska (9%) (BZN 2013).

BZN is the gateway to the Yellowstone Region, which is a major tourist destination and a popular location for second homes. BZN is a 90-minute drive from Yellowstone National Park and a 60-minute drive to several well-known ski resorts including Big Sky and Yellowstone Club. Unlike many airports in the United States, BZN is 2.5 hours from the next primary service airport (Billings, MT) and suffers little leakage to other markets. A study commissioned by the Montana DOT in 2009 found that BZN supported over 3,900 jobs and had a total direct economic impact of $100 million (Montana DOT 2009).

5.8.2 Collaboration Among Ski Resorts and Results in Increased Service at BZN

As recently as 2005, BZN only had service to four destinations (i.e., SLC, DEN, MSP, and SEA) with no additional services in peak winter or summer months. Prior to 2005, ASD efforts in the Bozeman/Yellowstone region were initiated by individual ski resorts who met with air carriers to discuss routes to specific markets. In 1994, the Big Sky Resort worked closely with Horizon Air to start seasonal non-stop service to Seattle (the service became daily in 1996). In 2005, the Big

Sky Resort provided a revenue guarantee for Delta to begin seasonal service to Atlanta using 737 and 757 jets. The winter seasonal service was so successful that Delta initiated summer seasonal service without a revenue guarantee from the Big Sky Resort in 2006.

The change in the ASD approach at BZN came in 2007 when the airport approached Frontier Airlines to begin a new non-stop daily service to DEN on Dash-8 Q-400 and Embraer E170 aircraft. Although Big Sky Resort had been comfortable funding seasonal service that directly impacted its business, a broader coalition of business and local community organizations was necessary to guarantee the riskier daily service to DEN. Therefore, the airport and the Big Sky Resort worked to form a coalition of business and economic development leaders including the Bozeman Area Chamber of Commerce, the Bozeman CVB, and a private ski resort, Yellowstone Club. The community formed a coalition to produce a revenue guarantee and marketing package for Frontier Airlines for the DEN service. In 2008, Frontier began the service and used much of the marketing money and in-kind contributions from the coalition to advertise the service in both the Bozeman and Denver markets. The service has remained self-sustaining and Frontier never used the minimum revenue guarantee due to the success of the route.

The marketing funds given to Frontier were particularly important in BZN—the airport authority has limited funds available for marketing because the airport has focused on keeping its cost structure as low as possible ($3 cost per enplanement). Airport officials commented that they work with their private-sector partners including the Bozeman Area Chamber of Commerce, the Bozeman CVB, and the ski resorts to actively market the air service options at BZN.

In 2011, the Yellowstone/Big Sky Air Service Coalition, composed of Yellowstone Club, the Big Sky Resort, the Economic Development Council of Bozeman, the airport authority, and Montana Tourism, Inc., submitted an application for a SCASD grant from the U.S. DOT. The request was for $1 million to support a revenue guarantee for a carrier to provide non-stop service to one of the New York area airports. The air service coalition secured a minimum of $725,000 in local pledges for a revenue guarantee, resulting in a total revenue guarantee of $1.725 million. The proposal called for all revenue guarantee payments to be withdrawn from the project fund account and apportioned at a 58% federal/42% local share. The group also pledged to develop a destination marketing and promotional support package upon evaluation of the service.

The coalition was awarded the SCASD grant for $950,000 in 2012. In 2012, United began Saturday weekly service from BZN to EWR on an Airbus A319. The service has been very successful for BZN and United, and the airport is anticipating that it will return $650,000 of the $950,000 in federal funds to DOT. Additionally, in 2013, United added twice weekly at-risk (no revenue guarantee) flights to EWR during the summer and winter months and plans to move to three times weekly for the 2014 summer. Finally, due to the success of the United service, Delta announced (at-risk) summer seasonal Saturday flights on Airbus A319s for 2014 to New York LaGuardia.

5.9 Augusta Regional Airport (AGS)

Key Attributes

Hub Designation: Non-hub
Airport Governance: City Department
% Change in Seats (2001–2013): +20%
% Change in Flights (2001–2013): 0%
Enplanements (2013): 256,354 (–4.7% from 2012)

Air Carrier Departures (2013): 5,761
Competing Airports: Atlanta (ATL) Charlotte (CLT), Columbia (CAE)
Allegiant Airport: No
SCASD Grant Recipient: Yes (2002)
Tourism or Business Destination: Business
Major Employers (25 mile radius): John Deere, Kellogg, Bridgestone, P&G, T-Mobile
Population: 413,290 (2013)
Population % change (2000–2013): +10.7%
Median Household Income: $44,104
Incentives Offered: Airport-provided ground handling, Waived landing fees and terminal rents, marketing assistance (airport)

AGS Route Map (as of July 1, 2014)

Red-Delta Air Lines, Blue-US Airways

5.9.1 About AGS

Augusta Regional Airport (AGS), in Augusta, Georgia, is a non-hub airport that serves the Central Savannah River Area (CSRA). In 2013, AGS had annual enplanements of 270,800, down from 279,000 in 2012 (a decrease of 3%). However, these enplanement totals are much higher than the annual enplanements in 2006, which bottomed out around 140,000.[3] Currently, AGS has non-stop service to two destinations on two carriers: Delta (ATL) and US Airways (CLT).

AGS is the primary airport that serves several key events in the Augusta region including the Master's golf tournament and the Aiken Triple Crown horse races. AGS serves Fort Gordon, a U.S. Army base that houses 30,000 military personnel. The airport is 150 miles (2.5 hour drive) from two major hub airports: ATL and CLT. In addition to experiencing leakage to these two hubs, AGS also loses passengers to Columbia Metropolitan Airport (CAE).

[3]AGS Enplanement Statistics.

5.9.2 Innovation in Reducing Start-Up Costs Leads to Increased Service at AGS

The recent history of air service development at AGS begins in 2001 when the airport engaged the local community to try to attract Continental Airlines to AGS to provide service to Newark Liberty International Airport (EWR). The airport created a group of private-sector champions called the "AGS Air Service Knights" who worked with the Augusta Metro Chamber of Commerce's Air Service Task Force to establish the Continental Challenge. The Continental Challenge was a ticket bank program designed to have local businesses put travel funds in a local bank (earning 3.5% interest) as a show of support to Continental. In 10 days, the group raised over $500,000 in ticket deposits (AGS 2002). In addition, the airport and community applied for and received a $759,000 SCASD grant in 2002 to market the new service and reduce the carrier's start-up costs by waiving terminal rents and landing fees and doing a partial renovation on the new carrier's facilities at the airport. Despite the strong show of community support, Continental still would not commit to service due to the high cost of establishing a new station at AGS. Officials from Continental sent AGS officials a letter detailing the $528,000 in costs it would need to cover to begin service. In September 2002, AGS officials started a 2-week Continental Challenge II program designed to raise $528,000 in donations from local businesses (Eckenrode 2002).

The Continental Challenge II program was a success and in October 2002, Continental announced service to not only EWR, but also to Houston Intercontinental Airport (IAH). Local officials celebrated victory and noted the hard work and time spent on attracting Continental to the Augusta region. However, in August 2004, Continental announced that it was pulling both the EWR and IAH flights from AGS due to a lack of support from the business community. The press release from Continental noted that despite the hard work of local leaders, only 10% of the 6,000 travelers from the five largest companies in Augusta flew with Continental, leading to the unprofitability of the routes (Continental Airlines 2004). One current AGS official noted that one possible reason the service ultimately failed was that so much work was put into getting the service, that there was less energy dedicated to consistently encouraging the business community to use the flights.

Following the announcement, airport and local leaders refocused their attention on expanding service from Delta, a major employer in the State of Georgia. While Delta has roots in the region, officials at AGS noted fares from AGS and other small Georgia communities were very high and the Delta service was unreliable, which led to a lack of support from the Augusta community. Officials also noted that the State of Georgia continued to provide support for Delta as it emerged from bankruptcy protection. Because of the support the State was providing Delta, officials at AGS partnered with other small airports from Georgia served by Delta to discuss improvements to reliability and lower fares. The airport officials requested a meeting with Delta executives to discuss their concerns.

AGS officials noted that Delta refused to meet with the airports as a group, but did agree to individual meetings with each airport to discuss reliability and fares. There was already tension between Delta and AGS officials over a previous meeting with the mayor of Augusta and local business leaders where the mayor had "pointed fingers" at Delta over their lack of support for Georgia communities. The meetings with Delta did not result in new service, but did help to promote AGS to Delta officials. As one AGS official noted,

> It seems that every time you visit an airline the employees you sit down with say, yes we know your numbers. But, what I've found is yes they have access to our numbers but we are a small market, they don't really pay a lot of attention and don't look at our numbers frequently. I think it behooves all of us to make sure we stay in front of them and we show them our numbers especially if there is something going on in our market.

Officials at AGS turned their attention to attracting westbound service and direct service to Washington, DC. Officials at AGS decided not to engage the local community through a travel bank or revenue guarantee program. Many on the aviation commission were leery of actively involving the community following the experience with the mayor of Augusta and local business leaders at Delta. As one AGS official noted, "I guess because of that issue between the mayor and Delta officials, the aviation commission was concerned that grassroots groups might become overly involved in negotiations best left to the airport professionals."

While AGS officials were hesitant to engage the community for money, they were active in engaging the community by meeting with local business leaders and civic organizations to encourage them to check fares at AGS. Also, AGS officials partnered with the Georgia Department of Economic Development to host red carpet tours of the state during the Master's tournament to attract new businesses to the state. Finally, AGS officials noted that they have worked collaboratively with the Fort Gordon alliance to try to attract new service to the region due to the location of the Army Cyber Command headquarters at the base, which will bring 4,000 new jobs to the region.

AGS officials decided to target American Airlines service to Dallas/Fort Worth (DFW) by offering above and below-the-wing ground-handling services as well as innovative cost structures for new service at AGS. Given that American did not have a station at AGS, it would incur start-up costs similar to those Continental experienced. Therefore, the airport changed their airport-owned Fixed-Based Operator (FBO) services by hiring an ex-airline station manager to manage a ground-handling service that would allow American to operate at AGS without significant station start-up costs. In June 2010, American Airlines began twice-daily service from AGS to DFW on Embraer EMB-145 50-seat regional jets. Because American only had two daily flights at AGS and was sharing counter and office space with other carriers, officials developed a unique hourly rate schedule so that American would not incur daily costs for using the shared space after their 1-year fee waiver expired. Despite this focus on cost reduction, American announced that it was ending service to AGS in January 2012. Airport officials noted that during American's time at AGS, the airport's main 8,000-foot runway underwent a complete rebuild, which lasted approximately 5 months. This meant that American's EMB-145 was forced to use the airport's 6,000 foot runway and could only carry 30 passengers due to weight restrictions, which contributed to the unprofitability of the route.

In July 2012, US Airways announced that they would expand their presence at AGS by offering daily service to Ronald Reagan National Airport (DCA) in Washington, DC. The airport offered US Airways an incentive package that included pro-rated (because of US Airways flights to CLT) terminal rent and landing fee waivers for the first year as well as a small marketing package. Although the service was successful, the merger of US Airways and American Airlines in 2013 resulted in the divestment of several operating slots at DCA. In March 2014, American announced that Augusta was one of the communities that would lose its DCA service in June of 2014, leaving the airport with service to ATL and CLT.

5.10 Monterey Regional Airport (MRY)

Key Attributes

Hub Designation: Non-hub
Airport Governance: Special Airport District
% Change in Seats (2001–2013): –33%
% Change in Flights (2001–2013): –54%
Enplanements (2013): 200,599 (3.0% from 2012)

Air Carrier Departures (2013): 6,076
Competing Airports: San Francisco (SFO), San Jose (SJC), and Oakland (OAK)
Allegiant Airport: Yes
SCASD Grant Recipient: Yes (2005; 2009)
Tourism or Business Destination: Tourism/Agriculture
Major Employers (25 mile radius): Dole Food Company, Inc., Pebble Beach Company, Lone Cypress Community
Population: 144,636 (2013 estimate)
Population % change (2000–2013): 6.0%
Median Household Income: $59.805
Incentives Offered: Marketing (Airport and Community), Waived Landing Fees, Revenue Guarantee (SCASD)

MRY Route Map (as of July 1, 2014)

Blue-United, Navy-US Airways, Cyan-Alaska, Red-American, Yellow-Allegiant

5.10.1 About MRY

Monterey Regional Airport (MRY), in Monterey, California, is a non-hub commercial service airport that serves a primary catchment area of over 420,000 residents including residents of Salinas and Elkhorn-Prundale, CA. Monterey Regional Airport serves the Monterey Peninsula and tourism destinations including Cannery Row and the Monterey Aquarium, Carmel by the Sea, Big Sur, and Pebble Beach Resort. The region is also home to an over $1 billion agriculture industry, a significant wine industry, the Naval Post Graduate School, and the Army Defense Language Institute. Over 80% of the Monterey catchment area is concentrated in the coastal cities close to MRY, but the airport does not retain a large portion of its local air travel demand. Historically, the airport has had leakage ranging from 65% to 75% to various airports including San Jose International Airport (a 1-hour drive), San Francisco International Airport (a 2-hour drive), and Oakland International Airport (a 2-hour drive).

The airport has non-stop service to six destinations and is served by five carriers: Alaska Airlines (SAN), United (SFO, DEN, LAX), American Airlines (LAX), US Airways (PHX), and Allegiant (LAS). In 2012, the airport had over 196,000 enplanements, an increase of 8% over

2011. However, enplanements have fallen since 2000 when the airport recorded approximately 235,000 passengers. The Monterey Regional Airport is governed by a Special Airport District created in 1941. Five directors elected by voters residing within the district's area are responsible for overseeing operations at MRY.

5.10.2 Leakage, Marketing, and Slow Growth at MRY

Following the events of September 11, 2001, MRY, like most airports, experienced significant decreases in air service. Specifically, total enplanements decreased from a high in 1999 of 253,000 to 187,000 in 2004. Due to the lack of available flight options at MRY coupled with the relatively close proximity of larger airports (SJC, SFO, and OAK) with more frequent service, the airport experienced a leakage rate of approximately 75% in 2004. However, the airport gained new air service in 2005, adding America West service to LAS on a 90-seat regional jet (RJ), United service to DEN on a 50-seat RJ, and Delta service to SLC on a 50-seat RJ. Despite this increase in service, airport officials were not convinced that the increase in seats in the market would lead to higher enplanements without a significant marketing campaign that involved community stakeholders, who had previously not been actively engaged in ASD efforts.

Therefore, in 2005, MRY airport officials engaged the Monterey County Convention & Visitors Bureau (MCCVB), the Monterey County Hospitality Association (MCHA), and the Monterey Chamber of Commerce to form the Fly Monterey Committee. Later that year, the committee submitted an application to the SCASD grant program for $1 million to fund an advertising campaign in the Monterey region that was designed to reduce leakage by promoting the new and existing service at the airport. The Fly Monterey Committee provided a local cash match of $353,000 ($90,000 airport and $263,000 community) and in-kind advertising commitments of $4 million (MRY 2005). The SCASD funds would be used primarily to market Monterey in destinations served by air carriers at the airport (e.g., Denver). The U.S. DOT awarded MRY $500,000 of the $1 million requested.

An MRY official noted that the community used the $500,000 to primarily market existing services to the local market to reduce leakage. The official noted that the MCCVB was reluctant to spend dollars advertising in destination markets because of the CVB's historical view that Monterey was a drive-market for nearby San Francisco, San Jose, and so forth. The official noted that they viewed local marketing of service as the airport's responsibility while destination marketing was the responsibility of the CVB. Many local residents of Monterey were reluctant to invest in more traffic at MRY. As one official noted, "They begrudgingly will take the dollars of those who visit, but they don't like the traffic or anything that interferes with this quality of life that they have." While the CVB and the community were reluctant to market Monterey in destination markets, they were able to successfully reduce leakage to 65% in 2008 by marketing the airport through the Fly Monterey campaign.

Following the financial collapse of 2008, MRY, again like many other small- and non-hub airports, experienced a sharp decrease in enplanements (222,000 in 2007 to 191,000 in 2009). To combat these losses, MRY attempted to again engage the community in 2009 to apply for a SCASD grant to attract Horizon Air service to SEA. This time, the airport reached out to the Monterey County Business Council (MCBC), an alliance of business executives that provides leadership on countywide issues. The MCBC serves as the de facto economic development organization for Monterey County. However, there is reluctance toward large-scale economic growth in the region due to the high quality of life enjoyed by residents. One official went as far as saying,

> Monterey has a majority percentage of people who live here that don't want anybody else to come. We have this dichotomy here—we don't have the same type of energy put into business development that you would have at a normal place where they want economic development.

Despite the general reluctance to pursue economic development opportunities, the MCBC worked with MRY to develop an application for a $500,000 SCASD grant to provide a revenue guarantee to Horizon for the SEA service. The local community pledged a total of $223,000 in cash and in-kind resources to market the new service and to waive landing fees for the first year. The MCBC pledged $55,000 in cash toward the marketing effort for the new SEA service. Although airport officials recognized that a revenue guarantee was essential to remain competitive in attracting new carriers, there was reluctance to offer a revenue guarantee for new service. As one MRY official noted, "They don't work. They are an addiction, and once you get addicted with a revenue guarantee, once the revenue guarantee goes away, so do your flights."

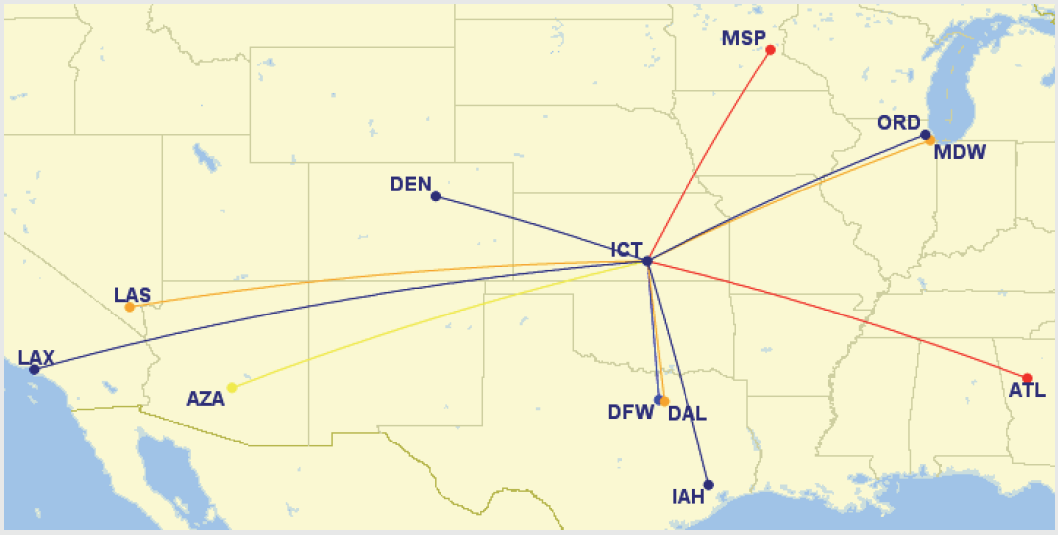
The community received their second SCASD grant in 2009 and has continued to pursue service to SEA. Even with a $500,000 revenue guarantee and over $200,000 in marketing available, Alaska Airlines has not started MRY-SEA service. One factor that has made this new service difficult is that the great-circle distance on this route is over 750 statute miles, which is at the outer edge of the maximum useful range for Alaska's Dash 8-Q400 regional aircraft—the use of a larger mainline jet (737) likely would not be economically viable. MRY officials have successfully petitioned the DOT to reprogram the 2009 SCASD grant to include Salt Lake City as a potential destination that would be supported by the $500,000 revenue guarantee. Officials are currently focused on expanding the existing Alaska Airlines service to SAN in hopes that building brand loyalty in the Monterey region would lead to SEA service in the future.

5.11 Kansas Affordable Airfares Program (KAAP)

Key Attributes

Hub Designation: Small-hub
Airport Governance: Airport Authority
% Change in Seats (2001–2013): –3%
% Change in Flights (2001–2012): –15%
Enplanements (2013): 731,856 (0.1% from 2012)
Air Carrier Departures (2013): 13,549
Competing Airports: Kansas City (MCI) and Oklahoma City (OKC)
Allegiant Airport: Yes
SCASD Grant Recipient: No
Tourism or Business Destination: Business
Major Employers (25 mile radius): Cessna Aircraft Company, Royal Caribbean Cruises, Beechcraft Corporation, Bombardier Inc.
Population: 538,977 (2013 estimate)
Population % change (2000–2013): +9.6%
Median Household Income: $48,597
Incentives Offered: Revenue Guarantee (Community), Marketing (Community), Travel Bank (Community), State Subsidy

ICT Route Map (as of July 1, 2014)



Red-Delta, Navy-United, Blue-American, Orange-Southwest, Yellow-Allegiant

5.11.1 About ICT

Wichita Mid-Continent Airport (ICT) is a small-hub airport in Wichita, KS. ICT's large natural catchment area of 2.8 million people covers roughly two-thirds of the State of Kansas and a portion of northern Oklahoma. South central Kansas is home to a wide range of industries including a heavy concentration of aircraft manufacturers and related companies. The airport is over a 2.5-hour drive from the closest competing airports. However, ICT still experiences leakage of 32% to Kansas City (MCI) and Oklahoma City (OKC) due to a higher number of non-stop destinations offered from those airports (ICT 2013).

ICT has non-stop service to nine destinations and is served by five air carriers: Allegiant (Las Vegas-LAS), American (Chicago-ORD and Dallas-DFW), Delta (Atlanta-ATL and Minneapolis-MSP), Southwest (Chicago-MDW, Dallas-DAL, and Las Vegas-LAS), and United (Houston-IAH, Denver-DEN, Chicago-ORD, and Los Angeles-LAX). ICT reached an all-time high in enplanements in 2008 with over 800,000 passengers. Since then the airport has seen its enplanements drop to 757,000 in 2013.

5.11.2 Fair Fares and the KAAP

The story of air service development at ICT begins in September 2001 when Wichita Mayor Bob Knight, City Manager Chris Cherches, and Director of Airports Bailis Bell launched an initiative to recruit low-fare airlines to serve south central Kansas in response to outcry from the community over the prices of airfare at ICT. The Initiative, labeled Fair Fares, focused on recruiting three airlines simultaneously by asking businesses to pledge 25% to 50% of their travel to a travel purchase account to ensure passenger ridership during the crucial service start-up period. The three low-fare airlines targeted by Wichita were

- AirTran Airways service to Atlanta
- Frontier Airlines service to Denver
- American Trans Air (ATA) to Chicago Midway

Businesses were asked to allocate their pledges among the three air carriers based on their usual travel schedule and the destinations served by the carriers. Once businesses committed their travel dollars and an air carrier began service, the pledged funds would be placed in an account and branded with a unique travel credit card. If the company did not spend the pledged amount of travel within a year, their account would be debited for the difference and they would be issued travel vouchers.

The Pledge Drive Steering Committee set a total pledge goal of $15 million ($5 million for each carrier) to be raised from December 2001 to January 2002. The Wichita City Council also was working on assembling a revenue guarantee program to help offset initial losses incurred with offering new service at ICT. A local ad agency, Sullivan, Higdon & Sing, designed the branding and advertising for the Fair Fares campaign including airsickness bags that asked local businesses if they were sick of overpriced airfares (Brannigan 2002). Volunteers called 16,000 local businesses and mailed pledge forms to over 40,000 companies in 44 Kansas counties to drum up support for the effort.

In January 2002, the City of Wichita approached AirTran Airways for service to Atlanta with 400 pledges from local businesses and $4.7 million in ticket commitments. While AirTran was impressed at the scope of the effort, they noted that they would need a revenue guarantee from the City of Wichita before they would start service (Brannigan 2002). In February 2002, AirTran announced that, beginning in May, it would begin service at ICT with three daily flights to Atlanta and two daily flights to Chicago. The City of Wichita offered to guarantee AirTran block hour passenger revenues of $3,000, up to $3 million in the first year and $1.5 million in the second year. The airport authority also committed $600,000 in marketing funds to promote the new service (USA Today 2002).[4]

During the first month of service from ICT, AirTran billed Wichita for over $730,000 in lost revenue due to a lack of passenger traffic on the flights. Within the first 4 months of service, AirTran had exhausted the $3 million in revenue guarantees offered by the city. In December 2002, AirTran announced that it was ending the Chicago service due to a lack of profitability (USA Today 2002). During the 2-year agreement period, AirTran used $4 million of the $4.5 million in revenue guarantees. The City of Wichita also agreed to subsidize Frontier Airlines service to Denver in September 2002 for up to $900,000 when load factors fell below 60%. However, Frontier left ICT in 2004, when the city did not offer a subsidy when the contract carrier, Great Lakes Airlines, decided to use turboprops instead of jets on the Denver route (Siebenmark 2004). From 2002 to 2004, airport officials estimated that fares at ICT dropped by up to 70% and saved passengers $75 million on airfare (TCJ 2004).

In 2004, the City of Wichita agreed to offer AirTran another $2.5 million revenue guarantee. In 2005, the city offered another $2.5 million with another $1 million coming from Sedgwick County. Following the enactment of this guarantee, the FAA issued a notice to the City of Wichita that its revenue guarantees to AirTran violated FAA Grant Assurance #22 that prohibits economic discrimination against carriers at an airport. Delta, who also operated at ICT, claimed that the City of Wichita was the legal sponsor of ICT and therefore could not offer subsidies to AirTran without also offering them to Delta. Wichita argued that it was not the airport sponsor and that while it appointed members to the airport authority, the Authority itself was the sponsor. The FAA eventually dropped its inquiry because Sedgwick County, rather than the City of Wichita, began offering subsidies to AirTran in 2006 (McMillin and Lefler 2005).

In 2006, the Kansas Legislature created the Kansas Affordable Airfares Program (KAAP) to provide state funding for ASD efforts across Kansas (House Substitute for Senate Bill 475 and

[4]Transportation Services Agreement Between AirTran Airways, Inc. and City of Wichita. February 28, 2002.

Senate Bill 2968). The program would provide $5 million in state funds each year to be matched by a 25% local contribution. KAAP would be administered through a partnership between the Kansas Department of Commerce and the Regional Economic Area Partnership (REAP). REAP is an intergovernmental partnership of 37 south central Kansas cities and counties that guides economic development efforts in the region. Under the law, the Department of Commerce disburses the funds appropriated by the legislature to REAP and ensures that the local match is received. REAP then issues a request for proposals for grant funds each year and reports on the effectiveness of the program.

Frontier Airlines began service to Denver in 2007 supported by an annual revenue guarantee of $500,000 funded by KAAP (via REAP), Sedgwick County, and the City of Wichita (McMillan 2012). From 2007 to 2011, REAP awarded $5 million to Sedgwick County, the only entity applying for the grant (REAP 2011). In 2012, REAP awarded Sedgwick County $4.75 million while giving $250,000 to Garden City Airport to establish American Eagle service to Dallas. Following the merger of AirTran and Southwest in 2012, Southwest announced that it would end the AirTran service to Atlanta but begin Southwest service from ICT to Dallas-Love, Chicago Midway, and Las Vegas. Southwest made it clear to local officials that it expected to receive the $6.5 million in revenue guarantees that were previously given to AirTran. In the first quarter of fiscal year 2014, REAP paid $2.52 million to Southwest to operate from ICT. In addition, Sedgwick County applied for by did not receive a $500,000 SCASD grant to market the new Southwest service at ICT.

Supporters and critics of the KAAP program and its predecessor, Fair Fares, have jousted publicly about the success of the program. Supporters cite a Kansas Legislative Post Audit Committee report issued in 2011 that concluded that the programs had had the desired effect of reducing airfares and increasing the number of flights (KLPAC 2011). Also, a University of Kansas examination of the program found that airfares dropped 33% from 2001 to 2012 over expected airfares had the programs not been implemented (Hall 2013). However, critics of the program have argued that REAP has overstated the benefits of the program and that air carriers operate in similar communities without subsidies. In addition, critics have argued that KAAP is a subsidy program for Sedgwick County and not for other parts of the state.

CHAPTER 6

Focus Groups

6.1 Selection Process

From the list of case study airports described in Chapter 5, the research team identified five airports that had particularly noteworthy community involvement (either positive or negative) or innovative incentive programs (see Exhibit 6-1). Additionally, the research team worked to ensure geographic diversity of focus group sites. Based on the described selection process, the researchers developed the following list of focus group sites along with the dates of the visits:

- Small-hub airports
  - Hector International Airport-Fargo (FAR) March 10th–11th, 2014
- Non-hub airports
  - Toledo Express Airport (TOL) February 24th, 2014
  - Redding Municipal Airport (RDD) March 5th–6th, 2014
  - Charles Schulz-Sonoma County Airport (STS) March 3rd–4th, 2014
  - Asheville Regional Airport (AVL) March 19th–20th, 2014

6.2 Focus Group Method

The research team contacted airport and economic development officials (who were suggested by the initial interviewees in each community) to participate in interviews and targeted focus groups during the team's site visit. The research team worked with local officials to have 6 to 10 participants in each focus group, consistent with the literature on best practices for focus groups. The research team strove to assemble a comprehensive focus group composed of a wide range of participants including

- Local Chambers of Commerce
- City and State Economic Development Officials
- City and State Transportation Officials
- Regional Port Authorities (if applicable)
- Local Community Development Foundations
- County Economic Development Organizations
- Metropolitan Planning Organizations
- Grassroots Air Service Development Organizations
- Individual Business Owners (identified by economic development officials)

The research team attempted to keep the format as consistent as possible while allowing for variation due to site-specific factors (e.g., scheduling and focus group participants). Generally,

Exhibit 6-1. Focus group airports.

during Day 1 of the site visit to the case study community, the BGSU team conducted informal interviews with key local economic development officials and selected business leaders to gain insights into the importance of air service to the region's economy and how it facilitates travel and tourism, attracts new businesses, and connects the region to the rest of the country. The research team investigated the existing strategies used by the community to retain or attract new commercial service. During these interviews, the researchers addressed the following topics:

- Recent developments such as losses and gains in air service, including carrier equipment and schedule changes at the airport
- Importance of commercial air service to the local and regional economy
- Strategies (current and past) to retain or expand service at the airport
- Willingness/desire of community to offer more incentives to retain or attract new service
- Willingness/desire to work with surrounding communities to pool resources to retain or attract service
- The degree to which the community views the airport as a regional asset
- Potential intermodal strategies employed by the airport and the community

During Day 2 of the site visit, the research team conducted a 2-hour focus group in the morning to discuss the local economy with these business leaders from the local and regional case study community. The researchers discussed the state of air service in the local community, local businesses and other organizations willing to participate in an effort to attract new service to the community, impressions of the overall economy, diversity of the economy, and future projections for economic growth in the community.

The research team ensured the confidentiality of participants by not attributing comments to specific individuals. The researchers believed that this allowed for a much more open and honest conversation of air service in the area. Each focus group was recorded using the Notability recording app for the iPad. The research team transcribed each of the focus group conversations to ensure the accuracy of statements made during the conversation. These transcripts, the initial interviews with airport and economic development officials, and secondary sources

(including Small Community Air Service Development (SCASD) grant applications and consultant reports) were used to identify themes and lessons learned that describe ASD efforts in each community.

To ensure the accuracy and validity of the interviews and focus group discussion, the research team triangulated the data contained in the interviews with several other sources of data including SCASD grant applications, FAA enplanement data, news accounts of air service changes at airports from Lexis Nexus, publicly available consultant reports, and public documents that outline agreements between airports and air carriers. The triangulation of the data helped to provide a rich historical examination of ASD efforts at each airport. The researchers asked for each manager of the airport described in the case to review the write-up. The research team allowed airport managers to make factual but not editorial changes to the focus group write-ups.

The demographic, economic performance, and firm data were derived using a mapping system from Research 360, Decision Data Resources. Research 360 uses several sources of federal, state, and academic economic and demographic information to populate its database. The research team used a 25-mile radius around the airport to keep a consistent format as opposed to using actual documented catchment areas that would vary in size from airport to airport.

The changes in flights and seats from 2001 to 2013 were derived from OAG data from October of each of the years. OAG includes scheduled flights of U.S. and foreign air carriers. The enplanements and air carrier departures come from BTS Air Carrier Summary Data (T3: U.S. Air Carrier Airport Activity Statistics) and includes T-100 traffic data reported by U.S. air carriers. Enplanements reflect revenue passengers enplaned and departures reflect revenue aircraft departures performed. Both enplanements and departures include scheduled service only.

6.3 Toledo Express Airport (TOL)

Key Attributes

Hub designation: Non-hub
Airport Governance: Port Authority
% Change in seats (2001–2013): –85%
% Change in flights (2001–2013): –86%
Enplanements (2013): 78,660 (17.1% from 2012)
Air Carrier Departures (2013): 1,660
Competing Airports: Detroit (DTW) and Cleveland Hopkins (CLE)
Allegiant Airport: Yes
SCASD Grant Recipient: Yes
Tourism or business destination: Business
Major employers within a 25-mile radius of airport: Owens Illinois, Sauder, ProMedica Health Systems
Population: 662,322 (2013 estimate)
Population % change (2000–2013): –1.5%
Median household income: $45,203
Incentives offered: Waived landing fees and Terminal Rents, Marketing (Airport), Revenue Guarantees (SCASD)

TOL Route Map (as of July 1, 2014)

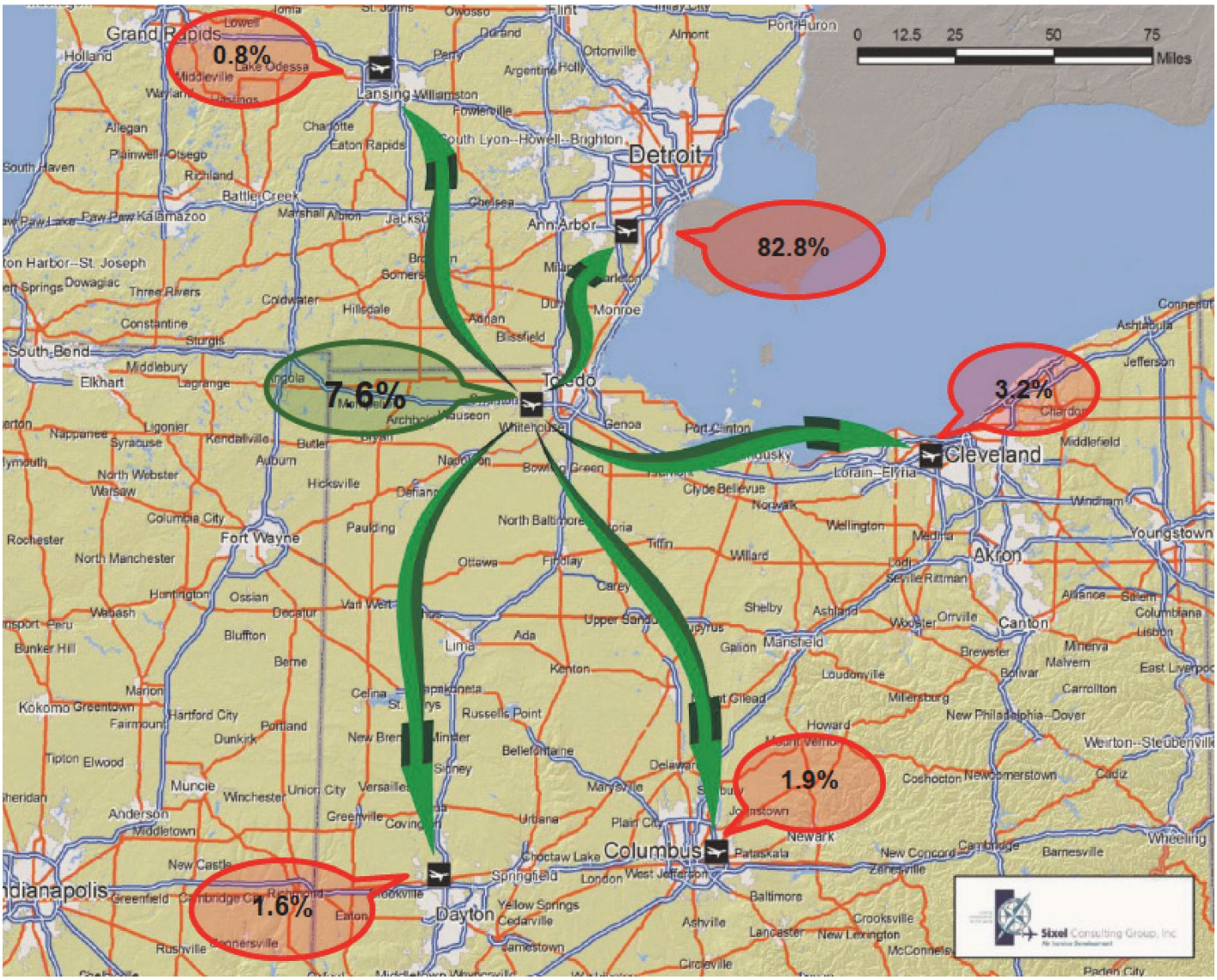
Red-American Eagle, Orange-Allegiant

6.3.1 About TOL

Toledo Express Airport (TOL), in Swanton, OH, is a non-hub commercial service airport that serves a primary catchment area (1-hour drive) of 1.1 million and a secondary catchment area (2-hour drive) of 6.8 million across the states of Ohio and Michigan including the cities of Toledo, Detroit, and Ann Arbor. The Toledo region is home to the headquarters of major companies including Sauder, Owens-Corning, Owens-Illinois, and ProMedica. Additionally, the Toledo region is home to two major universities—the University of Toledo and Bowling Green State University. The airport is owned by the City of Toledo and has been operated by the Toledo-Lucas County Port Authority under a lease agreement since 1973.

TOL faces substantial competition from Detroit Metropolitan Wayne County Airport (DTW), which is in Romulus, MI, and a 1-hour drive north of the airport. DTW is a major network hub for Delta Airlines and was previously a hub for Northwest Airlines. DTW has non-stop service to over 150 destinations in North America, South America, Europe, and Asia. In addition to the large presence of Delta at DTW, the airport has significant LCC service from Southwest Airlines, JetBlue, Spirit Airlines, and Frontier Airlines, which often results in lower airfares at DTW. TOL has three daily departures to Chicago O'Hare (ORD) on American Eagle and service to Orlando/Sanford (SFB), Tampa St. Petersburg (PIE), and Fort Myers/Punta Gorda (PGD) several times a week on Allegiant. In 2013, TOL served approximately 159,000 passengers, which was an 11% increase over 2012 (Toledo-Lucas County Port Authority 2014). Although enplanements have

Exhibit 6-2. TOL leakage to DTW and nearby airports.



Source: TOL 2011 SCASD Grant Application with permission of Sixel Consulting and the Toledo-Lucas County Port Authority.

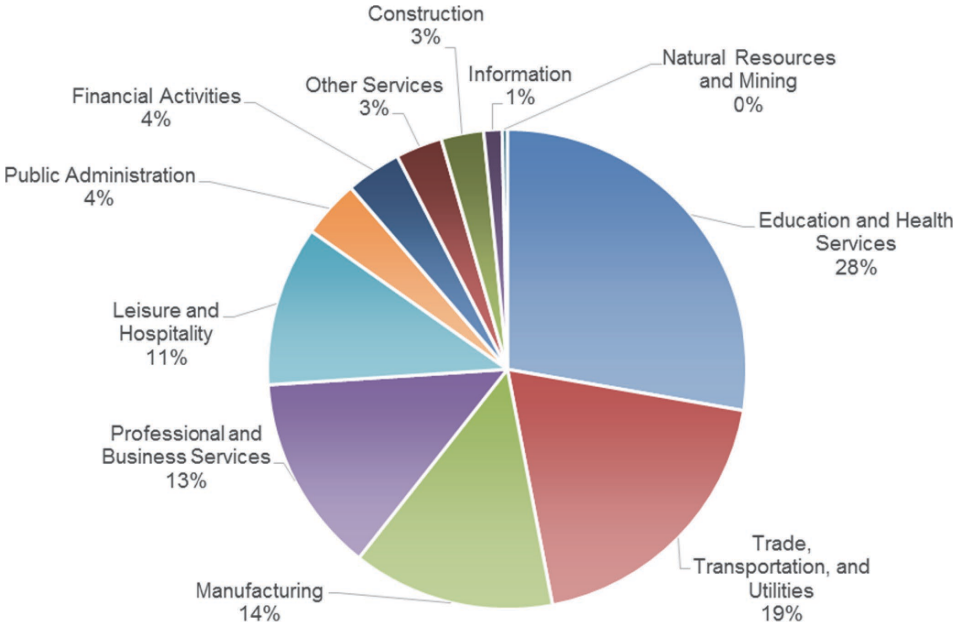
increased since 2012, the airport only retains 7.6% of the passengers originating in the Toledo area. Nearly 83% of the trips originating in the Toledo region use DTW,[5] as shown in Exhibit 6-2.

6.3.2 Local Economic Activity Analysis

The economy of the Toledo catchment area has declined in recent years (see Exhibits 6-3 and 6-4). The area lost 161,874 jobs since 2001 bringing total employment down to 1,423,722 by 2013. Manufacturing led the decline by shedding 114,927 (–36.7%) jobs in the period. Construction and public administration employment were –33.4% and –12.3%, respectively. The area saw an increase in education and health service jobs in the past decade, as employment increased by 81,397.

[5]Toledo Express Airport True Market Study.

Exhibit 6-3. Toledo employment composition (2013).



Source: Research 360

Exhibit 6-4. Employment changes, 2001–2013.

Sector	Employment, 2001	Employment, 2013	Employment Change	Percent Growth, 2001 - 2013
Education and Health Services	310,351	391,748	81,397	26.2
Trade, Transportation, and Utilities	331,181	273,488	-57,693	-17.4
Manufacturing	313,543	198,616	-114,927	-36.7
Professional and Business Services	203,016	192,354	-10,662	-5.3
Leisure and Hospitality	154,286	151,794	-2,492	-1.6
Public Administration	65,427	54,317	-7,592	-12.3
Financial Activities	61,909	53,978	-11,449	-17.5
Other Services	51,967	44,417	-7,592	-14.5
Construction	60,806	40,516	-20,290	-33.4
Information	27,430	17,501	-9,929	-36.2
Natural Resources and Mining	5,680	4,993	-687	-12.1
	1,585,596	**1,423,722**	**-161,874**	**-11.4%**

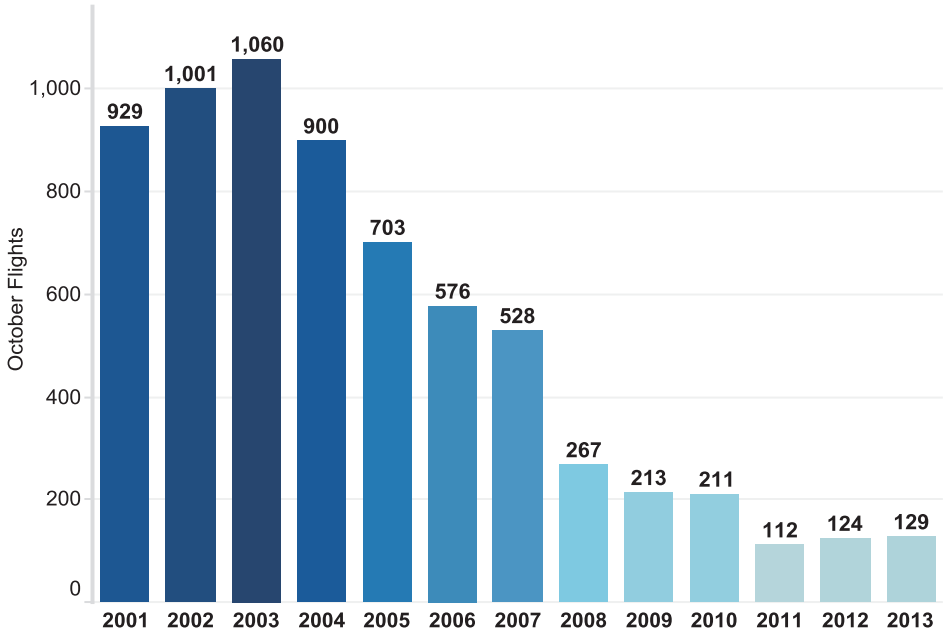
Source: Research 360

The area's heavy reliance on the automotive industry amplified the decline during the recent recession. Local supply chains were broken and the automotive industry moved some of the parts production back in-house. Although U.S. manufacturing may experience resurgence, it is very unlikely general employment gains will follow. Changes in production technology and increases in productivity make employment in manufacturing a declining opportunity.

6.3.3 History of ASD at TOL

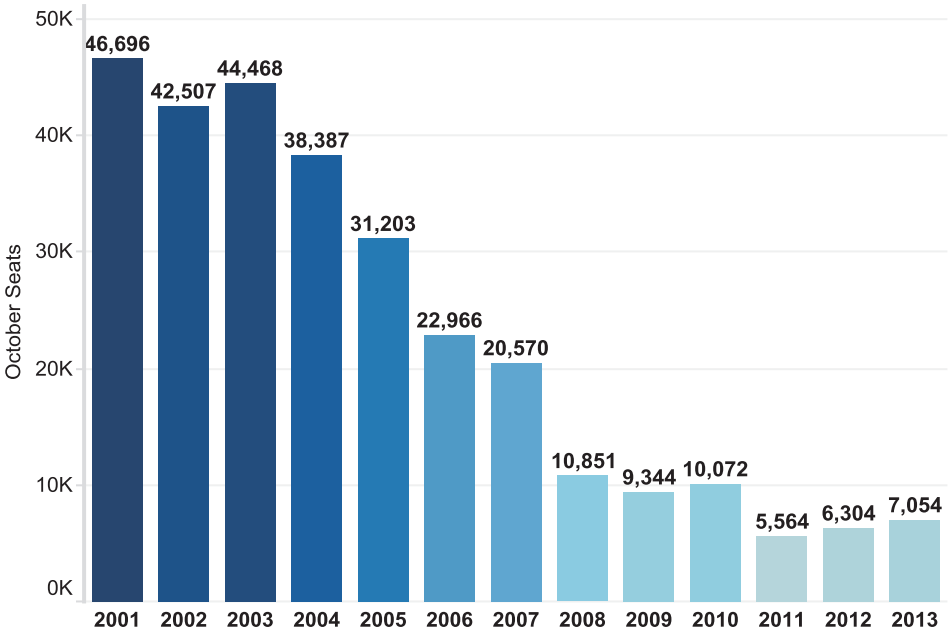
Since 2001, TOL has experienced one of the largest decreases in commercial air service in the nation, losing approximately 85% of flights and seats in the market. Exhibit 6-5 illustrates the decrease in the number of October flights at TOL from 2001 to 2013 while Exhibit 6-6 depicts the decrease in the number of October seats available at TOL over the same time

Exhibit 6-5. October flights at TOL (2001–2013).



Source: GRA Analysis of OAG Data

Exhibit 6-6. October seats at TOL (2001–2013).



Source: GRA Analysis of OAG Data

period. Officials at TOL note that a confluence of events have led to the drastic decrease in flights and seats at the airport including the rise in fuel costs; the de-hubbing of several regional airports including Cincinnati, Pittsburgh, and Cleveland; the emergence of nearby Detroit network hub for Delta; the decrease in average airfares at Detroit due to the increase in LCC; and the replacement of smaller turbo-prop aircraft such as the Saab 340 and the Beech 1900 with larger 50-seat regional jets that require increased demand to ensure profitability of routes.

One of the largest decreases in air service at TOL came in 2002 when AirTran Airways announced that it would end its low-cost service to Atlanta (ATL). AirTran first entered the market in April 1996 with one daily flight from TOL to Orlando, FL (MCO). However, after AirTran merged with ValuJet, the carrier decided to end the TOL to MCO service in April 1998. In October 2000, AirTran re-entered the market with three daily round-trip flights from TOL to ATL. However, after only 10 months of operating the TOL-to-ATL service, AirTran informed the Toledo-Lucas County Port Authority that it would end the service due to a lack of profitability driven by a lack of use from business travelers. The Port Authority and the Toledo Area Chamber of Commerce attempted to raise $2 million in a travel bank campaign to persuade AirTran to keep its TOL-ATL service. The Chamber and the Port Authority talked with over 6,000 businesses and asked each to commit 5% of their travel budget to the AirTran flight. However, only 40 firms participated in the travel bank and raised only $500,000 of the $2 million goal with $25,000 coming from the Port Authority. Chamber officials specifically noted the limited contribution from a Fortune 500 company of $100,000 despite a multi-million dollar travel account (Patch 2002).

The loss of AirTran service coupled with the reduction of US Airways' hub in Pittsburgh (PIT) left TOL desperate for new service that would help to lower airfares that increased following the exit of AirTran. In 2005 (after an unsuccessful application in 2004), TOL was awarded a SCASD grant for $400,000 to support marketing and a minimum revenue guarantee for non-stop service to New York City (JFK). The application was submitted on behalf of the Northwest Ohio Air Service Coalition, which was a public-private partnership of the Port Authority, the Toledo Area Chamber of Commerce, the Regional Growth Partnership, the City of Toledo, and Lucas County. The Coalition matched the $400,000 SCASD grant with $250,000 in local cash funds for a revenue guarantee, $100,000 in cash from the Port Authority for marketing assistance, and $650,000 in in-kind marketing funds from local media outlets.

Despite over $1,000,000 in cash and in-kind support for a minimum revenue guarantee and marketing assistance, TOL was unsuccessful in attracting a carrier to offer service to New York. From 2006 to 2010, TOL officials had over 25 meetings with air carriers regarding the New York service. Officials at TOL outlined several reasons why their efforts were unsuccessful. First, although officials were able to sign an agreement with a carrier (Air Azul/Jet America) to provide service to Newark Liberty International Airport (EWR) in 2009, the carrier never began operations. Second, JetBlue, one of the targeted carriers for the New York service, announced that it would scale back its fleet of 100-seat Embraer 190 (E-190) aircraft in favor of larger Airbus 320 aircraft. This fleet change was detrimental to TOL because its SCASD proposal was predicated on JetBlue's continued expansion of E-190 aircraft. Finally, in 2008, the DOT announced capacity constraints through slot restrictions that limited the potential availability of new flights into JFK and EWR. Although the airport was unsuccessful at attracting new network carrier service to TOL, the airport was able to attract Allegiant Air to provide less-than-daily service to leisure destinations beginning in 2005 (TOL-LAS). Since 2005, Allegiant has expanded its offerings in Florida to include Orlando (SFB), Punta Gorda (PGD), and St. Petersburg (PIE).

In 2011 (after an unsuccessful application in 2010), the DOT awarded TOL a second SCASD grant of $750,000 to support a minimum revenue guarantee and marketing assistance for new service to Denver (DEN). The SCASD grant would be matched by $250,000 in cash for a minimum revenue guarantee from the Lucas County Investment Corporation (LCIC), $250,000 in marketing assistance from the Port Authority, and $235,000 in in-kind marketing support from media outlets in the Toledo region (TOL 2011). Although Frontier Airlines wrote a letter of support for TOL's application, the grant was written in such a way that it could be modified to support any westbound service from TOL. Additionally, TOL is offering an incentive package that waives all airport fees and rentals for the first year and provides $0 per-turn ground-handling for the first year and $500 per turn for the second year. Despite this aggressive incentive package, the airport has been unsuccessful in attracting new air service.

Officials at TOL note that while the minimum revenue guarantees from the SCASD grant and the LCIC are necessary to compete in today's demand-constrained ASD environment, they are not sufficient to support sustainable service. More so, officials at TOL noted that while the local in-kind and cash match totals for the SCASD grant were impressive, it was difficult to secure in-kind contributions from local businesses, economic development agencies, and media outlets without some kind of commitment to spend airport marketing dollars first. One airport official noted,

> The bottom line is you can do everything you want but it's about community commitment and our community has zero commitment to this airport. And they've told us time and time again, and most of them don't even apologize for it anymore.

The largest impediment to future air service growth identified by TOL officials was the lack of support from the business community to even consider flying from TOL rather than Detroit. Officials at TOL noted that businesses in Toledo are committed to flying from Detroit on Delta due to the significant discounts provided by the carrier through contracts with Toledo-based businesses. One TOL official noted resistance from a local company when asking for their aggregate travel data to support the development of a proposal for service to Dallas:

> We had one company that said the only way that I will give this to you is if sign an agreement stating you won't ever ask me for anything and you won't ever ask me to support Toledo Express Airport. They said, 'I will tell you right now, I won't do anything to screw up my contract with Delta by giving you this information.'

Another factor in the loyalty of Toledo businesses is the frequent flyer status of Delta travelers from Detroit. While officials at TOL noted that they have worked with air carriers to match frequent flyer status for business travelers on a case-by-case basis, carriers have been reluctant to do across-the-board matching without a commitment of a percentage of travel from a specific company.

A final difficulty in attracting new service to TOL is the price sensitivity of travelers in the region. One airport official noted that of all the markets in the Allegiant system, Toledo is the most price sensitive. Specifically, the official noted that if the price of a fare at TOL were raised by $1, the bookings on that flight would drop 25% more than any other origin airport. This price sensitivity is indicative of a community willing to shop for cheaper airfare on low-cost competitors (both at TOL and DTW) and willing to drive to Detroit for lower airfares.

6.3.4 Themes from the TOL Economic Development Focus Group

- **There is no sense of obligation to fly from or even check flights at TOL**

One of the most dramatic moments during the focus group was when the moderator asked local economic development officials to raise their hands if they had flown out of Toledo Express

Airport during the last year. No hands were raised. The moderator then asked how many people had flown from the airport during the last 3 years. No hands were raised. Finally, the moderator asked the local economic development officials (who are responsible for marketing the Toledo region) to name the destinations served from Toledo Express. The only correct response was Chicago O'Hare.

When asked if they felt a sense of obligation to fly from Toledo Express Airport given their positions in local economic development, participants responded that there was no longer a sense of obligation to fly or even check fares from TOL due to the lack of available flights at the airport. As one economic development official noted, "I mean you can feel like you should fly out of it (TOL) and feel guilty all day long, but you just take your guilty self up to Detroit if you can save yourself some money in your pocket." One local economic development leader went as far to say, "For our region, Detroit is our airport, it just isn't in our city." Another participant noted, "Last time, I didn't even look at Toledo because I had such a better experience at Detroit."

Participants noted that having Detroit airport so close to Toledo was a positive attribute for the region and that driving 45 minutes to fly from DTW was comparable with many other cities. Additionally, many viewed the proximity of Detroit's airport as a valuable asset for promoting the livability of Northwest Ohio. One participant noted, "You know, most people would rather live here and drive to the airport or have business at the airport. It's a lifestyle, you kind of get the best of both worlds; you can live near a city without having to live in it." Many local economic development officials noted that when promoting the Toledo region to prospective businesses and conventions, they often promote the Detroit Metropolitan Airport in their promotional materials more than TOL.

- **While groups pledged to support a flight after it is initiated, there was little interest in supporting a community-driven ASD effort**

An interesting point of discussion during the local economic development focus group in Toledo was that while many participants noted that they support the Port Authority's efforts to attract more flights to TOL, they believed that there was not enough business travel demand to warrant additional flights. One economic development official noted, "We don't have many business travelers—where is the demand for additional service?" During the focus group conversation, many participants expressed a strong belief that airline industry changes including consolidation, rising fuel costs, and competition from DTW make it unlikely that TOL would ever regain the level of service it had in the past.

When the moderator further explored the willingness of local economic development officials to support the Port Authority's efforts to attract new carriers and routes to TOL, many noted that while they were willing to market and do what they could to promote the new service after it was announced, the heavy-lifting for any ASD effort would have to be done by the Port Authority. A representative from the local chamber of commerce commented, "We're not going to be able to do that much. If you get a great flight we will market it."

While many were unwilling to directly support ASD efforts, participants were generally supportive of the job the Port Authority has done in trying to attract and retain air service at TOL. Specifically, when the moderator asked participants for their perceptions of the level of involvement of the Port Authority in trying to attract a new carrier to TOL, many participants indicated that they felt the Port Authority was very active in ASD efforts. Participants also expressed empathy for the Port Authority over the fact that many in the Toledo region blamed the organization for the lack of service at TOL, which local economic development officials attributed to nationwide trends in the airline industry.

- **Need for better regional marketing of TOL and the destinations from Chicago, particularly in the areas furthest from Detroit.**

A final theme that emerged from the local economic development focus group was the need for better marketing of available flights on American Eagle and Allegiant from TOL and also the connectivity available from American Eagle's hub at Chicago O'Hare. Participants noted that a marketing campaign should focus on the ease of travel through TOL including the easy security process and convenient and affordable parking as well as the number of connections available once passengers arrive at Chicago O'Hare. Additionally, participants suggested that the Port Authority focus its marketing of TOL on the southern part of the catchment area, including Findlay and Bowling Green, as these areas are further from Detroit. Finally, participants suggested rebranding the airport from "Toledo Express" to the Northwest Ohio Regional Airport to promote "flying local" within the State of Ohio rather than crossing the Michigan state line to fly from Detroit.

6.3.5 Themes from the Business Owners Focus Group

- **Participants enjoy the convenience of the travel experience at TOL, but the lack of flights and reliability lead many to drive to Detroit**

Participants expressed that they preferred the travel experience at TOL compared to that of Detroit. In addition to avoiding the 45-minute to 1-hour drive, one participant noted, "You can pull off the highway, park, walk right in, check right in, and go through security versus parking in a bigger, more remote parking lot, trying to find a spot, and then having to shuttle over to the airport." Participants also offered suggestions to further enhance the traveling experience at TOL including upgrading the terminal to include free Wi-Fi, additional device charging stations, better public transportation options from the airport, and better signage within the terminal to market the region.

While business travelers liked the convenience of TOL, they noted that they do not often check flights from the airport for business travel due to a lack of direct flights, reliability concerns such as flight cancellations and delays, and the lack of options if a flight is cancelled or delayed. One participant noted, "Once a flight gets cancelled, it makes you a little leery. When you are working on a 40 or 50 million dollar deal, you can't be worried about your flight being cancelled." Travelers also expressed concern about making connections during the winter travel season. Interestingly, the business travelers in the focus group noted that while they don't check TOL for business travel, they find the Allegiant service to destinations in Florida for vacation very convenient.

- **There is a need to overcome the natural tendency to not check for flights at TOL**

Participants noted that the first step in any ASD effort at TOL needs to be helping business and leisure travelers overcome the natural habit of not checking for flights from TOL when making travel plans. There was consensus in the room that in order to make the case for expanded air service at TOL, the community needed to support the service that was already at the airport. One suggestion developed by the group was a "Check TOL first" campaign that would highlight the ease of the travel experience at TOL versus that at Detroit. As one participant opined,

> We need people to check Toledo first. We need our Mayor not to make announcements making all public employees use the airport; that is ridiculous and everyone knows it isn't always cost effective to use Toledo. What we want the Mayor to say is that every city employee who travels on business will check Toledo first and we want every corporate office in Toledo to do the same. This is the only way we are going to get air service for Toledo.

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When participants were informed that TOL had an ongoing "Check TOL first" campaign, many said they were unaware of the program.

Participants suggested that the lack of awareness was due to a lack of a sustained marketing of the flights available at the airport. Many suggested that the focus of any marketing campaign should be the ease of the travel experience at TOL. A participant suggested, "Go around to every county in Northwest Ohio and Southeast Michigan to the Rotary Club or whatever civic organization is there and talk about the positives of using Toledo Express." Throughout the conversation, participants noted that the Port Authority had sporadically engaged local businesses, but that many of these efforts were not sustained. As one business owner noted, "The Port Authority tried to engage families and business people to fly Toledo and that lasted for, it seemed, 6 months to a year and then ended. I can't say I'm going to economic development or Chamber meetings and they are saying fly Toledo."

- **There is little to no interest among businesses for a community-driven minimum revenue guarantee or travel bank program**

One of the most interesting portions of the Toledo business owner focus group was when the group was asked whether their businesses would pledge money for a revenue guarantee or a travel bank for ticket purchases to attract new service to TOL. Upon asking the question, there was a sustained period of silence in the room. It was clear that the business owners were not familiar with minimum revenue guarantees or travel banks. The moderator then explained the concepts to the group members to spur further conversation. One local business owner noted, "We have people in Cleveland and they fly out of Cleveland. We have a office in Columbus and they fly out of, you know, I'm not having a strong feeling that we are going to Toledo and buy all these tickets." The participants then noted before they made any investment in a community-driven effort, they would like to see the economic impact of flying locally for the region.

6.4 Charles M. Schulz-Sonoma County Airport (STS)

Key Attributes

Hub designation: Non-hub
Airport Governance: County Owned and Operated (Sonoma County)
% Change in seats (2001–2013): 145%
% Change in flights (2001–2013): –3%
Enplanements (2013): 112,397 (6.4% from 2012)
Air Carrier Departures (2013): 2,240
Competing Airports: San Francisco (SFO), San Jose (SJC), Oakland (OAK)
Allegiant Airport: No
SCASD Grant Recipient: Yes (2004, 2011)
Tourism or business destination: Business/Tourism
Major employers within a 25-mile radius of airport: Agilent Technologies, Kaiser Foundation Hospitals, Lucas Films
Population: 503,394 (2013 Estimate)
Population % change (2000–2013): +6.9%
Median household income: $66,275
Incentives offered: Travel Bank, Marketing, Landing Fee Waivers

STS Route Map (as of July 1, 2014)

Green-Alaska Airlines

6.4.1 About STS

Charles M. Schulz-Sonoma County Airport (STS), in Santa Rosa, California, is a non-hub commercial service airport that serves a six-county (Sonoma, Lake, Marin, Humboldt, Napa, and Mendocino) catchment area of 1.1 million residents (Exhibit 6-7). The airport is owned and operated by Sonoma County. The Sonoma area is a major tourist destination for California's famous wine regions including Napa Valley and is home to several diverse employers including Agilent Technologies, Kaiser Permanente, Lucas Films, and Beringer Blass Wine. The region has experienced economic growth since 2001; however, the recession in 2008 led local leaders to invest in marketing Sonoma's wine industry to further spur the region's tourism industry.

STS faces significant competition from San Francisco International Airport (SFO), Oakland International Airport (OAK), and Sacramento International Airport (SMF). In 2012, STS captured only 8% of total bookings in the catchment area with SFO retaining 78% and Oakland receiving 7% (STS 2012b). While STS is only 65 to 75 miles from both San Francisco International Airport (SFO) and Oakland International Airport (OAK), drive times can range up to 3 to 5 hours on the congested Highway 101 corridor. This results in many residents from the Sonoma County area driving to SFO or OAK the evening before morning flights to avoid potential delays. STS currently is served only by Alaska Airlines with non-stop service to Portland (PDX), Seattle (SEA), Los Angeles (LAX) and San Diego (SAN). In 2013, STS enplaned

Exhibit 6-7. STS catchment area and nearby airports.

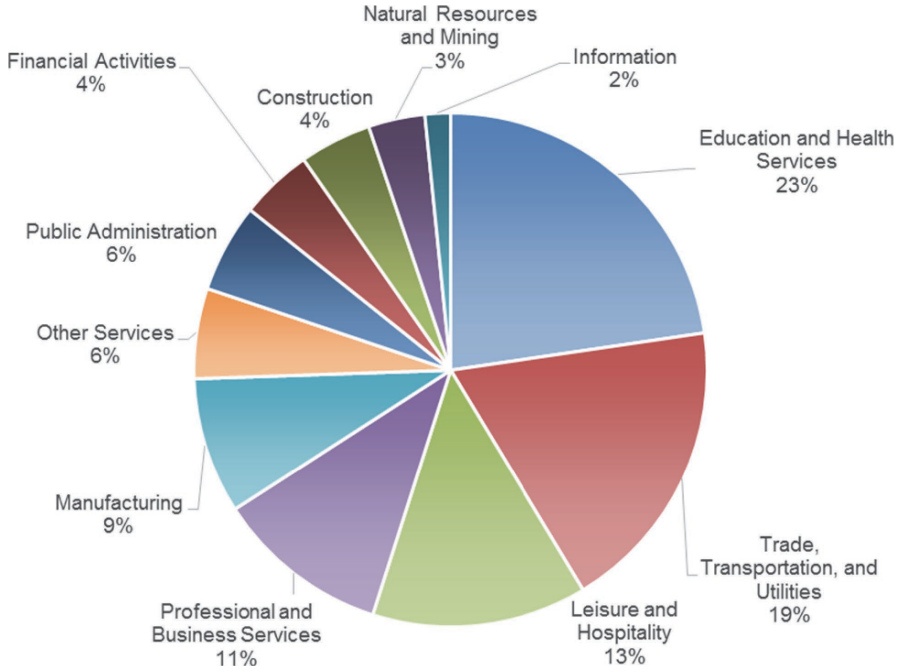
Source: STS 2012 SCASD Grant Application

approximately 112,000 passengers, up 6% from 2012. STS is limited in its ability to attract jet aircraft commercial service, because its primary runway is only 5,020 feet long.

6.4.2 Local Economic Activity Analysis

The economy of the catchment area of Sonoma County Airport has struggled in the past decade (see Exhibits 6-8 and 6-9). The area has lost nearly 14,000 jobs since 2001. Employment in 2001 was 465,565 but in 2013 it was down to 451,622. Although much of this loss is due to the recent recession, the area is undergoing a structural shift. Manufacturing employment has declined by 14,829 (–27.7%) since 2001. Manufacturing now accounts for less than 10% of

Exhibit 6-8. Sonoma employment composition (2013).



Source: Research 360

Exhibit 6-9. Employment changes, 2001–2013.

Sector	Employment, 2001	Employment, 2013	Employment Change	Percent Growth, 2001 - 2013
Education and Health Services	94,091	111,270	17,179	18.3
Trade, Transportation, and Utilities	86,269	84,262	-2,007	-2.3
Leisure and Hospitality	52,342	62,547	10,205	19.5
Professional and Business Services	50,244	50,014	-230	-0.5
Manufacturing	53,459	38,630	-14,829	-27.7
Other Services	19,689	16,421	-3,268	-16.6
Public Administration	23,333	24,256	923	4.0
Financial Activities	26,225	19,870	-6,355	-24.2
Construction	30,043	21,328	-8,715	-29.0
Natural Resources and Mining	18,400	15,946	-2,454	-13.3
Information	11,470	7,078	-4,392	-38.3
	465,565	**451,622**	**-13,943**	**-3%**

Source: Research 360

the region's employment. Financial activities and the construction industries have also suffered losses of 24.2% and 29.0%, respectively. The area is experiencing a transformation to more of a service base. Leisure and hospitality has experienced a 19.5% increase adding over 10,000 jobs. Education and healthcare have added 17,179 jobs and general service businesses have contributed 5,112 jobs.

The economic drivers of the region are now education/healthcare, leisure/hospitality, trade/utilities, and professional and business services. These core industries now account for 66% of the region's employment. The transition to a service base is often difficult for a region. The transition breaks local supply chains and causes short-term economic stress. However, once this transition has occurred, the economic fluctuations are often minimized and the region experiences more consistent economic growth.

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6.4.3 History of ASD at STS

Recent history of air service development at STS begins in 2001 when SkyWest Airlines was directed by United Airlines to end its STS-SFO and STS-LAX routes despite strong performance. The decision by United Airlines in 2001 to abandon the successful SkyWest commuter routes was based on internal airline policy factors and was not related to the effects of the September 11th terrorist attacks. One local official noted that SkyWest's exit from STS was a "come to Jesus moment—we didn't even know it was there until it was gone." From October 2001 through March 2007, STS did not have commercial service. After a year of unsuccessful efforts to lure an air carrier to provide service at STS, the County Board of Supervisors created the Sonoma County Airport Airline Attraction Committee (AAC) in October 2002. The mission of the AAC is to "assist Sonoma County with the attraction of air service to the County by acting as a sounding board for business and community interest, to facilitate business and community support for advanced ticket purchases, and to assist with local marketing" (STS 2004). The AAC was composed of representatives from the County Board of Supervisors, local businesses, the Sonoma County Tourism Bureau, and the Santa Rosa Chamber of Commerce and had three subcommittees: one to secure advance ticket purchases from local businesses, one to secure in-kind advertising support from media outlets, and one providing feedback to ideas for new service.

Following the creation of the AAC, the group worked to gain support from local, state, and federal elected officials for ASD efforts in STS. Additionally, the AAC worked with a local consultant to conduct an air service study to determine the most successful routes and carriers to target for new service. One AAC member noted that the goal of the group and the consultant was "to find an airline whose business model met our demand for destinations." The AAC and the consultant identified Los Angeles and Seattle as their top destinations and Alaska/Horizon Air as the preferred carrier. Alaska/Horizon was chosen as the preferred carrier primarily due to the carrier's use of the Bombardier Q-400 aircraft. The Q-400 is a high-performance turbo-prop aircraft that seats 76 passengers and can easily takeoff and land at STS's short runway.

In 2004, the AAC and the airport submitted a SCASD grant application to DOT for $635,000 in revenue guarantee and marketing funds. The AAC and STS had worked to secure $500,000 in travel bank commitments from local businesses and a letter from Horizon Airlines in support of their application. The DOT awarded STS the full $635,000 requested in the application. Although the community had raised $500,000 in travel bank purchases and secured the SCASD grant, it still needed to gain a firm commitment from Alaska Airlines officials. Airport officials and the AAC flew Alaska Airlines executives into Oakland International Airport at rush hour. As the executives sat in the town car for 3 hours, airport officials made their pitch to the executives that residents of the North Bay sit in this traffic when they fly from SFO and that there is demand for direct service from STS to avoid this inconvenience. When the Alaska executives departed STS, airport officials and AAC members rented a helicopter and flew the executives over the nearby Sears Point Raceway where a NASCAR race was taking place. Executives noted that they were impressed by the number of people that came to the area for the event. In 2006, Alaska Airlines announced that Horizon Air would begin service in March 2007 with two daily non-stop flights to LAX and one to SEA (STS 2012b).

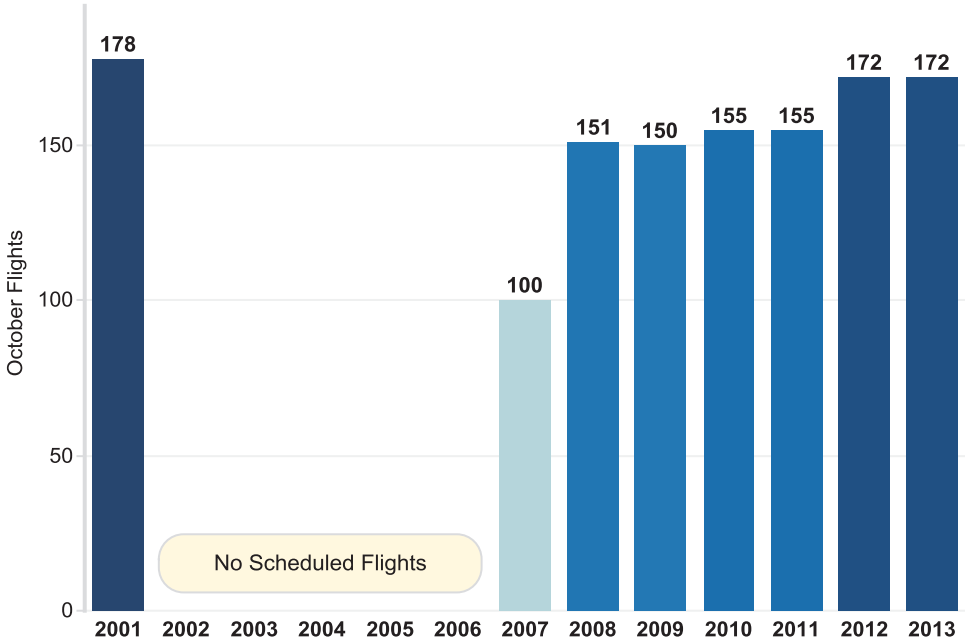
Following the announcement of the new service, the AAC worked on securing actual donations to the travel bank that were committed for the SCASD grant application. The airport and AAC partnered with American Ag Credit in Santa Rosa to offer Alaska Airlines branded debit cards to be issued to businesses that committed funds to the travel bank. During the 3 weeks following the announcement, the AAC secured over $500,000 in funds for the travel bank. One airport official noted that Alaska Airlines was supportive of the effort rather than a revenue guarantee because it demonstrated community commitment and investment in the sustainability

of the service. Additionally, the AAC worked to market the new service in both the Santa Rosa and destination markets. Using a combination of SCASD and local funds, the AAC and airport worked to market the new LAX and SEA service for 9 months before the first plane landed at STS. The group worked through local civic organizations and used the in-kind commitments of local media outlets to generate awareness of the new travel options. The Sonoma County Tourism Bureau invested in marketing Sonoma County in the destination markets to bring more in-bound traffic to the region.

To generate more excitement about the new service, airport officials announced a public open house where citizens could tour the airport, meet Horizon Air executives, and tour one of the new Horizon Q-400 aircraft that would be servicing the market. On March 15, 2007, over 3,500 residents of the Santa Rosa area came to STS to tour the airport and a Horizon Q-400 aircraft. Horizon executives were "shocked" at the turnout and noted, "We operate in 50 cities and we have never seen a reception like this" (Hart 2007). The community outreach effort paid off—the load factor for the LAX flight was 81% within the first month. The efficiency of the Q-400 aircraft results in a profitable route when the load factor is over 62%. Due to the success of the LAX and SEA routes, Horizon started non-stop service to Portland (PDX) later in 2007 and service to Las Vegas (LAS) in 2008. Due to a change in strategy, Alaska Airlines ended the LAS service in 2012 and replaced it with non-stop service to San Diego (SAN). This has resulted in overall flights at STS returning to 2001 levels (Exhibit 6-10) while the number of seats in the market has increased over 200% since 2001 (Exhibit 6-11). STS officials estimate that the flights result in a direct economic impact of over $112 million per year and contributed 414 jobs within the community (STS 2012b).

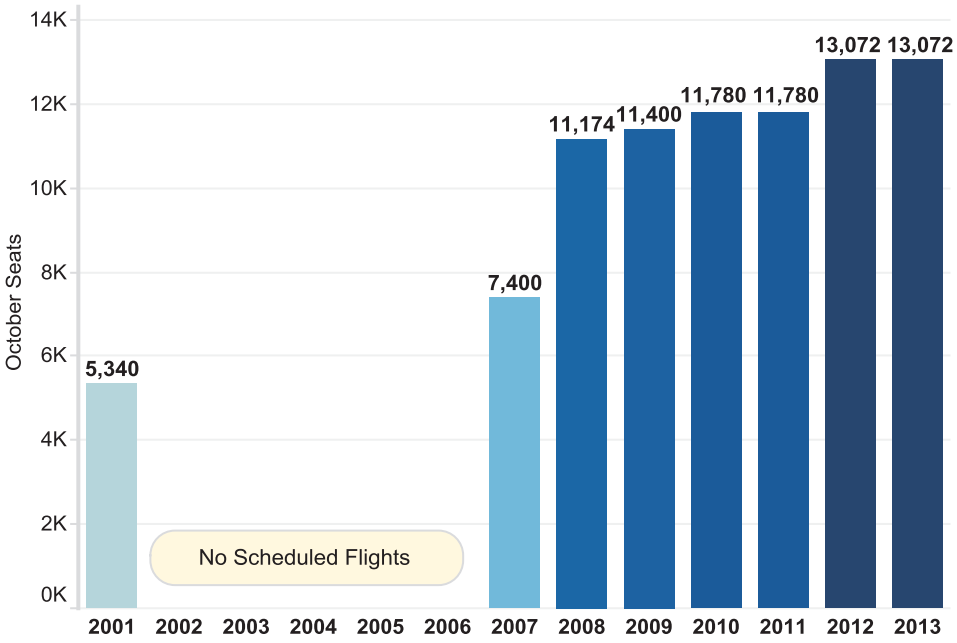
Airport officials said their success in attracting and retaining commercial service is the result of several factors. First, officials praised the Sonoma County Board of Supervisors members who led the creation of the AAC and gained valuable political support for ASD efforts. One AAC member noted, "Alaska/Horizon Airlines would not be here if it was not for the airline attraction committee. Since its inception, the diverse group of individuals serving on the committee

Exhibit 6-10. October flights at STS (2001–2013).



Source: GRA Analysis of OAG Data

Exhibit 6-11. October seats at STS (2001–2013).



Source: GRA Analysis of OAG Data

has generated a large amount of support." Second, the STS airport manager noted that the lack of turnover of Alaska Airlines executives over the years has led to the building of stable and productive personal relationships that have resulted in brand loyalty within the community. As an example of this loyalty, STS officials refused to offer Delta Airlines incentives when they proposed adding service from STS to LAX to compete with Alaska. Finally, officials noted that the most important ingredient to their success was that they identified an air carrier whose business model fit the demand for service from their airport.

Currently, officials at STS have focused their ASD efforts on attracting a carrier to provide eastbound service to Denver, Salt Lake City, or another network hub airport. In 2012, the DOT awarded STS a second SCASD grant for $650,000 for a revenue guarantee and marketing support for eastbound service. STS was able to secure a letter of support from Frontier Airlines, which committed to provide service to Denver on an Embraer E-190 aircraft. However, as STS was awarded the grant, Frontier decided to pull back its E-190 operations which left the air carrier without an appropriate aircraft to fly into STS's 5,020-ft runway. Although the airport has not attracted an air carrier to date, the community is once again engaged in the effort through the AAC and has already secured commitments for ticket purchases from local businesses. Airport officials are optimistic that their runway expansion project (to 6,000 feet) slated to begin in October will allow them to talk to a wider range of carriers with different equipment types to begin new eastbound service at STS.

6.4.4 Themes from the STS Focus Group

- **The community enjoys the traveling experience at STS**

One of the dominant themes of the focus group was that while participants do occasionally fly from SFO, they prefer the travel experience at STS. One participant commented, "I like the sky lounge—it's a great place to hang out before a flight. I think that the security experience is fabulous. I'm willing to fly from STS and connect to LAX instead of using a different airline because

of the experience." Another participant noted, "You walk out onto the tarmac—it's like you are an actor or something. It is practically glamorous. It is a wonderful place."

Participants also noted that they preferred flying from STS rather than flying from SFO because of the unpredictability of traffic on Highway 101. Additionally, local business owners noted that although fares are often higher at STS compared to SFO or OAK, the total cost of travel is lower. One business owner said, "It is not just the cost of the ticket, but, I think our company spends 50 cents a mile, so it is basically $160-$170 of mileage for me to go to San Francisco." Another business owner elaborated, "It isn't just money but also time. If you fly from Minneapolis to SFO, you are looking at 90 minutes to 2 hours by the time you collect your baggage until you arrive at your hotel. From this airport (STS) it is a matter of 5 to 10 minutes."

- **Local business community is very engaged in and knowledgeable about ASD efforts**

During the focus group conversation, it was clear that the local business owners in the room were very knowledgeable about ASD efforts at STS. Participants came into the focus group with a strong desire to express their demand for an eastbound route to Denver. One participant noted that there is an "untapped market" at STS. He described how his company will often have company functions in Sacramento rather than Santa Rosa or Sonoma because most of the company's executives come from the East Coast. The Chamber of Commerce representative noted that the level of engagement and knowledge about the airport is high in the community due to the involvement of the AAC and the airport manager. Specifically, the AAC and the airport manager host 20 educational events per year in both Sonoma and Napa. Additionally, the airport manager gives updates on air service to the Chamber and local advocacy councils and appears on local television programs. Finally, participants expressed pride in the turnout for the tour of the Horizon Q-400 aircraft in 2007 and the load factors of all Alaska flights at STS. One participant commented, "There is such large community support for the airport. So if any airline comes in and is hearing that on the table, there's great support now, but the east bound airline, whoever it is, is going to get huge support from this community."

- **Marketing of the region is critical to future air service development**

A theme that emerged from the focus group discussion was the importance of local marketing efforts for future ASD efforts at STS. Officials at STS are focused on using increased marketing from the Sonoma County Tourism Bureau to help quantify the demand for in-bound service at STS. As a major tourism destination, STS has roughly a 50/50 split of local originating traffic and people coming from outside the area. The tourism bureau has focused on marketing Sonoma wine country in international destinations. Additionally, the tourism bureau budget has grown from $2 million to $5 million to help promote Sonoma wine country and the town of Healdsburg, a top tourist destination on the website Trip Advisor. Not only has the Sonoma County Tourism Bureau promoted tourism internationally, but it has focused on promoting Sonoma County in cities with headquarters of air carriers that would be candidates to provide eastbound service from STS. One participant noted, "Sonoma County Tourism Bureau has a wonderful partnership with the vineyards called the trio and they collaborate and do this thing called Sonoma in the city where they will go to Chicago, Charlotte, or Denver and pour the wines and talk about Sonoma County destinations." Another participant elaborated, "On one hand it is growing that awareness among people who may or may not use the airport because of the limited access. But it is going to open the floodgates when we get eastbound service."

- **While local businesses are willing to donate funds to a travel bank, there is little appetite to participate in a community-generated revenue guarantee program**

When participants were asked what types of incentive programs they would participate in to attract eastbound service, many were supportive of another travel bank program. One participant

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noted, "I think we should replicate the model that we used with Horizon. We had committees. Some worked for the ticket bank, some for the publicity group, and then there was a marketing group . . . It was very well coordinated and successful." The moderator than asked if the community would pool their resources for a minimum revenue guarantee if a carrier were to ask for it. Participants outlined some of the reasons why the travel bank commitments were more effective in their view than revenue guarantees:

> I remember when we were talking to Horizon initially; they certainly wanted a ticket bank, which we were able to achieve. It was their view that if it was a subsidy they wanted to evaluate the sustainability, profitability of the hub on a long-term basis. Why would they gear up, invest a lot into the community and get the subsidy, if they didn't believe in the market and the subsidy expired and they weren't making money they would have to pull out anyway? So, it was their view, they wanted to evaluate the market to begin with.

Another participant expressed concern that minimum revenue guarantees can distort the actual market for service,

> Even though there is money to be made in the short term, the reputational damage to the carrier from leaving the market is not worth it. The airline has to look at it and say, that's a market that we can make money in; forget subsidies, that's a market we can make money in. We want to operate out of there. That's what makes me nervous about the subsidies. It creates this interdependency that's not healthy.

Participants outlined the investments already made by the community in attracting new air service and also noted that the carrier would be getting a minimum revenue guarantee through the SCASD grant.

> We're not at a zero starting point here. There has already been a lot of effort put in . . . the runway extension, without that it is a nonstarter. So the community has rallied aggressively to support the airport manager and the supervisors. We also rallied aggressively to get a grant (SCASD) and a subsidy for $650,000 already.

The discussion then focused on whether the price the community would have to pay to get eastbound service was worth the investment. Participants noted that they felt that air service development has become a layering or stacking process where carriers ask for more and more community resources to be brought to the table. Specifically, local business owners noted that they are more than willing to promote and advertise the new service through the marketing apparatus of the community and to commit to ticket purchases. However, the notion of a minimum revenue guarantee from the community on top of those investments led one participant to ask, "So it starts to feel like how much direct cost, how much indirect cost, and then it does become how much do we need this, what is the pain point of this?" Another participant more forcefully claimed, "I don't want to come across as belly aching too much but, I mean, it (eastbound service) would be beneficial but I'm not willing to sell my soul for it . . . I mean if you just want cash in your pocket, forget it."

- **Intermodal access is critical to future ASD efforts at STS**

A final theme that emerged from the discussion of air service at STS was the importance of intermodal access to current and future ASD efforts at STS. When the research team arrived at STS, they observed an Airport Express bus outside the terminal. During the focus group conversation, the team asked participants about the service, which runs from SFO to STS. Participants noted that they liked the service because of the available Wi-Fi service that allowed them to work on their way to the airport. Additionally, participants noted that the $34 one-way fare often saved money on parking at SFO. Participants noted that the Airport Express bus provides valuable backup in case of irregular operations. Specifically, if an Alaska Airline flight into STS has to divert to San Francisco or Oakland, the bus provides a way for those passengers to get back to STS without renting a car or having someone make the drive to SFO. Finally, the group mentioned a new light rail project that will be completed in 2016. The Sonoma-Marin Area Rail Transit (SMART) will run from the Larkspur Ferry in Marin County to Cloverdale in Sonoma County. SMART will have a stop very close to STS, which will allow for easier access for those in both Marin and Sonoma Counties.

6.5 Redding Municipal Airport (RDD)

Key Attributes

Hub designation: Non-hub
Airport Governance: City Owned and Operated (City of Redding)
% Change in seats (2001–2013): –74%
% Change in flights (2001–2013): –72%
Enplanements (2013): 23,683 (–16.1% from 2012)
Air Carrier Departures (2013): 1,669
Competing Airports: Sacramento (SMF) and San Francisco (SFO)
Allegiant Airport: No
SCASD Grant Recipient: Yes (2004, 2008)
Tourism or business destination: Business/Tourism
Major employers within a 25-mile radius of airport: Sierra Pacific Industries, Bethel Church, Shasta Regional Medical Center
Population: 255,724 (2013 Estimate)
Population % change (2001–2013): +9.2%
Median household income: $41,353
Incentives offered: Travel bank, Marketing, Waived Landing Fees, Revenue Guarantee (Community and SCASD)

RDD Route Map (as of July 1, 2014)

Red-United Express (SkyWest)

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6.5.1 About RDD

Redding Municipal Airport (RDD), in Redding, California, is a non-hub commercial service airport that serves a five-county (Shasta, Siskiyou, Trinity, Tehama, and Plumas) primary catchment area of over 280,000 people. The airport is owned and operated by the City of Redding, Airports Division. The Redding area is home to several diverse employers including Bethel Church, The Coca Cola Bottling Company, Sierra Pacific Industries, Bethel Ministries, and 3M. The region is also home to various outdoor recreation tourist destinations including Lake Shasta, Mt. Shasta, Lassen National Park, and the Whiskeytown National Recreation Area.

RDD is served by United Express (SkyWest) operating small propeller aircraft with service to San Francisco International Airport (SFO). In 2013, RDD captured only 13% of the market within its catchment area (see Exhibit 6-12), with 67% of passengers driving 153 miles to Sacramento International Airport (SMF) and 11% driving 228 miles to SFO. In 2013, RDD had 23,683 enplanements, down 16% from 2012. In 2013, RDD had average airfares of $513, well above the national average of $381 (BTS 2013).

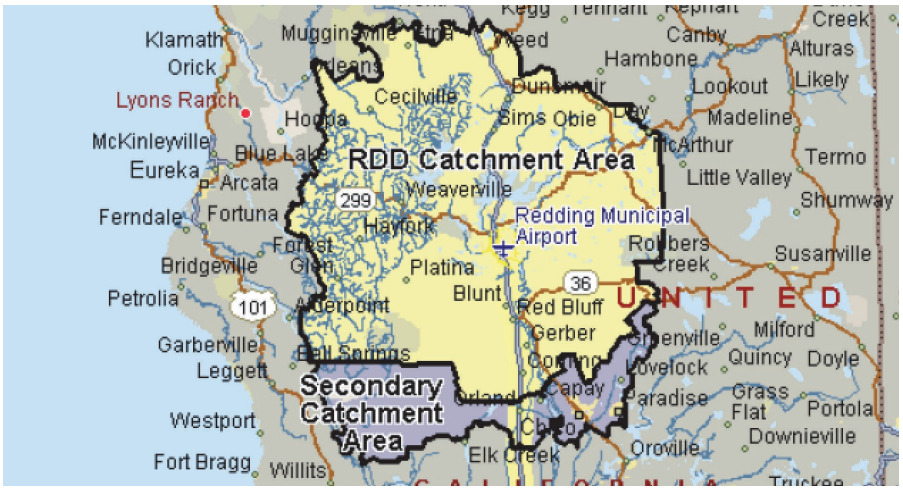
6.5.2 Local Economic Activity Analysis

The economy of the Redding catchment area is relatively small, with a heavy emphasis on education and health services as well as trade, transportation, and utilities (see Exhibit 6-13). Total employment of the region in 2013 was 74,534. It has experienced a moderate decline in employment since 2001, as shown in Exhibit 6-14. The area lost 6,938 jobs or roughly 8.5% of the employment base. Most of this decline was due to reductions in manufacturing (−35.9%) and construction (−37.6%). The small decline in leisure and hospitality services was something of a surprise given the proximity to Mt. Shasta and its related vacation destinations.

6.5.3 History of ASD at RDD

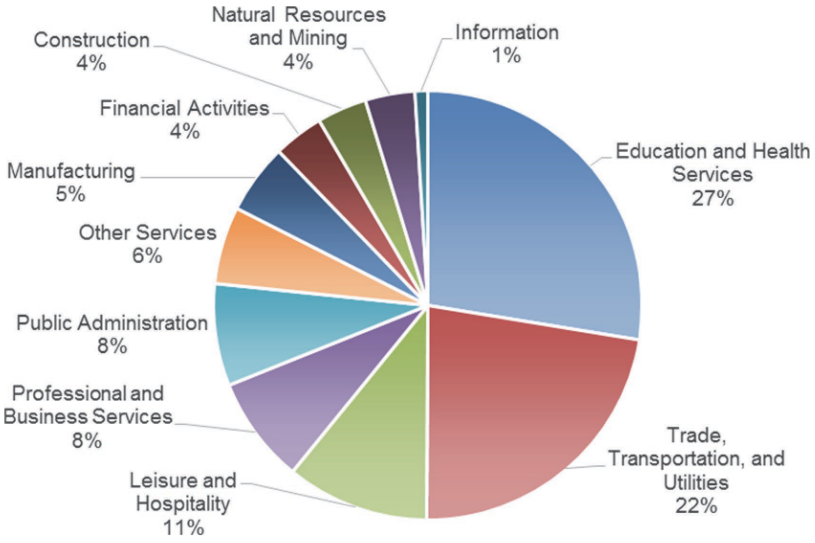
The recent history of air service development at RDD begins after the terrorist attacks of September 11th, 2001, when, like many small- and non-hub airports, Redding lost significant commercial service. In 2003, RDD had service to Portland (PDX) on Horizon and SFO on United. Exhibits 6-15 and 6-16 illustrate the decrease in both October flights and seats from 2001

Exhibit 6-12. RDD catchment area.



Source: 2014 RDD SCASD Application with permission from Mead & Hunt

Exhibit 6-13. Redding employment composition (2013).



Source: Research 360

Exhibit 6-14. Redding employment changes, 2001–2013.

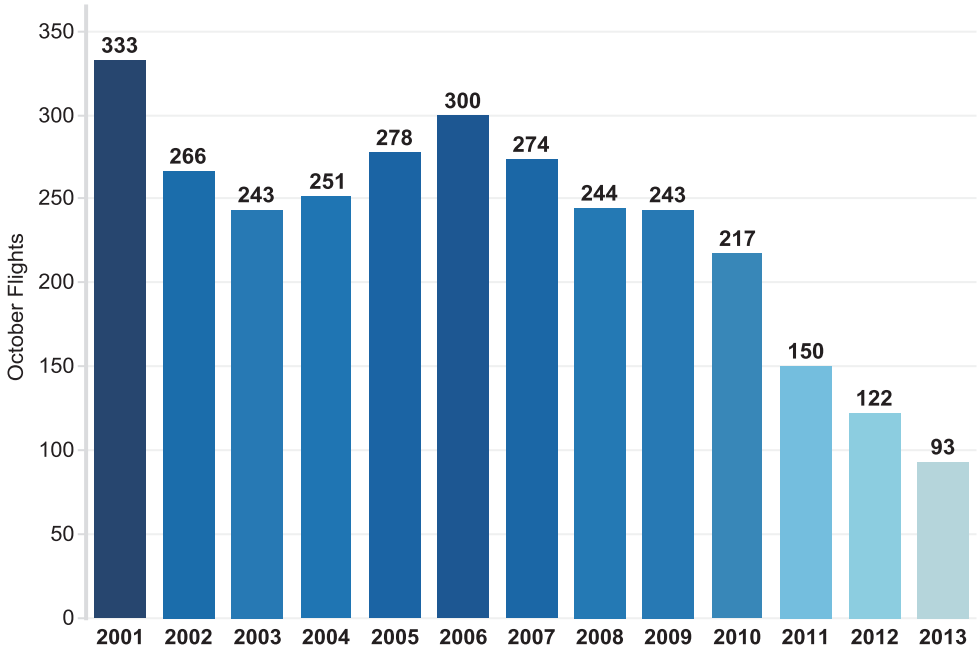
Sector	Employment, 2001	Employment, 2013	Employment Change	Percent Growth, 2001 - 2013
Education and Health Services	20,713	20,553	-160	-0.8
Trade, Transportation, and Utilities	18,291	16,784	-1,507	-8.2
Leisure and Hospitality	8,231	8,046	-185	-2.2
Professional and Business Services	6,648	6,001	-647	-9.7
Public Administration	5,309	5,737	428	8.1
Other Services	3,880	4,348	468	12.1
Manufacturing	6,134	3,933	-2,201	-35.9
Financial Activities	3,436	2,819	-617	-18.0
Construction	4,480	2,797	-1,683	-37.6
Natural Resources and Mining	3,196	2,791	-405	-12.7
Information	1,154	725	-429	-37.2
	81,472	**74,534**	**-6,938**	**-8.51%**

Source: Research 360

to 2013. To reverse the trend of declining air service at RDD, airport officials applied for and received a $500,000 SCASD grant from the U.S. DOT for a minimum revenue guarantee to support a new Horizon Air route to Los Angeles (LAX). The City of Redding, the Redding Chamber of Commerce, and the Economic Development Corporation of Shasta County agreed to provide $60,000 in marketing support for the new route. In April of 2005, Horizon Air began service from RDD to Los Angeles using a Bombardier Q-400. The airport used the marketing money to buy billboard space on Interstate 5 to inform residents driving to Sacramento International Airport of the new LAX service at RDD. The RDD-LAX service was successful, averaging a load factor of 76% (RDD 2008).

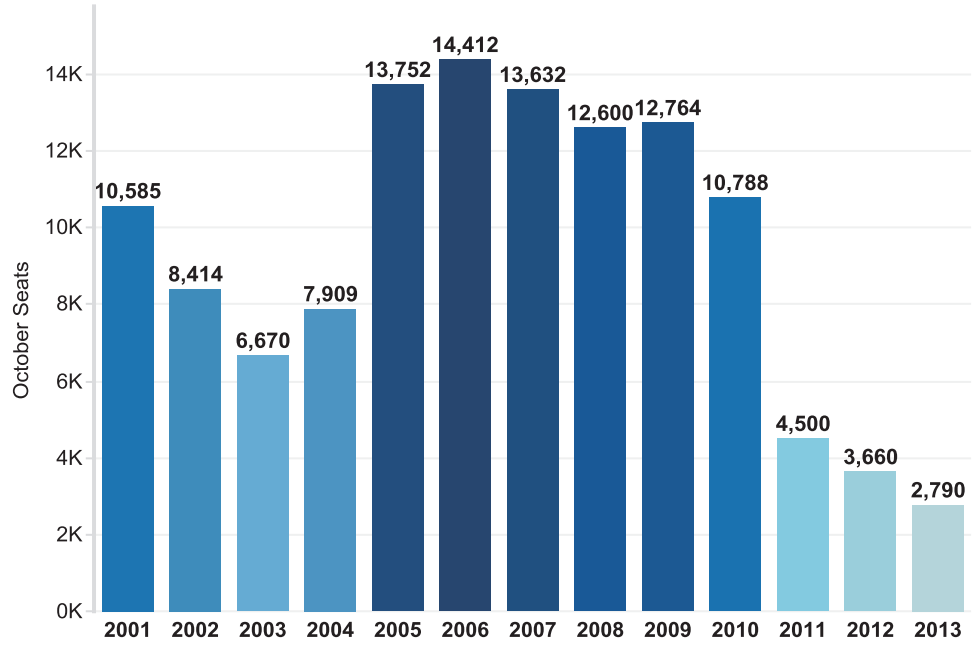
Spurred by the new Horizon Air service, both seats and flights increased drastically from 2005 to 2007. During that time, airport officials worked with their consultant to identify the top destinations for the Redding market and found that eastbound hubs such as Denver, Phoenix, and Salt Lake City would be most supported by the local market. Airport managers and community leaders met with Delta several times from 2006 to 2008 to discuss eastbound service to Salt Lake City on SkyWest Airlines. In 2008, the airport applied for and received a second SCASD grant for

Exhibit 6-15. October flights at RDD (2001–2013).



Source: GRA Analysis of OAG Data

Exhibit 6-16. October seats at RDD (2001–2013).



Source: GRA Analysis of OAG Data

$500,000 to support a minimum revenue guarantee to reduce the risk to Delta for starting SLC service. Additionally, the SCASD grant included a $600,000 travel bank to support the proposal. However, during contract negotiations with Delta for the SLC route, the price of oil spiked to over $100 per barrel, making the route unprofitable. Delta walked away from negotiations and RDD did not receive eastbound service. RDD subsequently asked for and received an extension of the SCASD grant.

In 2009 and 2010, Horizon Airlines started to reduce the frequency of flights from RDD to both Portland and Los Angeles. In 2009, Horizon Air replaced the Portland service with service to Seattle. However, the RDD-SEA route was discontinued in 2010. During the same time, airport officials were able to secure funding for a $9 million terminal expansion and renovation project at the airport. In 2011, airport officials noticed during their meetings with executives from Horizon Air that many route-planning decisions were now being made by parent company Alaska Airlines. On March 10, 2011, Alaska Airlines officials notified Redding officials that they would cease all operations at the airport. Airport officials expressed surprise at the announcement noting "We had just been meeting with them on this terminal building expansion, so we continued dialog on different things" (TRS 2011).

Following the departure of Horizon from RDD, the community was only left with five (and (eventually three) daily flights to San Francisco on United Express. In 2011 and 2012, the airport manager worked with the airport's ASD consultant to identify a strategy to make RDD competitive during discussions with airline route planners. Additionally, the airport manager and consultant attended the JumpStart Air Service Development program to meet with carriers to discuss new service at RDD. The airport manager also attended several headquarter meetings with carriers to discuss new service. However, the airport manager noted, "Because there are different people at every airline route-planning meeting, it makes it tough to develop relationships." During those meetings, many carriers made it clear that the community would have to significantly reduce the risk to the carrier of starting new service at Redding.

The airport manager began to work closely with the economic development corporation (EDC) of Shasta County to develop a plan to engage the business community in ASD efforts. The President of the EDC, who had recently started in the position, was a long-time businessman in Shasta County and had a great reputation among the local business community. The airport manager noted, "He was able to bring credibility and private-sector experience to our air service development efforts." In April of 2013, the airport manager, under the signature of the city manager, invited the top 50 business leaders in the community to a meeting at the City Council Chamber to discuss the future of commercial air service at Redding. The session began with an educational presentation from the airport's consultant who described the state of air service development and nationwide trends in air service. Following the presentation, the 30 participants noted that they no longer used or even checked flights from Redding because of the lack of flight options and the lack of reliability of the United Express service due to frequent cancellations caused by low ceilings at SFO. The airport manager noted, "And you know, that hurts a little bit but its reality . . . they're running a business and if you get a bad meal at a restaurant, how many times are you gonna' give your money there?" The airport manager then asked the business owners if they wanted to give up on attracting commercial air service to Redding. The business owners noted that while they would not support additional service to SFO, they would be willing to financially support new air service to Los Angeles or an eastbound hub. However, this would be difficult, because the community could not apply for a SCASD grant for Los Angeles service because they had previously received a grant in 2004 for Los Angeles service.

Using the feedback from the meeting and analysis from the airport's market studies, the airport manager, EDC President, and airport consultant decided to focus the community's ASD efforts on service to Los Angeles. Additionally, during a second community meeting on May 16, 2013,

the EDC President, airport manager, and consultant decided to develop an innovative travel bank/revenue guarantee program funded entirely by contributions from local businesses and residents. The air service support program would require a minimum pledge of $2,000 that would be split (either 90/10 or 80/20) between a travel bank for tickets and a minimum revenue guarantee for the carrier. The President of the EDC framed the minimum revenue guarantee as a "fare premium to get service for the first year." Once a business or individual made a pledge, they were required to provide 50% of the pledged amount by July 31, 2013, to the EDC of Shasta County, who would manage the accounts and place the funds in the Member First Credit Union. The remaining 50% balance was due upon the successful signing of a contract with a carrier to provide service at Redding. However, if the group could not attract a carrier by June 2014, the initial pledge would be returned to investors. Following the meeting establishing the travel bank, the number of business leaders involved decreased from 30 to 15. The airport manager noted,

> It wouldn't have been successful if we wouldn't have those 15 original core businesses that became true champions of the program because when they spoke, their counterparts, the other businesses, it gave it tons more credibility and validity, more so than me asking for them to participate, even though I am well known in the community.

The group then began the quiet phase of the travel bank campaign by securing pledges from the core group of businesses in the community. By July 31, 2013, the pledge drive resulted in $837,000 in pledges from local businesses to kick start the public phase of the campaign. While the airport manager and EDC President knew that many individuals and smaller organizations would not be able to contribute a significant amount to the travel bank, they wanted to engage the larger community in the effort. They began visiting local Rotary Clubs and service organizations to educate the community on the program and the importance of the airport to the region.

As of March 2014, the travel bank had 41 investors and had raised a total of $1,031,000 for ticket purchases and a minimum revenue guarantee for a carrier to provide new service at Redding. While air carriers have been impressed with the amount that the community has been able to raise for the travel bank, many have asked for larger minimum revenue guarantees. However, the airport manager reminds carriers, "It is money in the bank, it's not a DOT grant, it's easy to come up with a half million grant from the federal government, it's different when it's somebody's money." Despite this strong show of community support, Redding has not been able to attract new air service to the community.

6.5.4 Themes from the RDD Focus Group

- **While customer perception of the airport is good, the unreliability of service to SFO is a major problem**

A major theme that emerged from the conversation was that while participants were excited about the new terminal construction and enjoyed the expedited security experience at Redding, they said they are unlikely to fly out of the airport due to concerns about the reliability of SkyWest flights into San Francisco. One participant noted, "When I fly out of Redding, going to San Francisco, the perception is you don't know if you are going to make your connection or not. It has nothing to do with Redding, just San Francisco." Another participant, who was an investor in the travel bank, noted, "Tomorrow morning I will leave my house at 3 in the morning to drive to Sacramento, get on a flight and be in a meeting in Denver by 1 pm and do the same thing to come home because I can't get there from here reliably." The conversation turned to the effect of the lack of reliability of the service and the lack of available fight options on the local economy. One participant mentioned, "From a business perspective, we are handcuffed wanting to get people on the ground and seeing the business community—we have to get them here first and it is not that easy to do without flights."

- **Despite the success of their travel bank program, participants noted that they would be willing to use that money as a revenue guarantee to attract new service**

Another major theme that emerged from the conversation was that while the investors in the Redding travel bank were proud of raising over $1 million in ticket pledges, they realized that the air carriers were much more interested in minimum revenue guarantees. One investor noted, "I think the travel bank is a good thing, and I'm surprised we got to the level that we did. I wish we would have invested more on the other side (revenue guarantee) because I think that's what the airlines were looking for." During the conversation, several investors noted that if an agreement with a carrier were on the table, they would convert their ticket pledges into a minimum revenue guarantee. One participant said, "I think if in fact that revenue guarantee isn't attractive enough to the airline, there are people in the business community that would change that number, I know that I am one of them, I'll give you all the money I put in." Other participants expressed a desire for a longer term contract with a carrier if they were to change their pledges to a minimum revenue guarantee, "They want us to front the money. I mean, that's fine, but . . . you better guarantee a longer service contract."

- **Participants expressed frustration over the lack of community control of air service**

Investors in the Redding travel bank also expressed frustration over larger airline industry changes such as the price of oil, air carrier policies, and fleet realignments that take much of the control for air service out of the hands of the local community. One participant noted, "It just seems that so much of this, we are 2% of the argument, but 98% is up to the airline, you know flights and planes and pilots we don't control any of that." Elaborating on that comment, another investor noted,

> The market is changing all the time now with the merging of US Air and American, making them the largest airline in the world, it throws another one. We only represent, smaller airports, non-hubs and small hubs only represent 2–5%, it's a small number of the entire passengers that go through their system so they don't want to make a large investment in small communities.

Participants also expressed frustration that ensuring that a route was profitable was no longer sufficient to ensure sustainable air service in a community. One investor said, "We were profitable, there were just more routes that were more profitable." Finally, participants expressed frustration with a policy by United Airlines that says the carrier will not provide direct service from one community to another if it flies over a hub. Therefore, United would be unwilling to provide service from RDD-LAX without first stopping in SFO.

6.6 Hector International Airport (FAR)

Key Attributes

Hub designation: Small hub
Airport Governance: Airport Authority
% Change in seats (2001–2013): 25%
% Change in flights (2001–2013): 50%
Enplanements (2013): 398,101 (9.3% from 2012)
Air Carrier Departures (2013): 7,390
Competing Airports: Minneapolis-St. Paul (MSP) and Bismarck (BIS)
Allegiant Airport: Yes
SCASD Grant Recipient: Yes (2005, 2011)
Tourism or business destination: Business

Major employers within a 25-mile radius of airport: Microsoft Corporation, Bobcat Company, and Case New Holland
Population: 118,642 (2013 Estimate)
Population % change (2001–2013): +17.7%
Median household income: $49,745
Incentives offered: Marketing, Waived Landing Fees, and Revenue Guarantee

FAR Route Map (as of July 1, 2014)

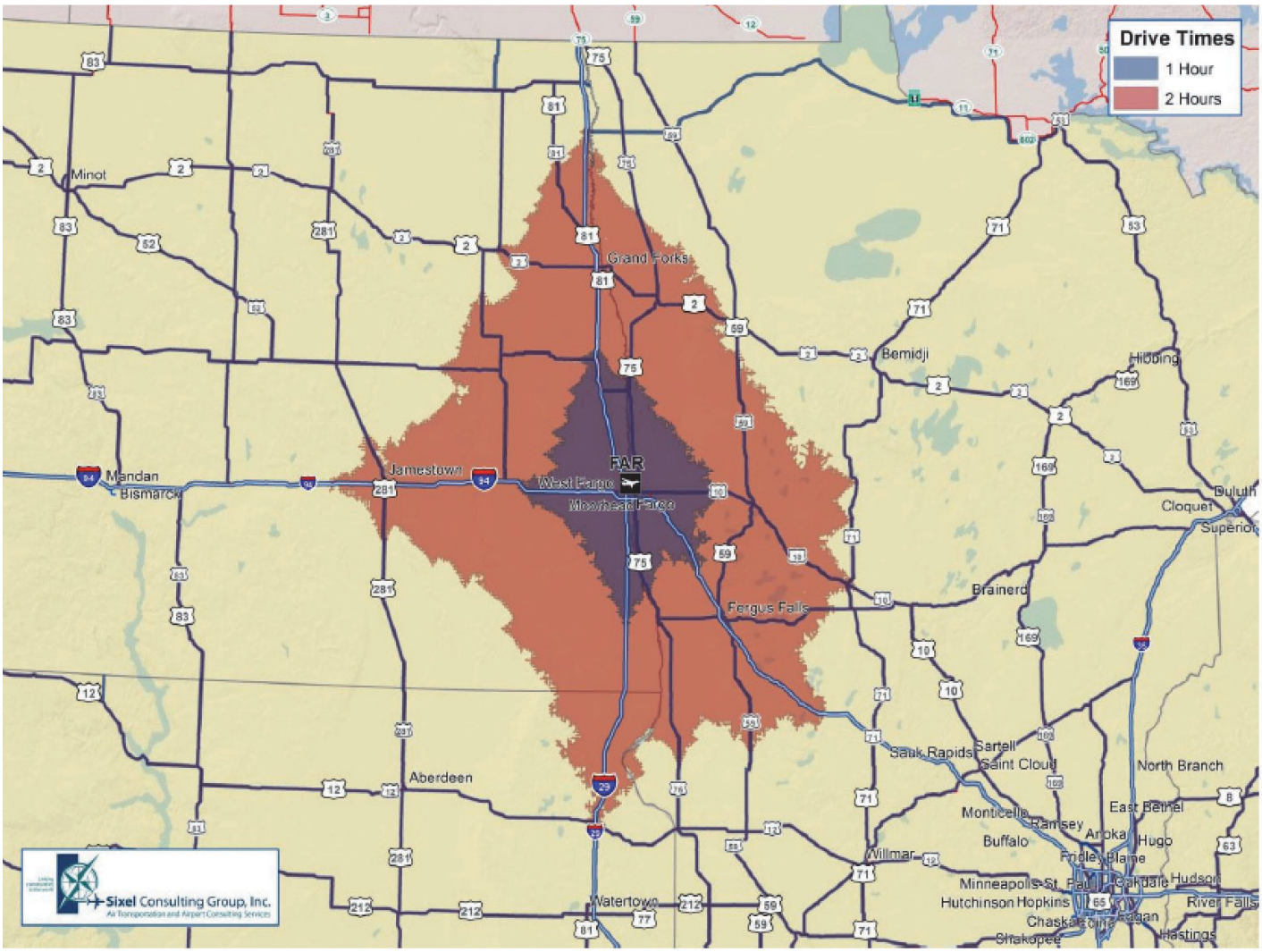
Red-American Eagle, Orange-Allegiant, Blue-Delta, Navy-United, Green-Frontier

6.6.1 About FAR

Hector International Airport (FAR) in Fargo, North Dakota, is a commercial service small-hub airport that serves a primary catchment area of southeastern North Dakota, northeastern South Dakota, and western Minnesota. The airport's secondary catchment area extends even further into the three states and has a population of over two million (Exhibit 6-17). The airport is owned and operated by the Municipal Airport Authority. The Fargo region has one of the fastest growing economies in the United States and has the second lowest unemployment rate in the United States (BLS 2014). The region is home to several large manufacturing facilities for Bobcat Corporation, John Deere, Caterpillar, Case New Holland, and the Microsoft Corporation.

FAR faces limited competition from nearby airports (Exhibit 6-18). FAR retains 75.5% of passengers in its primary catchment area with 14.3% of residents driving to Minneapolis-St. Paul International Airport (MSP) and 5.3% driving to Bismarck Municipal Airport (BIS). FAR has nonstop service to 11 destinations on five carriers including Allegiant (Las Vegas, Orlando Sanford, Phoenix-Mesa, Los Angeles, and Tampa St. Petersburg), American Airlines (Chicago and Dallas), Delta Air Lines (Minneapolis, Salt Lake City, and Atlanta,), Frontier Airlines (Denver), and United (Chicago and Denver). Currently, Delta has the largest market share at FAR (41 percent) followed by United (24 percent), and Allegiant (17 percent). In 2013, FAR set a record for enplanements with 398,101, a 9.3% increase over 2012.

Exhibit 6-17. FAR catchment area.



Source: 2011 FAR SCASD Grant with permission from Sixel Consulting

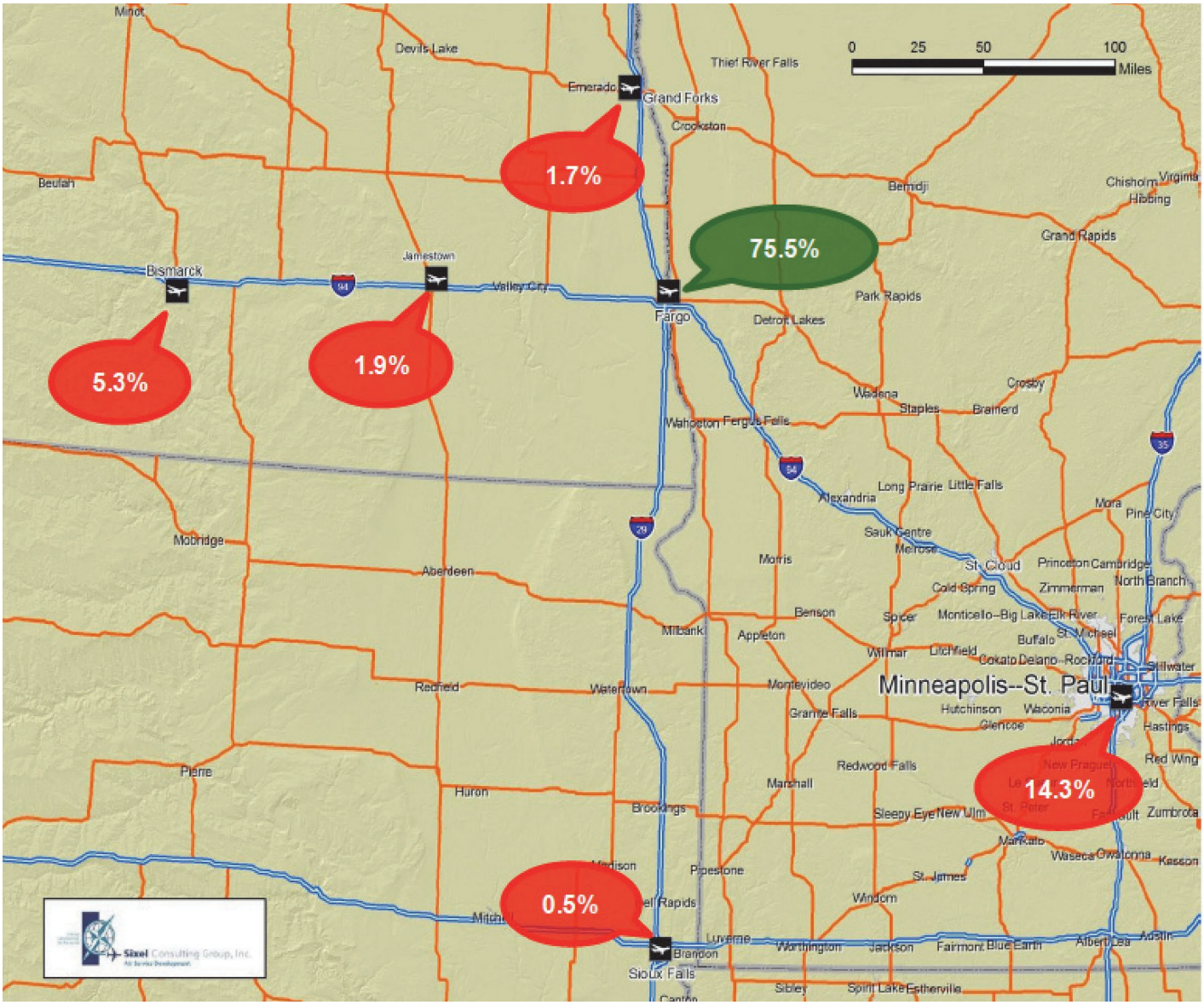
6.6.2 Local Economic Activity Analysis

The economy of the Fargo catchment area has seen significant gains in employment (see Exhibits 6-19 and 6-20). Since 2001, the area has added 28,005 jobs creating a growth rate of 23.6%. This is significantly more than the other focus group economies. The Fargo economy is still relatively small with a total employment base in 2013 of 146,568. Nearly all sectors of the economy experienced employment growth since 2001. Education and health services added 7,853 jobs; manufacturing 2,200; construction 2,207; and professional and business services 4,872. Information was the only sector that lost jobs but the number was insignificant.

6.6.3 History of ASD at FAR

The recent history of air service development at Hector International Airport (FAR) began in 1998 when pilots for Northwest Airlines went on strike. Northwest had 92% of the market share at FAR and the strike left the airport with service on three 30-passenger weight-restricted flights on United Express to Chicago. The FAR airport manager said, "That was the moment

Exhibit 6-18. FAR leakage to surrounding airports.

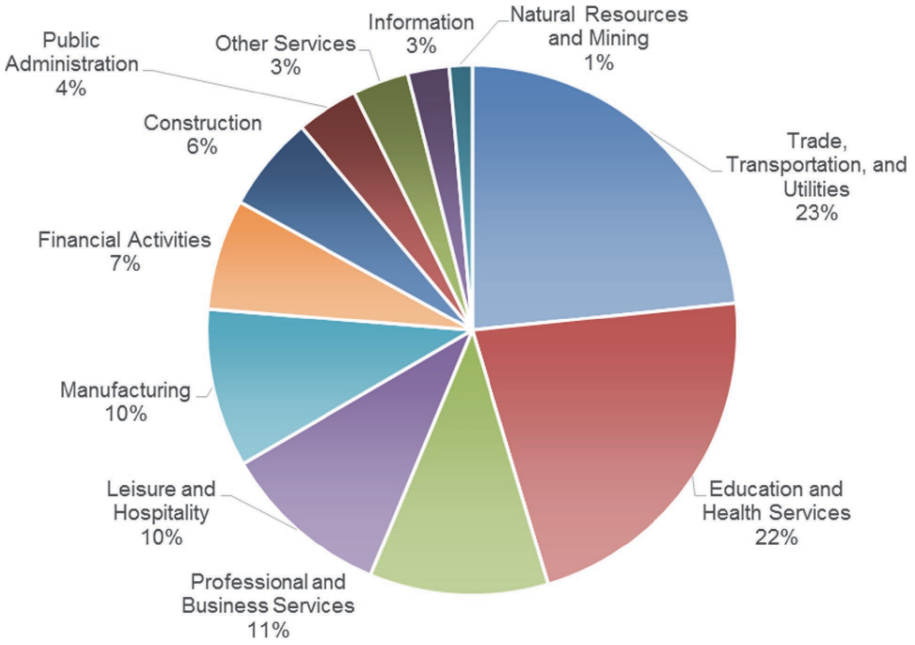


Source: 2011 FAR SCASD Grant with permission from Sixel Consulting

when our community woke up." Following the disruption of air service, the mayors of Fargo and Moorhead established an air service task force to help recruit new air service and support incumbent airlines. The task force consists of the Greater Fargo-Moorhead Economic Development Corporation, the Chamber of Commerce of Fargo-Moorhead and West Fargo, and the Fargo-Moorhead Convention and Visitors Bureau.

Beginning in late 1998, airport officials and the Fargo Air Service Task Force began to actively recruit new air service to the airport. In 2005, the airport retained services from an ASD consultant to recruit additional service, including the region's first low-fare airline. From January to April of 2005, members of the Fargo Air Service Advisory Group accompanied airport executives to airline headquarters meetings in Phoenix, Atlanta, Minneapolis, and Chicago to speak with executives to attract new service to the airport. In the fall of 2005, Allegiant Air announced twice weekly flights to Las Vegas to provide service to additional leisure markets

Exhibit 6-19. Fargo employment composition (2013).



Source: Research 360

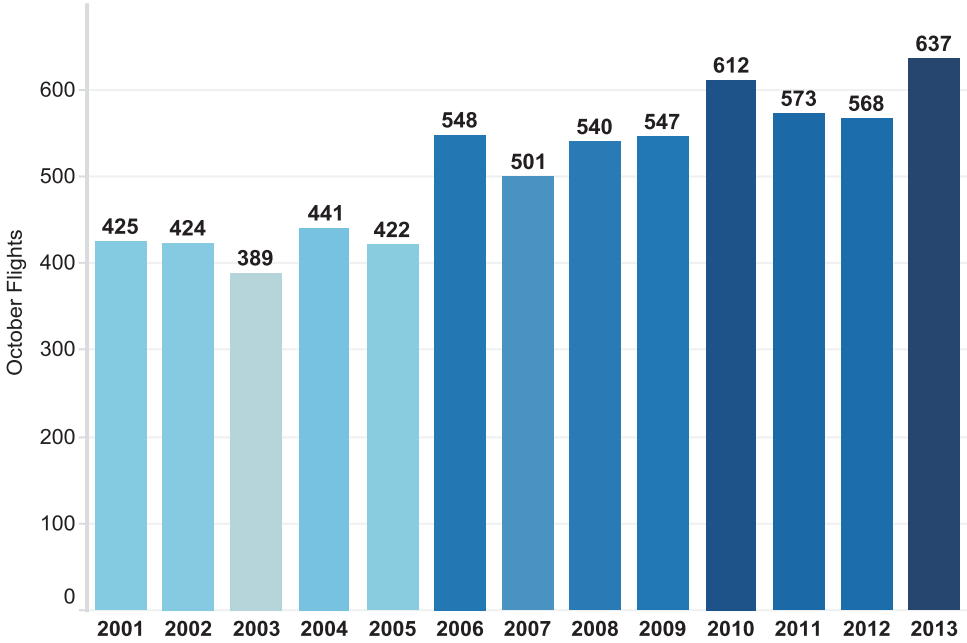
Exhibit 6-20. Employment changes, 2001–2013.

Sector	Employment, 2001	Employment, 2013	Employment Change	Percent Growth, 2001 - 2013
Trade, Transportation, and Utilities	30,007	34,249	4,496	15.1
Education and Health Services	24,948	32,474	7,853	31.9
Professional and Business Services	11,484	16,356	4,872	42.4
Leisure and Hospitality	12,519	14,886	2,460	19.8
Manufacturing	11,769	13,746	2,200	19.1
Financial Activities	7,748	10,212	2,521	32.8
Construction	6,796	8,958	2,207	32.7
Public Administration	5,031	5,473	538	10.9
Other Services	4,326	4,808	538	12.6
Information	3,782	3,592	-190	-5.0
Natural Resources and Mining	1,382	1,814	510	39.1
	119,792	**146,568**	**28,005**	**23.6%**

Source: Research 360

from FAR. Also in 2005, the airport applied for and received a SCASD grant for $675,000 from the DOT to provide marketing, start-up cost offsets, and a revenue guarantee for non-stop service to Phoenix (PHX) on America West Airlines. The SCASD grant was matched with $50,000 in cash from FAR and $50,000 in cash from the Fargo-Moorhead EDC and the Fargo-Moorhead Convention and Visitors Bureau. Additionally, local businesses provided in-kind contributions of $106,000 composed of crew hotel nights, fuel rebates, and landing fee waivers. As airport officials and America West were discussing the service, the air carrier merged with US Airways to form the current US Airways. The new carrier informed officials that they had no interest in starting service from Fargo to Phoenix. The airport was able to gain approval from the DOT to reprogram the grant to try to attract Delta to provide service to its hub in Salt Lake City. In June 2006, Delta began service from Fargo to Salt Lake City on a 50-seat regional jet.

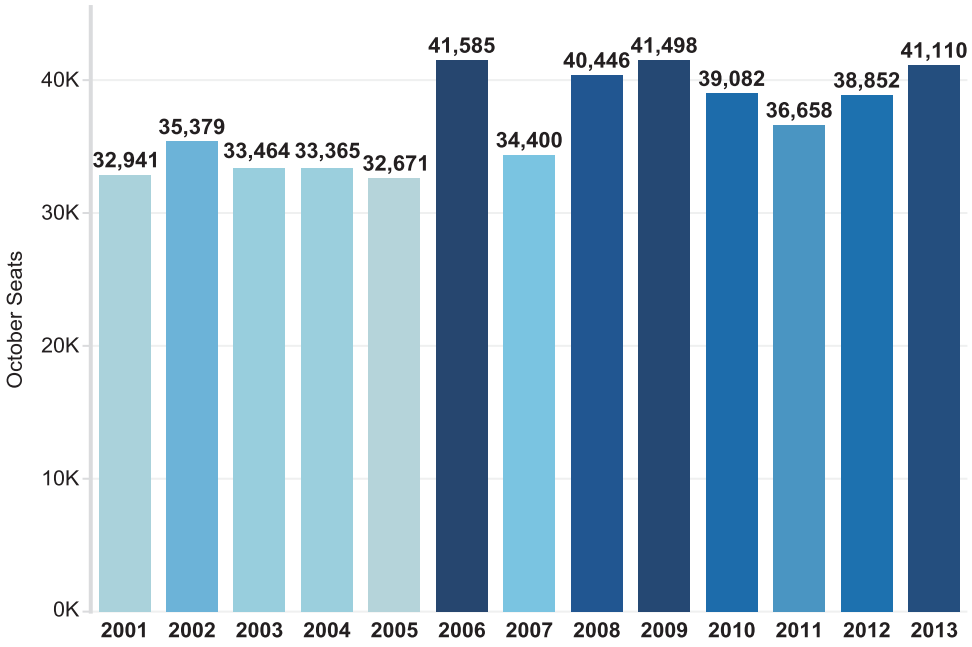
Exhibit 6-21. October flights at FAR (2001–2013).



Source: GRA Analysis of OAG Data

Following the announcement of the new Delta service to Salt Lake City which was a result of the SCASD grant, officials at FAR continued their efforts to expand both low-cost and network carrier air service. From 2006 to 2011, FAR experienced a series of air service gains and losses that resulted in a small increase in flights but no net growth in seats (Exhibits 6-21 and 6-22). In the fall of 2005, Allegiant began service from FAR to Las Vegas (LAS) and expanded its presence with additional service to Phoenix/Mesa (AZA) in 2007 and Orlando Sanford (SFB) in 2008.

Exhibit 6-22. October seats at FAR (2001–2013).



Source: GRA Analysis of OAG Data

In early 2008, Delta announced that it was ending the Salt Lake City (SLC) service due to high fuel costs. Undeterred by this loss of service, airport officials were able to attract new service on Frontier, which began non-stop service to Denver on a 74-seat Bombardier Q-400 aircraft in May 2008. Specifically, the Greater Fargo-Moorhead Economic Development Corporation provided Frontier with a $125,000 reimbursement to offset start-up fees and expenses to start service at FAR (Knutson 2010).

Between 2009 and 2010, Fargo saw an increase in the number of flights at the airport. On June 4th, 2009, Delta announced that it would restart the Fargo to Salt Lake City route that it had abandoned a year earlier due to a drastic increase in fuel prices. Additionally, Allegiant began service from Fargo to Los Angeles (LAX) in May 2009. Officials from Allegiant noted that while their business model centers on leisure travelers, the flight to LAX would be a convenient choice for business travelers from Fargo looking for non-stop access to Los Angeles (Schuster 2009). In April 2010, American returned to Fargo with three daily non-stop flights to Chicago O-Hare Airport (ORD). The Greater Fargo-Moorhead Economic Development Corporation offered American a $134,000 reimbursement to offset costs associated with start-up fees and expenses at FAR (*USA Today* 2009). In April 2010, Frontier announced that it was ending Fargo's service to Denver.

Following the successful start of American service to Chicago, airport and local economic development officials identified a need in the business community for better connectivity to locations in Texas and in Latin America. Therefore, in 2011, airport officials applied for and received a $750,000 SCASD grant to attract American service to its hub in Dallas/Fort Worth (DFW). In addition to the $750,000 revenue guarantee provided by the SCASD grant, the community pledged an additional $275,000 of revenue guarantees ($125,000 from the airport, $100,000 from the EDC, and $50,000 from the CVB), $30,000 from the airport in waived landing fees, $25,000 from the airport in marketing for the first year of the flight, and $25,000 in marketing from the CVB for the second year of the flight. On October 24, 2012, American announced that it would begin a daily non-stop flight from DFW to Fargo in February 2013. In addition to securing the American service to DFW, airport officials worked closely with Frontier to bring its low-cost service back to Fargo. In November 2012, Frontier began three daily flights from Fargo to Denver. The most recent addition to air service at Fargo came in December 2013 when Delta began Saturday-only non-stop service to its hub in Atlanta (ATL). At this time, FAR has not provided incentives to either Frontier or Delta for these new routes.

Fargo's ASD strategy has focused on collaboration and coordination, among the airport, the EDC, CVB, and the Chamber. The EDC, CVB, Chamber, and airport share board members, which helps to foster effective communication regarding ASD efforts. Specific roles are as follows:

- The Fargo-Moorhead EDC's main role is to generate funds to support incentive packages, particularly in the area of revenue guarantees. The EDC is in constant contact with the airport manager regarding potential new routes and incentive packages. Additionally, the EDC is represented at airport board meetings, promotes the airport through its website and email blasts, and often sends representatives to airline meetings.
- The Fargo-Moorhead CVB has provided marketing support, both in terms of cash and in-kind contributions, to generate awareness of new service in the local market as well as in destination cities.
- The Chamber of Commerce of Fargo-Moorhead provides access to political decisionmakers and garners their support for ASD efforts at FAR.

The airport manager at FAR is a former Chamber president who noted that in order to keep the business community engaged, it is vital to have constant and sustained outreach through demand surveys and educational sessions regarding changes in airline industry trends. The airport manager and the airports' consultant routinely travel to local Chamber and service organization meetings to educate and update the community on air service. Additionally, the airport

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manager noted that while the organizations involved in air service development in Fargo work well together, it is important to remember that each organization has a distinct role that it must play. In discussing the distinct role between the Chamber and the EDC, the airport manager noted, "As a past Chamber board chair and past board member for over 10 years, I know that economic development is not the Chamber's responsibility, never has been never will be, they are a supporter of it, they can assemble people or provide job training, but they are not the lead."

The benefit of the airport, EDC, Chamber, and CVB working together closely is that businesses in the community know their concerns and requests will be handled by a cohesive and responsible group of organizations in constant communication with one another. The airport's strong relationship with local economic development groups is an important asset when communicating the community's demand for new air service to carriers.

6.6.4 Themes from the FAR Focus Group

- **Participants were generally pleased with and proud of the travel experience at Hector International Airport**

A theme that emerged from the conversation regarding air service at Fargo was that participants were generally pleased with and proud of their airport. Throughout the conversation, local business owners noted that the airport provided a great first impression to business travelers who might not be familiar with the city or the region. As one participant noted, "When people come into town, the only thing they know about Fargo was from the movie. It's not a good example, but any press is good press. But, they come into this facility and we pick them up and they rent a car and they are very impressed." Other participants noted, "The ease of getting in and out of the airport is one of the things that most businessmen comment on the first time we bring them in here." Participants noted that while they had occasional issues with waiting for their baggage or getting through security, the airport experience was very convenient.

The sense of pride in the airport was further illustrated by the large displays of farm equipment manufactured or assembled in the Fargo region. When the moderator asked the business representatives in attendance why they placed equipment in the airport, one respondent noted, "There's not a lot of sales but you want to support the community and the airport is part of the community and we want to let them know, when people come in and we have a lot of people coming in and we want them to see our products." Another participant noted that one local business has had the same spot in the baggage claim area since 1986 and will not give up the spot. Finally, one participant noted, "I don't know if we've sold many skid loaders off the airport floor but people are amazed, oh this is where they come from."

- **Business leaders in Fargo are satisfied with the level of air service in their community and have an understanding of larger airline industry trends**

A dominant theme that emerged from the conversation with local business owners was that they were pleased with the overall level of air service at FAR. It was clear from the conversation that the airport's outreach to the community had resulted in a clear understanding of larger industry changes that affect ASD efforts in Fargo. Specifically, one participant noted, "I think with what's available out there, we are doing a great job. The problem is that there isn't many carriers available that we don't already have an affiliation with, so I don't know where else you go at this point." This quote illustrates that local business leaders are familiar with recent mergers in the airline industry. Another participant assessed Fargo's air service with that in other cities, noting, "Overall, the air service we have out of Fargo, North Dakota . . . we consider that to be fantastic compared to what we see in other cities." Similarly, one participant noted, "I've been very impressed with the offerings we have for the size of our community."

Participants noted that although they were satisfied with the flight options from Fargo, they felt that there was not enough available capacity to satisfy the demand in the market. One participant noted, "Flights have been filling up. As a frequent traveler, you could always get on a flight to Fargo—that doesn't happen anymore." Another participant noted, "I agree with the fact that it seems you aren't able to get on flights out of here like we used to. Part of it seems to be the flights are full and I think mergers have played a large part in this. I know they parked a lot of planes which should be brought back into service." Participants noted that the growth in the North Dakota economy, both from oil and natural gas in the western half of the state and technology-related business in the Fargo region, had outpaced air service in the state.

- **Participants felt that retaining current air service was more important than attracting new service that might disrupt existing flights**

Another theme that emerged from the focus group was that although local business owners were willing to participate in efforts to attract new air service through the Greater Fargo-Moorhead Economic Development Corporation, they are more concerned with retaining the service already at FAR. When the moderator asked the group about new routes that they would like to see the airport pursue, one participant noted, "We got our wish, Atlanta. I'm just hoping it will expand a little, but our wishes were covered." Another participant noted, "We should be in a retention mode now, trying to keep what we have." The moderator asked the group if they would be willing to support new attraction efforts. Participants noted that because their businesses are so dependent on air service, they would be willing (as they had in the past) with the EDC to support new service at FAR financially.

- **Participants felt the leadership of the airport manager and the EDC was instrumental in expanding, retaining, and marketing air service at FAR**

A final theme that emerged from the conversation with local business owners in Fargo was that they felt that the leadership of the airport manager and the EDC has been instrumental in increasing air service at FAR. One participant noted, "It's changed a lot in the last 30 years because of people like [the airport manager] and the rest of the EDC. In the past, they didn't have the initiative to go after and keep airlines." Additionally, participants had favorable views about the airport's marketing campaign in the region. One participant noted, "I see the ads all the time. They are a good reminder. They are good. They are fun. They are, they speak to all ages, and I like what they have been doing." Finally, during the conversation, several participants noted that they appreciated that they were able to easily communicate with the airport manager and the president of the EDC regarding a range of issues from airport parking to potential new destinations.

6.7 Asheville Regional Airport (AVL)

Key Attributes

Hub designation: Non-hub
Airport Governance: Airport Authority
% Change in seats (2001–2013): –17%
% Change in flights (2001–2013): –16%
Enplanements (2013): 340,880 (7.4% from 2012)
Air Carrier Departures (2013): 7,504
Competing Airports: Charlotte (CLT), Atlanta (ATL), and Greenville-Spartanburg (GSP)

Allegiant Airport: Yes
SCASD Grant Recipient: Yes (2002, 2012)
Tourism or business destination: Tourism/Business
Major employers within a 25-mile radius of airport: Mission Health System, Blue Ridge Paper Products, GE Aviation
Population: 498,596 (2013 Estimate)
Population % change (2001–2013): +15.7%
Median household income: $44,082
Incentives offered: Waived Landing Fees, Marketing, Revenue Guarantees (SCASD and Community)

AVL Route Map (as of July 1, 2014)

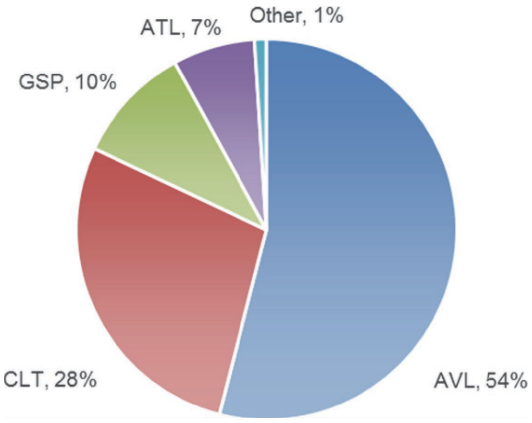
Red-US Airways, Orange-Allegiant, Blue-Delta, Navy-United

6.7.1 About AVL

Asheville Regional Airport (AVL) in Asheville, North Carolina, is a commercial service non-hub airport that serves an 11-county catchment and has a population of approximately 500,000 residents. The Greater Asheville Regional Airport Authority operates the airport. In 2012, the North Carolina legislature changed the structure of the board to a state-sanctioned independent airport authority with more regional representation and governance.[6] The

[6]AVL website.

Exhibit 6-23. Leakage rates at Asheville Regional Airport (2012).



Source: Asheville Regional Airport

Asheville region has experienced significant population growth since 2001 and has become home to burgeoning art, beer, and culinary industries that have led to increased tourism in the area. The region is home to several tourist attractions including the Biltmore Estate, the Smokey and Blue Ridge Mountains, Chimney Rock State Park, and live music venues. Finally, the Asheville area is home to several small businesses including a cluster of micro-breweries that has led to Asheville's designation as Beer City USA. This designation has led larger breweries such as Sierra Nevada and New Belgium Brewing to announce plans to build East Coast facilities in Asheville.[7]

AVL faces significant competition from nearby airports including Greenville-Spartanburg International Airport (GSP-60 miles/1-hour drive), Charlotte Douglas International Airport (CLT-105 miles/1¾-hour drive), and Hartsfield-Jackson Atlanta International Airport (ATL-200 miles/3-hour drive). In 2012, a leakage study commissioned by the airport found that within its natural catchment area (70 miles/1-hour drive), AVL retains only 54% of its passengers.

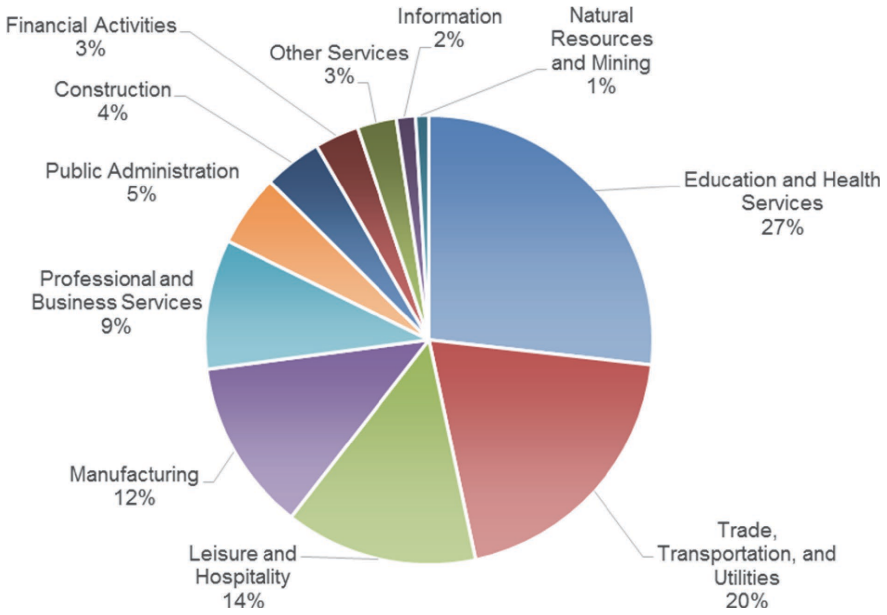
Exhibit 6-23 shows that the airport experiences leakage to Charlotte (28%), Greenville-Spartanburg (10%), and Atlanta (7%). Most of the leakage to Charlotte (53%) is to flights on US Airways while most leakage to Atlanta is for flights on Delta (46%) (AVL 2011). AVL has non-stop service to 11 destinations on four carriers: Allegiant (Orlando Sanford, Palm Beach, Ft. Lauderdale, Ft. Myers/Punta Gorda, and Tampa St. Petersburg), Delta Airlines (New York LaGuardia, Detroit, and Atlanta,), United (Chicago O'Hare and Newark), and US Airways/American (Charlotte). In 2013, Delta had the largest market share at AVL (42%) followed by US Airways/American (32%), Allegiant (13%), and United (13%). In 2013, AVL had 340,880 enplanements, an increase of 7% from 2012.

6.7.2 Local Economic Activity Analysis

The economy of the Asheville catchment area is unique in that there is no dominant industry or firm. The area has experienced a significant change since 2001 (see Exhibits 6-24 and 6-25). Manufacturing lost 20,276 jobs accounting for a –41.6% change. Also hard hit was the local construction industry, shedding 5,937 jobs (–39.4%). These losses were offset by employment gains in education and health services and a significant increase in leisure/hospitality. These industries

[7]Asheville Convention and Visitors Bureau Website. www.exploreasheville.com

Exhibit 6-24. Asheville employment composition (2013).



Source: Research 360

Exhibit 6-25. Asheville employment changes, 2001–2013.

Sector	Employment, 2001	Employment, 2013	Employment Change	Percent Growth, 2001 - 2013
Education and Health Services	50,911	62,473	11,562	22.7
Trade, Transportation, and Utilities	45,690	45,197	-493	-1.1
Leisure and Hospitality	26,017	33,033	7,016	27.0
Manufacturing	48,779	28,503	-20,276	-41.6
Professional and Business Services	16,578	22,408	5,830	35.2
Public Administration	10,397	11,773	1,376	13.2
Construction	15,051	9,114	-5,937	-39.4
Financial Activities	6,610	7,215	605	9.2
Other Services	5,747	6,439	692	12.0
Information	3,208	3,053	-155	-4.8
Natural Resources and Mining	2,630	2,117	-513	-19.5
	231,618	**231,325**	**-293**	**-0.13%**

Source: Research 360

grew by 22.7% and 27.0%, respectively. Total employment since 2001 has dropped only 0.13% going from 231,618 to 231,325 in 2013. This is better than many of the focus group regions. The diversity of the economy has a stabilizing effect on the region.

6.7.3 History of ASD at AVL

The recent history of air service development at AVL begins in 2001 when the local community formed an air service task force to attract service to New York City that would supplement the airport's existing service on Delta (Atlanta and Cincinnati) and US Airways (Charlotte and Raleigh-Durham). The coalition, composed of the Asheville Regional Airport, the Asheville Area Chamber of Commerce, the Grove Park Inn, the Biltmore Estate, and AdvantageWest (a regional economic development organization), started the "Land the Big Apple" campaign to raise $500,000 in travel pledges and cooperative advertising for service to New York. Continental made the decision in July 2001 to begin twice-daily non-stop service to its Newark, New Jersey (EWR) hub. However, only

a few months into the service, the September 11th, 2001, terrorist attacks led to a drastic reduction in service across the airline industry, including in Asheville. Continental decided to reduce the frequency of the Newark to one daily flight following the attacks.

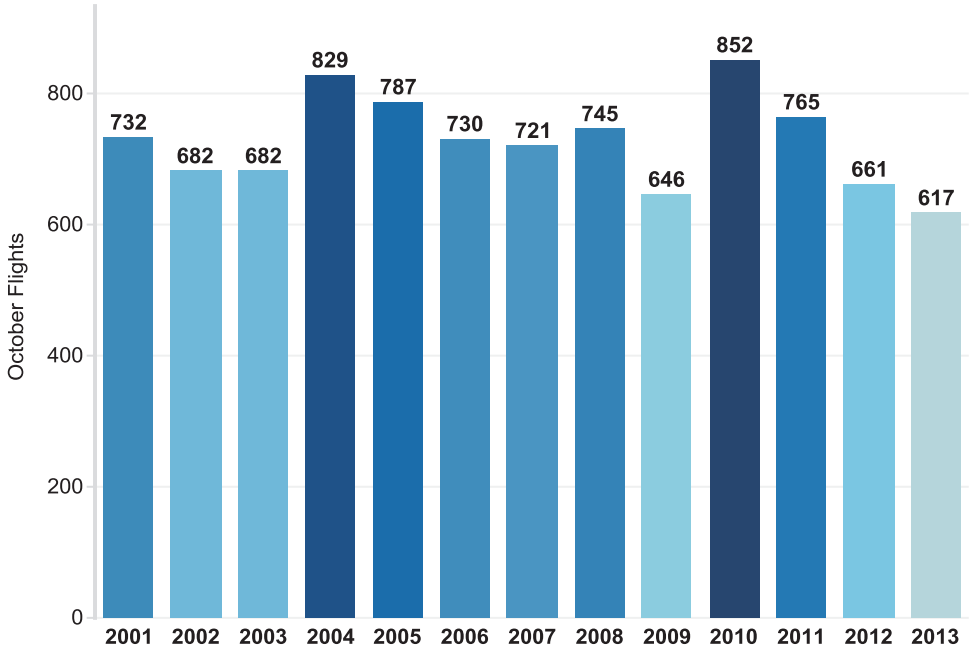
To curb this downward trend, officials at AVL applied for and received a $500,000 SCASD grant in 2002 for marketing to attract additional service to New York and to attract new service to another hub. In the proposal, the community pledged $250,000 in ticket purchases for the New York flight and over $250,000 in cash and in-kind marketing support for the flight. In February 2002, Continental announced that it would reinstate the second Newark flight from Asheville. The SCASD grant and the subsequent community outreach allowed the airport to offer marketing packages that were much larger than those offered by other airports. Specifically, the community and airport began offering marketing packages that started at $150,000 for a new flight. The AVL airport manager noted, "We had a prior incentive program in place, which would provide up to $150,000 dollars in marketing money. This was nothing uncommon from what other airports have done, but the fact that we were doing this 5 years ago, 6 years ago put us a little ahead of the curve." With this new incentive package, the airport and community were able to attract new daily non-stop service to Houston (IAH) on Continental in 2003, two daily seasonal flights to Detroit (DTW) on Northwest in June 2004, one daily non-stop flight to Minneapolis/St. Paul (MSP) in December 2004, and daily non-stop service to Orlando, FL (MCO) in June 2005. The airport also attracted US Airways service to New York LaGuardia (LGA) in February 2004, but the carrier ended the service after 9 months due to cost-cutting measures associated with the carrier's bankruptcy (Barrett 2009). From 2005 to 2008, AVL experienced slight decreases in the number of flights at the airport including the cancelling of the Delta service to Orlando in 2008.

The turning point in the history of air service development at AVL came in 2009 when the airport attracted LCC service to Orlando (MCO) on AirTran. The airport was able to bring AirTran to AVL using an incentive package of over $586,000 that was composed of fee waivers, marketing and advertising, and equipment purchases including new counter space and shared information technology for ticketing systems. In addition to AirTran, the airport was able to attract new service to LGA on Delta and service to Chicago O'Hare (ORD) on United. Despite these victories, the airport lost significant service during 2009 including the Northwest service to Minneapolis, a reduction of Northwest service to Detroit, and the loss of Delta service to Cincinnati as a result of that carrier's merger and bankruptcy.

In 2010, airport officials announced that US Airways would begin non-stop service to LGA. Additionally, AirTran announced that it would expand its service at AVL by offering seasonal service to Tampa (TPA). In 2010, AVL reached its 10-year high for the number of average monthly flights (Exhibit 6-26) and was close to its 10-year high in the number of available seats (Exhibit 6-27). Airport officials noted that they were in discussions with AirTran executives about year-round daily service to Fort Lauderdale when it was announced that Southwest would acquire AirTran in September 2010. In August 2011, Southwest announced that Asheville was one of four cities that were served by AirTran that the new carrier would not serve, effective January 2012. On the same day, US Airways announced that it would no longer serve LaGuardia from AVL. Officials expressed disappointment with the AirTran announcement given the profitability of the Orlando and Tampa routes. Another reason for the departure of AirTran was that Greenville-Spartanburg International Airport (GSP), only 60 miles away, had Southwest service.

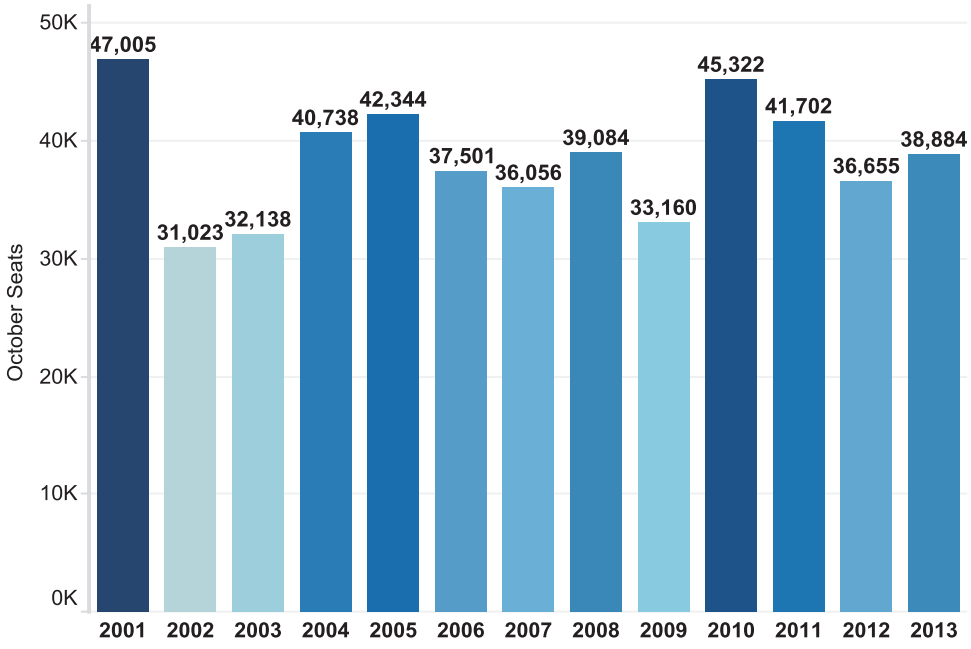
Following the announcement that AirTran would leave AVL, Allegiant announced that it would begin service to Orlando Sanford Airport (SFB) in November 2011. To incentivize Allegiant and their unique business model, airport officials developed a package that provided $150,000 in marketing money, waived fees and rents, and subsidized half of the carrier's per-turn ground-handling fees ($26,000 per year). Since commencing its Orlando service, Allegiant has added service to four additional destinations in Florida: Ft. Lauderdale (2012), Tampa/St. Petersburg

Exhibit 6-26. October flights at AVL (2001–2013).



Source: GRA Analysis of OAG Data

Exhibit 6-27. October seats at AVL (2001–2013).



Source: GRA Analysis of OAG Data

(2013), Punta Gorda (2013), and Palm Beach (2014). Officials at AVL have noted that the Allegiant service has been very successful and that executives from Allegiant have been pleased with the flexible incentive packages offered by the airport.

In addition to leisure destinations on Allegiant, airport officials have been working to replace service to network carrier hub destinations. In 2012, United announced that it was ending Asheville's successful service to Houston (IAH) due to a dispute over Southwest's plan to fly to international destinations from nearby Houston Hobby Airport (HOU). Also, American ended its seasonal service to Dallas (DFW) in 2011 due to bankruptcy. To backfill this service, airport and community officials applied for and received a $300,000 SCASD grant to help attract new westbound service to Denver on either Frontier or United. The grant was supported by $250,000 in in-kind and cash contributions for marketing and a revenue guarantee of $150,000 by the Buncombe County Economic Development Coalition. Additionally, the application was supported by two larger brewing companies (New Belgium-Colorado and Sierra Nevada-California) who are looking to build East Coast brewing facilities in the Asheville region and need westbound service to their company headquarters. To date, the SCASD grant and the community incentive package have not attracted a carrier to provide service to Denver.

The airport's recent ASD efforts have focused on trying to engage the community in a more meaningful way. Despite the success of their SCASD grant efforts, airport officials described their community-centered ASD efforts as "in their infancy stage." This is primarily due to the fact that many of the key players in the local development organizations, including the airport director, have been in their current positions for less than 5 years. Officials noted that they are working to better integrate ASD efforts into the larger economic development goals of the region. In late 2011, the airport established a Corporate Travel Advisory Group of several businesses and travel organizations in the Asheville region. The purpose of the group was to gain insight into the air service needs of the business and tourism travelers in the region while providing a forum to educate the community on ASD techniques. Several members of the group wrote letters of support for AVL's 2012 SCASD grant and encouraged other businesses not on the group to do so as well. Although the group met quarterly for a year, they were unable to come to a consensus on what new air service the community should target.

Airport officials noted that the lack of consensus resulted from differing perspectives on air service needs. Participants decided not to continue meeting regularly but agreed to support ASD efforts on an ad hoc basis. Although airport officials admit the Corporate Travel Advisory Group did not have the desired results, they note that it has laid the groundwork for future community engagement. Officials noted improvement in the amount of engagement from the community over air service development, citing feedback from the business community over the loss of seasonal service on American to Dallas. They noted that this was an improvement over previous community responses to loss in air service, noting, "When the airport lost AirTran (typically leisure travelers), the community was very quiet." Airport officials also noted that they consistently perform and develop outreach and marketing of the airport to the community through events such as the airport's annual Runway 5K event. This type of event, which is actually held over the length of the airport's runway, obviously may not be relevant or possible at some airports, but could be adapted to an off-site location.

6.7.4 Themes from the AVL Focus Group

- **Although participants enjoyed the uniqueness and experience of Asheville Regional Airport, they had concerns about the reliability of service**

Participants noted that they enjoyed the travel experience at AVL rather than driving to fly from nearby airports. One participant noted, "In terms of the airport itself, if everything is equal

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and everything went well, we love flying out here—the flights, more pleasant, you know, even the security lines." Other participants noted that they enjoyed the unique, small feel of the airport's terminal. Despite the general agreement on the positive experience of flying from AVL, participants noted that flight reliability concerns (delays and cancellations) related to traffic and weather at connecting airports was the main reason that they chose to drive to nearby airports. One participant said, "If you fly from here to connect with Charlotte, the reliability is getting out of here on time and making our connections is not high enough. It forces a lot of frequent business travelers to just drive to Charlotte to avoid getting cancelled." Another participant summed up the dichotomy between airport experience and reliability, "No matter how nice your airport is, if you can't get where you need to go, when you need to be there, then the airlines are killing your airport."

- **Although business leaders were satisfied with existing flight options, those in the tourism industry felt more service was needed to attract conventions to the region**

There appeared to be a disconnect between the EDC/Chamber and the CVB over the need for additional air service at Asheville. While business leaders noted that air service was a relatively minor consideration for companies looking to relocate to the region, tourism officials noted that the lack of seats into the market has made attracting large conventions and meetings to the Asheville area very difficult. One business owner noted,

> It's very hard to make an ED case that says we are losing companies because our air service is not sufficient. What we have found is that Charlotte is a close enough airport for most manufacturers to decide that they could do something in Asheville. We can't say with a straight face that we've lost companies because of the air service.

Another business leader suggested, "We would rather have a guarantee of getting to another hub than giving us more flights. . . . The guarantee to have a bus on standby if that flight is delayed that is going to get me to that connection."

However, when asked about their perception of the quality of air service at AVL, officials in the tourism industry noted that the lack of flights from key convention feeder locations such as Washington DC have limited the ability of the region to compete for large conventions. One participant said, "I think we do a very good job on trying to target some of these cities and get these nonstops, but I think we could look at these focus cities that could actually increase our tourism, such as DC and try to get those nonstops." Another participant from the tourism industry noted, "I think that we need more flights and we should entertain and look into getting more direct flights. I think the amount of convention business we are missing, the amount of meetings . . . we need to do a study of the loss of business and demand from not getting conventions." Tourism officials also noted that the consolidation of the industry more generally and the move to smaller aircraft has led to higher airfares at AVL, which make it uncompetitive for large conferences and meetings. The $6.5 million marketing budgeting for the CVB makes it an important participant in air service development in the region. Officials noted that the CVB, funded by an occupancy tax through the Buncombe County Tourism Development Authority, has supported ASD efforts through marketing in destinations, but is unable to contribute to travel bank or revenue guarantee efforts due to the enabling legislation of the organization. Tourism officials summed up their frustration, "We are really feeling the pain a little bit because we don't have the reach that we once did as a community. We are trying to figure out ways to work with the airport to see what the potential opportunities are and how to regain some of service we have lost."

- **Participants were uncertain that their community could develop a travel bank or revenue guarantee program for ASD efforts**

Regarding community-driven ASD efforts at AVL, participants were skeptical about the community's willingness and ability to put together a travel bank or community-funded revenue guarantee incentive program. Participants were aware that the incentives that the airport and

community had offered previously might not be effective in today's demand-constrained ASD environment. As one participant noted, "Dollars have been put on the table by both the tourism committee as well as the business community when we have tried to lure flights in the past, with help with the gate and marketing efforts that were attractive at that point to the industry, but as we understand it, those things may not be so influential now."

During the conversation, many participants noted that the recent revitalization of the Asheville region has resulted in sufficient demand for additional air service. One participant noted the stark change in the region,

> I've lived in this town 30 years and when I moved to this town all you saw were senior citizens, now you see people of every age, a lot of youngsters, young couples have started moving here because of the internet. They don't want to go to the office every day. Businesses are coming to this area, anywhere from 50 to 100 employees. There is enough business to keep the airlines happy.

Participants noted that one potential reason they do not have the level of air service that matches the economic growth of the region is that they have not done a good job convincing the airlines of the demand in the market. One participant noted,

> There is enough business in this community, the business travelers, the leisure travelers, meeting business, there is enough here that all of the planes that I flew on from Asheville to wherever have always been full. I think that the key is to convince the airline, hey if you operate properly, there is enough business for you to make money.

Another participant challenged the notion that "making money" was a sufficient condition for retaining air service, "The airlines are looking for most profit, and if they are making money in one community but if they move it to another and make double the money, they will do that. Even though that flight is making money in that community, they will pull it now and they will move it."

When the moderator asked the participants if they would be willing to support a community-driven travel bank or revenue guarantee, participants expressed skepticism. One participant questioned, "How and why would you do that? You got a very diverse and scattered business travel base. We don't have three large corporations who could step in and say, we will guarantee revenue." A local business leader said, "I'm not sure that any of these companies want to be in any of this volatile business. They might guarantee 100 passengers per month and 2 months from now it may not happen, so I don't know any company who would guarantee that." As the conversation shifted toward the logistics of providing a revenue guarantee for new service, a participant said, "Before and if you get community support for something like this (revenue guarantee), you have to explain mechanically how it works. It has to be fair and rational."

Participants also noted that any revenue guarantee would need to be thoroughly analyzed and discussed within the community before moving forward. One participant noted,

> The challenge in this community is the concern that subsidies pay their way. Like, in the EDC when we incentivize a company to come in here, we have to do the math very carefully and there has to be accountability measures in place for how many jobs will be created, how much the jobs pay, how much they are paid, to make sure that the incentive is paid back through taxes and things like that. Because people don't like to use community money to subsidize specific businesses so it's, I think the community support would depend very much on having an accountable deal with the airlines that creates wide community benefit rather than community wide cross subsidization.

CHAPTER 7

Lessons Learned

7.1 Introduction

This chapter synthesizes the lessons learned from the case studies and focus groups. Additionally, analysis of key variables related to the success of ASD efforts are presented to support the lessons learned. The lessons learned presented here will be used to develop strategies for air service development at small- and non-hub airports presented in Chapter 9.

7.2 Overarching Lessons Learned

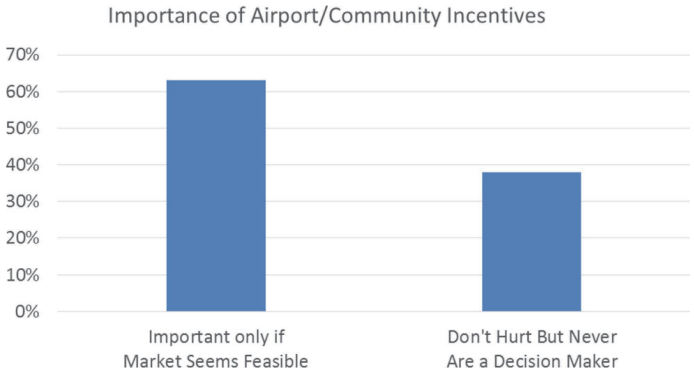
- **Air service development is relative. Air carriers do not choose new routes in a vacuum but through a comparative analysis of likely route profitability across communities.**

A major area of discrepancy between small communities and air carriers is an understanding of the threshold needed to begin new service or to keep existing service. In many small communities, the prevailing view is that if a route can earn a profit by the end of a 2- to 4-year initial period where the airport offers an incentive package, then the route should make financial sense to the air carrier. However, given recent changes in the structure of the airline industry, carriers have focused on capacity reduction by offering fewer flights and filling those flights with more passengers to return to industrywide profitability. Therefore, before a carrier will commit its increasingly scarce asset (an aircraft) to a community, it must examine not only whether a particular route is profitable, but also how profitable it will be compared to other potential new or existing routes. The challenges to small communities are twofold: they are increasingly competing against one another (through incentive packages) for increasingly scarce service while also having to demonstrate market demand for new routes on larger aircraft.

- **Although incentive programs can influence air carrier decisions at the margins, local economic growth and market demand are the factors most likely to influence air carrier decision-making.**

While much of the attention in small communities is on the development of incentive packages to "lure" air carriers to their airports, local economic growth and market demand are the major factors that influence whether an air carrier will begin new service at an airport. Exhibit 7-1 illustrates the results of the survey of airline officials on the importance of market demand and incentive programs. The influence of economic growth on air service development was most evident in Fargo, ND (FAR), where the main impetus for the growth in air service over the past 10 years has been the region's drastic and sustained economic growth. The diversity and scale of employers in the Fargo region has led to demand for air service to several domestic and international destinations. Furthermore, because of the number of business travelers and Fargo's high per capita income, the region is very attractive to air carriers because of the potential yield per flight.

Exhibit 7-1. The importance of market demand and incentive programs.



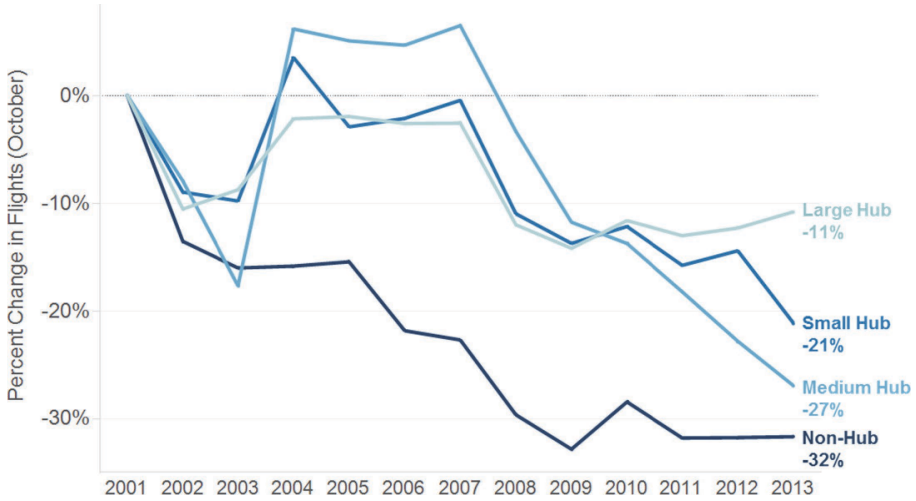
- **Many of the factors that determine whether an air carrier will start new service in a community are out of the hands of airport and community leaders.**

Unfortunately for many airport managers and local officials in small communities, many of the factors that determine whether an air carrier will start new service (or end existing service) are out of their hands. In the ever-evolving airline industry, macro-level events such as mergers, a spike in fuel prices, a terrorist attack, downsizing of a hub, or fleet realignment can drastically affect the current and future profitability of a route. This poses a significant challenge for local leaders and airport managers when explaining unsuccessful ASD efforts to their communities. This challenge was most evident in Redding, CA (RDD), where, under the leadership of the airport manager and the local economic development director, the local community has contributed over $1,000,000 in pledges for a travel bank and minimum revenue guarantee to attract a new carrier to the airport. Despite a very active community and an innovative approach to incentives, RDD has been unsuccessful in attracting new service for various reasons including an internal policy at United Airlines that prohibits overflying a hub (San Francisco in this case) when flying to a destination (such as Los Angeles or San Diego).

- **Due to industry capacity reductions and the competitive nature of air service development, a focus on retaining existing air service can be an effective strategy.**

While many communities focus on attracting new service to their communities, retaining existing air service given the competitive nature of air service development in small communities is an effective strategy. Given that most airports have experienced substantial declines in flights since 2001 (Exhibit 7-2), simply breaking even with current levels of air service can be considered a "win" for a local community. Officials at FAR noted that they are focused on retaining the service they have worked to attract. Specifically, the airport manager noted that they have an appropriate amount of air service for the community and, outside of a few specific routes driven by individual businesses, that they have service to the top-demand destinations in their market. In a rather extreme case of protecting existing air service, community officials in Sonoma County have worked to protect Alaska Airlines service at STS by refusing to offer community-based incentives such as travel pledges to Delta which wanted to compete against Alaska on a flight to Seattle. Finally, the Burlington (BTV) case study illustrated how an airport can look to build its existing relationship with a carrier when looking for new routes. A retention strategy does not mean resting on your laurels, but rather maintaining constant communication with community organizations and conducting rigorous analysis of existing service and passengers to best suit the needs of the carriers and the community.

Exhibit 7-2. Change in flights by airport hub group (2001–2013).



- **When deciding whether or not to initiate an ASD program, communities must weigh the cost of the initial investment in incentives for new air service with the likelihood that their market can sustain the service once the incentives end.**

Before beginning an ASD effort, a community must assess if current and future local market demand can sustain service and reduce the risk of losing the service given the cost of the initial investment in an incentive package. A community must conduct a realistic and thorough market analysis of future economic or tourism growth that guides their decision-making when it comes to investing local public and private money in incentive programs. In fact, many air carriers noted that they would like communities to provide them with local economic development and tourism development plans when trying to attract new service. If the long-term growth projections of a community do not make a new route profitable without incentives, then it may not be worth the investment of funds to attract a carrier for a flight that is not sustainable. The Asheville (AVL) focus group illustrated the internal decision that a community must make when deciding to start an incentive program. Many business leaders felt that they had an adequate level of service for the size of the community and were hesitant to invest in an incentive program that would not pay for itself in the long run.

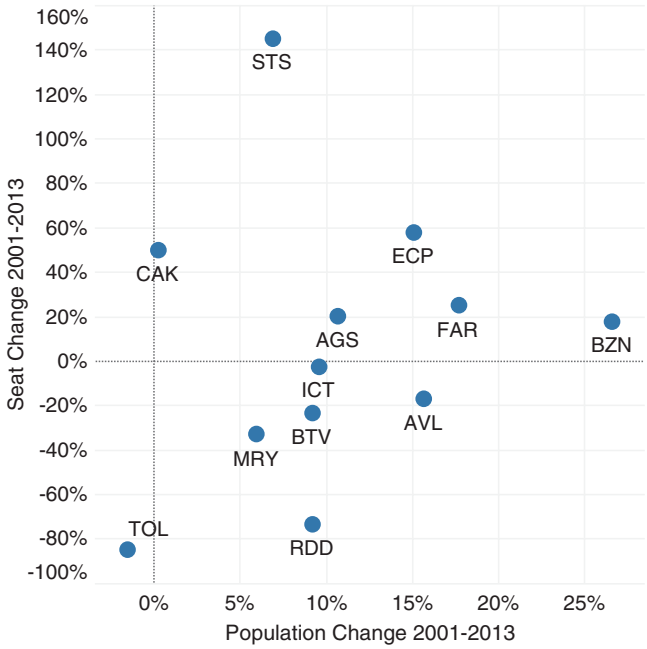
The Kansas (ICT) case illustrates how ASD programs can be sustained by state general fund appropriations. As the evolution of the source of the revenue guarantees demonstrates, local government funding for subsidies may not be a sustainable ASD strategy. The involvement of the State of Kansas in providing the bulk of these subsidies has helped to reduce the overall burden on the City of Wichita and Sedgwick County. However, the ability of the State of Kansas to institute KAAP was largely due to the fact that ICT's catchment area covers two-thirds of the State of Kansas. A similar program might be more difficult to implement in a state with several competing small- or non-hub airports looking to supplement their local incentive packages with state money.

7.3 Air Service Development and Local Economic Variables

- **There is little connection between air service growth and population growth; however, there is a stronger connection between air service growth and regional employment change.**

The limited literature that explores the connections between economic development and air service development suggests that the relationship is one described by a "chicken and the egg"

Exhibit 7-3. Population change and seat change (2001–2013).



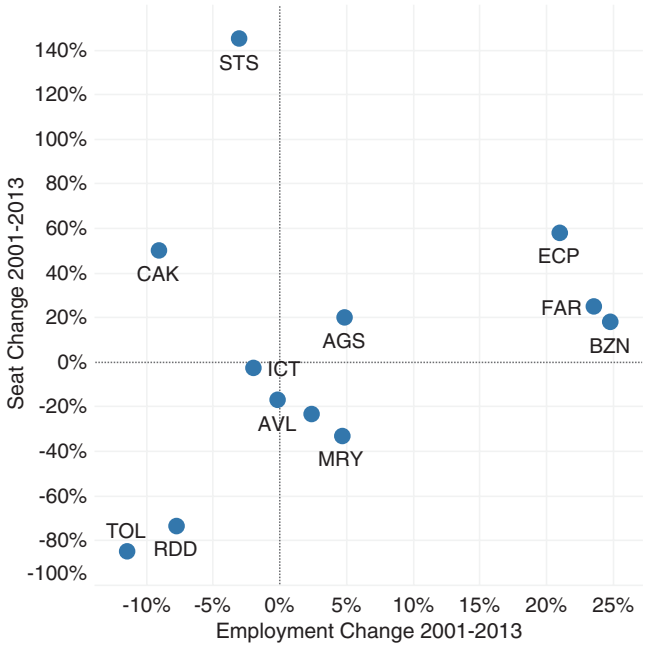
dilemma—Is it population and employment growth that drives the demand for new air service or vice versa? Exhibit 7-3 illustrates the relationship between population growth and available seats in the case study and focus group communities. The exhibit shows a very weak relationship between a region's population growth and air service development. Specifically, of the 11 (out of 12) regions that experienced population growth from 2001 to 2013, 6 gained available seats in the market over the same period as 5 lost seats. Also, while some of the regions with the largest population increases gained seats (Bozeman, MT, and Fargo, ND), the largest gain in seats from 2001 to 2013 was by Sonoma, CA, which had a much more modest increase in population.

Exhibit 7-4 shows the relationship between employment change and seat availability from 2001 to 2013. The exhibit shows a much stronger positive relationship between employment change and seat availability with some limitations. Some of the locations with the largest increases in employment from 2001 to 2013 (i.e., Fargo, ND; Panama City, FL; and Bozeman, MT) also had some of the largest increases in available seats. Additionally, some of the regions with the largest decreases in employment (e.g., Toledo, OH, and Redding, CA) also experienced the largest decreases in seat availability. However, there were a few exceptions to the rule (e.g., Akron-Canton, OH, and Sonoma, CA) where employment decreased but seat availability increased. The Akron-Canton increase is largely explained by its position as a low-cost alternative to Cleveland Hopkins Airport while Sonoma's better-than-expected performance is largely tied to its strong relationship with Alaska Airlines.

- **An indirect benefit of local economic development projects is the building of market demand for ASD efforts.**

As communities with small- and non-hub airports explore ASD opportunities, it is important to keep in mind that any effort to attract or retain service is enhanced by successful local economic development projects that result in increased market demand. Therefore, airport and community officials should assist and coordinate with local economic development officials on possible business relocation efforts that may generate new demand for air service in a region. Additionally, in communities with limited market demand, initially investing in economic

Exhibit 7-4. Employment change and seat change (2001–2013).



development rather than air service incentives may be an effective strategy to building demand that leads to new service.

- **Local economic development strategies that focus on limited or sustainable growth can be successful in attracting new service.**

An interesting lesson learned from the Sonoma focus group was that strong tourism demand can balance a desire for limited or sustainable economic growth when looking to attract new air service to a region. Consistently, there is a desire from local residents and business leaders to engage in sustainable economic growth that limits the potential growth of local "out-bound" market demand. However, Sonoma has been successful in ASD efforts by investing significant public funds in the Convention and Visitors Bureau, which actively markets the Sonoma region in cities across the United States to drive "in-bound" demand for air service. In Monterey (MRY), the community has gone a step further by resisting any new ASD efforts that bring additional tourists to the region and threaten the quality of life enjoyed by local residents. This approach has resulted in a decrease in seats and flights at MRY.

- **As communities look to organize and develop ASD efforts, alternative modes of transportation that take passengers to larger hub airports are an effective way to build community support for the local airport.**

In many communities, airport officials struggle to engage the public and remind citizens that their local airport exists. As airport and local officials work (often behind the scenes) to attract and retain air service, a way to get local residents in the habit of checking fares from the local airport is to support or develop coach bus service to a larger hub airport (if applicable). The most consistent finding from all of the case studies and focus groups was that local residents would rather fly from their local airport rather than a larger hub because of the conveniences of a smaller airport (e.g., ease of dealing with security and availability/cost of parking). While offering bus service from the local airport to a larger hub may seem counterintuitive, it offers several benefits to the local airport including increased parking revenue, greater traffic through the terminal, and increased visibility for the airport. In Sonoma, the Airport Express bus

service was an important way to remind local passengers of the service offered at STS. Although passengers may not choose STS every time they travel, they may opt to avoid the 1- to 2-hour bus ride to San Francisco to enjoy the convenience of flying from STS. Finally, bus service can provide an important redundancy for local communities when flights are cancelled or delayed due to irregular operations at larger hubs—a common problem for many small- and non-hub airports.

7.4 The Origins of ASD Efforts

- **ASD efforts at small- and non-hub airports often originate from a lack of community satisfaction with existing destinations and the reliability of existing flights due to weather cancellations at larger hubs.**

In many communities with small- and non-hub airports, the reliability of the small number of existing flights is a major concern given that when there are weather delays or cancellations, there are often few options to rebook or accommodate passengers. Many ASD efforts originate in response to a community's or a specific business's concerns over the reliability of existing flights. In communities such as Toledo, Asheville, and Redding, focus group participants noted that the primary reason that they no longer fly from their local airports is because of concerns over reliability. Many business owners noted that when traveling, they would rather incur the extra cost of driving, parking, and flying from an alternative larger hub airport than risk missing their meeting due to a weather cancellation. The desire to attract additional service to mitigate the effect of irregular operations was a significant driver of ASD efforts.

- **Communities are willing to invest in ASD efforts because they value the traveling experience at their local airport and can often quantify the total cost of flying from a competing airport.**

While many community members expressed dissatisfaction with the reliability and variety of destinations from their local airports, they expressed a desire to fly from the local airport due to the expedited and convenient traveling experience that a smaller airport offers. The ability of passengers to avoid costs associated with driving to larger hub airports (e.g., fuel, parking, and loss of productivity due to traveling) is a major driver of business involvement in developing incentive packages such as travel banks and minimum revenue guarantees. However, as the Toledo focus group illustrated, the presence of a close large- or medium-hub airport that offers low-cost flight options (in this case Detroit) can limit community support for a local airport.

- **Losing all commercial air service at a small- or non-hub airport will often galvanize community support for ASD efforts if airport managers can communicate the effect of the loss of service on the economy and the region.**

When STS lost all commercial service in 2001, many members of the community noted that they did not know what they had until it was gone. The unpredictability and inconvenience of the drive to SFO coupled with the rapid increase in tourism in the region led the Sonoma County Board of Supervisors to act quickly and decisively in hiring an energized airport manager and creating the AAC. The AAC, led by the airport manager and a local supervisor, worked to galvanize support in the community by meeting with state and federal elected officials as well as business owners.

7.5 Assembling a Community ASD Coalition

- **A community champion with a good reputation among the business community (preferably from the EDC, CVB, or Chamber) is necessary to unify and take ownership of a region's ASD efforts.**

FAA grant assurances often limit the role that an airport manager can play in coordinating community-driven ASD efforts. Therefore, identifying a community champion who understands

the airline industry and who has a strong reputation among community and business groups is essential to ASD efforts. In Redding, the reputation of the President of the EDC of Shasta County among the business community led to an instant sense of trust among investors who donated funds to the travel bank. In his role, the EDC President could connect with business owners and explain the economic necessity for growing air service at the airport. In Fargo, the President of the Greater Fargo/Moorhead Economic Development Corporation was actively involved in working with the business community and the airport manager in developing and coordinating ASD efforts.

- **A formal airline attraction committee is an effective governance structure to ensure the leadership and organization of community ASD efforts.**

A common problem for many communities is organizing multiple air service attraction efforts within a community. The Sonoma focus group illustrated the importance of a formal airline attraction committee within a community. The AAC in Sonoma was responsible for garnering political support from elected officials, working with local businesses to secure contributions to the ticket bank, and working with local media outlets to provide in-kind support for marketing of new air service. These tasks, daunting for any airport manager to handle alone, were manageable due to the committee structure within the AAC and the diverse membership of the group. Also, the AAC in Sonoma illustrates the fact that once a committee is established, it can provide the foundation for sustained ASD efforts.

- **Single-business led ASD efforts still need larger community support to be successful.**

In many small communities, much of the market demand may be the result of the travel needs of one or two large companies. The case studies of Panama City, FL (ECP) and Bozeman, MT (BZN) highlight this point. At ECP, the St. Joe Company was willing to provide a minimum revenue guarantee to Southwest Airlines to attract new service at the airport to raise the value of the surrounding land that the company hoped to develop. However, without the imposition of the 1% hotel bed tax to provide a dedicated funding stream to allow the CVB to market all LCC service at ECP, it is unlikely that the service would have been as successful as it was for both St. Joe and Southwest. At BZN, the collaboration between Big Sky Resort and the Yellowstone Club served as the impetus for engaging the Bozeman Area Chamber of Commerce, the Bozeman CVB, and other business entities. Without the cooperation of these two groups, it is unlikely that there would have been enough collaboration to apply for and receive the $950,000 SCASD grant from the DOT. Because the efforts of these groups have been so successful, both the ASD efforts and the air service itself have been self-sustaining and have led to BZN becoming one of the fastest growing airports in the country.

- **In some cases, building in-house airport capacity for ASD efforts is an effective strategy.**

While many small- and non-hub airports rely on consultants to develop and coordinate pieces of their ASD strategies, it may be beneficial for airports to hire marketing or ASD specialists to enhance their efforts. Akron-Canton (CAK) illustrated the importance of having in-house marketing capacity to lead a sustained brand development and promotion campaign that has resulted in the effective marketing of several new routes including those operated by Southwest Airlines. Additionally, the Asheville focus group highlighted the important role that an airport employee dedicated to air service development can play in coordinating airport and community ASD efforts.

7.6 Identifying an Air Carrier and New Destinations

- **Community outreach and education are critical first steps to identifying local demand for service to a new destination and setting expectations.**

A difficulty faced by many airport officials is that they must continue to try to garner support from businesses that will often have their employees drive to other airports for their travel needs

and then publicly denounce the local airport for a lack of flight options. In these cases, airport officials must work to educate the community on the importance of business and community support for new service in today's competitive ASD environment. The first step for a community facing a difficult ASD environment is to proactively educate the community on the benefits of flying locally and also on larger airline industry trends that will affect the community's ability to attract service. Airport officials should consider investing in studies and economic analyses that show business and community leaders the value of flying from the local airport versus driving to a nearby airport. In the case of TOL, both economic development and business officials noted that they would like to know the true cost of traveling from Detroit versus Toledo, taking into account lost local jobs, tax revenues, and so forth, before choosing where to fly. Additionally, airport and local economic development officials must educate the community through meetings with community groups, public forums, and media appearances on airline industry trends such as consolidation and fleet realignments that ultimately affect the success of the community in gaining new service. This proactive educational program will enable the airport and community to set realistic expectations for service gains while allowing airport officials to focus on meeting with air carriers rather than repeatedly defending their actions to the media and community.

- **Airport managers and consultants must identify and target an air carrier whose business model (e.g., route network, fleet, and regional presence) matches the local demand for service.**

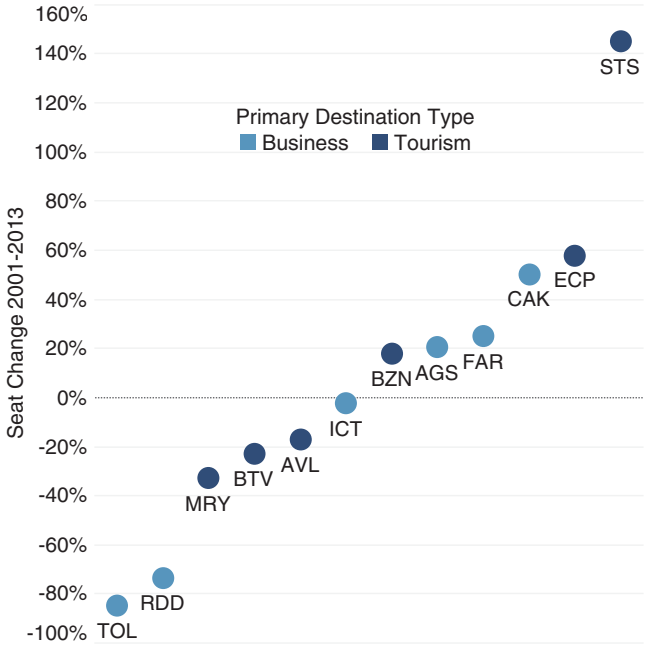
When asked what communities can do better in trying to make the case for new service, airline network route planners responded that communities need to do a better job understanding the individual business models of each carrier and how their community's market demand profile fits (or does not fit) within that business model.

The Sonoma case illustrates the importance of communities matching their local demand for air service with the business model of an air carrier. STS's 5,020-foot runway limited the type of aircraft that could service the market and, by default, limited the carriers that could serve the airport. Additionally, the airport's consultant provided valuable market analysis data that identified the top destinations (i.e., LAX, SEA, SAN) of travelers from the Santa Rosa area. Using these pieces of data, the AAC targeted Alaska/Horizon as their preferred carrier because of the airline's west coast presence and the carrier's use of the efficient Q-400 aircraft. More important, because Alaska Airlines (more so than any other carrier) placed great stock in travel banks as a measure of community support and demand for service, it was a great match for the political environment of the North Bay's citizens who supported collaborative programs like ticket banks more than minimum revenue guarantees.

- **Different segments (business vs. tourism) of a region's population may have varying perceptions of ASD needs.**

One of the major challenges a community faces in establishing an ASD program is getting agreement on the air service needs from different segments of the community. One of the most important lessons illustrated by the Asheville case is that different organizations and businesses within a region may have different perceptions of air service needs. The business and tourism communities in Asheville had differing views on both new service destinations and the overall need for new service at AVL. This is particularly interesting given that the Asheville Area Chamber of Commerce, the Economic Development Coalition, and the Asheville Convention and Visitors Bureau are all part of the same umbrella organization. The lack of cohesiveness could be attributed to the fact that many of the economic development officials have been in their current positions for less than 5 years. Finally, the Asheville case illustrates the importance of regular and formal communication among the airport, Chamber, EDC, and CVB on ASD efforts. Without a mechanism currently in place in Asheville, there is a lack of consensus on what destinations the community should try to target for future ASD efforts and the benefit that such efforts would

Exhibit 7-5. Seat change (2001–2013) by primary destination type.



have on the community. Whether a market is primarily a "business" or "tourism" destination has little bearing on the success of ASD efforts (Exhibit 7-5).

7.7 Developing an Incentive Program

- **An incentive program for new service should focus on reducing short-term risk and costs to air carriers while protecting the interests of the community.**

In the survey of airline network route planners, several participants noted that incentive packages offered by communities should be designed to reduce the short-term risk and costs to the air carrier associated with starting new service in a community. When a carrier begins new service in a community, there are several risks to the carrier including a lack of enplanements due to a lack of marketing, the cost of opening a new station at the airport, and the cost of moving or hiring new employees for baggage, ticketing, and ramp operations. Incentives such as ticket banks or minimum revenue guarantees are designed to offset these costs and risks over a short time horizon.

As the case of Panama City (ECP) illustrates, minimum revenue guarantees are an effective tool to reduce the financial risk to carriers during the first years of service. The ECP case also illustrates the importance of properly structuring revenue guarantees to protect the interests of both parties. Both Southwest and St. Joe could exit the agreement if the service was so unsuccessful that either party incurred a significant financial burden. Also, the inclusion of a provision for profit sharing between Southwest and St. Joe if a revenue guarantee payment was made protected St. Joe from losing millions of dollars in one or two quarters and having no way of recouping payments when the route was profitable.

One of the largest risks a carrier faces is opening a new station at an airport. The Augusta (AGS) case highlights several ways to reduce a carrier's start-up risk when opening a new station including providing above- and below-the-wing ground-handling by the airport and developing an innovative hourly cost structure for new entrants with few daily flights. By hiring an ex-airline

station manager to operate the airport's ground-handling service, AGS provided a valuable service to new entrant airlines that reduced their risk at a relatively small cost to the airport.

- **Community-driven incentive programs signal to air carriers a community's commitment and demand for new service. Incentives based primarily on SCASD funds signal weak community support.**

The Small Community Air Service Development (SCASD) grant program is an important resource for communities with small- and non-hub airports looking to attract or retain air service. As part of the application process for the SCASD program, communities must match requested federal money with in-kind and cash contributions from the airport, businesses or local government agencies. A SCASD grant is an effective complementary tool to leverage existing community-driven air service development efforts. Although many of the communities that have seen seat increases since 2001 have received a SCASD grant, an equal number of recipients have lost air service during the same period (see Exhibit 7-6).

In many cases, communities rely too heavily on the SCASD grant as a proxy for community support. As the Toledo focus group illustrated, a SCASD grant of $750,000 and over $1,000,000 total in funds for an airline incentive package do not necessarily mean that the community supports an airport's efforts to attract new service. In the case of Monterey, CA (MRY), the local community was reluctant to provide funding for a travel bank or revenue guarantee due to political concerns about the continual subsidization of air service. However, the airport was awarded a SCASD grant for $500,000 to provide a revenue guarantee to a carrier—even though the community opposed the local subsidization of air service. As these cases illustrate, the SCASD grant program is a complement, rather than a substitute, for community-driven incentive programs.

- **Incentives are a complement, not a substitute, for underlying local demand. There is no "silver bullet" incentive—communities should use a mix of incentives including cost abatement, minimum revenue guarantees, ticket banks, and marketing assistance.**

Exhibit 7-6. SCASD grant and seat change (2001–2013).

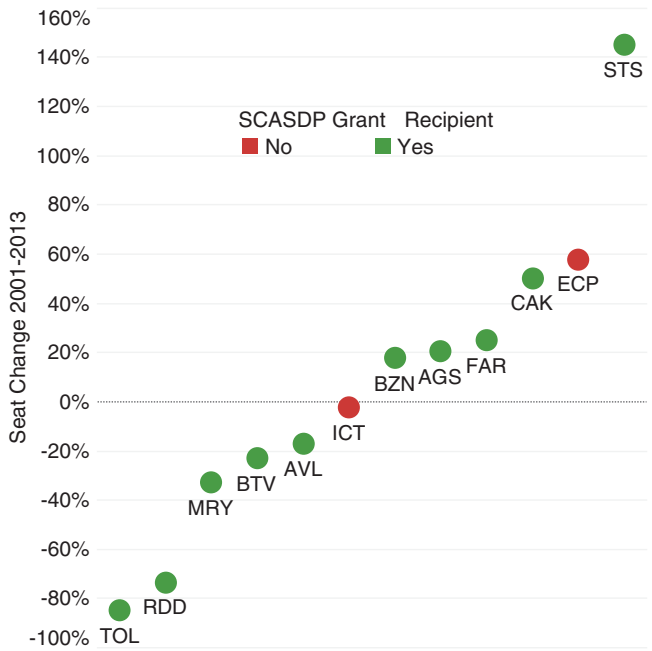
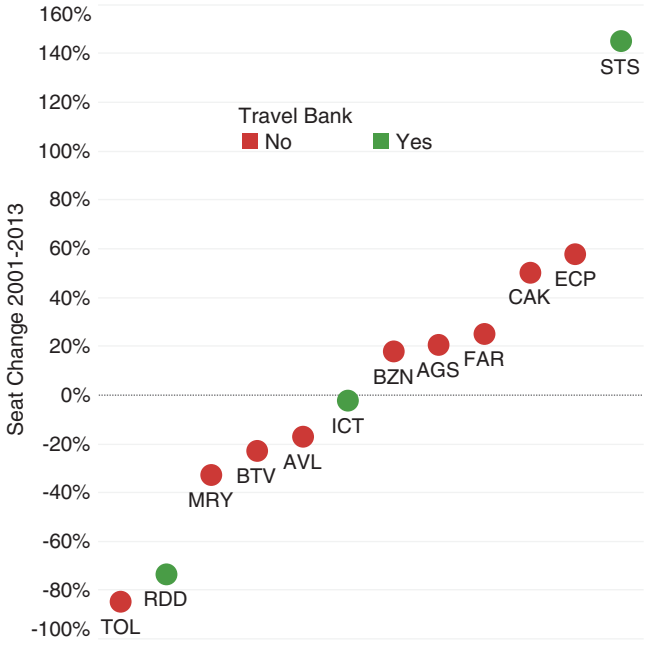


Exhibit 7-7. Availability of a travel bank and seat change (2001–2013).



Although much of the focus of ASD efforts is on incentive programs, there is no one particular incentive a community can offer to an air carrier that can overcome subpar market demand. However, to be competitive with communities with similar market characteristics, a region may have to use various incentives to attract new service. An important lesson from the Kansas case, particularly during the initial Fair Fares program, was that providing a combination of incentives such as travel banks, revenue guarantees, and marketing money is an effective way to gauge the support of the business community while demonstrating the potential strength of a route to a carrier. Carriers view incentives differently in each market. For example, despite $4.7 million in travel pledges, AirTran did not begin service in Wichita until the city put a $4.5 million revenue guarantee on the table. However, in Sonoma, Alaska Airlines expanded their route offerings at STS with an incentive package composed primarily of a travel bank and without assistance from a minimum revenue guarantee. Exhibits 7-7 and 7-8 illustrate the varying degrees of success of travel banks and minimum revenue guarantees in increasing available seats in a market.

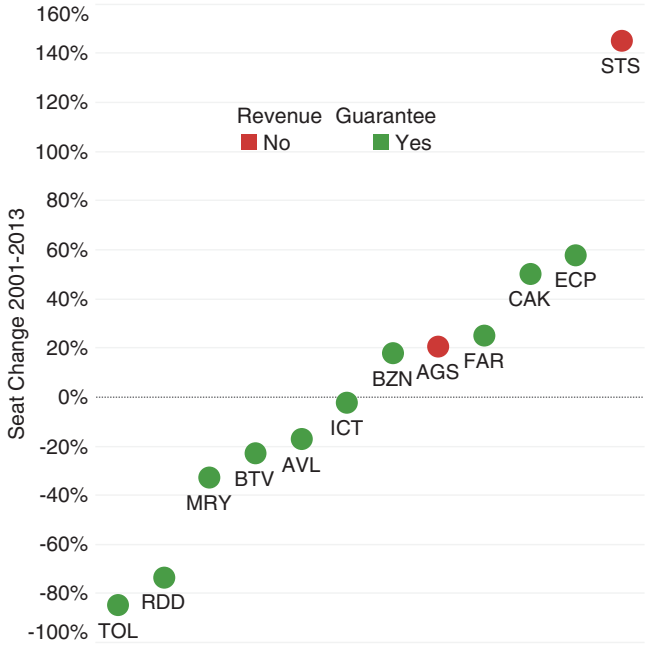
7.8 Meeting with Air Carriers and Community Leaders

- **Airport managers must be selective in who represents the community at airline meetings.**

Communities must be selective about who pitches their community's ASD proposal at an air carrier's headquarters. The Augusta (AGS) case illustrates the potential negative consequences of inviting local elected officials who are unfamiliar with the airline industry. During a meeting with Delta, the mayor "pointed fingers" at company officials for their lack of support for small Georgia communities. As the AGS case also demonstrates, once an air carrier forms a negative impression of a community, it can take several years to regain a positive impression.

- **Airline network route planners find information on a community's economic development plan, tourism development, and untapped market demand influential during meetings.**

Exhibit 7-8. Minimum revenue guarantee availability and seat change (2001–2013).



The survey of airline network route planners found that the most influential information that a community can present during a meeting with airline officials is economic development and tourism plans along with an analysis of untapped market demand. Specifically, communities need to demonstrate how their local economic development and tourism plans, if carried out to their full extent, will result in additional market demand. Additionally, air carriers want to know specific projections for corporate travel for existing businesses based on growth projections for individual companies. These sources of data will help the air carrier determine the long-term profitability of a potential route once the short-term incentive packages end.

7.9 Ensuring the Sustainability of ASD Programs and New Service

- **A key to sustaining ASD efforts is for the airport manager and community groups such as the EDC, CVB, and chamber of commerce to develop a close working relationship.**

One of the most important lessons to emerge from the case studies and focus groups is that in order to sustain ASD efforts, local officials must remain engaged in attraction and retention efforts. The most successful example of a sustained ASD campaign was in Fargo (FAR). The close working relationship of the airport, Greater Fargo-Moorhead Economic Development Corporation, the Chamber of Commerce of Fargo-Moorhead and West Fargo, and the Fargo-Moorhead Convention and Visitors Bureau has been the key to FAR's ability to use the region's economic growth to attract new air service to Fargo. By partnering with these community groups, the airport has overcome traditional limitations on air service development such as the FAA's AIP grant assurances by developing a flexible airline attraction program that provides incentives to carriers. In addition, by being in constant communication with these organizations, the airport has access to real-time information on the needs of the business community and can address any concerns through an organization's regular meetings.

- **Once new service is started in a region, the community must work to market and support the flight to ensure its success.**

A consistent theme that emerged from several of the case studies and focus groups was that many involved in ASD efforts believe that, if they are successful in attracting new service to their airport, the community will support the new service. However, the real work of air service development begins the day the first flight arrives at the airport. Throughout the case studies and focus groups, communities worked to support new service in several ways. In Bozeman (BZN), the airport manager emphasized keeping the cost per enplaned passenger (CPE) as low as possible for air carriers by finding new ways to run a lean operation. In Panama City, the local community passed a 1% hotel bed tax increase to fund marketing for Southwest Airlines service. At CAK, airport officials developed grassroots marketing campaigns (#LUVCAK) to raise awareness among travelers of the switch from AirTran to Southwest while branding their airport as an alternative to Cleveland Hopkins. Communities must have a detailed plan for supporting potential new service that includes a marketing strategy (either in-house or an external consultant) along with a funding stream to support that strategy. Finally, the community should be clear on how it plans to continually engage the business community in a dialog about continued support and retention efforts.

- **Continuing education of the community on airline industry trends and route performance by airport officials and key community leaders is key to sustaining ASD efforts.**

A common trait among airports and communities that have had sustained success in ASD efforts is that they continually educate the community on airline industry trends and potential opportunities for attraction efforts. In Burlington (BTV), airport officials meet monthly with local business and civic leaders to discuss ASD efforts and to drive support for new routes such as their new Atlanta service on Delta. Fargo (FAR) exemplifies the importance of continual engagement and education of the community. The close relationship of the airport, the EDC, the CVB, and the Chamber has helped to educate businesses and citizens in the region on the economic importance of air service and on larger airline industry trends that affect service at FAR. By meeting frequently and having congruent goals and expectations, Fargo can act quickly when a new air service opportunity presents itself.

CHAPTER 8

Assessing Changes in Airport Service

8.1 Introduction

In prior chapters, airport service levels—described primarily in terms of non-stop flights and seats—have been presented to help show how small- and non-hub airports have fared as major changes in the industry have taken hold. The primary purpose of this chapter is to explore the effect of these changes in terms of accessibility to the national air transportation network.

For most small- and non-hub networks, an actual count of non-stop flights and/or seats presents an incomplete picture of how effectively travelers can access the larger air transportation network. This is because, in most cases, such access depends on how those non-stop services mesh with the schedule banks of the major carriers' hubs. In the case of flights provided by non-network carriers, the opportunity for connections to other destinations are obviously much less, and in some cases are cut off entirely (for example, Allegiant does not allow its passengers to book connections at all).

As discussed in Chapter 2, a recent publication by Wittman and Swelbar in 2013 describes the development of an "Airport Connectivity Quality Index" (ACQI), which attempts to assess an airport's connection to the air transportation system based on the frequency of available scheduled flights, the quantity and quality of destinations served, and the quantity and quality of connecting destinations. The ACQI metric certainly goes beyond simple counts of non-stop flights or seats to provide a more complete and accurate picture of the overall level of air service available to a given community.

8.2 Measuring Quality of Service

For the present analysis, the research team has gone even further to assess network accessibility by undertaking an analysis that specifically tracks both non-stop and connecting services from small- and non-hub airports (categorized as of 2013) to the 50 largest U.S. airports as well as 17 major foreign airports. The analysis is based on using the Quality of Service Index (QSI) model to identify and evaluate all non-stop, one-stop, and two-stop services that may be available from a given schedule of flights. For the present analysis, a 1-week OAG schedule from October of each year from 2006 through 2013 was used to identify non-stop and connection services to the 67 destinations, using specified time and circuity criteria.

Because Allegiant stopped publishing its schedule in the OAG in early 2009, the research team instead used a weekly version of Allegiant's actual non-stop flying in October of each year from 2009 through 2013 as reported in DOT's T-100 database. Very small airports with access to less than 5 of the 67 destinations for each year of the analysis were excluded; this left a total of 253 airports in the database.

QSI points were assigned to each service, with values varying by equipment type used and the type of service offered (e.g., nonstops, one-stop online services, and two-stop services involving alliance carriers to international destinations) For each market involving a small- or non-hub airport and a given destination, a minimum of three services per week in each direction (non-stop or connecting) were required in order to count as meaningful service. The total QSI points across all 67 potential destinations were added to yield a single QSI score. As a point of reference, one daily non-stop on a narrowbody mainline jet to a single destination is worth 10 QSI points.

8.3 QSI versus Non-Stop Service Metrics

While in principle an airport's QSI score is a more sophisticated measure of available service, in practice it is still likely to be fairly consistent with simpler measures such as total non-stop flights or seats. Exhibit 8-1 compares average daily non-stop flights with the QSI score for each airport based on the 1-week OAG schedule from October 2013. The airports are arranged in ascending order of non-stop flights, as seen by the blue dashed line markers. On a scale of 0 to 1, the overall correlation coefficient between flights and QSI scores is 0.97; a similar relationship exists for seats and QSI.

A more revealing picture of available air service emerges if one considers the change in flights or seats compared to QSI over time. Exhibit 8-2 compares the percent change (from 2006 to 2013) in non-stop flights with percent change in QSI scores at each airport. The airports are ordered according to the change in flight percentage, indicated by the dashed blue markers making up the curvilinear line going from the lower left to the upper right. Then for each airport the corresponding change in QSI score is plotted above, on, or below the airport's flight marker with a red diamond marker. The case study and focus group airports are shown with their location identifiers.

Out of 253 small- and non-hub airports, many (204) experienced a decline in non-stop flights between 2006 and 2013, indicated by their flight marker being below the 0% axis. A somewhat smaller number (175) suffered a decline in service when measured by QSI (indicated by their red QSI marker being below the axis).

For most of the airports the percent change in QSI lies above the change in flights on the graph. This indicates that most of the airports did relatively better when evaluated using QSI points rather than non-stop flights.

Exhibit 8-1. Non-stop flights and QSI at small- and non-hub airports.

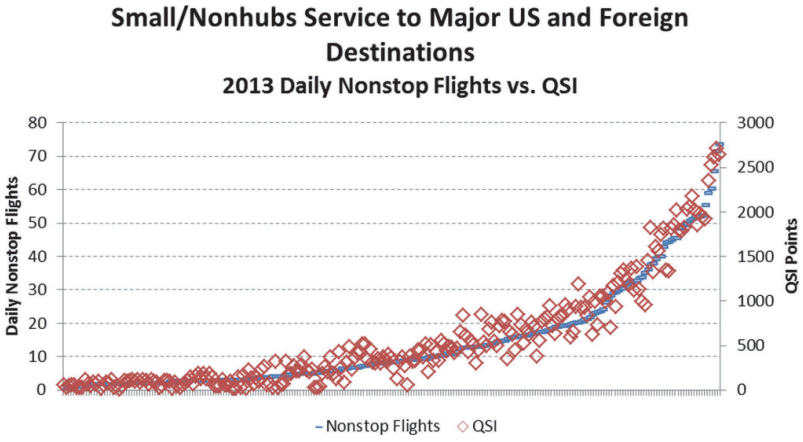
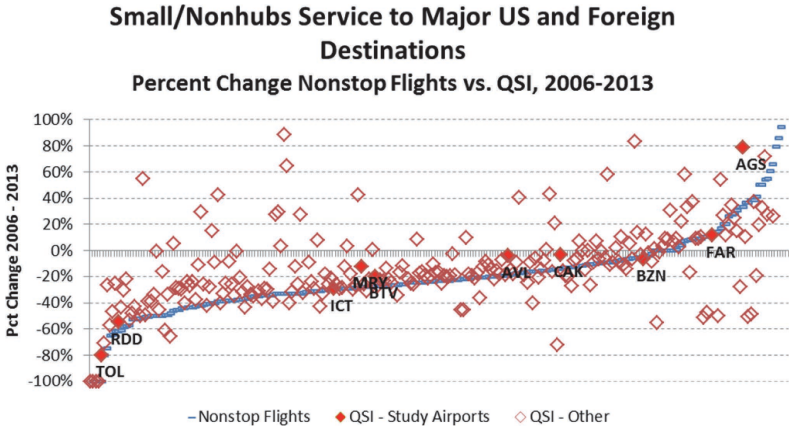


Exhibit 8-2. Change in non-stop flights and QSI at small- and non-hub airports.



There are many individual airports for which percent change in QSI is substantially different than the corresponding change in flights. The QSI percent change is within ±10 points of the percent change in non-stop flights at about half the airports. Overall, the correlation coefficient between percent change in non-stop flights and percent change in QSI is about 0.58. The correlation rises to 0.79 using non-stop seats instead of flights because equipment size factors into the QSI score.

Exhibit 8-3 repeats the analysis using non-stop seats instead of flights as the basis for comparison. This provides a somewhat better match with QSI points (the overall correlation coefficient is about 0.79), but many airports show substantial differences.

8.4 QSI Changes at the Case Study Airports

Exhibit 8-3 highlights the results for the case study airports (results for Phoenix-Mesa, Northwest Florida, and Sonoma County are not shown because these airports did not have any scheduled service in the base period of October 2006.) For these airports, the QSI results do not appear to differ substantially from the flight or seat results; however, further exploring the data to see exactly what has happened to service and network access at some of these locations is revealing.

Exhibit 8-3. Change in non-stop seats and QSI at small- and non-hub airports.

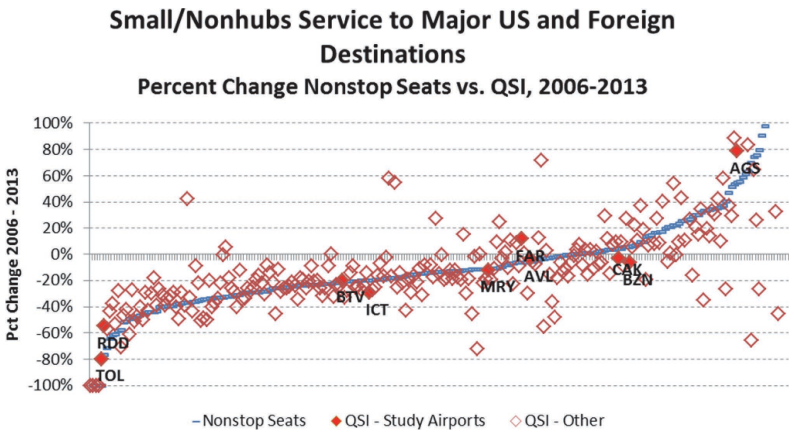
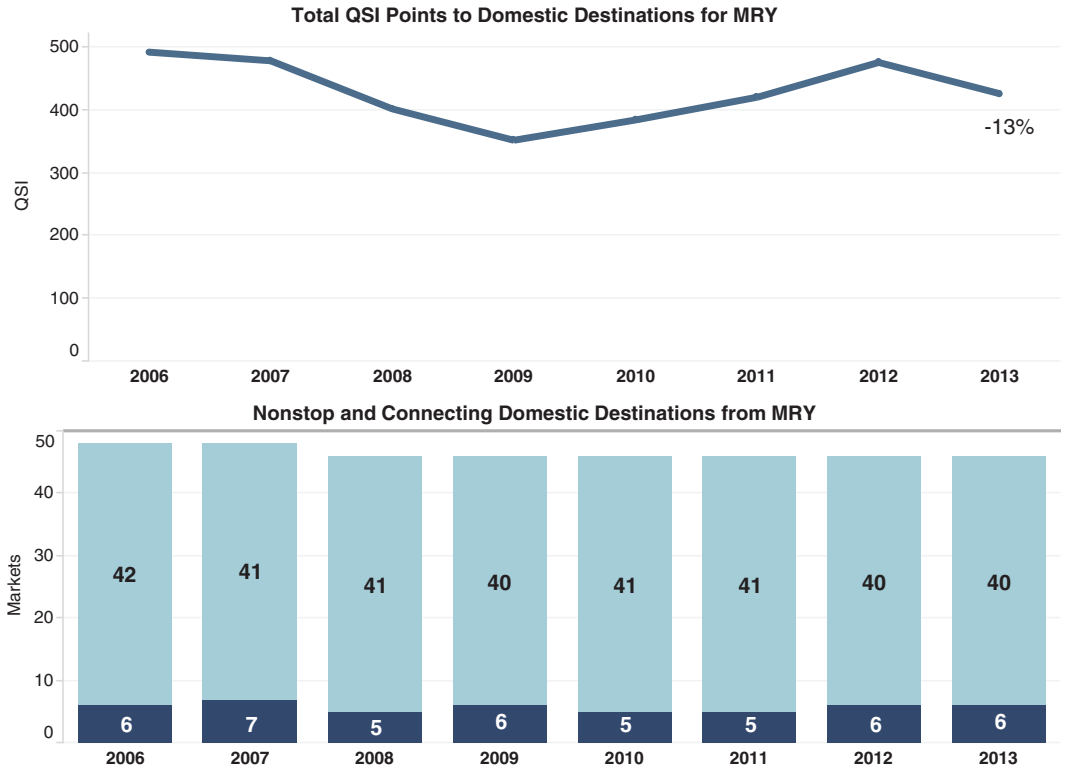


Exhibit 8-4. Summary of service changes at MRY.



In what follows, only the 50 domestic destinations employed in the QSI analysis are considered because that is likely the primary focus of airport managers at small- and non-hub facilities.

Looking first at Monterey (MRY), Exhibit 8-4 shows the airport experienced a significant domestic service decline during the recent recession, but recovered almost to pre-recession levels, before falling off again in 2013. There was also a small reduction in the number of reachable destinations from 48 to 46.

What drives the results for 2013 versus 2006? First, consider the actual non-stop services from the airport, as shown in Exhibit 8-5.

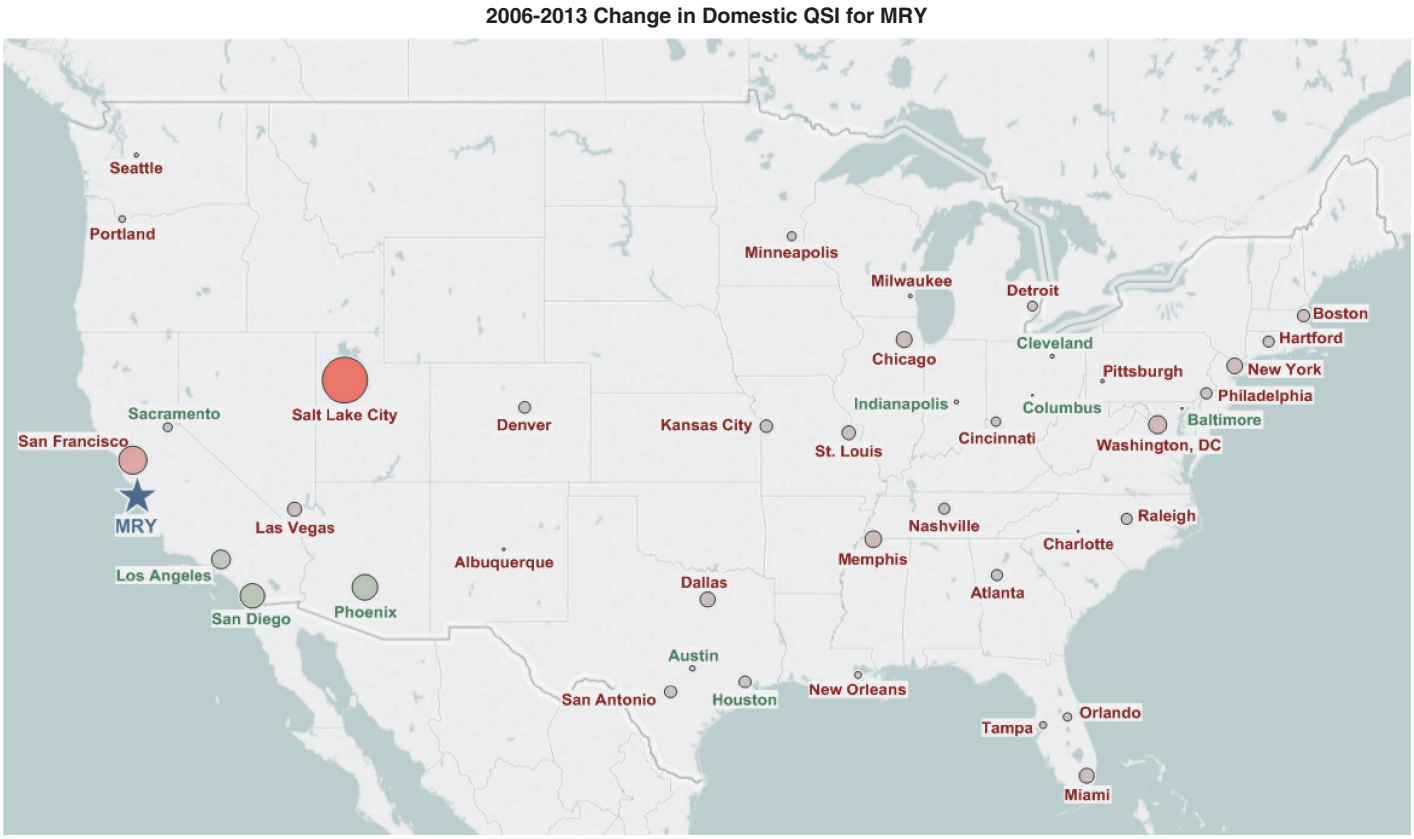
Reductions in service to network hubs at San Francisco, Los Angeles, and Salt Lake City by United, American, and Delta were partially offset by a small increase in service to Phoenix by US Airways. The ultimate effects of these changes on connecting services are tracked in the QSI analysis. As indicated in Exhibit 8-4, MRY travelers could still get to most of the same destinations,

Exhibit 8-5. Non-stop service from MRY, October 006 vs. October 2013.

October 2006		
Carrier	**Destination**	**Service**
United	San Francisco	7x/day
	Denver	1x/day
	Los Angeles	6x/day
American	Los Angeles	4x/day
Delta	Salt Lake City	2x/day
America West	Phoenix	2x/day
	Las Vegas	4x/wk
TOTAL		**22.5x/day**

October 2013		
Carrier	**Destination**	**Service**
United	San Francisco	5x/day
	Denver	1x/day
	Los Angeles	3x/day
American	Los Angeles	3x/day
Allegiant	Las Vegas	2x/wk
US Airways	Phoenix	3x/day
TOTAL		**17x/day**

Exhibit 8-6. Changes in MRY service to domestic destinations.



despite the decline shown by the QSI score. However, there are many small and a few larger changes in the amount of service to any particular destination. Exhibit 8-6 depicts increases or decreases in service (again measured by QSI points) to individual domestic destinations.

As indicated by the locations shown with small red circles, service to many major domestic destinations has declined slightly; the largest decline was to Salt Lake City, due to the elimination of Delta's non-stop service. At a handful of destinations service has actually increased somewhat; a detailed examination of the results shows that these outcomes are due to increased connection opportunities on US Airways via Phoenix and new potential connections involving US Airways and American in certain markets.

A similar analysis for Fargo (FAR) reveals a somewhat different set of outcomes. As shown in Exhibit 8-7, Fargo experienced a domestic service increase of 10% (measured by QSI) between 2006 and 2013 and an increase in the number of reachable destinations from 49 to 50 (the maximum possible).

Again, it is useful to first look at the change in non-stop services from the airport, shown in Exhibit 8-8.

There were small declines in service across the board from the network carriers to hubs at Denver, Chicago, Salt Lake City, and Minneapolis. However, these were offset by the entry of American providing service to Dallas and Chicago, as well as a small new service from LCC Frontier to Denver. The ultimate effect of these changes was to increase the overall QSI score at FAR by 13.6%.

Again, the results can vary significantly by destination. Exhibit 8-9 shows that for FAR, these variations are primarily related to geography, with Eastern and Southern destinations experiencing increased service while Western destinations experienced decreased service. Examination of the

Exhibit 8-7. Summary of service changes at FAR.

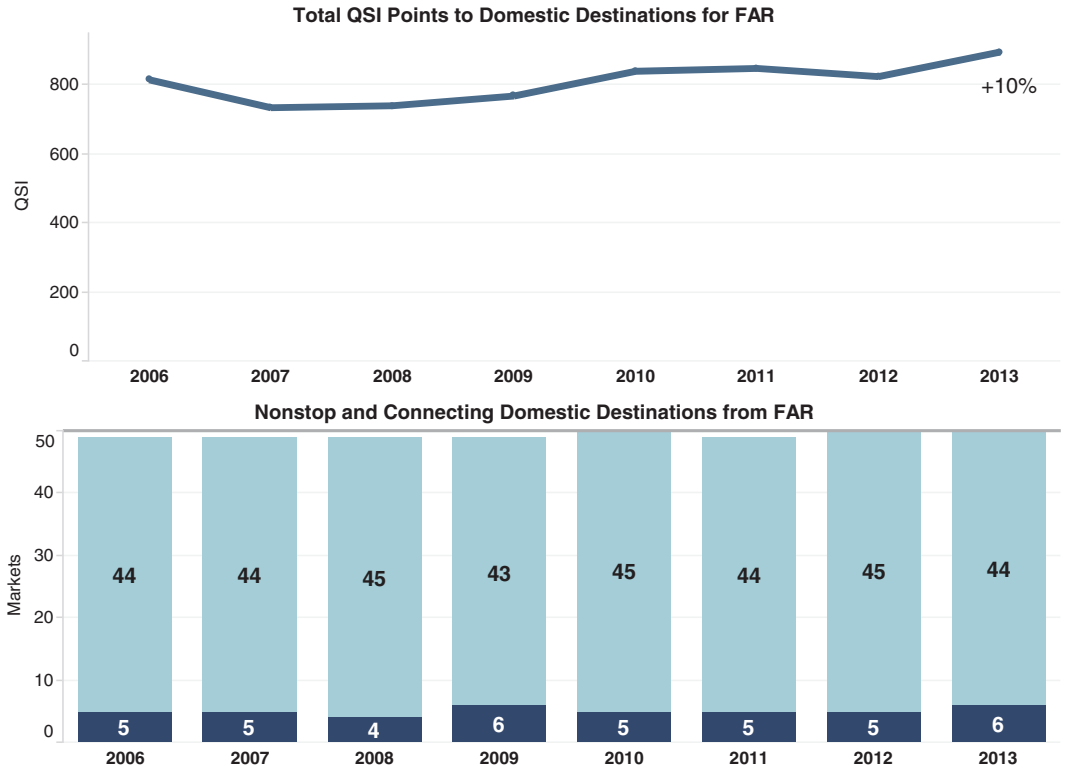


Exhibit 8-8. Non-stop service from FAR, October 2006 vs October 2013.

October 2006		
Carrier	**Destination**	**Service**
United	Denver	4x/day
	Chicago	4x/day
Delta	Salt Lake City	2x/day
Northwest	Minneapolis	8x/day
	Las Vegas	2x/wk
Allegiant	Las Vegas	2x/wk
TOTAL		**18x/wk**

October 2013		
Carrier	**Destination**	**Service**
United	Denver	3.5x/day
	Chicago	3.5x/day
Delta	Salt Lake City	1x/day
	Minneapolis	7.5x/day
Allegiant	Las Vegas	2x/wk
American	Dallas-Ft Worth	1x/day
	Chicago	3x/day
Frontier	Denver	4x/wk
TOTAL		**20x/wk**

individual QSI results shows that the increases are due primarily to United's new service to Chicago, while the decreases are due mostly to declines in service by Delta via Minneapolis and Salt Lake City.

For most of the airports listed in Appendix A, QSI scores are included in the spreadsheet available for download from the TRB website.

8.5 QSI Changes by Hub Size

To get a general picture of the change in service across airports, Exhibit 8-10 depicts average airport QSI levels over time by hub group (using hub status as of 2013). These results are largely consistent with the earlier analysis of non-stop flights and seats, but show a somewhat smaller average decline for each hub group.

Exhibit 8-9. Changes in FAR service to domestic destinations.

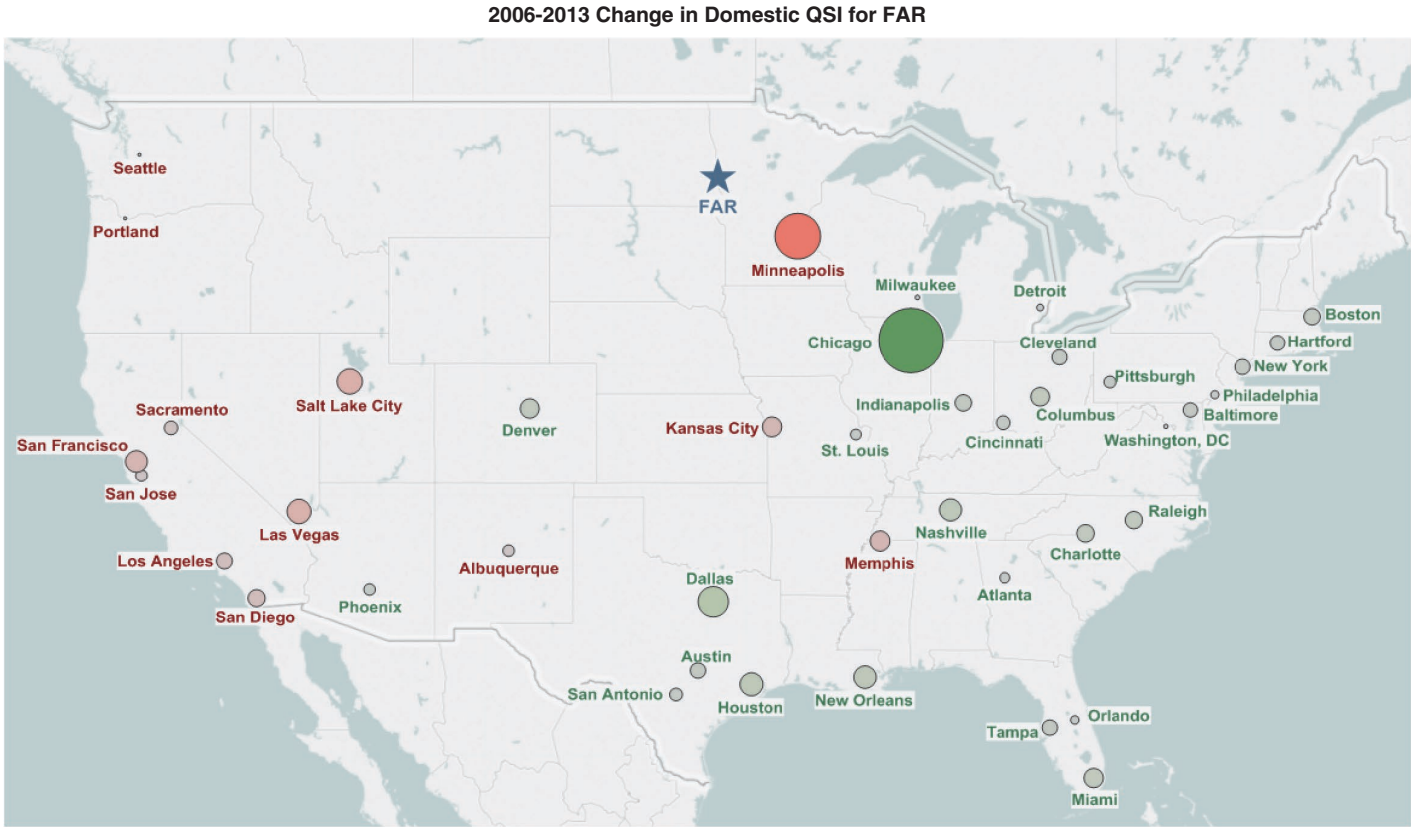
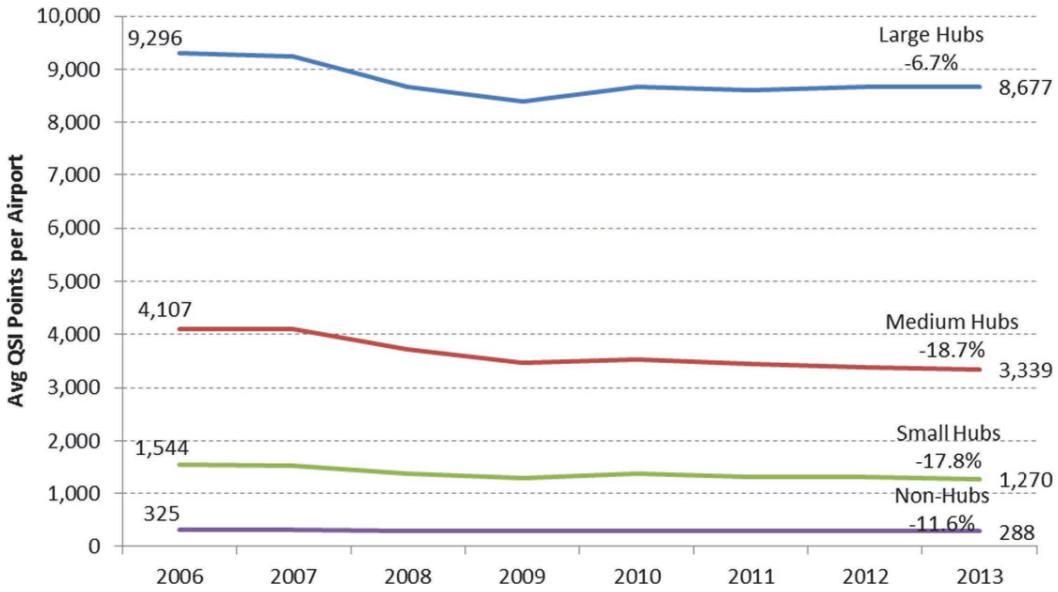


Exhibit 8-10. Average airport QSI by hub group.



A primary takeaway from the analysis presented here is that access to the air transportation network from small- and non-hub airports has declined significantly on average, but can vary significantly across individual airports. The specifics of flight connection opportunities at the major carriers' network hubs are important in determining the observed changes.

Although caution should be exercised when using any single metric to identify service levels, the analysis suggests that airports should go beyond simply counting numbers of non-stop flights and should look closely at how those flights hook into the major carriers' networks. In addition, flights by LCC (even those that do not have extensive connection opportunities) can provide less expensive service to particular destinations.

Where possible, operators of small- and non-hub airports should strive to interact with their current major carriers to assess whether or not and how services are aligned to the schedule banks at the carriers' network hubs to facilitate the highest possible number of connection opportunities.

CHAPTER 9

Strategies

9.1 Introduction

This chapter provides recommended ASD strategies for airport managers and community leaders in communities with small- or non-hub airports to use in retaining or attracting new air service. The strategies presented here were developed as a result of synthesizing the quantitative data contained in Chapters 3, 7, and 8 and the qualitative data presented in Chapters 4, 5, 6, and 7. Users of these strategies can customize their strategies based on their responses to a self-assessment tool that determine the specific needs and air service environment of the airport and community.

9.2 Addressing Uncertainty and Risk in Air Service Development

A key lesson from this research is that airport and community leaders have limited control over many of the factors that ultimately lead to an air carrier starting or ending air service in a community. The lack of control of airport managers over their own destiny is largely a result of various sources of risk and uncertainty that range from global to local in scope. As discussed in earlier chapters, current sources of airline industry and business cycle uncertainty and risk that can affect ASD efforts include the following. For more detail on Addressing Uncertainty and Risk in Airport Management, see *ACRP Report 76*.

- **Global Economic Conditions:** Factors such as global financial crises can negatively affect the overall demand for air transportation, which may result in fewer new destinations or reductions in service to existing locations. Additionally, the global demand and supply for crude oil affects the price paid by airlines, which is one of the major cost drivers of beginning new service in a community (much larger than airport fees). The price of oil can also affect airline decisions on the types of aircraft to operate, which can limit the potential options for communities in trying to attract or retain service. For example, the planned reduction of small regional jets by many carriers is due in part to the expected high price of jet fuel over the coming decades (despite oil's recent price collapse in late 2014).
- **Local Economic Conditions:** The reduction or closing of significant employers in a region affects the local demand for air service while reducing the demand for high-yield in-bound business travelers to the region. Similarly, a short-term boom in economic growth in a region can lead to tremendous growth in air service that may not be sustainable if the drivers of the economic growth slow or reverse. For example, if global demand for crude oil decreases, recent air service gains in western North Dakota might not be sustained.
- **Airline Strategy:** Communities are often beholden to the internal decision-making processes of airlines during efforts to attract or retain air service. The recent decision by many legacy

carriers to shift company focus from market share to profitability has led to an overall strategy of constrained demand across the industry that has resulted in a shift from smaller, less-efficient 50-seat regional jets to larger aircraft which has led to the reduction of flights in many smaller communities. Additionally, many communities are surprised to learn of internal airline policies that prohibit route planners to approve new routes that fly over an existing network hub, even if local demand justifies a new service.

- **Airline consolidation:** The recent trend of airline consolidation in the United States has had several implications for air service in smaller communities. First, the consolidation of legacy and low-cost carriers has reduced the overall number of air carriers that small communities can target with requests for new air service routes. Second, as a result of consolidation, airlines have decided to eliminate many of their smaller network hubs (e.g., Pittsburgh, Cleveland, St. Louis, Memphis, and Cincinnati) that often have fed legacy-carrier flights to small- and non-hub airports. The reduction in service to these hubs has strained capacity at larger hubs and made the criteria for service to these more congested hubs more difficult for many small airports to achieve.
- **LCC and ULCC Growth:** Many smaller airports look to increase or replace lost legacy network service by focusing on attracting low-cost or ultra-low-cost carriers. LCCs and ULCCs often provide less-than-daily point-to-point service to vacation destinations or serve secondary airports in major metropolitan areas. If LCCs or ULCCs begin to compete with incumbent legacy carriers serving a location on established routes, communities risk losing the ability to connect through a legacy carrier's route network. Airports and communities must balance the local demand for more flights with a more holistic view of a region's connectivity to top domestic and worldwide destinations.
- **Competition from Other Airports:** The ability of small airports to attract or retain air service is significantly affected by the air service profile and performance of nearby airports. Small airports within the catchment areas of large- or medium-hub airports with legacy-carrier network connectivity and/or significant LCC routes are particularly disadvantaged in terms of flight availability and lower airfares. The decision by a major network carrier to begin service at a competing small-hub airport can drastically affect the sustainability of service at another airport. Leakage to larger hub or even competing small- and non-hub airports—a significant challenge for many small- and non-hub airports—is only partially controlled by airport managers.
- **Federal Regulatory Policy:** Actions taken by the President, Congress, and the FAA can affect the ability of small- and non-hub airports to attract or retain air service. Changes to appropriations or authorizing legislation of programs such as the Essential Air Service (EAS) program or the Small Community Air Service Development (SCASD) grant program affect how many small communities subsidize or attract new service. Additionally, capacity initiatives passed by Congress and implemented by the FAA at key hub airports such as Ronald Reagan Washington National Airport (DCA) make it difficult for smaller airports to gain access to landing slots reserved for more profitable routes. Finally, air traffic control initiatives implemented by the FAA during poor weather often result in higher than average delay or cancellation rates by air carriers at smaller airports, which can threaten the sustainability of successful ASD attraction efforts.
- **Large-Scale Crises:** The effect of large-scale crises (e.g., the September 11th terrorist attacks in the United States), infectious diseases (e.g., SARS, avian flu, and Ebola), and severe weather or geological events (e.g., the Icelandic volcanic eruption of 2010) can all cause drastic changes to travel demand as well as airline business structures that can have a significant effect on the ASD environment.

Given the uncertainties and risks posed by each of these challenges, what can airport managers and community leaders do to improve their ability to attract or retain new air service? Are there strategies that airport managers and community leaders can bring to bear to improve the market for new air service in their regions while insulating themselves from

uncertainty or is the announcement of new flights by airlines entirely a function of external factors? The answer is somewhere between these extremes. For example, Sonoma, which experienced the largest increase in seats from 2001 to 2013 of the case study airports, and Toledo, which experienced the largest decrease in seats over the same period, implemented similar ASD programs targeted at attracting new service to their markets. However, Toledo's proximity to Detroit Wayne County Airport (DTW) (an easy 1-hour drive) and its relatively weak economy have likely been major factors in its air service reductions, while Sonoma has benefitted from significant regional investment in tourism and the unpredictability of driving from Sonoma and Napa to San Francisco International Airport (SFO).

To increase the likelihood of success by airport managers and community leaders in attracting or retaining air service, the researchers have developed a set of strategies based on the analyses presented in the earlier chapters. Before using these strategies, airport managers, community leaders, and their ASD consultants must conduct a rigorous and honest assessment of their current air service profile using the tools provided in this guide. This self-assessment will allow airport managers to determine what are realistic expectations for new air service opportunities and what actions may be necessary to improve the chances for new service. Additionally, by conducting the self-assessment, airport and community leaders will be in a better position to explain realistic expectations for the community, why particular ASD efforts might succeed or fail, and what steps the community can take to improve chances for air service attraction or retention.

9.3 ASD Self-Assessment Tool

To provide a custom set of strategies for small airports facing diverse sets of challenges, a self-assessment tool has been designed that asks airport managers and community leaders to answer a series of brief questions in five categories:

- Local Economic Performance
- Existing Air Service Profile
- Recent Changes in Air Service Performance
- Airline and Community Incentive Programs
- Level of Community Engagement

These categories were selected because of the importance placed on them by airport and community leaders who have led successful air service development efforts.

Local Economic Performance	Response	Score
Does your region have a major industry or business that is dependent upon airline service? **Yes= 1 No=0**		
Is the count of annual enplaned passengers greater than your current population total? **Yes= 1 No=0**		
Over the past 5 years, has your region experienced employment growth greater than or equal to the national average? **Yes= 1 No=0**		
Over the past 5 years, has your region experienced per capita income growth greater than or equal to the national average? **Yes= 1 No=0**		
Total Score		
Total Score 3 or more = Strong Economic Performance ***Total Score 2 or less = Weak Economic Performance***		

Existing Air Service Profile	Response	Score
Does your airport currently have service to a legacy-carrier network hub? **Yes=1 No=0**		
Does your airport currently have service to more than one legacy-carrier network hub? **Yes= 1 No=0**		
Does your airport currently have low-cost carrier service? **Yes=1 No=0**		
Is your airport within a two-hour drive of an airport with competing air service? **Yes=0 No=1**		
Does your airport face competition from alternative modes of transportation such as rail or bus service in any key markets? **Yes=0 No=1**		
Total Score		
Total Score 3 or more = Strong Air Service Profile ***Total Score 2 or less = Weak Air Service Profile***		

Recent Changes in Air Service Performance	Response	Score
Has your airport seen a significant increase in the number of available airline seats over the past 5 years? **Yes, More than 20%=2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport seen a significant increase in the number of daily flights over the past 5 years? **Yes, More than 20%= 2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport seen an increase in overall connectivity (measured by GRA QSI score) over the past 5 years? **Yes, More than 20%= 2** **Yes, Between 5% and 20%=1** **No=0**		
Has your airport successfully attracted new legacy-carrier service to a network hub over the past 5 years? **Yes=1 No=0**		
Has your airport successfully attracted new low-cost carrier service to an origin-destination market over the past 5 years? **Yes=1 No=0**		
Total Score		
Total Score 4 or more = Strong Change in Air Service Performance ***Total Score 3 or less = Weak Change in Air Service Performance***		

Airline and Community Incentive Programs	Response	Score
Does your airport currently offer fee waivers or reduced terminal rent for new air carriers or new service by existing air carriers? **Yes=1 No=0**		
Does your airport currently offer marketing support for new air service? **Yes= 1 No=0**		
Has your airport applied for a U.S. DOT Small Community Air Service Development (SCASD) grant over the past 5 years? **Yes=1 No=0**		
Over the past 5 years, has your community offered a minimum revenue guarantee (MRG) or guaranteed ticket purchases (travel bank) to an air carrier for new service? **Yes=1 No=0**		
Has your current airline incentive program been in effect for more than 2 years? **Yes=1 No=0**		
Total Score		
Total Score 3 or more = Strong Airline and Community Incentive Programs ***Total Score 2 or less = Weak Airline and Community Incentive Programs***		

Level of Community Engagement	Response	Score
Does your airport management conduct regularly scheduled presentations to community organizations (Rotary, Chamber of Commerce, etc.)? **Yes=1 No=0**		
Are members of the airport board also members of the local Chamber of Commerce or Economic Development Corporation? **Yes= 1 No=0**		
Do you have community event days sponsored by and conducted at the airport? **Yes=1 No=0**		
Does the airport manager have routine communication with the Chamber of Commerce, the Economic Development Corporation, or the Convention and Visitors Bureau? **Yes=1 No=0**		
Does your airport provide tours upon request? **Yes=1 No=0**		
Total Score		
Total Score 3 or more = Strong Level of Community Engagement ***Total Score 2 or less = Weak Level of Community Engagement***		

As shown in each series of questions, it is suggested that each answer be converted into a simple integer score that can be summed to provide an overall assessment of whether an airport is strong or weak in each category. Although this simplification may not capture all the ways in which airports vary with respect to air service development, it provides a straightforward framework in which to consider different strategies for retaining or improving airline service. The design of the self-assessment has not been formally field-tested, but is based primarily on the findings and outcomes observed during the case study and focus group analyses described earlier.

Based on the self-assessment scores for each category, airport managers will find specialized strategies that can be used to improve subpar performance in one area or to build on an area of strength. The remainder of this chapter outlines strategies to improve ASD efforts.

9.4 Recommended Strategies

The following ASD strategies are organized according to either strong or weak performance in an airport's self-assessment of their air service development. Given the amount of uncertainty and risk inherent in the airline industry, the strategies presented here are designed to focus on the factors that airport managers and community leaders can control or at least influence. Also, although the strategies presented here are designed to apply to various situations, local, institutional, funding, or political factors may lessen their applicability. Given the current economic and market conditions affecting many small communities, seeking to retain existing air service may be an effective strategy.

9.4.1 Strong Local Economic Performance

- **Ensure that Major Businesses that Depend on Air Service are Active Members of Airline Attraction Committees**

Many communities that have been successful in attracting and retaining air service and have experienced strong economic performance have involved representatives from major businesses or industries that rely heavily on air travel. Local business participation on airline attraction committees establishes a sense of buy-in and loyalty from major employers to choose to fly from smaller airports and to contribute financially to ASD efforts. Additionally, business participation

in airline attraction committees can help foster connections and trust with other members of the business community that may result in the open exchange of information such as business expansion plans or travel records that can be used to attract new air service.

- **Plan to Routinely Meet to Quantify Both Realized and Unrealized Demand for Air Service Generated by Changes in Economic Indicators and Demographic Factors**

One of the comments made by airline route planners was that airport managers and economic development officials are often not effective in quantifying existing and potential demand within their communities. By routinely meeting to discuss potential business attraction efforts or seasonal tourism projections, airport managers and community leaders can provide unique information to airline route planners about demand for new service in their communities. Information such as seasonality of demand, corporate travel group trends, links with other nearby communities, and new or emerging businesses or attractions that drive demand are critical to presenting a community's demand for new air service effectively.

- **Use Indicators of Strong Economic Performance to Expand Existing Service**

In communities that have had strong economic performance over the past several years, an effective ASD strategy may be to use information on increased demand or ticket yield (air fare per mile) to expand existing service. For example, if a new employer to the region produces 20 passengers per day to an existing destination, the airport manager and local economic development officials may be able to work with the incumbent air carrier to add a flight or a larger aircraft type with first-class cabin options to drive additional yield.

9.4.2 Weak Local Economic Performance

- **Be Actively Involved in Local Economic Development Efforts to Attract New Businesses or Industries to a Region**

In communities with weak regional economic performance, a critical first step to building the foundation for future air service development success is for airport managers to foster a close working relationship with local economic development and tourism officials. In many communities, airport managers are often part of the local economic development team that speaks with businesses looking to relocate to the community. An effective method to ensure a close working relationship between airport and economic development officials is to "cross-pollinate" board members in existing organizations including the airport, the economic development office, the chamber of commerce, and the Convention and Tourism Bureau (CVB) to help in the integration of organizational goals (including the development of air service) across the region.

- **Consider Airport Experience Branding or Tourism Investment Opportunities as Potential Strategies to Overcome Limited Economic Growth and Generate Demand for New Service**

Communities that have experienced weak economic performance can help generate demand for air service by working with community leaders to invest in tourism promotion and to promote the flying experience from the airport compared to a larger hub airport. In communities with employment decreases such as Sonoma, airport officials have worked with the local CVB to invest in tourism promotion in other cities (e.g., Chicago) to develop in-bound demand for travel to Sonoma. Alternatively, communities such as Akron, OH, have focused on branding and promoting the ease of the travel experience compared to larger hub airports.

9.4.3 Strong Existing Air Service Profile

- **Focus on Optimizing Existing Carrier Service Rather than Pursuing Possible Competing Routes**

Small- and non-hub airports that have achieved a diverse air service profile including multiple legacy-carrier routes to network hubs and LCC service to O&D markets should develop ASD plans that focus on retaining existing service while looking to expand the number of flights or increase aircraft size with existing carriers. If the demand in a market increases due to seasonality or a new employer moving into a region, airport and community leaders are often able to use their relationships with incumbent carriers to quickly add new flights or move to a larger aircraft to accommodate the increase in demand rather than trying to attract a new carrier to the airport. In some cases, airports that look to expand service by incentivizing new carriers whose routes may compete with existing carriers run the risk of losing service by incumbent carriers who may not want to compete with another air carrier on routes from smaller communities to their hub airports.

- **Target New Service that Complements Existing Service and Offers Maximum Connectivity for Travelers**

Airport managers at small- and non-hub airports with strong air service profiles may still want to pursue new service to meet untapped demand that cannot be met by existing carriers. In these cases, airport and community leaders should consider not only the destination with the most demand, but also the ability to reach other destinations via connecting service that a new route would provide to travelers. Metrics such as the QSI estimates (discussed in Chapter 8) can help airport managers identify destinations with the greatest connectivity to domestic and international markets. For example, if an airport has current service to a legacy-carrier network hub that feeds connections to the East Coast and Europe, it may be prudent to consider attracting a carrier whose hub connections are stronger to the west coast and Asia, even if that destination does not have the most local demand.

9.4.4 Weak Existing Air Service Profile

- **Target Carriers Whose Business Model Fits with the Community's Needs**

Managers at small- and non-hub airports that have a weak existing air service profile often face significant internal financial pressure as well as external pressure from local elected officials and citizens to pursue new flights, regardless of the new carrier's connectivity to other destinations. A key lesson from the most successful small- and non-hub airports over the past 10 years has been that managers and community leaders analyzed potential carriers to find those carriers with business models and destination profiles that matched the demand of the local community. Examples of factors that communities may examine in advance of pursing new flights include frequency of service, connection bank times at hub airports, aircraft models that fit with airport noise or runway limitations, and the type of incentives a carrier finds effective based on its financial profile.

- **Educate the Public on the Macro and Micro-level Causes of the Community's Weak Air Service Profile While Also Working to Gain Support for Future ASD Efforts**

A difficulty faced by many airport officials at airports with weak air service profiles is that they must continue to try to garner support from businesses that will often have their employees drive to other airports for their travel needs and then criticize the local airport for a lack of flight options. In these cases, airport officials must work to educate the community on the importance of business and community support for new service in today's competitive ASD environment, with an emphasis on the benefits of flying locally and on larger airline industry trends that will affect the community's ability to attract service. Airport officials should consider investing in studies and economic analyses that show the value to business and community leaders of flying from the local airport versus driving to a nearby airport. Additionally, airport and local economic development officials must educate the community through meetings with community

groups, public forums, and media appearances on airline industry trends such as consolidation and fleet realignments that ultimately affect the success of the community in gaining new service. Such a program will enable the airport and community to set realistic expectations for service gains while allowing airport officials to focus on meeting with air carriers rather than defending their actions to the media and community.

9.4.5 Strong Recent Changes in Air Service Performance

- **Work Diligently to Market and Support New Flights to Ensure Their Sustainability**

In the survey of airline route planners, many noted that the "hard work" of air service development is sustaining service once it has begun. Many communities and airport officials often expend so much time and effort persuading a carrier to announce new service that these communities and officials have little time to spend on developing an effective marketing or public relations plan to generate community awareness and support for the new service. Successful marketing campaigns for new air service can include traditional advertising (e.g., television, radio, and newspaper), social media advertising, and events that draw members of the community to the airport (e.g., 5K races and aircraft/airline tours). Communities may also have to market new air service regionally or internationally depending on the location of nearby alternative airports or the level of in-bound traffic resulting from tourism.

- **Plan to Meet Periodically With Airline Route Planners to Outline Multi-Year Strategic Plan for the Community and How Service Will Be Sustained**

Airports and communities that have had recent successes must continue to communicate and build relationships with airline route planners and executives once they have agreed to start new service. A key piece of this communication is a multi-year strategic plan that describes the community's plan for economic development and business attraction, tourism development, marketing and promotion of the new service, and how airport leaders will stay engaged with the community. Such information helps reassure airline route planners of the sustainability of newly initiated service. Presenting this information to airline route planners can result in opportunities for new air service if the community demonstrates significant market demand and a commitment to support the new air carrier.

9.4.6 Weak Recent Changes in Air Service Performance

- **Work With Local Businesses and Community Leaders to Generate Support for Existing Air Service, However Limited It May Be**

Many small- and non-hub airports with limited existing air service face the difficult task of trying to generate business and community support for flights that often are at inconvenient hours, on small regional aircraft, are unreliable and often the first flights cancelled by air carriers during periods of irregular operations, and fly to large-hub airports rather than O&D markets. However, the most likely option for many small- and non-hub airports to expand service is with incumbent carriers. Therefore, showing that the community can support the limited service it has is critical to pursuing additional service. Airport managers can generate support for existing service by working with local businesses develop a "check us first" campaign where major companies in a region will check the local airport before driving to a nearby airport. Additionally, airports can develop a total cost of travel application on their websites that they share with businesses to show that, in some cases, flying through the local airport may be more economical. Finally, airport managers must make the case to local elected officials that they should try whenever possible to fly from the local airport as a show of support for existing service.

- **Pursue Alternative Modes of Transportation, Including Passenger Bus or Rail Service, to Supplement Existing Air Service**

Airports with limited existing flight options should pursue alternative modes of transportation including airport bus service and train service to supplement their existing service. Many small- and non-hub airports are within a 2- to 3-hour drive of a major network hub. Often, these airports experience unreliable airline connections to major hubs because these flights are the first flights cancelled by air carriers during compressed demand caused by poor weather at larger hub airports. Private bus service between the small- or non-hub and the larger hub can provide passengers an important back-up option during times of irregular operations. Additionally, by working with private bus services and air carriers to allow passengers to check-in at the local airport, passengers may get in the habit of checking the local airport for flights before looking to larger hub airports. Operating passenger bus service from the local airport also provides passengers with a tangible sense of how much time they are sacrificing by flying from a larger hub rather than the local airport. Finally, working to provide passenger bus service allows airport managers to collect tangible, reliable data on local market demand that can be used during meetings with air carriers.

9.4.7 Strong Airline and Community Incentive Programs

- **Develop Flexible Incentive Programs and Remain in Frequent Contact with Air Carriers to Determine if the Program is Meeting the Needs of the Carriers**

Airports and communities with incentive programs being used to subsidize new service should meet frequently with airline route planners to monitor the profitability and performance of new routes and adjust incentive structures if the new flight is not meeting performance metrics or if the carrier shifts its business model. Examples of flexible incentive programs could include shifting community travel bank funds into minimum revenue guarantees, shifting unneeded minimum revenue guarantee funds into additional marketing for the new service, or providing innovative terminal rent, ground-handling, or landing fee waivers based on the success of the new service. Flexible incentive programs ensure that airport and community leaders can act to sustain the new service while maximizing the value of private and public money.

9.4.8 Weak Airline and Community Incentive Programs

- **Conduct a Realistic Assessment of Whether an Investment of Public and Private Money in an Incentive Program is Feasible Given Existing Financial Constraints and the Likelihood of Sustaining New Service**

A critical component of developing and implementing an airline incentive program is to assess the likelihood that the investment of public and private money to attract or retain new air service will be successful, given macro-level factors in the airline industry, existing financial constraints in the local community, and the level of community support and demand for new air service. This assessment is critical because it allows the community to determine how willing it is to invest in new air service. Additionally, such an assessment allows airport and community leaders to identify key businesses and elected officials who can act as champions for ASD efforts.

- **Match the Incentive Program Being Developed to the Business Model of the Air Carrier Being Targeted**

Most airline route planners say that general incentive programs do not have a significant effect on the decision to start new air service in a community. However, they also note that incentive programs that consider the business model of the air carrier are much more likely to influence the decision. If a particular carrier has a focus on reducing per-turn costs and cost per enplaned passenger (CPE), then a community-driven incentive program focusing on ticket purchases

through a travel bank is not likely to be effective. If a community is simultaneously trying to attract two airlines, one with mainline and one with RJ service, its incentive program must be flexible enough to allow for minimum revenue guarantee funds to be shifted to the mainline service while shifting more on-airport fee waivers to the RJ flight. Finally, to understand the underlying business model of the targeted air carrier, airport and community leaders should meet frequently and routinely with airline route planners at events such as Jumpstart, the Sixel Airports Conference, and the AAAE National Air Service Conference.

- **Focus on Reducing Short-Term Risk and Costs to the Air Carrier While Protecting the Interests of the Community**

When a carrier begins new service in a community, the carrier confronts several risks including a lack of enplanements due to a lack of marketing, the costs of opening a new station at the airport, and the cost of moving or hiring new employees for baggage, ticketing, and ramp operations. Incentives such as ticket banks or minimum revenue guarantees are designed to offset these costs and risks over a short time. However, these incentives can present significant financial risk to local businesses and governments. Airport and community leaders must work with air carriers to design incentive programs that protect the interests of the air carrier and the local community. In the case of Panama City, both Southwest and St. Joe Company could exit the agreement if the service was so unsuccessful that either party incurred a significant financial burden. Also, the inclusion of a provision for profit sharing between Southwest and St. Joe Company if a revenue guarantee payment was made protected St. Joe Company from losing millions of dollars in one or two quarters and having no way of recouping payments when the route was profitable.

9.4.9 Strong Level of Community Engagement

- **Continue to Educate and Reach Out to Local Businesses and Civic Groups about the Performance of the Airport and Airline Industry**

At airports where there is a strong level of community engagement between the airport and local economic development leaders, there is a tendency to reduce the frequency of established education sessions and outreach efforts after a community gains new air service. Similarly, in communities that have not had success in ASD efforts but have strong community engagement, there may be a belief among some members of the ASD group that community outreach and education are ineffective. However, continual and frequent education and outreach to the community is a key component of successful ASD efforts. For communities with new service, outreach allows airport and economic development officials to communicate industrywide or local trends that may affect the success of the service while allowing for the establishment of new ASD efforts due to local changes such as a new business opening. In communities still working for new air service, outreach and education forums enhance coordination of efforts and resources that can be used to bolster ASD efforts or suggest new approaches.

- **Formalize Governance Arrangements to Allow for Nimble Responses to Future ASD Opportunities**

In many communities with strong community engagement programs, much of the work between airport managers and local economic development leaders occurs ad hoc and may overlap or compete with other efforts ongoing in the community. Developing a formalized governance structure such as an official airline attraction committee allows for shared responsibility across several organizations including the airport, the CVB, economic development office, chamber of commerce, and local businesses while fostering a sense of trust among participants. Formalizing previously ad hoc processes helps ensure a much quicker response to new ASD opportunities. Finally, a formal airline attraction committee can work on simultaneous efforts such as retaining an incumbent carrier while trying to add new non-competing service.

9.4.10 Weak Level of Community Engagement

- **Establish Education and Outreach Programs that Communicate the Value of the Airport to the Community**

Airport managers in communities with weak engagement face the difficult task of trying to remind the community that their airport has value to the region, even though many citizens may never have used or been to the airport. A way to overcome the lack of awareness of the airport more generally is to hold frequent, regular education and outreach meetings with key civic groups (e.g., the Lions Club or the Rotary). By educating the community on macro-level industry trends and local factors that influence air service, airport managers can foster understanding of the underlying market demand necessary to expand flights and how members of the community can help establish the conditions necessary to expand service. Finally, airport managers can use these sessions to identify citizen perceptions of the airport and the service offered and illustrate the value of the airport to the community through quantitative figures (i.e., a business case) or through special events at the airport.

- **Develop Close Working Relationships with Key Community and Economic Leaders**

One of the most important lessons to emerge from the case studies and focus groups is that to sustain ASD efforts, local officials must remain engaged in attraction and retention efforts. The most successful example of a sustained ASD campaign was in Fargo (FAR). The close working relationship between the airport, the Greater Fargo-Moorhead Economic Development Corporation, the Chamber of Commerce of Fargo-Moorhead and West Fargo, and the Fargo-Moorhead Convention and Visitors Bureau has been the key to FAR's ability to use the region's economic growth to attract new air service to Fargo. By partnering with these community groups, the airport has overcome traditional limitations on ASD such as the FAA's AIP grant assurances by developing a flexible airline attraction program that provides incentives to carriers. By being in constant communication with these organizations, the airport has access to real-time information on the needs of the business community and can address any concerns through an organization's regular meetings.

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APPENDIX A

Airports in Data Set

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
1G4	Grand Canyon West	Peach Springs	AZ	N		GCW	
3W2	Put-in-Bay	Put-in-Bay	OH	GA			No scheduled service during entire 2001 to 2013 period
ABE	Lehigh Valley International	Allentown	PA	N			
ABI	Abilene Regional	Abilene	TX	N			
ABR	Aberdeen Regional	Aberdeen	SD	N			
ABY	Southwest Georgia Regional	Albany	GA	N			
ACK	Nantucket Memorial	Nantucket	MA	N			
ACT	Waco Regional	Waco	TX	N			
ACV	Arcata	Arcata	CA	N			
ACY	Atlantic City International	Atlantic City	NJ	S			
AEX	Alexandria International	Alexandria	LA	N			
AGS	Augusta Regional at Bush Field	Augusta	GA	N	Yes		
AHN	Athens/Ben Epps	Athens	GA	GA			
ALB	Albany International	Albany	NY	S			
ALO	Waterloo Municipal	Waterloo	IA	N			
ALW	Walla Walla Regional	Walla Walla	WA	N			
AMA	Amarillo International	Amarillo	TX	S			
AOO	Altoona - Blair County	Altoona	PA	CS			
APF	Naples Municipal	Naples	FL	GA			
APN	Alpena County Regional	Alpena	MI	N			
ART	Watertown International	Watertown	NY	N			
ASE	Aspen - Pitkin County / Sardy Field	Aspen	CO	N			
ATW	Outagamie County Regional	Appleton	WI	N			
AVL	Asheville Regional	Asheville	NC	N	Yes		
AVP	Wilkes - Barre / Scranton International	Wilkes-Barre/Scranton	PA	N			
AZO	Kalamazoo/Battle Creek International	Kalamazoo	MI	N			
BED	Laurence G Hanscom Field	Bedford	MA	GA			
BFF	Western Neb. Regional/William B Heili	Scottsbluff	NE	N			
BFI	Boeing Field/King County International	Seattle	WA	N			
BFL	Meadows Field	Bakersfield	CA	N			
BGM	Binghamton Regional/Edwin A Link Field	Binghamton	NY	N			
BGR	Bangor International	Bangor	ME	N			
BHB	Hancock County - Bar Harbor	Bar Harbor	ME	N			
BHM	Birmingham International	Birmingham	AL	S			
BID	Block Island State	Block Island	RI	N			
BIL	Billings Logan International	Billings	MT	S			
BIS	Bismarck Municipal	Bismarck	ND	N			
BJI	Bemidji - Beltrami County	Bemidji	MN	N			
BLI	Bellingham International	Bellingham	WA	S			
BLV	Scott AFB/MidAmerica	Belleville	IL	N			
BMI	Central IL Regional at Bloomington - Nor	Bloomington / Normal	IL	N			
BOI	Boise Air Terminal / Gowen Field	Boise	ID	S			
BPT	Jack Brooks Regional	Beaumont	TX	N			
BQK	Brunswick Golden Isles	Brunswick	GA	N			
BRD	Brainerd Lakes Regional	Brainerd	MN	N			
BRL	Southeast Iowa Regional	Burlington	IA	CS			
BRO	Brownsville/South Padre Island Int'l	Brownsville	TX	N			
BTM	Bert Mooney	Butte	MT	N			

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
BTR	Baton Rouge Metropolitan, Ryan Field	Baton Rouge	LA	S			
BTV	Burlington International	Burlington	VT	S	Yes		
BVU	Boulder City Municipal	Boulder City	NV	N		BLD	
BZN	Bozeman Yellowstone International	Bozeman	MT	S	Yes		
CAE	Columbia Metropolitan	Columbia	SC	S			
CAK	Akron - Canton Regional	Akron	OH	S	Yes		
CDC	Cedar City Regional	Cedar City	UT	N			
CEC	Jack Mc Namara Field	Crescent City	CA	N			
CEF	Westover ARB/Metropolitan	Chicopee	MA	GA			No scheduled service during entire 2001 to 2013 period
CEZ	Cortez Municipal	Cortez	CO	CS			
CHA	Lovell Field	Chattanooga	TN	N			
CHO	Charlottesville - Albemarle	Charlottesville	VA	N			
CHS	Charleston AFB / International	Charleston	SC	S			
CIC	Chico Municipal	Chico	CA	N			
CID	The Eastern Iowa	Cedar Rapids	IA	S			
CIU	Chippewa County International	Sault Ste Marie	MI	N			
CKB	Benedum	Clarksburg	WV	N			
CLL	Easterwood Field	College Station	TX	N			
CLM	William R Fairchild International	Port Angeles	WA	GA			
CMI	University of Illinois - Willard	Champaign / Urbana	IL	N			
CMX	Houghton County Memorial	Hancock	MI	N			
COD	Yellowstone Regional	Cody	WY	N			
COS	City of Colorado Springs Municipal	Colorado Springs	CO	S			
COU	Columbia Regional	Columbia	MO	N			
CPR	Casper/Natrona County International	Casper	WY	N			
CRP	Corpus Christi International	Corpus Christi	TX	N			
CRQ	Mc Clellan-Palomar	Carlsbad	CA	N		CLD	
CRW	Yeager	Charleston	WV	N			
CSG	Columbus	Columbus	GA	N			
CVX	Charlevoix Municipal	Charlevoix	MI	N			No scheduled service during entire 2001 to 2013 period
CWA	Central Wisconsin	Mosinee	WI	N			
CYS	Cheyenne	Cheyenne	WY	N			
DAB	Daytona Beach International	Daytona Beach	FL	N			
DAY	James M Cox Dayton International	Dayton	OH	S			
DBQ	Dubuque Regional	Dubuque	IA	N			
DEC	Decatur	Decatur	IL	CS			
DHN	Dothan Regional	Dothan	AL	N			
DIK	Dickinson - Theodore Roosevelt Regional	Dickinson	ND	N			
DLH	Duluth International	Duluth	MN	N			
DRO	Durango - La Plata County	Durango	CO	N			
DRT	Del Rio International	Del Rio	TX	CS			
DSM	Des Moines International	Des Moines	IA	S			
DUJ	Athens / Ben Epps	Athens	PA	CS			
EAR	Kearney Municipal	Kearney	NE	N			
EAT	Pangborn Memorial	East Wenatchee	WA	N			
EAU	Chippewa Valley Regional	Eau Claire	WI	N			
ECP	Northwest Florida Beaches International	Panama City	FL	S	Yes		Opened in 2010; replaced PFN
EFD	Ellington	Houston	TX	GA			
EGE	Eagle County Regional	Eagle	CO	N			
EKO	Elko Regional	Elko	NV	N			
ELM	Elmira / Corning Regional	Elmira / Corning	NY	N			
ELP	El Paso International	El Paso	TX	S			
ENV	Wendover	Wendover	UT	GA			
ERI	Erie International	Erie	PA	N			
ESC	Delta County	Escanaba	MI	N			
EUG	Mahlon Sweet Field	Eugene	OR	S			
EVV	Evansville Regional	Evansville	IN	N			
EWB	New Bedford Regional	New Bedford	MA	N			
EWN	Coastal Carolina Regional	New Bern	NC	N			
EYW	Key West International	Key West	FL	S			
FAR	Hector International	Fargo	ND	S	Yes		
FAT	Fresno Yosemite International	Fresno	CA	S			
FAY	Fayetteville Regional/Grannis Field	Fayetteville	NC	N			

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
FHR	Friday Harbor	Friday Harbor	WA	GA		FRD	
FLG	Flagstaff Pulliam	Flagstaff	AZ	N			
FLO	Florence Regional	Florence	SC	N			
FMN	Four Corners Regional	Farmington	NM	N			
FNL	Fort Collins - Loveland Municipal	Fort Collins/Loveland	CO	CS			
FNT	Bishop International	Flint	MI	S			
FOD	Fort Dodge Regional	Fort Dodge	IA	CS			
FOE	Forbes Field	Topeka	KS	CS			
FSD	Joe Foss Field	Sioux Falls	SD	S			
FSM	Fort Smith Regional	Fort Smith	AR	N			
FWA	Fort Wayne International	Fort Wayne	IN	N			
GCC	Gillette - Campbell County	Gillette	WY	N			
GCK	Garden City Regional	Garden City	KS	N			
GCN	Grand Canyon National Park	Grand Canyon	AZ	N			
GEG	Spokane International	Spokane	WA	S			
GFK	Grand Forks International	Grand Forks	ND	N			
GGG	East Texas Regional	Longview	TX	N			
GJT	Grand Junction Regional	Grand Junction	CO	N			
GLH	Greenville Mid-Delta	Greenville	MS	CS			
GNV	Gainesville Regional	Gainesville	FL	N			
GPI	Glacier Park International	Kalispell	MT	N		FCA	
GPT	Gulfport - Biloxi International	Gulfport	MS	N			
GRB	Austin Straubel International	Green Bay	WI	N			
GRI	Central Nebraska Regional	Grand Island	NE	N			
GRK	Robert Gray AAF	Killeen	TX	N			
GRR	Gerald R Ford Intl	Grand Rapids	MI	S			
GSO	Piedmont Triad International	Greensboro	NC	S			
GSP	Greenville - Spartanburg International	Greer	SC	S			
GTF	Great Falls International	Great Falls	MT	N			
GTR	Golden Triangle Regional	Columbus	MS	N			
GUC	Gunnison - Crested Butte Regional	Gunnison	CO	N			
GYY	Gary / Chicago	Gary	IN	CS			
HDN	Yampa Valley	Hayden	CO	N			
HGR	Hagerstown Reg'l-Richard A Henson Fld	Hagerstown	MD	N			
HIB	Chisholm – Hibbing	Hibbing	MN	N			
HKY	Hickory Regional	Hickory	NC	GA			
HLN	Helena Regional	Helena	MT	N			
HND	Henderson Executive	Las Vegas	NV	GA			No scheduled service during entire 2001 to 2013 period
HOB	Lea County Regional	Hobbs	NM	N			
HPN	Westchester County	White Plains	NY	S			
HRL	Valley International	Harlingen	TX	N			
HSV	Huntsville International - Carl T Jones	Huntsville	AL	S			
HTS	Tri - State / Milton J Ferguson Field	Huntington	WV	N			
HVN	Tweed - New Haven	New Haven	CT	N			
HXD	Hilton Head	Hilton Head Isla	SC	N		HHH	
HYA	Barnstable Municipal-Boardman/Polando	Hyannis	MA	N			
HYS	Hays Regional	Hays	KS	CS			
IAG	Niagara Falls International	Niagara Falls	NY	N			
ICT	Wichita Mid – Continent	Wichita	KS	S	Yes		
IDA	Fanning Field	Idaho Falls	ID	N			
IFP	Laughlin / Bullhead International	Bullhead City	AZ	N			
ILE	Killeen Municipal	Killeen	TX	GA			
ILG	New Castle	Wilmington	DE	N			
ILM	Wilmington International	Wilmington	NC	S			
IMT	Ford	Iron Mountain	MI	N			
INL	Falls International	International Fa	MN	N			
IPL	Imperial County	Imperial	CA	CS			
IPT	Williamsport Regional	Williamsport	PA	N			
ISN	Sloulin Field International	Williston	ND	N			
ISO	Kinston Regional Jetport at Stallings Fld	Kinston	NC	GA			
ISP	Long Island Mac Arthur	Islip	NY	S			
ITH	Ithaca Tompkins Regional	Ithaca	NY	N			
IWA	Phoenix-Mesa Gateway	Mesa	AZ	S	Yes	AZA	

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
IYK	Inyokern	Inyokern	CA	CS			
JAC	Jackson Hole	Jackson	WY	N			
JAN	Jackson International	Jackson	MS	S			
JHW	Chautauqua County / Jamestown	Jamestown	NY	CS			
JLN	Joplin Regional	Joplin	MO	N			
JST	John Murtha Johnstown - Cambria Cty	Johnstown	PA	CS			
LAF	Purdue University	Lafayette	IN	GA			
LAN	Capital City	Clinton (Township of)	MI	N			
LAR	Laramie Regional	Laramie	WY	N			
LAW	Lawton - Fort Sill Regional	Lawton	OK	N			
LBB	Lubbock International	Lubbock	TX	S			
LBE	Arnold Palmer Regional	Latrobe	PA	N			
LBF	North Platte Regional Airport Lee Bird Fld	North Platte	NE	CS			
LBL	Liberal Mid-America Regional	Liberal	KS	CS			
LCH	Lake Charles Regional	Lake Charles	LA	N			
LCK	Rickenbacker International	Columbus	OH	N			
LEB	Lebanon Municipal	Lebanon	NH	N			
LEX	Blue Grass	Lexington	KY	S			
LFT	Lafayette Regional	Lafayette	LA	N			
LGB	Long Beach /Daugherty Field/	Long Beach	CA	S			
LIT	Adams Field	Little Rock	AR	S			
LMT	Klamath Falls	Klamath Falls	OR	N			
LNK	Lincoln	Lincoln	NE	N			
LNS	Lancaster	Lancaster	PA	GA			
LRD	Laredo International	Laredo	TX	N			
LSE	La Crosse Municipal	La Crosse	WI	N			
LWB	Greenbrier Valley	Lewisburg	WV	CS			
LWS	Lewiston - Nez Perce County	Lewiston	ID	N			
LYH	Lynchburg Regional/Preston Glenn Field	Lynchburg	VA	N			
MAF	Midland International	Midland	TX	S			
MBL	Manistee County-Blacker	Manistee	MI	GA			
MBS	Mbs International	Saginaw	MI	N			
MCN	Middle Georgia Regional	Macon	GA	GA			
MCW	Mason City Municipal	Mason City	IA	CS			
MDT	Harrisburg International	Harrisburg	PA	S			
MEI	Key Field	Meridian	MS	CS			
MFE	McAllen Miller International	McAllen	TX	N			
MFR	Rogue Valley International - Medford	Medford	OR	N			
MGM	Montgomery Regional (Dannelly Field)	Montgomery	AL	N			
MGW	Morgantown Municipal - Walter L. Bill Ha	Morgantown	WV	N			
MHK	Manhattan Regional	Manhattan	KS	N			
MHT	Manchester	Manchester	NH	S			
MKG	Muskegon County	Muskegon	MI	N			
MKL	Mc Kellar-Sipes Regional	Jackson	TN	CS			
MLB	Melbourne International	Melbourne	FL	N			
MLI	Quad City International	Moline	IL	S			
MLU	Monroe Regional	Monroe	LA	N			
MMH	Mammoth Yosemite	Mammoth Lakes	CA	N			
MOB	Mobile Regional	Mobile	AL	N			
MOD	Modesto City County - Harry Sham Field	Modesto	CA	N			
MOT	Minot International	Minot	ND	N			
MRY	Monterey Peninsula	Monterey	CA	N	Yes		
MSN	Dane County Regional - Truax Field	Madison	WI	S			
MSO	Missoula International	Missoula	MT	N			
MTJ	Montrose Regional	Montrose	CO	N			
MVY	Marthas Vineyard	Vineyard Haven	MA	N			
MWA	Williamson County Regional	Marion	IL	N			
MWH	Grant County International	Moses Lake	WA	GA			
MYR	Myrtle Beach International	Myrtle Beach	SC	S			
NYL	Yuma MCAS/Yuma International	Yuma	AZ	N		YUM	
OAJ	Albert J Ellis	Jacksonville	NC	N			
OGD	Ogden-Hinckley	Ogden	UT	N			
OKC	Will Rogers World	Oklahoma City	OK	S			

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
ORF	Norfolk International	Norfolk	VA	S			
ORH	Worcester Regional	Worcester	MA	CS			
OTH	North Bend Municipal	North Bend	OR	N			
OWB	Owensboro - Daviess County	Owensboro	KY	N			
OXR	Oxnard	Oxnard	CA	GA			
PAH	Barkley Regional	Paducah	KY	N			
PBG	Plattsburgh International	Plattsburgh	NY	N			
PCW	Carl R Keller Field	Port Clinton	OH	GA			No scheduled service during entire 2001 to 2013 period
PDT	Eastern Oregon Regional at Pendleton	Pendleton	OR	CS			
PFN	Panama City - Bay County International	Panama City	FL	NA			Closed in 2010; replaced by ECP
PGA	Page Municipal	Page	AZ	N			
PGD	Charlotte County	Punta Gorda	FL	N			
PGV	Pitt - Greenville	Greenville	NC	N			
PHF	Newport News/Williamsburg International	Newport News	VA	N			
PIA	General Downing - Peoria International	Peoria	IL	N			
PIB	Hattiesburg - Laurel Regional	Moselle	MS	N			
PIE	St Pete-Clearwater International	Clearwater	FL	S			
PIH	Pocatello Regional	Arbon Valley	ID	N			
PIR	Pierre Regional	Pierre	SD	N			
PKB	Mid - Ohio Valley Regional	Parkersburg	WV	CS			
PLN	Pellston Regional Airport of Emmet Cty	Pellston	MI	N			
PMD	Palmdale Regional/USAF Plant 42	Palmdale	CA	-			
PNS	Pensacola Gulf Coast Regional	Pensacola	FL	S			
PQI	Northern Maine Regional at Presque Isle	Presque Isle	ME	N			
PRC	Ernest A Love Field	Prescott	AZ	CS			
PSC	Tri - Cities	Pasco	WA	N			
PSM	Pease International Tradeport	Portsmouth	NH	CS			
PSP	Palm Springs International	Palm Springs	CA	S			
PUB	Pueblo Memorial	Pueblo	CO	CS			
PUW	Pullman / Moscow Regional	Pullman	WA	N			
PVC	Provincetown Municipal	Provincetown	MA	N			
PVD	Theodore Francis Green State	Providence	RI	M			
PVU	Provo Municipal	Provo	UT	N			
PWM	Portland International Jetport	Portland	ME	S			
RAP	Rapid City Regional	Rapid City	SD	N			
RDD	Redding Municipal	Redding	CA	N	Yes		
RDG	Reading Regional/Carl A Spaatz Field	Reading	PA	GA			
RDM	Roberts Field	Redmond	OR	N			
RFD	Chicago/Rockford International	Rockford	IL	N			
RHI	Rhinelander - Oneida County	Rhinelander	WI	N			
RIC	Richmond International	Highland Springs	VA	S			
RIW	Riverton Regional	Riverton	WY	N			
RKD	Knox County Regional	Rockland	ME	N			
RKS	Rock Springs - Sweetwater County	Rock Springs	WY	N			
RNO	Reno / Tahoe International	Reno	NV	S			
ROA	Roanoke Regional / Woodrum Field	Roanoke	VA	N			
ROC	Greater Rochester International	Rochester	NY	S			
ROW	Roswell Industrial Air Center	Roswell	NM	N			
RST	Rochester International	Rochester	MN	N			
SAF	Santa Fe Municipal	Santa Fe	NM	N			
SAV	Savannah/Hilton Head International	Savannah	GA	S			
SAW	Sawyer International	Gwinn	MI	N		MQT	
SBA	Santa Barbara Municipal	Santa Barbara	CA	N			
SBN	South Bend	South Bend	IN	N			
SBP	San Luis County Regional	San Luis Obispo	CA	N			
SBY	Salisbury - Ocean City Wicomico Regional	Salisbury	MD	N			
SCK	Stockton Metropolitan	Stockton	CA	N			
SDF	Louisville International - Standiford Field	Louisville	KY	S			
SDY	Sidney - Richland Municipal	Sidney	MT	CS			
SFB	Orlando Sanford	Orlando	FL	S			
SGF	Springfield - Branson Regional	Springfield	MO	N			
SGJ	Northeast Florida Regional	Saint Augustine	FL	GA		UST	No scheduled service during entire 2001 to 2013 period

Identifier	Airport Name	City	State	2013 Hub Size	Study Location	Alternate Identifier	Note
SGU	St George Municipal	St George	UT	N		DXZ	Transitional identifier DXZ was used in 2010 when new airport opened
SHD	Shenandoah Valley Regional	Staunton/Waynesb/ Harriso	VA	N			
SHR	Sheridan County	Sheridan	WY	N			
SHV	Shreveport Regional	Shreveport	LA	N			
SJT	San Angelo Regional / Mathis Field	San Angelo	TX	N			
SLE	McNary Field	Salem	OR	GA			
SLN	Salina Municipal	Salina	KS	CS			
SMX	Santa Maria Pub/Capt G Allan Hancock F	Santa Maria	CA	N			
SOP	Moore County	Pinehurst/Southe	NC	GA			
SPI	Abraham Lincoln Capital	Springfield	IL	N			
SPS	Sheppard AFB/Wichita Falls Municipal	Wichita Falls	TX	N			
SRQ	Sarasota / Bradenton International	Sarasota / Bradenton	FL	S			
STC	St Cloud Regional	St Cloud	MN	N			
STS	Charles M. Schulz - Sonoma County	Santa Rosa	CA	N	Yes		
SUN	Friedman Memorial	Hailey	ID	N			
SUX	Sioux Gateway/Col. Bud Day Field	Sioux City	IA	N			
SWF	Stewart International	Newburgh	NY	N			
SYR	Syracuse Hancock International	Syracuse	NY	S			
TEB	Teterboro	Teterboro	NJ	GA			
TEX	Telluride Regional	Telluride	CO	CS			
TLH	Tallahassee Regional	Tallahassee	FL	N			
TOL	Toledo Express	Toledo	OH	N	Yes		
TRI	Tri - Cities Regional TN / VA	Bristol/Johnson/Kin	TN	N			
TTN	Trenton Mercer	Trenton	NJ	N			
TUL	Tulsa International	Tulsa	OK	S			
TUP	Tupelo Regional	Tupelo	MS	CS			
TUS	Tucson International	Tucson	AZ	S			
TVC	Cherry Capital	Traverse City	MI	N			
TWF	Joslin Field - Magic Valley Regional	Twin Falls	ID	N			
TXK	Texarkana Regional - Webb Field	Texarkana	AR	N			
TYR	Tyler Pounds Field	Tyler	TX	N			
TYS	Mc Ghee Tyson	Knoxville	TN	S			
UIN	Quincy Regional - Baldwin Field	Quincy	IL	N			
UNV	University Park	State College	PA	N		SCE	
UTA	Tunica Municipal	Tunica	MS	GA		UTM	
VCT	Victoria Regional	Victoria	TX	CS			
VCV	Southern California Logistics	Victorville	CA	GA			No scheduled service during entire 2001 to 2013 period
VGT	North Las Vegas	Las Vegas	NV	GA			
VIS	Visalia Municipal	Visalia	CA	CS			
VLD	Valdosta Regional	Valdosta	GA	N			
VPS	Eglin AFB	Valparaiso	FL	N			
WST	Westerly State	Westerly	RI	CS			
XNA	Northwest Arkansas Regional	Bentonville	AR	S			
YKM	Yakima Air Terminal/McAllister Field	Yakima	WA	N			
YNG	Youngstown - Warren Regional	Youngstown / Warren	OH	N			

Hub Size Designators

Commercial Service airports are publicly-owned airports that have scheduled passenger service and at least 2,500 annual boardings. Primary Commercial Service airports have more than 10,000 annual boardings.
S = Small-Hub (primary commercial service airport with between 0.05 and 0.25% share of annual U.S. boardings)
N = Non-Hub (primary commercial service airport with less than 0.05% share of annual U.S. boardings)
CS = Non-primary commercial service airport with 2,500-10,000 annual boardings
GA = General aviation airports (those that do not meet definition of a commercial service airport and not classified as a Cargo Service Airport or a Reliever Airport)

Abbreviations and acronyms 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
TDC	Transit Development Corporation
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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