CHAPTER ONE
BACKGROUND

The St. Louis Airport Authority (STLAA) prepared this Part 150 Noise Compatibility Study Update (2010 Part 150 Study Update) to document the existing and five-year projected noise levels from aircraft operations at the Lambert-St. Louis International Airport (Lambert Airport). This study is subsequent to its 1997 Part 150 Study Update.¹ The purpose for conducting a Noise Compatibility Study is to identify strategies to reduce the impacts of noise from existing aircraft operations on incompatible land uses and to discourage the introduction of new incompatible land uses in areas that are determined to be impacted by aircraft noise. This chapter provides the background information necessary for the public and/or governmental reviewers to make an informed decision as to the adequacy of the Noise Compatibility Study to meet the requirements set forth by 14 Code of Federal Regulations (CFR) Part 150² under which it was prepared.

A list of terms and definitions are included in this document in Appendix A, Glossary of Terms and Acronyms, to assist the reader in understanding the various technical information presented in this document.

1.1 PART 150 PLANNING PROCESS

Part 150 is a section of Title 14 of the CFR that sets forth the regulations and guidelines for Airport Sponsors to undertake airport noise compatibility planning. The following sections provide a description of the regulation, the purpose of conducting a Part 150 Study, the components of the Part 150 planning process, and a discussion of what prompted the STLAA to prepare this Part 150 Study Update.

1.1.1 14 CFR PART 150

The Part 150 regulations were promulgated by the Federal Aviation Administration (FAA) pursuant to the Aviation Safety and Noise Abatement Act (ASNA) of 1979, Public Law 96-193. Under this Act, airport operators can voluntarily submit noise exposure maps (NEMs) and noise compatibility programs (NCPs) to the FAA for review and approval. ASNA was enacted “...to provide and carry out noise compatibility programs, to provide assistance to assure continued safety in aviation and for other purposes.” The FAA was vested with the authority to implement and administer the Act. This legislation required the establishment of a single methodology for measuring aircraft noise, determining noise exposure, and identifying land uses that are normally compatible with various levels of noise exposure.


² CFR Title 14: Aeronautics and Space, Chapter I – Federal Aviation Administration, Department of Transportation, Part 150—Airport Noise Compatibility Planning.
Through 14 CFR Part 150, the FAA established regulations to govern the technical aspects of aircraft noise analysis and the public participation process for Airport Sponsors to prepare airport NCPs.

### 1.1.2 PURPOSE OF CONDUCTING A PART 150 STUDY

The purpose of conducting a Part 150 Study at an airport is to develop a balanced, cost-effective plan to reduce current aircraft noise impacts over noise-sensitive land uses and, where practical, to limit the potential for future noise impacts. By following the Part 150 regulations, the Airport Sponsor is assured of FAA cooperation through the involvement of air traffic control professionals and FAA review of the recommended NCP. An airport with an FAA-approved NCP also becomes eligible to apply for funding assistance through the Airport Improvement Program (AIP)\(^3\) to implement the NCP measures.

The general goals and objectives addressed in a Part 150 Study include:

- To reduce, where feasible, existing and forecasted noise levels over existing noise-sensitive land uses;
- To reduce the introduction of new noise-sensitive land uses near the Airport;
- To mitigate, where feasible, adverse noise impacts in accordance with Federal guidelines;
- To provide mitigation measures that are sensitive to the needs of the community and its stability;
- To minimize the impact of mitigation measures on local tax bases; and
- To be consistent, where feasible, with local land use planning and development policies.

### 1.1.3 COMPONENTS OF THE PART 150 PLANNING PROCESS

The noise compatibility planning process has both technical and procedural components. 14 CFR Part 150 requires that the analysis of aircraft noise exposure and potential noise abatement and mitigation measures use specific technical criteria and methods. The regulations also require that potentially affected airport users, local governments, and the public be consulted throughout this planning process. The process must culminate with the opportunity for a Public Hearing on the Airport Sponsor's recommended NCP. This process is graphically depicted in Exhibit 1-1, *Noise Compatibility Planning Process*.

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A Part 150 Study involves six major steps:

1. Identify airport noise and land use issues and problems;
2. Define current and future noise exposure;
3. Evaluate alternative measures for abating noise (e.g., changing aircraft flight paths), mitigating the impact of noise on existing land use (e.g. acquisition), and managing local land uses (e.g. airport-compatible zoning);
4. Develop a recommended NCP;
5. Develop an implementation plan; and
6. FAA review and approval of the recommended NCP, including the analysis of alternatives, the compatibility program, and the implementation plan.

1.1.4 WHY PREPARE A PART 150 STUDY AT THIS TIME?

The STLAA has a long history of noise abatement efforts at Lambert Airport. Beginning in 1980, the STLAA; the state of Missouri; St. Louis County; and the cities of Berkeley, Bridgeton, Bridgeton Terrace, Edmundson, Ferguson, Hazelwood, Kinloch, Normandy, St. Ann, St. Charles, St. John, and Woodson Terrace prepared the St. Louis Airport Environs Plan. That plan recommended a number of noise abatement and land use mitigation measures designed to improve noise compatibility around Lambert Airport. Subsequently, with the enactment of 14 CFR Part 150 in 1984, the STLAA initiated a Part 150 Noise Compatibility Study (dated 1987) that revised the measures originally recommended in the Airport Environs Plan.

The 1987 Part 150 Study documented the existing (1986) and projected future (1991) noise exposure patterns. An update to the 1987 Part 150 Study was approved by the FAA in 1997 to evaluate the noise impacts for existing (1994) and projected future (1999) conditions. A summary of the recommended measures and the implementation status of each measure are included in Section 1.3. The measures approved in the 1997 Part 150 Study Update are the subject of the analysis and evaluations of this Study. Analysis of these alternatives and potential new alternatives is contained in Appendix G, Noise Abatement Alternatives, Appendix H, Land Use Alternatives, and Appendix I, Program Management Alternatives.

In 1996, the STLAA completed a Master Plan Supplement (MPS) proposing a comprehensive development program to expand Lambert Airport that included a new, third parallel runway (Runway 11-29). The FAA prepared a Final Environmental Impact Statement (FEIS) in 1997 to document the occurrence of any significant environmental impacts that would result from the construction and operation of Runway 11-29. The FAA issued its Record of Decision

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4 St. Louis Airport Environs Plan, St. Louis Airport Authority, 1982.
7 Master Plan Supplement Study, Lambert-St. Louis International Airport, January 1996.
8 Final Environmental Impact Statement, Lambert-St. Louis International Airport, prepared by the FAA Central Region, Airports Division, dated December 1997.

In Section 150.21(d) of 14 CFR Part 150—Airport Noise Compatibility Planning (14 CFR Part 150) Airport Sponsors are required to update the NEMs when changes in the operation of the airport would create any new, substantial incompatible use. This is considered to be an increase in noise levels of 1.5 decibels (dB) over incompatible land uses when the aircraft noise level exceeds 65 dB Day-Night Average Sound Level (DNL). In addition, an Airport Sponsor may update the NEMs at any time based on its own needs and concerns. The STLAA is updating the NEMs and NCP due to the physical and operational changes that have occurred at Lambert Airport with the opening of Runway 11-29. The analysis in this Part 150 Study Update will also endeavor to refine and improve the noise compatibility environment in the communities surrounding Lambert Airport.

A number of aviation industry events and trends have impacted the operating conditions at Lambert Airport since the FAA approved the Lambert 1997 Part 150 Study Update and the 1997 FEIS:

- the increased use of regional jets
- American Airlines’ acquisition of Trans World Airlines (TWA) and the reduction in hub operations at Lambert Airport
- the relocation of the 131st Fighter Wing of the Missouri Air National Guard (MOANG) from Lambert Airport

These events have contributed to the decrease in flight operations at Lambert Airport; which, in turn influences the baseline noise conditions, which are described in detail in Chapter Three, Baseline Noise Exposure.

1.1.5 NOISE EXPOSURE MAPS (NEMS)

The NEM component of a Part 150 Study presents airport noise exposure contours for the existing condition and a five-year forecast condition. The data collection and preliminary analysis on this Part 150 Study Update was initiated in mid-2008 using actual operational data from Lambert Airport for the 12 months of calendar year 2008, and supplemented with data from the full 2009 calendar year. The current year NEM is labeled as 2010 for the year of this document’s submission to the FAA, and it has been determined that the difference between the 2008/2009 data and the projected 2010 operating levels is less than ten percent and there are no appreciable changes in the fleet mix. Therefore, the 2008/2009 data is a valid representation of 2010 conditions, the year of submission.

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9 A regional jet is a jet aircraft that falls within the air carrier aircraft category because of its size and payload. Regional jets typically have 35 to 90 seats. For further information about regional jet aircraft see Appendix A, Glossary of Terms and Acronyms.

10 The Existing (2010) Baseline noise exposure contour is based on 208,861 total annual operations. The FAA Terminal Area Forecast (TAF) published in December 2009 includes 190,674 total annual operations forecasted in 2010. The difference between the Existing (2010) Baseline operating levels and the 2010 projected operations is 9.5 percent, which is within the FAA's generally acceptable range of operational deviation for the purposes of existing year NEM analysis.
The future year NEM is labeled 2015, which, according to 14 CFR Part 150 would be the fifth calendar year beginning from the date of the existing conditions NEM. The 2015 operations data is based on the aviation activity forecast prepared for the Lambert Airport Master Plan Update, which was prepared concurrent to this study. Additional detail regarding aircraft operations and operating characteristics at Lambert Airport are discussed in Section 1.8, Air Traffic Activity; Chapter Three, Baseline Noise Exposure; and Appendix D, Noise Modeling Methodology, of this document. The Future (2015) NEM shows the noise exposure contour which includes the implementation of all noise abatement measures as described in Chapter 4, Recommended Noise Compatibility Program Measures.

Part 150 requires the use of standard methodologies and metrics for analyzing and describing noise. It also provides guidelines for the identification of land uses that are incompatible with noise of different levels. Incompatible land uses are uses that impair the safe and efficient operation of airport and aircraft, or those that subject residents and others to excessive noise impacts and/or safety risks. Incompatible land uses are identified as residences (dwelling units), schools, churches, nursing homes, hospitals, and libraries. A table matrix of the FAA’s adopted land use compatibility guidelines, which shows the relationship between land use and aircraft sound levels, is provided in this document in Appendix B, FAA Policies, Guidance, and Regulations. The NEM noise contours are superimposed on an existing land use map of the communities surrounding Lambert Airport to identify areas of incompatible land use. Appendix E, Land Use Methodology, provides the detailed supporting documentation and the methodologies used to develop the land use database and map exhibits used in this Part 150 analysis.

An Airport Sponsor can gain limited legal protection from litigation that is based on aircraft noise impacts through the preparation, submission, and publication of NEMs. ASNA provides in Section 107(a) that: “No person who acquires property or an interest therein...in an area surrounding an airport with respect to which a noise exposure map has been submitted shall be entitled to recover damages with respect to the noise attributable to such airport if such person had actual or constructive knowledge of the existence of such noise exposure map unless...such person can show that:

1. A significant change in the type of frequency of aircraft operations at the airport; or
2. A significant change in the airport layout; or
3. A significant change in the flight patterns; or
4. A significant increase in nighttime operations; occurred after the date of acquisition of such property.”

ASNA provides that “constructive knowledge” shall be imputed to any person if a copy of the NEMs was provided at the time of property acquisition or if notice of the existence of the NEMs was published three times in a newspaper of general circulation in the area. In addition, CFR 14 Part 150 defines “significant increase”

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11 Lambert-St. Louis International Airport Master Plan Update, prepared by Landrum & Brown, expected completion in December 2010.
as an increase of 1.5 DNL. For purposes of this provision, FAA officials consider the term “area surrounding an airport” to mean an area within the 65 DNL noise contour. (See 14 CFR Part 150, Section 150.21 (d), (f), and (g).)

In order for an NCP to be approved by the FAA, the Airport Sponsor’s certified NEMs must first be accepted by the FAA.

1.1.6 NOISE COMPATIBILITY PROGRAM (NCP)

An NCP includes provisions for the abatement of aircraft noise through aircraft operating procedures, air traffic control (ATC) procedures, or airport facility modifications. It also includes provisions for land use compatibility planning that may include actions to mitigate the impact of aircraft noise on existing incompatible land uses and recommendations to amend local land use controls that will affect future land use and development. Once an Airport Sponsor has undertaken a Part 150 Study the guidance calls for a continual periodic reevaluation of noise conditions. Therefore, the NEMs should be periodically updated, and the NCP measures should be reviewed and reevaluated by the Airport Sponsor.

14 CFR Part 150 establishes procedures and criteria for the FAA to evaluate the measures recommended in an NCP. Two criteria are of particular importance: (1) the Airport Sponsor may not take any action that imposes an undue burden on interstate or foreign commerce, and (2) the sponsor may not unjustly discriminate between different categories of airport users.

The FAA also reviews the proposed changes in flight procedures recommended for noise abatement. A change in flight procedures could potentially affect flight safety, the safe and efficient use of the navigable airspace, management and control of the national airspace and traffic control systems, and compliance with applicable laws and regulations. Because the FAA has the ultimate authority for ATC and flight procedures related to ATC requirements, all recommended NCP measures related to these subjects must be explicitly approved by the FAA and may not be implemented unilaterally by the Airport Sponsor.

The approval of Part 150 measures comes about through the FAA's issuance of a Record of Approval (ROA) that is supported by some level of environmental review.12 The purpose of the environmental review is to determine if the action(s) proposed in an approved measure will have an environmental effect under the National Environmental Policy Act (NEPA), Executive Orders (EO), or special purpose laws so that the approving agency (FAA) may participate in actions over which it has primary implementation responsibility (e.g., air traffic modifications). With an FAA-approved NCP, an Airport Sponsor becomes eligible to submit an application for Federal funding to implement eligible measures of the program. Approval of a Part 150 measure by the FAA does not, however, commit the agency or airport to either a specific schedule of implementation or guarantee the allocation of funds for implementation of any measure.

12 The environmental review may be in the form of a Categorical Exclusion (CATX), an Environmental Assessment (EA) and associated Finding of No Significant Impact (FONSI), or an Environmental Impact Statement (EIS) and its associated ROD. FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, dated March 20, 2006, Paragraph 201. The Three Major Levels of NEPA Review.
1.2 PUBLIC INVOLVEMENT

A key element of the Part 150 study process is public involvement. Two advisory committees were formed to aid the Airport Sponsor in the preparation of this Part 150 Study Update, a Community Advisory Committee (CAC) and a Technical Advisory Committee (TAC). In addition to holding advisory committee meetings, a series of Public Information Workshops were conducted at key study milestones. The committee meeting structure, meeting topics, and the workshop process are discussed in the following sections.

A project website was created to provide the public with access to information pertaining to data collection, status of the analyses, and the published study materials that were presented to the CAC and TAC and at the Public Information Workshops. Each of these elements is discussed in the following sections.

1.2.1 COMMUNITY ADVISORY COMMITTEE (CAC)

A Community Advisory Committee (CAC), which was comprised of local elected officials, or their representatives, was invited by the Airport Sponsor to participate in small group presentations and discussions about aircraft noise at Lambert Airport and local land use planning issues. The CAC provided input to the Airport Sponsor on issues related to airport noise and land use compatibility. Committee members also had the opportunity to review and comment on the development of the NEMs and the noise abatement and land use mitigation alternatives.

1.2.1.1 The Role of the Community Advisory Committee

The CAC provided input to the Airport Sponsor on issues related to airport noise and land use compatibility. Committee members also had the opportunity to review and comment on the development of the NEMs and the noise abatement and land use mitigation alternatives.

The CAC members provided their individual points-of-view on the issues of noise abatement and mitigation, as well as that of the communities they represent. The committee meeting structure provided a forum designed to encourage an open dialogue and the exchange of creative ideas. The committee’s comments were considered by the Airport Sponsor in recommending which measures would be included in the NCP. In its consideration of the recommended NCP measures, the Airport Sponsor is responsible for balancing the needs of the public, its aviation users, and the feasibility and practicality of obtaining funding for the NCP measures they recommend.

The members of the CAC participated in the public involvement process in several ways:

- **As a Sounding Board** – The CAC provided a forum in which the Airport Sponsor, the consultants, and the committee members could present information, findings, ideas, and recommendations. All benefited from listening to the diverse viewpoints and concerns of the wide range of interests represented on the committee.
• **As a Link to the Community** – Each member represented a community with ties to Lambert Airport. Committee members would share the information, findings, and issues discussed at these meetings with their constituents and in turn bring the views and concerns of others to the committee.

• **As an Aid to Implementation** – Potentially, each member has a unique role to play in implementing the approved NCP and informing the members of their community of the benefits of the implementation.

The CAC operated informally, with no compulsory attendance, no voting, and no officers. Meetings were convened at various milestones throughout the study when committee input was especially needed on planning issues. Meetings were scheduled with sufficient advance notice to permit members to arrange their schedules. Members were urged to also attend the Public Information Workshops so they could listen firsthand about the concerns of their peers, constituents, and neighbors, and to speak one-on-one with people about the study issues. In addition, the consultant and Airport staff made themselves available for meetings with neighborhood organizations, airport user groups, local government officials, or local residents throughout the study period. Additional information regarding the CAC, including a list of members, a description of meetings, and meeting materials and presentations is provided in this document in Appendix J, Public Involvement.

### 1.2.2 TECHNICAL ADVISORY COMMITTEE (TAC)

A TAC was established to provide a diversity of technical expertise in the review of noise abatement and land use management strategies, and to offer insights into the feasibility of implementing those measures determined to be most acceptable. The membership of the TAC included airport tenants, the airlines, local planners representing the communities surrounding the Airport, representatives of Lambert Airport management, the FAA’s ATC organization, and the FAA Airports Division. The TAC was formed to provide technical input and expertise regarding airport and aircraft operations and land use development and regulatory issues.

#### 1.2.2.1 Role of the Technical Advisory Committee

The primary role of the TAC is to provide a diversity of technical expertise in the review of noise abatement and land use management strategies, and to offer insights into the feasibility of implementing those measures determined to be most acceptable. The members of the TAC participated in the study process in several ways:

• **As a Sounding Board** – The TAC provided a forum in which the Airport staff, consultants, and other TAC members could present information, findings, ideas, and recommendations.

• **As a Link to the Implementers** – Each member represented a key constituent interest. Committee members were expected to represent the viewpoint of the organization he or she represented and to express those views to others on the committee.
• **As a Source of Mitigation Concepts** – No one knows the conditions of flight operations or land use management in the environs of Lambert Airport better than those who experience those issues daily. The TAC membership brought potential abatement and mitigation concepts to the table that contributed to the recommendations of the final NCP.

• **As a Critical Reviewer** – The analyses and findings prepared by the consultant would be reviewed for accuracy, completeness of detail, clarity of thought, and intellectual honesty. The committee membership was urged to point out any shortcomings in the work and to help improve it.

• **As an Aid to Implementation** – Each member has a unique role to play in implementing the plan, ranging from changes in flight procedures to changes in local land use plans and regulations.

In the same manner as the CAC, the TAC operated informally, with no compulsory attendance, no voting, and no officers. Meetings were convened at various milestones throughout the study to obtain committee input on Part 150 issues. The TAC and CAC meetings were typically held concurrently so the same general topics were discussed by the two committees. Some of the TAC meetings were scheduled prior to CAC meetings so that the information provided by the TAC members could be shared with the CAC members. The consultant and Airport staff also held individual meetings with the FAA Air Traffic Organization and local land use planning agencies throughout the study period during the development and refinement of potential noise abatement and mitigation measures. A list of the TAC members, meeting agendas, discussion materials, and presentations for the TAC meetings are appended to this document as Appendix J, Public Involvement.

### 1.2.3 PUBLIC INFORMATION WORKSHOPS

Three sets of Public Information Workshops were held at various stages of preparing the Part 150 Study to provide information on the Study analyses and findings to the community and to obtain public comment. The materials provided at the Public Information Workshops and the attendance record and comments received are included in Appendix J, Public Involvement. The Public Information Workshops were held at the following times and locations:

**Public Information Workshop #1**

<table>
<thead>
<tr>
<th>February 11, 2009</th>
<th>February 12, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 p.m. – 8:00 p.m.</td>
<td>6:00 p.m. – 8:00 p.m.</td>
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<tr>
<td>Drummond Elementary School</td>
<td>McCluer South Berkeley High School</td>
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<tr>
<td>3721 St. Bridget Lane</td>
<td>201 Brotherton Lane</td>
</tr>
<tr>
<td>St. Ann, Missouri</td>
<td>Ferguson, Missouri</td>
</tr>
</tbody>
</table>
Public Information Workshop #2

September 1, 2009  
6:00 p.m. – 8:00 p.m.  
Normandy Middle School  
7855 Natural Bridge Road  
Normandy, Missouri

September 2, 2009  
6:00 p.m. – 8:00 p.m.  
Hazelwood West Middle School  
12834 Missouri Bottom Road  
Hazelwood, Missouri

Public Information Workshop #3

March 25, 2010  
6:00 p.m. – 8:00 p.m.  
City of St. Charles, City Hall  
City Council Chambers  
200 North 2nd Street  
St. Charles, Missouri

1.2.4 MEETINGS WITH LOCAL JURISDICTIONS

Two rounds of meetings were held with elected officials and local planning staff from surrounding local jurisdictions. The first series of these meetings was held in February 2009. Members of Lambert Airport staff and the Consultant Team met with representatives from the following jurisdictions: Berkeley, Bridgeton, Cool Valley, Edmundson, Ferguson, Hazelwood, Kinloch, St. Ann, St. Charles, St. John, Woodson Terrace, St. Charles County, and St. Louis County. These meetings were intended to inform the local officials of the planning process and study methodology set forth in 14 CFR Part 150 as well as to solicit input pertaining to the Study data collection, evaluations, and analyses.

A second series of meetings was held in February/March 2010 with the following jurisdictions: Berkeley, Bridgeton, Cool Valley, Edmundson, Ferguson, Hazelwood, Kinloch, Normandy, St. Ann, St. Charles, St. John, Woodson Terrace, and St. Charles County. The purpose of these meetings was to provide an update on the progress of the noise abatement and land use mitigation alternatives analyses and evaluations, the Existing (2010) and Future (2015) Baseline noise exposure contours, and the identification of land use incompatibilities. The presentation and discussion focused on Lambert Airport’s current noise compatibility program and the formulation of potential new measures, if any, to be further evaluated in the Part 150 Study.

1.2.5 NOISE ABATEMENT TECHNICAL CONFERENCE

A Noise Abatement Technical Conference was conducted on May 19, 2010 from 1:30 p.m. until 2:30 p.m. at the conference room of the FAA Air Traffic Control Tower (ATCT). The intent of the conference was to discuss proposed modifications to noise abatement measures included in Lambert Airport’s existing NCP.
These proposed modifications were developed following review of the baseline noise impacts and current operating conditions at Lambert Airport. The process for developing and analyzing these proposed modifications is described in Appendix G, *Noise Abatement Alternatives*.

Due to the maturity of Lambert Airport’s existing land use mitigation program, and the fact that the noise exposure contours have decreased over time as a result of fleet mix changes and a reduction in overall flight operations, it was determined that no new noise abatement measures were warranted; although, some refinements to the existing measures were deemed appropriate. Because of the limited scope of the recommended modifications, it was determined that FAA ATC personnel be consulted to provide their input into the recommendations at this Noise Abatement Technical Conference. The presentation from this Technical Conference is provided in Appendix J, *Public Involvement*.

### 1.2.6 LAND USE TECHNICAL CONFERENCE

A Land Use Technical Conference was conducted on May 20, 2010 from 8:00 a.m. until 10:00 a.m. in the Training Room at the Airport Office Building (AOB). The intent of the conference was to discuss recommended preventative land use measures that could be implemented by the jurisdictions surrounding Lambert Airport to ensure future development remained compatible with aircraft noise and operations. Attendance included elected officials and planning and zoning staff from local jurisdictions who were also members of the CAC and the TAC.

Information was provided to the attendees that could be incorporated into their jurisdictions’ land use planning policy and regulations, such as zoning, land subdividing, and building regulations. This information included samples of successful land use planning policy and regulations employed by other jurisdictions around the country. In general, these jurisdictions were receptive to implementing such measures.

The presentation also included information about revolving loan opportunities to provide assistance to property owners to retrofit their homes with energy efficient systems and materials. While such programs are not eligible for Part 150 funding, the information was pertinent to noise compatibility planning as certain energy efficient measures may also have sound-attenuation benefits. The agenda, meeting materials, and presentation for this Technical Conference are provided in Appendix J, *Public Involvement*.

### 1.2.7 PUBLIC HEARING

A Public Hearing was held on November 4, 2010 at Hazelwood West Middle School, 12834 Missouri Bottom Road, Hazelwood, Missouri. Information was on display about the Part 150 Study analysis and findings; airport staff and members of the study team were available to answer questions. The Public Hearing attendance and
comments received during the comment period\textsuperscript{13} on the 2010 Part 150 Study Update are included in Appendix J, Public Involvement.

1.2.8 RESPONSE TO PART 150 COMMENTS RECEIVED DURING THE PUBLIC HEARING COMMENT PERIOD

The Public Hearing transcript and all comments received during the comment period, along with the STLAA responses to those comments, are included in Appendix J, Public Involvement.

1.2.9 PROJECT WEBSITE

The Project Website provides a means to make project information available to all interested parties, including the public and agencies. Information posted on the website includes the CAC/TAC presentation materials, Public Information Workshop presentation boards and handouts, the Public Hearing notice, and the 2010 Draft Part 150 Noise Compatibility Study Update for Lambert-St. Louis International Airport. The Project Website address is www.airportsites.net/lambert-stl; it can also be accessed through a link on Lambert Airport website at www.flystl.com.

1.3 STATUS OF 1997 NOISE COMPATIBILITY PROGRAM

Lambert Airport’s 1997 Part 150 Study Update was submitted to the FAA in 1996 for review and approval; the FAA issued its ROA in January 1997. The 1997 Part 150 Study Update NCP recommended 21 measures: 11 noise abatement measures, 7 land use management measures, and 3 program management measures. Each measure from the 1997 NCP is listed in Appendix F, 1997 Noise Compatibility Program.

1.4 AIRPORT LOCATION AND HISTORY

1.4.1 LOCATION

Lambert Airport is a publicly owned passenger and air cargo airport located in St. Louis County, Missouri, approximately ten miles northwest of the City of St. Louis (see Exhibit 1-2, Airport Location Map). The Airport controls approximately 3,970 acres of land. Of that, 1,845 acres inside a secured operating area and another 2,125 acres are owned outside of fenced area.\textsuperscript{14} Lambert Airport is generally bounded to the north by James S. McDonnell Boulevard, to the east by Interstate-170, to the south by Interstate-70 and Natural Bridge Road, and to the west by Interstate-270. Access to the passenger terminals is provided via Interstate-70 and Natural Bridge Road/Lambert International Boulevard. Public transportation to the airport terminals is provided by MetroLink, Greyhound Bus, and local bus service. The

\textsuperscript{13} The comment period opened on October 1, 2010, the date the Lambert-St. Louis International Airport Draft Part 150 Noise Compatibility Study Update was made available to the public for review and comment. The comment period closed on November 24, 2010, which provided the public with a 35-day comment period.

\textsuperscript{14} Data obtained from Airport website in August 2010 at: http://www.flystl.com/flystl/about-lambert/facts/.
MetroLink access at Terminal One (formerly designated the Main Terminal) is located at Exit Door MT1, upper level east of the American Airlines Credit Union; MetroLink access at Terminal Two (formerly designated the East Terminal) is located south of the terminal through the parking garage on all levels. The Lambert Bus Port, which handles all local bus service (MetroBus) and Greyhound Bus Service, is located off of Lambert International Boulevard south of Terminal One.
1.4.2 AIRPORT ADMINISTRATION

Lambert Airport is owned by the City of St. Louis, Missouri and operated by the St. Louis Airport Authority (STLAA). The City sets the policies under which the airport is operated. Planning, development, management, and operation are overseen by the Airport Commission. The Airport Commission currently consists of the Director of Airports; who serves as Chair of the Airport Commission; the Comptroller of the City of St. Louis; the President of the Board of Aldermen; the Chair of the Transportation and Commerce Committee of the Board of Aldermen; six members appointed by the Mayor; five members appointed by the St. Louis County Executive; one member appointed by St. Charles County, Missouri; and one member appointed by St. Clair County, Illinois.

1.4.3 LAMBERT AIRPORT HISTORY

Development of the airport began in the 1920s when Major Albert Lambert purchased the site and began constructing the first airfield and hangars. The City of St. Louis purchased the airfield from Major Lambert and obtained additional acreage in 1928. The site was renamed Lambert-St. Louis Municipal Airport and became the first municipally owned airport in the country.

The first passenger terminal was constructed at Lambert Airport in 1933. Several airlines initiated passenger service at Lambert Airport and by 1938 total passengers increased to 40,000; landing and departures rose to more than 170,000. Aviation-related industry development expanded around the Lambert Airport during this time including the McDonnell Aircraft Corporation, the predecessor to McDonnell Douglas Corporation (and now Boeing). During World War II, aviation industry production increased at Lambert Airport to keep up with the demand for military equipment to support the war effort. During and after the War, facilities at Lambert Airport continued to expand. An airport traffic control tower (ATCT) was built and the McDonnell Aircraft Corporation purchased land at Lambert Airport to construct factory buildings. In 1956, the existing dome-shaped terminal was constructed. The "Jet Transportation Era" began at Lambert Airport with the inauguration of TWA Boeing 707 service in 1959.

In 1971, the name of the airport was officially changed to Lambert-St. Louis International Airport. By the mid 1970s both parallel runways had been extended and instrument landing systems (ILS) were constructed, new taxiways and ramp areas were constructed, and the terminal was expanded to a total of 81 gates. In 1982, TWA named Lambert-St. Louis International its principal domestic hub.

In 1998, the East Terminal (now designated Terminal Two) at Lambert Airport, from which Southwest Airlines operates. That same year the FAA approved the Airport Expansion program, which included a new 9,000-foot parallel runway (Runway 11-29) designed to alleviate flight delays, particularly in inclement weather. Runway 11-29 became operational in April 2006.15

1.5 AIRPORT FACILITIES

The inventory of existing conditions at Lambert Airport includes a general description of the facilities, its role in the national aviation system, and its relationship to the surrounding area. Airport facilities (i.e. runways, taxiways, navigational aids, etc.) were considered in determining the range of potential noise abatement measures that were available at the airport. Airports are continually expanding, modifying, or otherwise improving facilities to best meet the needs of their tenants and the needs of the Federal aviation system. Exhibit 1-3, Existing Airport Layout, presents the existing airport facilities.

1.5.1 RUNWAYS

The present runway system at Lambert Airport consists of four runways, three parallel runways oriented in a northwest-southeast direction (Runways 12L-30R, 12R-30L, and 11-29) and one crosswind runway oriented in a northeast-southwest direction (Runway 6-24).

The present runway system at Lambert Airport evolved from a system of three runways in a triangular configuration: Runway 12-30 (currently 12R-30L), Runway 6-24, and Runway 17-35. A second northwest-southeast parallel runway (Runway 12L-30R) was later constructed. A third parallel runway (Runway 13-31) was converted from a taxiway in 1989 for use by general aviation aircraft. Subsequently, Runways 17-35 and 13-31 were decommissioned.

In September 1998, the FAA issued a ROD on the 1997 EIS, approving the construction of a new northwest-southeast parallel runway to the west side of the airfield. Runway 11-29, which is 9,000 feet in length and 150 feet in width became fully operational in April 2006. The present runways at Lambert Airport are listed below:

<table>
<thead>
<tr>
<th>RUNWAY</th>
<th>LENGTH (FEET)</th>
<th>WIDTH (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12L-30R</td>
<td>9,003</td>
<td>150</td>
</tr>
<tr>
<td>12R-30L</td>
<td>11,019</td>
<td>200</td>
</tr>
<tr>
<td>11-29</td>
<td>9,001</td>
<td>150</td>
</tr>
<tr>
<td>6-24</td>
<td>7,602</td>
<td>150</td>
</tr>
</tbody>
</table>

1.5.2 TAXIWAYS

The taxiway system at Lambert Airport provides aircraft access between the runways and the passenger terminal complex, general and corporate aviation areas, air freight terminals, and other aircraft parking areas.

Most taxiways at Lambert Airport are 75 feet wide. Taxiway F is north of and runs parallel to Runway 12L-30R. Taxiway F intersects Runway 6-24 to the west; however, it does not extend to the eastern end of Runway 12L-30R. It provides access to the general aviation and air cargo parking areas and the Boeing facility.
Legend

- Airport Property Boundary
- Single Family Residential
- Transitional Land Use
- Two-Family Residential
- Commercial/Industrial
- Institutional
- Agriculture/Open Space
- MetroLink Track
- Air Cargo
- Park

NOTE: The classification "transitional land use" is used to describe areas in which development is underway that will modify the existing land use; however, final plans for the development are unknown or may change before that development is complete.
Taxiway E is parallel to and in between Runways 12L-30R and 12R-30L. It extends the full length of Runway 12L-30R and connects with Runway 6-24 to the west. Taxiway D is parallel to and south of Runway 12R-30L. It extends the full length of the runway and intersects Runway 6-24. This taxiway provides access to the passenger terminal. Taxiway C parallels Runway 12R-30L and intersects Runway 6-24. It extends from the passenger terminal apron to the western end of Runway 12R-30L. Taxiways A and B run parallel to and north of Runway 11-29.

1.5.3 TERMINAL FACILITIES

Lambert Airport has two terminals, Terminal 1 (formerly called the Main Terminal) and Terminal 2 (formerly designated the East Terminal). The Terminal 1, which opened in 1956, is a two-level terminal building with ticketing located on the upper level and baggage claim located on the lower level. Terminal 1 includes Concourses A, B, C, and D; and includes approximately 1,261,953 square feet and 73 aircraft gate positions. Due to the recent reduction in flight activity at Lambert Airport, the majority of the gates in Concourse D were closed in the summer of 2008 and Concourse B was closed in April 2010. The remainder of Concourse D was closed in August 2010.

Terminal 2, which opened in 1998, is a two-level terminal building with approximately 348,428 square feet and includes 16 aircraft gate positions.

1.6 AIRLINES AND AIRPORT USERS

Lambert Airport is served by thirteen passenger airlines and several cargo and charter airlines. Airline schedules are subject to change and, during the course of this 2010 Part 150 Study Update, changes in the schedules and the type of aircraft used may occur. Significant changes may require adjustments in the analysis, but minor variations in scheduled activity can occur without necessarily invalidating the conclusions.

1.6.1 PASSENGER/CARGO AIRLINES

Historically TWA was the dominant carrier at Lambert Airport. In 2001, TWA was acquired by American Airlines. Since then, American Airlines and its affiliated carriers had operated the majority of flights at Lambert Airport although the carrier has continued to reduce service at Lambert Airport. Recently Southwest Airlines has increased its presence at Lambert Airport and is now the dominant carrier in St. Louis. Most service offered by other airlines operates to and from their respective hub airports.

Table 1-1 shows commercial service by airline at Lambert Airport, the typical aircraft serving the Airport, and the average number of flights per day.

1.6.2 GENERAL AVIATION

Lambert Airport does not host a large number of general aviation operations due to the size and complexity of air traffic procedures. Most local general aviation traffic utilizes one of many regional airports in the vicinity of Lambert Airport.
“Based aircraft” refers to the number of locally-owned aircraft that are kept in hangars at the airport or based at the airport. As of August 2010, there were 18 based aircraft at Lambert Airport (not including military aircraft). Table 1-2 lists, by aircraft type, the number of based aircraft at Lambert Airport.

### Table 1-1
COMMERCIAL SERVICE – EXISTING (2010) BASELINE CONDITION
Lambert-St. Louis International Airport

<table>
<thead>
<tr>
<th>Airline</th>
<th>Typical Aircraft Serving Lambert-St. Louis International Airport</th>
<th>Average Number of Operations per Day*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scheduled Passenger Carriers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Canada/Air Canada Jazz</td>
<td>Canadair Regional Jets</td>
<td>4</td>
</tr>
<tr>
<td>Air Choice One</td>
<td>Piper PA-31 Navajo/Cessna 208 Caravan</td>
<td>14</td>
</tr>
<tr>
<td>AirTran/Skywest</td>
<td>Boeing 717s, Canadair Regional Jets</td>
<td>14</td>
</tr>
<tr>
<td>Alaska Airlines</td>
<td>Boeing 737s</td>
<td>2</td>
</tr>
<tr>
<td>American, American Connection/American Eagle</td>
<td>Boeing 757s, McDonnell Douglas MD-80 series, Embraer Regional Jets</td>
<td>68</td>
</tr>
<tr>
<td>Cape Air</td>
<td>Cessna 402s</td>
<td>32</td>
</tr>
<tr>
<td>Continental/Continental Express</td>
<td>Embraer Regional Jets</td>
<td>26</td>
</tr>
<tr>
<td>Delta Airlines/Delta Connection (including Northwest Airlines)</td>
<td>Douglas DC9s, McDonnell Douglas MD-80 series, Canadair Regional Jets, Embraer Regional Jets, Boeing 737s</td>
<td>68</td>
</tr>
<tr>
<td>Frontier Airlines/Midwest Connect</td>
<td>Airbus A318s &amp; A319s</td>
<td>10</td>
</tr>
<tr>
<td>Southwest Airlines</td>
<td>Boeing 737s</td>
<td>166</td>
</tr>
<tr>
<td>United/United Express</td>
<td>Boeing 737s, Canadair Regional Jets, Embraer Regional Jets</td>
<td>42</td>
</tr>
<tr>
<td>US Airways/US Airways Express</td>
<td>Airbus A319s &amp; A320s, Boeing 737s, Canadair Regional Jets, Embraer Regional Jets</td>
<td>30</td>
</tr>
<tr>
<td>USA3000</td>
<td>Airbus A320s</td>
<td>2</td>
</tr>
<tr>
<td><strong>Cargo Carriers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FedEx/UPS Capital Cargo/ASTAR</td>
<td>Douglas DC10s, Airbus 300s, &amp; Boeing 727s &amp; 757s</td>
<td>8</td>
</tr>
</tbody>
</table>

* Based on total average departures in September 2010.

Notes: United Airlines and Continental Airlines announced a merger agreement in May 2010. The full integration of the two airlines was not expected to occur until after the submittal of this 14 CFR Part 150 Study to the FAA; therefore, the two entities are listed here separately. Alaska Airlines service was initiated at Lambert Airport in September 2010.

Table 1-2
BASED AIRCRAFT
Lambert-St. Louis International Airport

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-engine Aircraft</td>
<td>1</td>
</tr>
<tr>
<td>Multi-engine Aircraft</td>
<td>7</td>
</tr>
<tr>
<td>Jet Aircraft</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>


1.6.3 MILITARY

Prior to 2009, Lambert Airport had been home to the 131st Fighter Wing of the Missouri Air National Guard (MOANG). The 131st Fighter Wing had been based at Lambert since 1931, and most recently operated F-15 fighter jets. In 2005, base closure and redeployment plan called for the redeployment of the F-15s to other bases throughout the U.S. and for the relocation of the 131st Fighter Wing to Whiteman Air Force Base. The last F-15 of the 131st Fighter Wing departed from Lambert Airport in June 2009.17

1.6.4 OTHER AIRPORT USERS

Other airport users include the Boeing Company. Boeing manufactures F-15 and F-18 fighter jets at its facility at Lambert Airport. As part of their operation, Boeing conducts test flights and delivery flights of these aircraft out of Lambert Airport.

1.7 AIRSPACE AND AIR TRAFFIC CONTROL

Effective noise abatement procedures depend on efficient airspace management. Because the FAA retains the ultimate responsibility for airspace management and air traffic control (ATC), the implementation of any recommended changes in aircraft procedures as a result of a Part 150 Study requires FAA review and approval. This section provides an overview of ATC and airspace surrounding Lambert. Additional information specific to Lambert Airport regarding airspace, operational procedures, and ATC is provided in this document in Appendix C, Airspace Procedures.

1.7.1 AIR TRAFFIC CONTROL

FAA Order 7110.65, Air Traffic Control, establishes that the purpose of the ATC system is safety. It further states, “the primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to organize and expedite the flow of traffic.” ATC is the means by which aircraft are directed and separated within controlled airspace. ATC (within the confines of this study) is managed by three different FAA facilities depending on where the aircraft is located within the airspace.

17 Fighter Jets Bid Farewell to Lambert, St. Louis Post-Dispatch, June 10, 2009.
These three facilities are the STL FAA ATCT at Lambert Airport, T75 Terminal Radar Approach Control (St. Louis TRACON), and Kansas City Air Route Traffic Control Center (ARTCC).

ATC responsibility for an Instrument Flight Rules (IFR) aircraft departing an airport begins on the ground with the ATCT. Aircraft are directed to the active runway and provided initial departure instructions. As the aircraft departs, control is transferred to the TRACON. The TRACON manages the aircraft until it leaves the terminal area, which is the specific altitude or geographical boundary of the TRACON facility. Once the aircraft is beyond the terminal area, control transfers to an ARTCC. An arriving aircraft uses these same air traffic facilities, but in the reverse order (ARTCC to TRACON to ATCT). Exhibit 1-4, Air Traffic Control Facilities, depicts how aircraft transition through the various ATC facilities.

1.7.2 AIR TRAFFIC CONTROLLERS

Air traffic controllers manage aircraft to ensure the safe and orderly flow of aircraft to and from airports. They issue control instructions, establish appropriate aircraft sequencing, and closely monitor the air traffic flow to ensure a safe distance between each aircraft while minimizing delay. Additionally, air traffic controllers keep pilots informed of changing weather conditions, which may impact the safety of flight; the availability of airspace; and the direction of traffic flows (take-off and landing) at the airport.

The complexity of the air traffic controller’s task is directly related to the number of aircraft simultaneously flying in an air traffic control sector, the geometry of flight routes, weather, and terrain. Increases in air traffic volume, combined with complex route geometry, will lead to increases in the demand placed upon controllers. Once the human performance limits of an air traffic controller are reached, the air traffic controller responds by limiting the number of aircraft actively flying in the sector. The controller limits activity by increasing the minimum distance (or time) separation between aircraft entering the sector on some or all routes in that sector. When a controller increases the separation required between planes along a route, that route’s capacity is reduced. Reducing capacity along highly utilized routes may increase delays for aircraft using the route.

1.7.3 LAMBERT AIRSPACE

Airspace is divided into two broad categories: controlled and uncontrolled. Controlled airspace is divided into five classes, A, B, C, D, and E. (Uncontrolled airspace in the U.S. is designated Class G.) Table 1-3 identifies these airspace classifications and terminology. Aircraft operating in controlled airspace are subject to varying ATC and communications requirements, depending on the airspace class. When operating in controlled airspace, aircraft are monitored by and generally must be in communication with the appropriate ATC facility. Exhibit 1-5, Airspace Structure, shows the airspace structure for Lambert Airport. Lambert Airport is surrounded by class B airspace, which extends 30 nautical miles from the Airport.
### TABLE 1-3
**AIRSPACE CLASSIFICATIONS**
Lambert-St. Louis International Airport

<table>
<thead>
<tr>
<th>AIRSPACE CLASS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Class A encompasses the en route, high-altitude environment used by aircraft to transit from one area of the country to another. All aircraft in Class A must operate under IFR. Class A airspace exists within the United States from 18,000 feet MSL to and including 60,000 feet MSL.</td>
</tr>
<tr>
<td>B</td>
<td>All aircraft, both IFR and VFR, in Class B airspace are subject to positive control from ATC. Class B airspace exists at 29 high-density airports in the United States as a means of managing air traffic activity around the airport. It is designed to regulate the flow of air traffic above, around, and below the arrival and departure routes used by air carrier aircraft at major airports. Class B airspace generally includes all airspace from an airport's established elevation up to 12,000 feet MSL, and, at varying altitudes, out to a distance of about 30 NM from the center of the airport. Aircraft operating in Class B airspace must have specific radio and navigation equipment, including an altitude encoding transponder, and must obtain ATC clearance.</td>
</tr>
<tr>
<td>C</td>
<td>Class C airspace is defined around airports with airport traffic control towers and radar approach control. It normally has two concentric circular areas with a diameter of 10 and 20 NM. Variations in the shape are often made to accommodate other airports or terrain. The top of Class C airspace is normally set at 4,000 feet AGL. The FAA had established Class C airspace at 120 airports around the country. Aircraft operating in Class C airspace must have specific radio and navigation equipment, including an altitude encoding transponder, and must obtain ATC clearance. VFR aircraft are only separated from IFR aircraft in Class C airspace (i.e., ATC does not separate VFR aircraft from other VFR aircraft, as this is the respective pilot’s responsibility).</td>
</tr>
<tr>
<td>D</td>
<td>Class D airspace is under the jurisdiction of a local Air Traffic Control Tower (ATCT). The purpose of an ATCT is to sequence arriving and departing aircraft and direct aircraft on the ground; the purpose of Class D airspace is to provide airspace within which the ATCT can manage aircraft in and around the immediate vicinity of an airport. Aircraft operating within this area are required to maintain radio communication with the ATCT. No separation services are provided to VFR aircraft. The configuration of each Class D airspace area is unique. Class D airspace is normally a circular area with a radius of five miles around the primary airport. This controlled airspace extends upward from the surface to about 2,500 feet AGL. When instrument approaches are used at an airport, the airspace is normally designed to encompass these procedures.</td>
</tr>
<tr>
<td>E</td>
<td>Class E airspace is a general category of controlled that is intended to provide air traffic service and adequate separation for IFR aircraft from other aircraft. Although Class E is controlled airspace, VFR aircraft are not required to maintain contact with ATC, but are only permitted to operate in VM C. In the eastern United States, Class E airspace generally exists from 700/1200 feet AGL to the bottom of Class A airspace at 18,000 feet MSL. It generally fills in the gaps between Class B, C, and D airspace at altitudes below 18,000 feet MSL. Federal Airways, including Victor Airways, below 18,000 feet MSL are classified as Class E airspace.</td>
</tr>
<tr>
<td>F</td>
<td>Not Applicable within United States</td>
</tr>
<tr>
<td>G</td>
<td>Airspace not designated as Class A, B, C, D, or E is considered uncontrolled, Class G, airspace. ATC does not have the authority or responsibility to manage of air traffic within this airspace. In the Eastern U.S., Class G airspace lies between the surface and 700/1200 feet AGL.</td>
</tr>
</tbody>
</table>

Controls aircraft on the ground and within five nautical miles of the airport.

Sequences and separates aircraft as they approach and depart major metropolitan areas.

Controls aircraft enroute (sequences and separates).

Sequences and separates aircraft as they approach and depart major metropolitan areas.

Controls aircraft on the ground and within five nautical miles of the airport.
Exhibit: 1-5

Airspace Structure

- NOTE:
  This exhibit presents the same information shown in Exhibit 1-5 in Chapter 5 of this document.

Airports within 30 nautical miles of Lambert
- 1H0 - Creve Coeur Airport
- 3K6 - St. Louis Metro East/Shafer Field
- ALN - St. Louis Regional
- BLV - Scott AFB/MidAmerica Airport
- CPS - St. Louis Downtown Airport
- H49 - Saackman Field Airport
- M71 - Greensfield Airport
- SET - St. Charles County Smartt Airport
- SUS - Spirit of St. Louis Airport
1.7.4 **LAMBERT AIR TRAFFIC CONTROL (ATC) PROCEDURES**

At Lambert Airport, the ATCT controller normally issues a departure heading or fix as requested by the pilot as soon as possible after takeoff. In general, the only exceptions would be in the case of potentially conflicting traffic in the area. Actual flight tracks vary depending upon aircraft weight, type, velocity, wind speed and direction, and pilot performance. Control of departing aircraft is transferred to the Kansas City ARTCC or coordinated with adjacent TRACONs before an aircraft climbs through a previously established handoff altitude, unless previously coordinated between the ARTCC and TRACON personnel.

1.7.5 **NEIGHBORING AIRPORTS**

Exhibit 1-5 also shows all airports within a 30-NM radius of Lambert Airport. There are nine airports in this area: 18

- Creve Coeur (1H0): serves general aviation (GA) and recreational aviation
- Greensfield Airport (M71): Moscow Mills, MO; serves GA traffic
- MidAmerica Airport/Scott Air Force Base (BLV): near Belleville, IL; facilities include a passenger terminal and cargo facility, although no passenger service is currently scheduled; Scott Air Force Base is home to several Air Force units
- Sackman Field Airport (H49): Columbia, IL; serves GA traffic
- Spirit of St. Louis (SUS): serves corporate and business aviation
- St. Charles County Smartt (SET): a GA and recreational aviation facility
- St. Louis Downtown (CPS): serves corporate and business aviation and sightseeing charters
- St. Louis Metro East/Shafter Field (3K6): serves GA and recreational users
- St. Louis Regional (ALN): serves predominantly GA traffic

Of these nine airports, 1H0, ALN, CPS, SET, and SUS are designated as reliever airports to Lambert Airport. 19 None of these airports offer scheduled passenger service. Arrival and departure operations at these airports may require coordination with the STL FAA ATCT and FAA T75 TRACON 20 depending upon the category of airspace through which an aircraft is passing.

1.8 **AIR TRAFFIC ACTIVITY**

Air traffic activities are recorded by the ATCT for air carrier, air taxi (including commuter), GA, and military categories. The ATCT also differentiates between itinerant and local activity in the GA and military categories. Operations data for 1999 through 2009 are summarized in Table 1-4.

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18 Note that St. Charles Municipal Airport (formerly designated 3SQ) closed in the summer of 2010.
20 FAA T75 TRACON is the Terminal Radar Approach Control facility at the Lambert-St. Louis International Airport.
An aviation activity analysis was completed to verify the existing aircraft operations for use in this study. As discussed in Section 1.1.5, Noise Exposure Maps (NEMs), the existing condition is 2010. The existing NEM is based on actual operational data for the calendar year 2009 and adjusted downward to reflect the relocation of the 131st Fighter Wing that was to occur before the end of 2009. Table 1-5 shows that total operations included in the Existing (2010) Baseline condition were 208,861. The table divides these operations into the following four categories: passenger, cargo, GA, and military.

The future NEM is for the year 2015. Operations for 2015 are based on the aviation activity forecast that was prepared for this Part 150 Study Update and concurrent Lambert Airport Master Plan Update. Forecast annual operations for 2015 are 260,518 total operations.

Table 1-4
OPERATIONS DATA 1999 – 2009 (CALENDAR YEARS)
Lambert-St. Louis International Airport

<table>
<thead>
<tr>
<th>YEAR</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air Carrier</td>
</tr>
<tr>
<td>1999</td>
<td>306,276</td>
</tr>
<tr>
<td>2000</td>
<td>346,298</td>
</tr>
<tr>
<td>2001</td>
<td>330,383</td>
</tr>
<tr>
<td>2002</td>
<td>282,733</td>
</tr>
<tr>
<td>2003</td>
<td>210,323</td>
</tr>
<tr>
<td>2004</td>
<td>120,518</td>
</tr>
<tr>
<td>2005</td>
<td>138,320</td>
</tr>
<tr>
<td>2006</td>
<td>136,131</td>
</tr>
<tr>
<td>2007</td>
<td>128,372</td>
</tr>
<tr>
<td>2008</td>
<td>124,898</td>
</tr>
<tr>
<td>2009</td>
<td>116,938</td>
</tr>
</tbody>
</table>

Note: General aviation and military operations include both local and itinerant operations. Source: FAA Aviation Policy and Plans, Air Traffic Activity Data System (ATADS), 2010.
Table 1-5
SUMMARY OF MODELED ANNUAL OPERATIONS
Lambert-St. Louis International Airport

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Passenger</th>
<th>Cargo</th>
<th>GA</th>
<th>Military*</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>187,507</td>
<td>2,982</td>
<td>17,237</td>
<td>1,135</td>
<td>208,861</td>
</tr>
<tr>
<td>2015</td>
<td>231,106</td>
<td>3,204</td>
<td>25,208</td>
<td>1,000</td>
<td>260,518</td>
</tr>
<tr>
<td>Percent Change</td>
<td>23.3</td>
<td>7.4</td>
<td>46.2</td>
<td>-11.9</td>
<td>24.7</td>
</tr>
</tbody>
</table>

* Military operations include Boeing test flights and delivery flights. For purposes of modeling the existing baseline noise exposure, approximately 1,500 flights operated by the MOANG were not included because the 131st Fighter Wing relocated from Lambert Airport before the end of 2009.

Source: FAA Aviation Policy and Plans, Air Traffic Activity Data System (ATADS), 2010; Landrum & Brown, 2010

The aviation activity forecast is based upon a review of historical activity and expectations of changes at Lambert Airport through 2020. The aviation forecast analysis was developed using the most up-to-date data available at the time. The aviation activity forecast was approved by the FAA on August 27, 2009. Additional information on this aviation activity forecast is included in this document in Appendix N, Forecast of Aviation Activity.