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Phone: 636-537-4000 • Fax 636-537-4798 • [www.chesterfield.mo.us](http://www.chesterfield.mo.us)

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**FUTURE LAND USE AND LOCAL NOISE IMPACT  
MARCH 20, 2009**

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Attached, please find a copy of City of Chesterfield Ordinance 1503 requiring the disclosure information relative to future land use and local noise impact from the Spirit of St. Louis Airport. This ordinance can also be found online at:  
<http://www.chesterfield.mo.us/ord/1999/ord1503.pdf>.

Section 4 of the ordinance provides the language required in the disclosure statement. Maps relative to the comprehensive plan are attached for your review and can also be found online at: <http://www.chesterfield.mo.us/dap/compplan/Land%20Use%20Map.pdf>. Please note that regular updates are made to the land use plan.

With regard to the noise impact information you may call Spirit of St. Louis Airport at (314)532-2222.

If you have any further questions, feel free to call the Planner of the Day at (636) 537-4733.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aimee Nassif', with a stylized flourish at the end.

Aimee Nassif, AICP  
Planning and Development Services Director

**AN ORDINANCE RELATING TO A REQUIREMENT TO DISCLOSE  
INFORMATION RELATIVE TO FUTURE LAND USE AND LOCAL NOISE  
IMPACT.**

**WHEREAS**, the City of Chesterfield has experienced significant growth in its residential neighborhoods; and,

**WHEREAS**, residents have complained that they have not been informed or were not aware that there was the potential for additional development on adjacent properties or in the local vicinity to their property; and,

**WHEREAS**, the City is experiencing significant growth which in some locations is also within or on the fringe of the noise impact area of the Spirit of St. Louis Airport; and,

**WHEREAS**, the City desires to take steps to assure that the purchasers and lessees of residential properties within the City are given every opportunity to know what may effect their home environment.

**NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CHESTERFIELD, ST. LOUIS COUNTY, MISSOURI, AS FOLLOWS:**

**Section 1.** It shall be unlawful for any seller or landlord to contract for the sale, lease or rental of any residential property and it shall be unlawful for any real estate broker, to procure a contract for the sale, lease or rental of any residential real property without first having disclosed to the prospective buyer or tenant the availability of an information resource with respect to the future land use of nearby real estate as contemplated by the Comprehensive Plan of the City of Chesterfield and with respect to the Spirit of St. Louis noise impact zone. The disclosure shall be in substantially the same format as is incorporated herein.

A generic version of this disclosure, one pertaining to all municipalities and/or unincorporated areas, will suffice in lieu of this disclosure so long as it contains the essential elements regarding future land use of nearby real property and noise impact zone(s).

**Section 2.** Disclosure language as set out in **Section 4** below shall be required for every contract for sale, lease or rental of any residential dwelling unit within the City of Chesterfield. Said disclosure shall be contained on a separate sheet of paper at least 8 ½ by 11 inches in size and shall require signature acknowledgements by the prospective purchaser (s) or renter (s) which shall be kept on file by the seller or lessor for 5 years. If a real estate broker is involved in the transaction, then the real estate broker shall maintain said disclosure in their files for a period of not less than 5 years.

**Section 3.** In new subdivisions where the developer or developers maintain is an active sales office, or in developments where there is an active sales office for sales in that development of any kind, there shall be a sign of at least 18" by 24" prominently displayed inside the sales office. The sign shall use readily legible type and be located adjacent to or attached to any map or plat used for marketing purposes in said subdivision.

**Section 4.** The Disclosure statements required by this Ordinance shall, at a minimum, contain the language set out in this section. The use of the language, which is contained herein, shall satisfy the requirements of this Ordinance. The Disclosure shall read as follows:

This disclosure, as required by the City of Chesterfield ordinance(s), is for the purpose of informing prospective buyers and tenants of any residential property in Chesterfield that there may be a potential for development of nearby real estate and there is a possibility of noise from the Spirit of St. Louis Airport.

Prospective buyers and tenants who may have concerns about future land use of nearby properties should refer to the current Comprehensive Plan of the City of Chesterfield, located and available at the Chesterfield City Hall.

Prospective buyers and tenants who may have concerns about the Spirit of St. Louis noise impact zone should refer to the current impact zone map(s) located and available at the Spirit of St. Louis.

Buyers and tenants independent investigation of their concerns, if any, should occur before executing a purchase, lease or rental agreement.

**Section 5.** In addition to the disclosure statement prospective purchasers or renters shall be furnished a copy of Chesterfield Conceptual Land Use Map showing the area within 1 mile of property for sale or rent and a copy of the Spirit of St. Louis Airport noise impact maps to satisfy the requirements of this Ordinance.

**Section 6.** The violation of this ordinance shall be punishable by a fine of not less than Five Dollars (\$5) and not more than Five Hundred Dollars (\$500). Each individual violation shall constitute a separate offense.

**Section 7.** This ordinance shall be in full force and effect from and after its passage and approval.

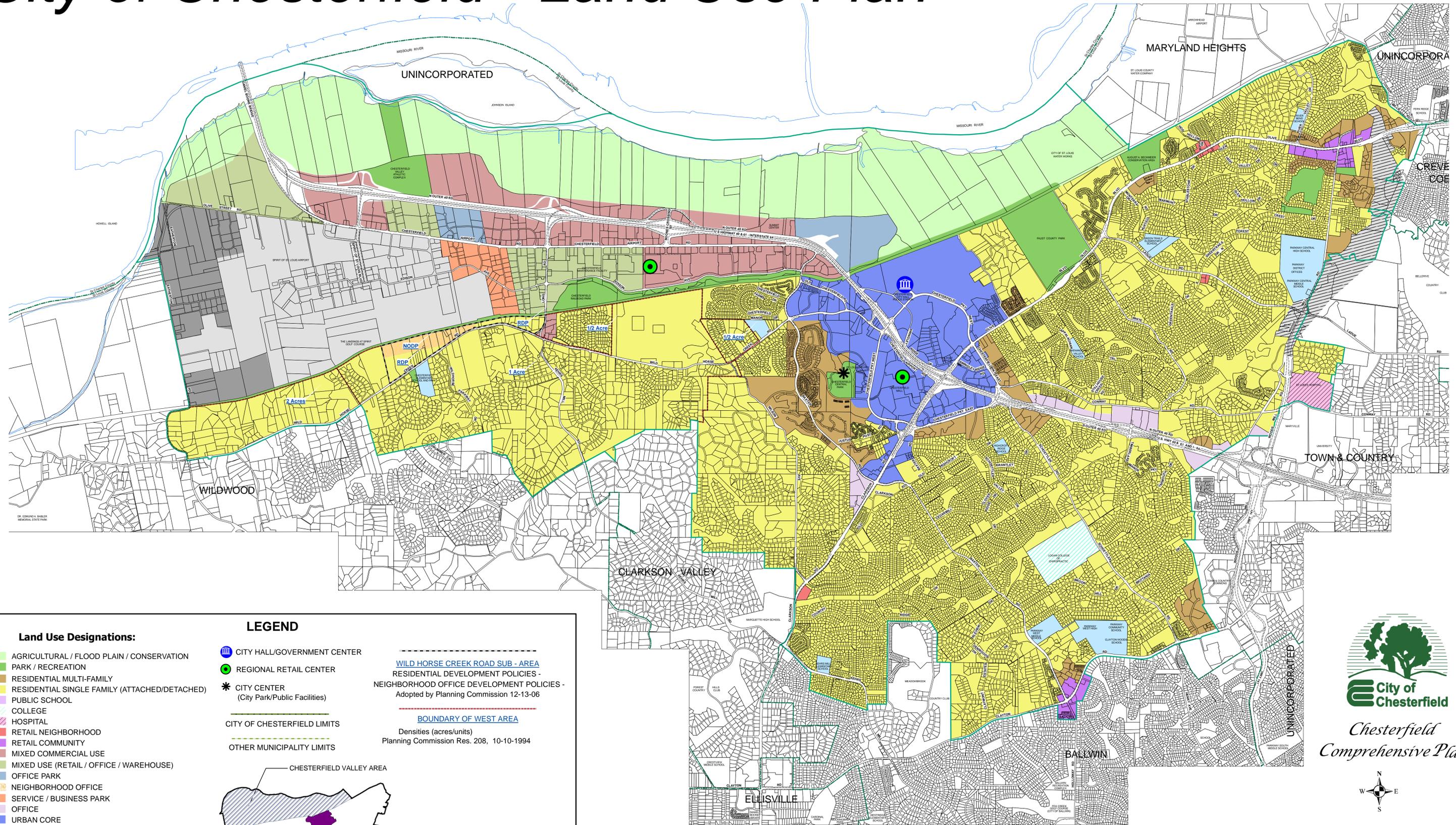
Passed and approved this 1<sup>ST</sup> day of MARCH, 1999.

*Randy Greenwood*  
MAYOR

ATTEST:

*Marta L. DeMay*  
CITY CLERK

# City of Chesterfield - Land Use Plan



**Land Use Designations:**

- AGRICULTURAL / FLOOD PLAIN / CONSERVATION
- PARK / RECREATION
- RESIDENTIAL MULTI-FAMILY
- RESIDENTIAL SINGLE FAMILY (ATTACHED/DETACHED)
- PUBLIC SCHOOL
- COLLEGE
- HOSPITAL
- RETAIL NEIGHBORHOOD
- RETAIL COMMUNITY
- MIXED COMMERCIAL USE
- MIXED USE (RETAIL / OFFICE / WAREHOUSE)
- OFFICE PARK
- NEIGHBORHOOD OFFICE
- SERVICE / BUSINESS PARK
- OFFICE
- URBAN CORE
- SPIRIT AIRPORT
- INDUSTRIAL - LOW INTENSITY
- CORRIDOR FOR ROUTE 141 IMPROVEMENT

**LEGEND**

- CITY HALL/GOVERNMENT CENTER
- REGIONAL RETAIL CENTER
- CITY CENTER (City Park/Public Facilities)

--- WILD HORSE CREEK ROAD SUB - AREA  
RESIDENTIAL DEVELOPMENT POLICIES -  
NEIGHBORHOOD OFFICE DEVELOPMENT POLICIES -  
Adopted by Planning Commission 12-13-06

--- BOUNDARY OF WEST AREA  
Densities (acres/units)  
Planning Commission Res. 208, 10-10-1994

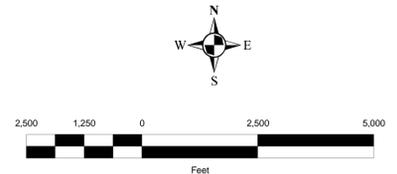
--- CITY OF CHESTERFIELD LIMITS

--- OTHER MUNICIPALITY LIMITS

CHESTERFIELD VALLEY AREA

URBAN CORE AREA

Updated Through May 29, 2009



This Map has been prepared from the most reliable information obtainable. We cannot, however, due to circumstances beyond our control, guarantee complete accuracy. Any errors or omissions brought to our attention will be appreciated and will be corrected in subsequent updates. Rev: 5-29-2009

Spirit of  
St. Louis Airport

Noise  
Compatibility  
Study





## FAR Part 150 Airport Noise Compatibility Study

# Spirit of St. Louis Airport

The Spirit of St. Louis Airport (SUS) FAR Part 150 Study (Noise Compatibility Study) is part of the Airport's ongoing effort to reduce the effects of aircraft noise while operating a vital airport in a growing region of the State. The area surrounding the Airport has experienced rapid residential development in recent years, with such development expected to continue.

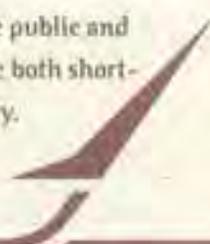
The study began in Summer 2002 and will be completed in the fall of 2003. The goal of the study is to evaluate and recommend a series of operational measures intended to reduce aircraft noise. These measures must be safe, realistic, legal and approved by the Federal Aviation Administration (FAA). Airport stakeholders, including users, pilots, based operators, business groups, interested citizens, regional planners, the airport, and its surrounding communities will all participate in the development of the Noise Compatibility Program.

Through the Federal Aviation Regulations Part 150 Program, the FAA provides guidelines for airport operators to conduct the study. The study for SUS has been designed to achieve these objectives, as well as address the different concerns of interested citizens, land owners, local and regional governments, and airport users.

The study looks five years into the future, using operations forecasts, changes to airport fleet-mix, planned airport and land use changes, and demographic changes in the surrounding areas.

The study's final product will be a set of recommendations aimed at reducing noise effects within the community, which is ultimately achieved by reducing noise effects on non-compatible land uses such as homes and schools, and by discouraging the introduction of new non-compatible land uses in the areas affected by aircraft noise.

Maintaining a healthy airport environment is an important challenge for the public and the Airport. The Part 150 Program provides a valuable opportunity to achieve both short-range and long-range objectives for airport operations and area compatibility.



### **HELP THE STUDY HELP YOU**

Whether you are an airport neighbor or metropolitan area resident, a business owner, elected official, city planner or airport user, your perspective is vital. The SUS Part 150 Noise Study is designed to provide many opportunities for you to share your comments and ideas as the study progresses.

### **WHAT IS A PART 150 STUDY?**

The Federal Aviation Regulations Part 150 Noise Exposure and Land Use Compatibility Program is an outgrowth of the Aviation Safety and Noise Abatement Act of 1979. This voluntary, FAA-administered program establishes a system for measuring noise, identifying noise exposures, determining compatible land uses, and establishing a unified plan for airport and community development.

The study is designed to accomplish the following:

- Identify viable noise abatement measures and mitigation programs
- Establish priorities within such programs
- Establish a viable and responsive community outreach program
- Establish appropriate development guidelines and compatible land use patterns within the airport's environs
- Identify the actual effect of airport operations on the surrounding communities

The recommendations for these guidelines and programs will be based on several components, including input from various jurisdictional entities and community leaders, and area residents' thoughts and concerns. This particular Part 150 Study goes beyond the traditional study in using additional methods to evaluate noise, presenting noise contours beyond those required in the regulations, and involving a very extensive public involvement process.

Recommendations must be approved by St. Louis County, as owner of the airport, and submitted to the FAA for approval.

Upon FAA approval, the Airport is eligible to apply for grant funding to implement the recommendations. Ultimately, however, implementing the recommendations is dependent upon the availability of FAA funding and the Airport's required matching share.

### **STUDY ACTIVITIES**

The SUS Noise Study will update the previous FAR Part 150 Study prepared for the airport several years ago. That study contained several recommendations, approved by the FAA, that have been implemented by the Airport.

However, conditions have changed since the previous study was adopted and the County has determined that an update is necessary. The current study will assess aircraft noise levels and determine their effects, develop reasonable noise abatement measures, and promote methods to effectively guide growth in appropriate areas in the airport vicinity. The work will be based on technical data, aircraft operational characteristics, analysis of community responses, a comprehensive review of current land uses and trends, and suggestions, recommendations and ideas from the community.

Planning for noise abatement measures and compatible land uses will start by analyzing SUS and the surrounding areas, while considering existing conditions and the expected changes during the next five years.

The study's recommendations will outline a program that considers both maintaining and amending existing noise abatement measures and adding new appropriate measures.

### **HOW YOU CAN GET INVOLVED**

The Spirit of St. Louis Airport and St. Louis County are committed to conducting a study that includes all of the issues' varied points of interest.

A Study Advisory Committee was formed to help guide the Study's development. The Advisory Committee consists of both a Citizens Advisory Committee and a Technical Advisory Committee, composed of members representing citizens, local and regional agencies and jurisdictions, Federal Aviation Administration representatives, airport tenants, airport users, and other interested parties.

A series of Advisory Committee meetings will be held during the 12-18 month study. These meetings will be open to the public, although the public will be asked to participate at the end of the committee business. In addition, several Open Houses will be held to present Study findings to the public at various points in the Study.

A Public Hearing will provide opportunities for you to meet members of the project team and Airport Staff, learn about the study, and provide comments and feedback about the effects of aircraft noise.

#### LEADERSHIP AND CONSULTANTS

The study is being conducted under the direction of St. Louis County, who has the final decision-making authority. The consultants who will prepare the study are Barnard Dunkelberg & Company, Inc. (Tulsa, Okla.), with assistance from BridgeNet International (Costa Mesa, Calif.), Urban Environment Associates (Dallas, Texas), and Mary Beck Associates (St. Louis, Missouri).

For further information or to submit comments or suggestions, please contact:

Richard Hrabko, A.A.E.  
Director of Aviation  
Spirit of St. Louis Airport  
18270 Edison Avenue  
Chesterfield, Missouri 63005  
Telephone Number: 636-532-2222  
FAX Number: 636-532-4886



or

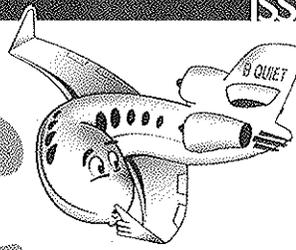
Ryk A. Dunkelberg  
Barnard Dunkelberg & Company  
1616 East 15th Street  
Tulsa, Oklahoma 74120  
Telephone Number: 918-585-8844  
FAX Number: 918-585-8857

Website Address:  
[www.airportnetwork.com](http://www.airportnetwork.com)

# Noise Compatibility Study Area



Spirit of St. Louis Airport  
FAR Part 150 Airport Noise Compatibility Study



# Update

## Spirit of St. Louis Airport Noise Compatibility Study

### About the

Study is part of the airport's ongoing effort to reduce the effects of aircraft noise while operating a vital airport. The area surrounding the airport has experienced rapid residential development in recent years, and development is expected to continue.

The goal of the study is to evaluate and recommend a series of possible operational measures and capital improvements to reduce likely aircraft noise impacts. These measures must be safe, realistic, legal, and approved by the Federal Aviation Administration (FAA).

The study's final product will be a set of recommendations that is aimed at reducing effects that aircraft noise has on the community surrounding the airport. Moreover, the study identifies and discourages further non-compatible land uses in the areas that are affected by aircraft noise and reduce the noise impacts in residential and other noise-sensitive areas, such as churches and schools.

#### FAA GUIDELINES FOR THE STUDY

Through the Federal Aviation Regulations Part 150 Program, the FAA provides guidelines for an FAR Part 150 Noise Compatibility Study. The FAA requires that the study accomplish the following goals:

- Identify viable noise abatement measures and mitigation programs;
- Establish priorities within such programs;
- Establish a responsible community outreach program;
- Establish appropriate development guidelines and compatible land use patterns surrounding the airport.

The Spirit of St. Louis Airport (SUS) FAR Part 150 Noise Compatibility

The Spirit of St. Louis Airport Noise Compatibility Study is **unique** in that it goes beyond the FAA guidelines for Part 150 Studies by incorporating **additional methods** to evaluate noise levels, by the **examination of noise contours** beyond those that are required by FAA regulations, and by the **integration of an extensive and comprehensive public involvement process.**

#### STUDY DURATION

The study began in the summer of 2002, and will be completed in the winter of 2004. The study will utilize a 5-year planning period, using future operation forecasts, potential changes to specific aircraft types that use the airport, and planned airport/surrounding vicinity land use and demographic changes.

### In this issue

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## HOW NOISE IS MEASURED

Noise monitoring was conducted in the field to provide the most accurate aircraft operation noise levels. The FAA does not require noise monitoring as part of the Study; however, the use of this data provides for a more complete understanding of what areas are affected by noise, the specific noise characteristics, and helps evaluate potential benefits that may result from the various noise abatement alternatives.

Field noise measurements were taken using mobile microphones, and were collected at the same time that FAA flight-tracking radar data was obtained. This practice allows for additional accuracy in identifying the specific aircraft type being monitored. The combination of both data sources (field noise measurements and FAA flight-tracking radar data) was compared using a computer modeling program, and a final map of noise measurement sites was developed for the area surrounding the Spirit of St. Louis Airport.

# Mapping

## MAPPING NOISE: DAY/NIGHT AVERAGE SOUND LEVEL

The FAA mandates that the Day/Night Average Sound Level (DNL) be measured over a 24-hour time frame for a period of one year, with a 10 dB penalty for operations between 10 p.m. and 7 a.m. This measurement is used to identify areas that have a noise level greater than 65 DNL. Land uses, which measure noise levels greater than 65 DNL, are typically deemed incompatible if they are classified as residential, or other non-residential noise-sensitive areas (such as churches and schools).

DNL measurements are comprised of many factors, including:

- Aircraft activity levels by type; (single engine, multi-engine, business jet);
- Detailed aircraft type (fleet mix);
- Jet operations by type;
- Hours of operation by aircraft type;
- Flight tracks and runway use by time of day and aircraft type;
- Departure climb angles;
- Flight destinations and distance to destination;
- Typical operational procedures;
- Average weather conditions;
- One year baseline period from September 2000 to August 2001.

To view the noise contour map, visit our web page at [sus.airportnetwork.com](http://sus.airportnetwork.com). To receive a printed copy, please contact Richard Hrabko, Director of Aviation, at 636-532-2222.

# Modeling

## NOISE MODELING RESULTS

Noise level measurements were conducted at various locations within the area surrounding the airport between December 2002 and February 2003. The study was conducted by placing noise monitors at 12 long-term sites for approximately ten days. Additional measurements were then taken at 7 short-term sites. The short-term data was a record of the source of each noise event that was identified during an 8-hour time period. That short-term site information was used to supplement the data gathered from the long-term measurement sites.

Measurement sites that were located south and west of the airport primarily measured departure noise, while sites located south and east of the airport recorded arrival noise. During the time the measurement survey was conducted, the wind direction was primarily out of the west, which resulted in a majority of the departures on Runway 26.

### *DNL Noise Measurement Results*

A wide range of noise levels was experienced at each of the long-term and short-term sites. This is due primarily to weather that affects which runways are used. Weather also affects the number and the pattern of aircraft operations.

This information was used to verify the specific aircraft data contained in the noise model.

Departure noise typically generates more noise levels over a wider area than arrival noise. Aircraft-related DNL levels measured at each of the 12 long-term noise monitoring sites ranged between 50 DNL (623 Old Slave Road) and 59 DNL (18212 Hager Lane), with the average being 55 DNL. During the time period the noise measurements were taken, the airport was primarily in a west flow direction, resulting in lower DNL values being measured east of the airport. As such, the measurements may not necessarily reflect annual noise level conditions.

### Aircraft Single Event Noise Measurement Results

Aircraft single event noise levels (measured in terms of sound exposure level {SEL}) were identified at each measurement site. The loudest identified aircraft were typically the older generation corporate aircraft, such as Lear 24, Lear 25, Gulfstream 3, and Saberliners.

There are five noise contours that are represented in a Part 150 Noise Study: DNL (daily noise level) 55, 60, 65, 70, and 75 contours. The contours represent areas that are affected by differing noise levels. For example, a dBA of 70 is classified as moderately loud, such as a passenger car passing by at 65 mph, a vacuum cleaner, or a Boeing 757 take off.

**MAJOR STEPS IN THE STUDY**

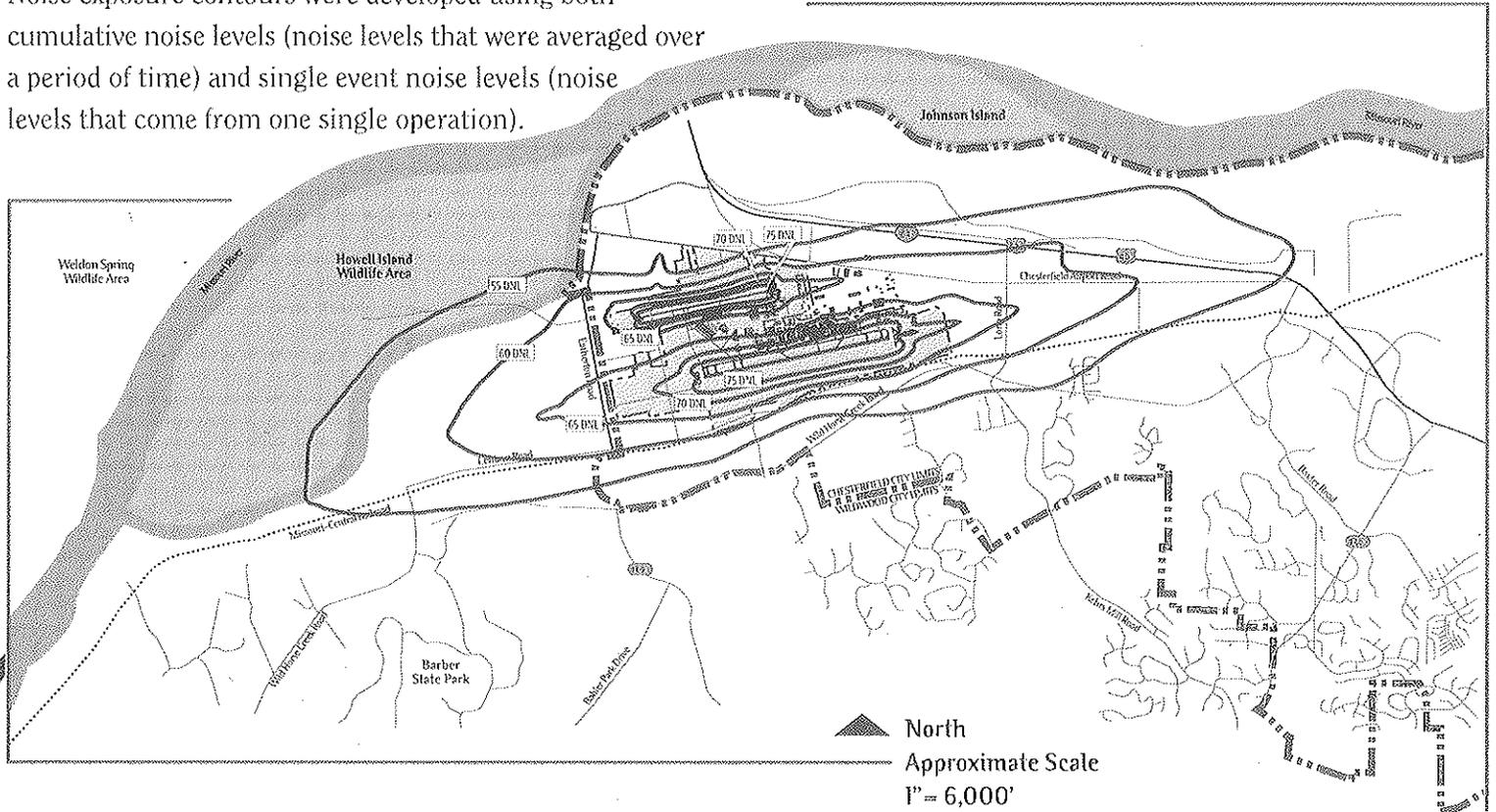
- ✓ Identify land use around the airport - Complete
- ✓ Monitor and collect noise data- Complete
- ✓ Generate updated noise contour maps - Complete
- Develop and evaluate noise abatement alternatives
- Recommend, and then prioritize, noise abatement alternatives
- Develop noise compatibility program
- Hold public hearing on program
- Submit program to FAA

# Contours

## NOISE CONTOURS

Noise exposure contours were developed using both cumulative noise levels (noise levels that were averaged over a period of time) and single event noise levels (noise levels that come from one single operation).

## 2009 Base Case Noise Contours



## SUCCESS OF NOISE COMPATIBILITY STUDY RELIES ON COMMUNITY INVOLVEMENT

The key to an accurate and beneficial FAR Part 150 Noise Compatibility Study is public participation. A wide representative of participants is important to ensure that stakeholders from the surrounding area, airport tenants/other transportation/business users of the airport, government entities, elected officials, and select media have the opportunity to share their comments, suggestions, and ideas as the study progresses. The Spirit of St. Louis Noise Compatibility Study has been designed to provide many opportunities for public involvement.

A total of four open houses will be conducted during the study to allow area residents, public officials, airport users, and others with an interest in airport activities to be introduced to the study. To date, two open houses have been held for the study. The first open house introduced the public to the FAR Part 150 Study and provided the opportunity for residents to share their concerns and ask questions. The second open house was held on June 18, 2003 and discussed baseline conditions, forecasts, and the noise monitoring program. Additional open houses and other public events will be held as the study advances. Final public input will be received at a formal public hearing, scheduled for late 2003 or early 2004.

The Study Advisory Committee (SAC) consists of two committees, which have been established by the airport: Citizens Advisory Committee (CAC) and Technical Advisory Committee (TAC). Each committee will meet approximately six times during the course of the Study.

The CAC is comprised of individuals who have expressed an interest in the Study, including neighborhood/homeowner groups, jurisdictional representatives, businesses, business organizations, and interested citizens.

The TAC is comprised of representatives from airport tenants, staff and users, local state and federal government agencies, pilots, and planning departments from the surrounding jurisdictions. The primary focus for the TAC will be on the implementation of noise abatement and noise mitigation procedures.

## PUBLIC COMMENTS AND FEEDBACK

There are many factors that influence how an individual responds to aircraft noise. These can include personal sensitivity to noise, the type of aircraft and engine, the distance from an aircraft to a body of water, weather conditions, wind direction, and many other variables. Furthermore, it is common for the character of noise to be perceived differently by various individuals. Because of this known variety of personal responses to noise impacts, it is fundamental that residents and other interested parties be represented in all aspects of the study process. The public open houses provide a significant source for gathering input from the public. Some of the major issues and suggestions that have been raised at the most recent open house include:

- **Number and/or frequency of operations have increased;**
- **Aircraft operations start too early and continue too late in the day;**
- **Helicopters, turbo-jet aircraft, and small propeller-driven aircraft fly too low;**
- **Reduce aircraft flight paths over residential areas and increase them over the less populated areas;**
- **Install noise monitoring devices in neighborhoods for longer periods to better capture noise levels;**
- **Growing population means a growing airport, which will lead to increased aircraft traffic and noise.**

## WHAT'S NEXT?

The SUS Noise Compatibility Study is well underway! A broad and inclusive list of alternatives will be developed that could help manage aircraft noise in the region. The Study Advisory Committee (SAC) will assess the effectiveness of these alternatives. As the study progresses, groups of alternatives will be available for public review and comment at open houses (dates to be announced shortly).

## CONSIDERING THE FUTURE OF SUS

*The Noise Compatibility Study takes into account projected airport operations, generally five years in the future. Based upon the forecasted aviation activity, maps are produced that illustrate the future noise contours for the airport and its surrounding vicinity. Increasing future aviation activity at any airport can be open to interpretation, however, generally it does establish some broad parameters to evaluate existing and potential aircraft operations more effectively. Forecasting is also very useful for the planning of future airport developments.*