

# U.S. DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration  
Central Region  
Kansas City, MO

## RECORD OF DECISION

For

Lambert-St. Louis International Airport  
St. Louis, MO

September 30, 1998

The Federal Aviation Administration has approved Lambert-St. Louis International Airport's proposed airside and landside improvements, commonly known as Alternative W-1W. A Record of Decision (ROD) was signed on September 30, 1998, by FAA Central Region Administrator John E. Turner.

By October 14, 1998, official copies of the ROD may be viewed at the various locations (City Halls, Libraries, FAA and Lambert-St. Louis International Airport) identified in the September 30, 1998, press release *[included at the end of this document.](#)*

# FEDERAL AVIATION ADMINISTRATION

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Lambert-St. Louis International Airport

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# 1. FAA DECISION

This Record of Decision (ROD) provides final Federal Aviation Administration (FAA) approval for the Federal actions for proposed improvements at Lambert-St. Louis International Airport (Lambert), including construction and operation of a new air carrier length runway (12W/30W). The Federal actions and associated airport development are described in detail in the Final Environmental Impact Statement, Lambert-St. Louis International Airport, dated December 1997 (FEIS). The Federal actions are considered in Section 3, Agency Actions, of this ROD. The FAA's decision is based on the information contained in the FEIS and all other applicable documents available to the FAA and considered by it, which constitute the administrative record.

This ROD is issued in accordance with the requirements of the Council on Environmental Quality (CEQ), 40 CFR 1505.2. The principal features include:

- A statement of the agency's decision;
- An identification of all the alternatives considered by the FAA in reaching its decision, with a specification of the alternative or alternatives that are considered to be environmentally preferable; and
- The means adopted (mitigation measures) to avoid or minimize environmental harm from the alternative selected.

Based on a review of the administrative record and the FEIS approved on December 19, 1997, it is the FAA's final determination that the revised Airport Layout Plan (ALP) for proposed improvements to Lambert, including a new air carrier-length runway, specifically described in Sections 2, 4 and 5 of this ROD, and identified in the FEIS as the "FAA's Preferred Alternative" (Alternative W-1W), is approved. This runway is designated, for planning purposes, as 12W/30W. In addition, the runway is approved as eligible for Federal financial assistance and construction.

These approvals of the ALP and eligibility for Federal funding constitute final approval. The FAA notes that the airport-project sponsor, the St. Louis Airport Authority (STLAA), has agreed to the various conditions of approval, in particular, the conditions requiring mitigation measures.

In reaching this determination, careful consideration has been given to: (a) the needs of Lambert as a part of the national air transportation system and the airport capacity/delay reduction needs through the year 2015; (b) the aviation safety and operational objectives of the project in the light of the various aeronautical factors and judgments presented and (c) the anticipated environmental impacts of the project.

The FAA has carefully considered all reasonable alternatives to the proposed action. Although the “No-Action Alternative” had fewer developmental and environmental impacts than the preferred alternative and was the “environmentally preferred alternative,” it failed to achieve the purposes and needs for this project. The other reasonable development alternative, Alternative S-1, was examined in detail by the FAA and found to provide capacity and delay reduction benefits slightly higher than Alternative W-1W, at higher costs and with greater environmental impacts. Alternative W-1W is more protective than Alternative S-1 of natural resources protected under 49 U.S.C. 47016(c), park and historic resources protected under Section 303 of the Department of Transportation Act (DOT Section 303, also referred to as Section 4(f)) and Section 6(f) of the Land and Water Conservation Fund Act, and wetlands. For the reasons summarized in this ROD, and supported by detailed discussion in the FEIS, the FAA has determined that the agency’s preferred alternative, Alternative W-1W, is the only possible, prudent and practicable alternative.

A discussion of the leading factors considered by the FAA in reaching this decision follows.

## **2. BACKGROUND**

Over the past decade, the FAA has worked closely with local and regional officials and with the STLAA aviation planning staff to investigate ways to accommodate the increasing passenger and operational activity demands at Lambert. As documented in Section 1.0, Introduction, of the FEIS, the present airport runway configuration, with two closely spaced parallel air carrier runways (12L/30R and 12R/30L), is currently responsible for significant airside delays, particularly during poor weather conditions. It is forecast that this configuration will be responsible for increasing such delays in the future.

The FAA has prepared an FEIS to identify the potential environmental effects associated with the construction and operation of proposed improvements to Lambert. The City of St. Louis, the owner and operator of Lambert, has completed a Master Plan Supplement (MPS) that proposes a comprehensive development program for the expansion of Lambert. The STLAA has submitted an ALP to the FAA for approval and requested from the FAA the Federal environmental approval necessary to proceed with the processing of an application for Federal funds.

### ***AIRPORT DESCRIPTION***

Lambert is located 12 miles northwest of the St. Louis central business district. The primary area served by Lambert includes nine counties and the City of St. Louis. This area is referred to as the St. Louis Metropolitan Statistical Area and encompasses approximately 5,340 square miles. Five counties and 24 percent of the service area's population is in Illinois, while four counties, the City of St. Louis, and 76 percent of the service area's population is in Missouri.

Currently, Lambert has two parallel air carrier runways: 12L/30R and 12R/30L. In addition, Lambert has two crosswind runways, Runways 6/24 and 17/35, and Runway 13/31, which is a converted taxiway that is only used for small aircraft in visual daytime conditions. Runway 13/31 will be converted back to a taxiway after the new Runway 12W/30W is operational.

Runway 12R/30L, Lambert's longest runway, is 11,018 feet long, and the parallel Runway 12L/30R is 9,003 feet long. Runways 12R/30L and 12L/30R are separated by 1,300 feet. The airport is reduced to one precision instrument approach during adverse weather conditions because of the minimal separation of the parallel runways.

## ***LAMBERT'S ROLE***

Lambert is the primary commercial air carrier airport in the region and is one of the nation's major hub airports. It has consistently been ranked among the top 20 (Airport Council International) most active airports nationally, and in 1996, it ranked 14th in terms of total passengers (enplaned and deplaned) and 8th in total aircraft operations. In 1996, Lambert was served by nine scheduled air carriers, six cargo carriers and six commuter airlines.

Lambert serves as the primary connecting hub for TransWorld Airlines (TWA). In 1996, TWA offered direct service to over 70 cities. Approximately 60 percent of the enplaning passengers at Lambert were connecting passengers.

## ***AIRPORT MASTER PLANNING PROCESS***

### ***Lambert-St. Louis International Airport Master Plan***

Between the years 1987 and 1993, the STLAA prepared a comprehensive master plan study, the "Lambert-St. Louis International Airport Master Plan" (LAMP). The study developed forecasts of aviation demand through the year 2010 and proposed an airport development plan to enable Lambert to meet future projected demand levels.

The LAMP study culminated with the identification of a preferred airport development plan called Alternative F-4. This alternative proposed to rebuild the entire airfield while the airport continued to operate. Alternative F-4 would have reconfigured and expanded the airfield by rotating the alignment of the airport's main runway system clockwise approximately 10 degrees. This configuration involved the construction of new runways resulting in four parallel Runways (14R/32L, 14L/32R, 13R/31L, and 13L/31R) and the retention of existing crosswind Runway 6/24.

In 1993, a more detailed review of the F-4 concept was accomplished by the STLAA. This review indicated that the costs to construct the proposed F-4 plan would be significantly greater than originally anticipated. There were several problems with this Alternative's "constructability" (e.g., ability to phase and construct the alternative while maintaining continuous 24-hour operations, ability to maintain the hub at Lambert, and ability to operate the terminal and existing runways during construction). In particular, rotation of the airfield and the staging of its development would severely affect the ability of Lambert to operate as a hub for several years. The STLAA determined that it would be prudent to re-examine the development options at Lambert.

## ***Master Plan Supplement***

In 1994, the STLAA undertook a review and update to the master planning process at Lambert. This study, called the Master Plan Supplement (previously identified as MPS), re-examined the needs of Lambert. It resulted in the recommended course of development proposed by the STLAA and considered in the FEIS.

### ***Aviation Demand Forecasts***

During the development of the MPS, the City of St. Louis developed, refined, and updated aviation activity forecasts for Lambert, which considered the development and growth trends in the region, the aviation growth trends regionally and nationally, and changes in the airline industry. Before facility requirements were determined, the STLAA submitted forecasts representing unconstrained conditions to the FAA for its review and approval. The FAA approved the forecasts representing unconstrained conditions during the development of the MPS. Subsequently, the FAA issued FAA Safety Notice N7110.157, "Wake Turbulence." The Safety Notice has the effect of reducing airport capacity due to the recategorization of certain aircraft types and a resulting increase in separation standards. Taking into consideration the recently published guidelines, the FAA recognized that the unconstrained forecasts for the No-Action Alternative might not be achievable, given the configuration of the current runways. Therefore, the forecasts for the 2015 No-Action Alternative were adjusted to represent a constrained condition.

The MPS revised forecasts indicate that in the year 2015, Lambert has the potential to accommodate approximately 632,000 aircraft operations with the selected action, as compared to 595,000 aircraft operations without the proposed improvements. The FAA's revised 2015 No-Action constrained forecast for Lambert was 532,000 operations. The forecasts used in the FEIS and the FAA's Terminal Area Forecasts (TAF) are within the same range. Although the TAF are slightly higher than the FEIS forecasts, the differences are within a range that FAA considers to be insignificant and within the range of acceptable aviation forecasting.

### ***Facility Requirements and Alternatives Analysis***

A facility requirements analysis was accomplished to identify the shortfalls of the existing airport and to identify development items that would enable Lambert to effectively solve the shortfalls and meet projected demand levels. The analysis examined major components of the airport, including runways, airspace, terminals and ground transportation. This evaluation confirmed that Lambert needed an east-west parallel runway system capable of accommodating simultaneous independent Instrument Flight Rules (IFR) approaches.

The MPS included a comprehensive re-evaluation of possible development options, including an analysis of the alternatives studied as part of the previous LAMP. It was determined that the use of a Precision Runway Monitor (PRM) would enable consideration of runway development alternatives, which were rejected in previous studies. PRM is a system comprised of a rapid update radar, an enhanced color graphic monitor, and software package which aids the air traffic controller in more accurately monitoring the position of aircraft on final approach to a runway. PRM is the primary tool that has allowed the FAA to approve simultaneous independent instrument approaches to parallel runways spaced as little as 3,000 feet apart (3,400 feet for straight-in approaches). The PRM allows sufficient runway separation to allow simultaneous independent IFR approaches during marginal visual and instrument meteorological conditions. The alternatives analysis process considered operational, financial and environmental factors. From an initial list of more than 40 development concepts, the STLAA selected the airport development alternative, designated Alternative W-1W, as its preferred alternative.

### ***THE PROPOSED IMPROVEMENTS TO LAMBERT***

The STLAA has proposed airside and landside improvements to Lambert to enable the airport to meet projected levels of activity. The City's preferred development alternative, known as W-1W, includes a new parallel runway (12W/30W), 9,000 feet long by 150 feet wide, located at the southwestern side of Lambert in the City of Bridgeton. This runway will be located parallel to and 4,100 feet from existing runway 12L/30R with a staggered threshold of approximately 12,100 feet. This runway has been proposed to improve airfield capacity during both visual meteorological conditions (VMC) and instrument meteorological conditions (IMC).

The two parallel runways at Lambert, which are 1,300 feet apart, are too close together to allow simultaneous independent approaches. With the proposed improvements, the weighted hourly capacity at Lambert will be increased. With the use of a PRM, the separation of the new runway from the existing runways will be of sufficient distance to allow the airport to accommodate simultaneous independent approaches during IMC. Lambert does not currently have this capability. This feature will allow Lambert to reduce delay times, improve adverse weather capabilities, enhance capacity, and continue to accommodate hubbing operations such as the system TWA is now using at Lambert.

Other associated actions include property acquisition, terminal expansion, roadway improvements, and relocation of several airport tenant operations. A summary of the major components of the development plan and the proposed phasing is provided in Section 5, Alternatives Analysis, of this ROD.

## **EIS PROCESS**

On August 17, 1995, the FAA began the public phase of the environmental process involving STLAA site-specific development proposals, which included a new runway for Lambert, by announcing in the Federal Register (60 Fed. Reg. 42938) its intent to prepare an Environmental Impact Statement (EIS), and by requesting scoping comments. Scoping meetings were held with the general public and with Federal, state and local agencies on September 6 and 7, 1995. See FEIS Section 7.0, regarding public involvement, and FEIS Appendix J, for a summary of scoping comments.

On October 4, 1996, a Notice of Availability of the Draft Environmental Impact Statement (DEIS) was published in the Federal Register (61 Fed. Reg. 51939). Public comments were taken on the DEIS from the date of its release until January 17, 1997. A public hearing was held on October 28, 1996. Appendix V of the FEIS contains a summary of comments and responses on the DEIS, which were received from the public and government agencies during the hearing as well as through the mail.

The FEIS was approved by the FAA on December 19, 1997, and released to the public on December 22, 1997. The FEIS addressed areas of public concern by way of modifications to the DEIS text and specific responses to public comments.

Pursuant to 40 CFR 1506.10, the U.S. Environmental Protection Agency (EPA) published a notice of the availability of the approved FEIS in the Federal Register on January 2, 1998 (63 Fed. Reg. 75). According to CEQ regulations, the FAA was required to wait a minimum of 30 days after the notice of availability of the approved FEIS before issuing its ROD. That 30-day waiting period has passed.

Although the FAA did not solicit public comment on the FEIS, several public agencies, community groups, and citizens submitted written comments for agency consideration. The FAA has to the extent practicable considered all comments received on the FEIS. Appendices A, B, C, D, E and G of the ROD respond to substantive agency and public comments on the FEIS and any new significant issues that have arisen.

### 3. AGENCY ACTIONS

The Federal actions are:

1. The approval of revisions to the ALP for construction and operation of proposed Runway 12W/30W and associated improvements, listed in full in Section 3.4.3 of the FEIS;
2. The Federal environmental approval necessary to proceed with processing of an application for Federal funding for those development items qualifying under the former Airport and Airway Improvement Act of 1982, as amended and recodified at *49 U.S.C. 47101 et seq.*; and
3. The approval of associated safety actions.

The City of St. Louis may also submit an amendment to its passenger facility charge (PFC) application to the FAA in order to use such PFC revenues for eligible portions of the proposed project. Although future projects other than Runway 12W/30W are depicted on the ALP, the City of St. Louis is requesting final environmental approval only for the runway and associated projects assessed as part of Phase I through the year 2000 and Phase II (2002-2015) in the FEIS. It is recognized that other projects may require additional environmental analysis when ripe for decision at a later date and will only be conditionally approved by the FAA on the ALP at this time.

The U.S. Army Corps of Engineers (COE), a cooperating agency for the FEIS, will be responsible for permitting processes under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. In addition, the U.S. Air Force (USAF) and the U.S. Navy (Navy) will be preparing separate RODs, when appropriate, for the relocation of their facilities. The necessary approval actions required by the Federal Highway Administration (FHWA) are included in Section 8, Cooperating Agencies, of this ROD.

The necessary FAA determinations and approvals are summarized below:

- a. Determination of project eligibility for Federal grant-in-aid funds (*49 U.S.C. Section 47101, et. seq.*) and PFC funds (*49 U.S.C. Section 40117*), for land acquisition and relocation (49 CFR Part 24), site preparation, runway, taxiway, runway safety area, and other airfield construction, terminal and related landside development, navigational and landing aids, roadway improvements and environmental mitigation.
- b. Determination regarding air quality conformance of the proposed facility with applicable air quality standards under the Clean Air Act, as amended (*42 U.S.C.*

*Section 7506, Section 176 (c) (1), and 40 CFR Part 93). (The FAA issued a Final General Conformity Determination and published a notice in the St. Louis Post Dispatch on June 29, 1998.)*

c. Approvals for establishment of new instrument landing systems (ILS) and associated approach lighting systems and navigational aids, including use of a PRM, as appropriate, for the new runway, the existing runways, and the airport as a whole (*49 U.S.C. Section 44502 (a) (1)*).

d. Decisions to develop air traffic control and airspace management procedures to effect the safe and efficient movement of air traffic to and from the proposed new runway. This includes the development of a system for the routing of arriving and departing traffic and the design, establishment, and publication of standardized flight operating procedures, including instrument approach procedures and standard instrument departure procedures (*49 U.S.C. Section 40103 (b)*).

e. Determinations, through the aeronautical study process, under 14 CFR Part 77, regarding obstructions to navigable airspace (*49 U.S.C. Section 40103 (b) and 40113*).

f. Determinations under 14 CFR Part 157 as to whether the FAA objects to the airport development proposal from an airspace perspective, based upon aeronautical studies (*49 U.S.C. Section 40113 (a)*).

g. Determinations under the *49 U.S.C. Sections 47106 and 47107* pertaining to FAA funding of airport development (including approval of a revised ALP, *49 U.S.C. Section 47107 (a) (16)*), environmental approval (*42 U.S.C. Sections 4321-4347*, and *40 CFR Section 1500-1508*), and approvals under various executive orders discussed in the ROD.

h. A certification that the proposed facility is reasonably necessary for use in air commerce or for the national defense (*49 U.S.C. Section 44502 (b)*).

i. FAA review and approval of amended Airport Certification Manual (14 CFR Part 139).

j. FAA determination that there would be no undue burden (unusual circumstances) barring the sponsor from obtaining a Section 404 permit for the filling of wetlands.

k. FAA determination that there would be no undue burden (unusual circumstances) barring the sponsor from obtaining a National Pollutant Discharge Elimination System (NPDES) permit for stormwater and wastewater discharges.

## 4. PURPOSE AND NEED

The identification of a proposed action's purpose and need is the primary foundation for the identification of reasonable alternatives and the evaluation of the impacts of the development. In exercising its authority and in the public interest, the FAA considers assigning, maintaining and enhancing safety and security as its highest priority (49 U.S.C. 40101(d)). This is the FAA's first consideration in evaluating the purpose and need for any proposed airport improvements.

The *purpose* of the proposed action is to:

1. Enable Lambert to effectively and safely accommodate projected levels of aviation activity at an acceptable level of delay by:
  - Increasing airfield capacity.
  - Improving visual flight rules (VFR) capacity.
  - Allowing dual simultaneous independent IFR arrival operations.
  - Decreasing delays.
2. Enhance the National Airspace System (NAS) by:
  - Reducing delays nationwide.
  - Increasing airfield capacity.
3. Recognize the importance of the economic benefits provided by Lambert and allow the local communities and the region to continue to reap those economic benefits.
4. Facilitate the airline hub at St. Louis, which is vital to alleviating projected shortfalls in capacity at Lambert and in the NAS. This is interrelated with all of the above purposes for the proposed project.

The proposed action is *needed* because:

1. The existing airport is severely constrained and it is projected that the airport will be unable to adequately meet projected levels of demand without incurring unacceptable operational delays;

2. As an important component of the NAS, Lambert cannot be allowed to become a “bottleneck,” because it would have detrimental ripple effects throughout the airspace system; and
3. The airport serves an important function in providing economic benefits important to the airport sponsor and the region.

### ***INCREASED AIRFIELD CAPACITY***

The 9,000-foot length of Runway 12W/30W will accommodate the operation of most of the aircraft types currently operating and projected to operate at Lambert. Both ends of Runway 12W/30W will be equipped with an ILS. In addition, the PRM, which is to be installed for the existing airfield, will be used for the new runway.

The increased airfield capacity provided by Runway 12W/30W will substantially reduce the existing and projected average annual delay time per aircraft operation. These estimated decreases in delay time will result in annual savings in aircraft delay costs. Conversely, estimated aircraft taxiing distances and time will slightly increase aircraft operating costs as a result of Runway 12W/30W. Taken together, there will be an estimated net savings in aircraft delay costs and taxiing costs of close to \$100 million in the year 2005 and approaching \$300 million in the year 2015.

### ***PASSENGER HUB EFFICIENCY***

The continued use of Lambert as an effective major airline hub will be constrained if the airport facilities are not expanded to accommodate future demand. One key airside feature associated with other hub airports that is absent from Lambert is simultaneous independent IFR arrival capability (including marginal VFR). The lack of independent IFR arrival capability greatly impacts the ability of a hub airline in St. Louis to effectively meet projected demand. Without an improvement in IFR and marginal VFR operating capability, the reliability of services at Lambert will be increasingly burdened during the periods of the year when IFR and marginal VFR weather conditions occur (approximately 14 percent of the year). Without terminal and airfield expansion capabilities, it will be difficult for Lambert to continue as an effective hub airport. This lack of facilities and expansion capabilities will result in increased delay times, decreases in airport capacity, and increased costs to the airlines and the traveling public.

From a national perspective, it is in the interest of the FAA to maintain an airline hub at Lambert. The FAA believes that due to its central location in the U.S. and its local market, St. Louis is a natural hubbing location. St. Louis is the only place within hundreds of miles in any direction where there are both a very large air travel

origination/destination market and airport capacity that can handle substantial hubbing activity. Keeping the traffic that now hubs at St. Louis flowing smoothly and efficiently is critical to the entire national aviation system.

## ***MULTIPLE AIRPORT SYSTEMS***

Shifting some of Lambert's operations to another airport to relieve existing and future forecast capacity problems has been debated and studied for several years. Recent studies have found that, even though there are nearby available facilities capable of handling commercial jet traffic, such as Scott Air Force Base/Mid-America Airport (Scott AFB/MAA), the overflow of commercial jet operations from Lambert to other airports in the region would not efficiently solve the capacity problem because most of the aviation activity is associated with airline hubbing. The lack of a sponsor for airport expansion in another political jurisdiction is a reality that the FAA is authorized to consider under CEQ regulations. Correspondence from St. Clair County, the operator of MAA (which is a joint-use facility with SCOTT AFB), indicates that St. Clair supports Lambert as the regional hub.

Use of multiple airports would complicate the hubbing issue, because an adequate level of peak-hour operations required to maintain hubbing operations at one location might not be obtainable if traffic were split between two airports. In this case, both airports would lose. In addition, a threshold of 10 to 12 million originating passengers is needed for a community to support a second commercial service airport. The St. Louis forecasts indicate that originating passengers for the St. Louis metropolitan area in the year 2015 would be approximately 8.7 million, below the threshold for a second commercial service airport.

The continued use of Lambert as a major airline hub is in question, unless expanded to accommodate future demand. St. Louis competes with other airline hubs that are being or have been expanded. Unless more operational capability is provided, Lambert's ability to compete will be limited.

## ***ECONOMIC BENEFITS***

Lambert plays an important role in supporting the economic goals of the St. Louis metropolitan region. Over the years, Lambert has evolved into one of the largest employment and income centers in the region. The proposed Runway 12W/30W project will strengthen Lambert as a major economic asset that serves as a vital link to the nation and world, as well as a significant employment and income center.

## **5. ALTERNATIVES ANALYSIS**

In addition to the relevant environmental statutes, the FAA in its consideration of alternatives, has been mindful of its statutory charter to encourage the development of civil aeronautics and safety of air commerce in the United States (49 U.S.C. 40104). FAA has also considered the congressional policy declaration that airport construction and improvement projects that increase the capacity of facilities to accommodate passenger and cargo traffic be undertaken to the maximum feasible extent so that safety and efficiency increase and delays decrease (49 U.S.C. 47101(a)(7)).

While the FAA does not have the authority to control or direct the actions and decisions of the STLAA relative to planning for this project, it does have the authority to withhold project approval, including Federal funding and the other Federal actions discussed in this ROD. It was from this perspective that the various alternatives were considered in terms of evaluating and comparing their impacts to determine whether there was an alternative superior to that proposed by STLAA, or whether STLAA's proposal would cause impacts warranting disapproval of the Federal actions discussed in this ROD, including the withholding of Federal funds for the project.

The FAA identified numerous alternatives to the proposal (reference FEIS Section 3.2). During this exploration of alternatives, all reasonable alternatives were carefully examined, ranging from doing nothing to specific runway alignments at Lambert. After considering all reasonable alternatives, the FAA selected the construction of Runway 12W/30W and associated projects as the agency's preferred alternative in the FEIS. The FAA identified Alternative X-1, the No-Action Alternative, as the environmentally preferable alternative. Other alternatives were eliminated for a variety of reasons as discussed below.

The DEIS alternatives evaluation utilized a three-tiered evaluation process that concentrated on the purpose and need for the proposed project. The first tier evaluated whether the various alternatives met the purpose and need criteria established in Section 2.0 of the DEIS. Alternatives that satisfied these criteria were retained for evaluation under the second tier of analysis. The second tier evaluated the "constructability" (ability to phase and construct the alternative while maintaining continuous 24-hour operations, ability to maintain the hub at Lambert, and ability to operate the terminal and existing runways during construction), and the benefit/cost ratio (BCR) of the alternatives (BCR of less than "1" indicates costs outweigh economic benefits, greater than "1" indicates economic benefits outweigh costs). Alternatives that met these criteria were retained for evaluation under the third tier of analysis. The third tier evaluated multiple specific criteria relating to operational efficiency (taxi times, delay times), cost per passenger (lower costs vs. higher costs) and environmental impacts (noise, land use, social, etc.).

As part of Tier 3, the FAA analyzed the best representative alternatives from the remaining families of alternative runway alignments. The best representative selected for detailed analysis within each family was the best overall environmentally, particularly as to resources protected under special purpose environmental laws. This approach is consistent with guidance in CEQ's Forty Questions (Question 1), which provides that: "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. ... What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case."

Alternatives that met the criteria under the third tier of analysis, were the best in their families and had the least overall environmental impact were retained for detailed analysis in subsequent sections of the DEIS. Table S.1 contains a summary of the tiered analysis used in the alternatives analysis for the DEIS (Appendix J of this ROD, FEIS Summary).

The alternatives explored in the FEIS include the following:

### ***REASONABLE ALTERNATIVES EXAMINED AND ELIMINATED FROM DETAILED ANALYSIS***

- Other modes of transportation, including surface transportation alternatives such as rail, bus and automobiles.
- Construct a new airport to replace Lambert.
- A multiple-airport system with a supplemental airport in addition to Lambert.
- Airfield alignment alternatives:
  - North Airfield Alternatives: N-1, NE-1, NE-1a
  - West Airfield Alternatives: W-1E, W-2
  - South Airfield Alternatives: Modified S-1
  - Canted Airfield Alternative: C-1
- Other on-airport alternatives:
  - Bridgeton's Lambert 2020 Plan
  - Hyland Plan
  - Alternative runway lengths
  - Existing facility with advanced navigational aids

These alternatives were rejected for the following reasons:

1. Other modes of transportation do not fulfill the main needs for improving Lambert. They do not meet local aviation needs, nor enhance the economic contribution of Lambert to the region, or strengthen Lambert's role in the NAS. Other modes, including automobiles, buses and rail, have a complementary role to air travel, not a replacement one. Further, the other modes do not provide the fast, flexible and efficient long-distance transportation needed by the public and provided by Lambert.
2. The construction of a new regional airport is not a viable solution to satisfy the projected capacity deficiency at Lambert in the foreseeable future due to time and cost requirements.
3. Although several other airports exist in the region, none--individually or collectively--can adequately accommodate the anticipated traffic from Lambert, fulfilling the need for the new runway. Multiple reasons are responsible: airline hubbing, lack of facilities at other airports, detrimental environmental impacts and airspace conflicts and constraints.
4. Although several on-airport runway alignment alternatives were considered, most were eliminated from detailed study. The FEIS examined in detail only those alternatives that provide for a similar magnitude of development and have the capability of providing simultaneous independent IFR arrival operations, which are considered critical to the operation of the airline hub. The airfield alignment alternatives and other on-airport alternatives not retained for detailed study were considered either: (a) to be infeasible and/or imprudent (in the case of alternatives not retained at Tiers 1 or 2), or (b) to present equivalent or greater impacts to parks and wetlands (in the case of alternatives not retained at Tier 3, the "best in family" comparison).

## ***ALTERNATIVES CONSIDERED IN DETAIL***

### ***No-Action Alternative (X-1 )***

The No-Action Alternative would not accomplish the critical elements of the purpose and need that the selected alternative will provide. The No-Action Alternative (X-1) is depicted in Figure S.1 of the FEIS Summary (Appendix J of this ROD). Although the No-Action Alternative would be the least disruptive in terms of development impacts, it

would not solve the capacity needs or delays existing at Lambert Airport, and thus would not achieve the purposes and needs for the proposed action. The No-Action Alternative would not provide capacity, delay reductions nor benefits to the community. In addition, the No-Action Alternative would not give Lambert the necessary operating flexibility provided by the selected alternative. To do nothing would, under some circumstances, actually exacerbate environmental conditions; for example, selection of the No-Action Alternative would worsen air quality as compared to the selected alternative. The environmental impacts associated with Alternative X-1 include increased air emissions and energy consumption due to added delay.

### ***Alternative S-1***

Alternative S-1 consists of the following developments, which would be initiated and/or completed by the year 2002:

- Land acquisition (approximately 1,332 acres) and associated relocation of homes and businesses.
- Construction of a new 9,000-foot parallel runway south of highway I-70. The new runway would be laterally separated by at least 5,500 feet from existing Runway 12L/30R. Although a PRM, for enhanced air traffic control of existing operations, has been installed at Lambert (projected commissioning scheduled for November 1998), Alternative S-1 would not require the use of a PRM.
- Construction of two new dual taxiway bridges across I-70.
- Construction of related taxiways, lighting, navigational aids, grading, drainage and utility relocations.
- Implementation of air traffic control procedures below 3,000 feet above ground level (AGL).
- Renovation and expansion of existing terminal facilities and associated aprons.
- Demolition of portions of the East Terminal Complex for Connector Taxiway construction.
- Relocation of airline support facilities.
- Implementation of mitigation measures and acquisition of permits.
- Improvements to I-70/Airport Terminal Interchange.

- Relocation of the Missouri Air National Guard (MoANG) and Navy/Marine Corps Reserve facilities.
- Realignment of McDonnell Boulevard, Lambert International Boulevard, and portions of the Metro Link light rail.
- Closure of numerous local roads between I-70 and what would become Lambert's new southern boundary.

Alternative S-1 also has one Phase II project that would be developed between the years 2002 and 2015:

- Construction of new landside terminal facilities, west of the existing terminal, possibly located at the current location of the MoANG and Navy/Marine Corps Reserve facilities. A portion of the terminal facilities may be located west of Runway 6/24.

The S-1 Alternative is depicted in Figure S.2 of the FEIS Summary (Appendix J of this ROD).

The S-1 concept was refined during the DEIS to ensure that the proposed parallel taxiways over I-70 would meet FAA design criteria. It was found that both pairs of taxiways would need to be shifted in order to meet FAA taxiway grade criteria of 1.5 percent. The shift in the east pair would require demolition of the East Terminal Complex and relocation of a portion of the Metro Link commuter rail system. The shift in the west pair from a perpendicular alignment to a slightly northwest diagonal alignment was also necessary to allow the taxiways to clear I-70 and meet FAA taxiway grade criteria.

### ***Operational Considerations***

Operationally, Alternative S-1 fulfills all of the first tier purpose and need review criteria, because it would allow dual simultaneous IFR arrival operations during IMC, improve VFR capacity at Lambert, help enhance the NAS, allow the passenger hub to remain at Lambert, and would be consistent with local planning and economic goals.

Of the reasonable alternatives retained for detailed evaluation, the FAA acknowledges that Alternative S-1 is superior from an operational standpoint. Alternative S-1 has a shorter stagger of runway threshold locations than Alternative W-1W. The absence of this stagger eliminates the double dependency of departures from the future center runway (existing Runway 12R/30L) with arrivals on the outboard runways (30R and 30W) in west flow conditions. Alternative S-1 would be more airfield-efficient and would reduce taxi times when compared to Alternative W-1W.

## ***Financial Feasibility***

A detailed analysis of the financial implications of each of the reasonable alternatives was prepared as part of the MPS. The results of this analysis indicate that for Alternative S-1, year 2015, the total savings in annual aircraft operating cost is calculated to be \$329 million, cost per passenger is projected at \$13, total construction cost is estimated to be \$2.4 billion and the BCR is calculated to be 1.8. With a BCR of 1.8, the economic benefits of implementing this alternative are almost twice as great as the costs associated with its construction. However, the refined design of Alternative S-1, shifting the taxiways, would add approximately \$75 to \$100 million to the cost of Alternative S-1. This would bring the cost of Alternative S-1 up to approximately \$2.5 billion and the per-passenger cost to over \$13. The BCR would consequently be reduced to less than 1.8.

## ***Environmental Impacts***

Alternative S-1 would result in adverse environmental impacts including: the acquisition and displacement of established land uses, such as homes, schools, churches, and businesses; shifting aircraft noise exposure patterns over sensitive areas; impacting park and archaeological resources; requiring development in wetland and floodplain areas and potentially disrupting several hazardous materials sites.

Alternative S-1 would require the acquisition of approximately 4,528 households (relocating approximately 9,725 people), 210 businesses, 8 schools and 6 churches. The areas of acquisition would include the northern part of the City of St. Ann (displacing approximately 2,556 people), all of the City of Edmundson (approximately 1,107 people), two-thirds of the City of Woodson Terrace (2,640 people), the southwest part of the City of Berkeley (1,847 people), part of Bridgeton (406 people) and part of the City of St. John (1,169 people). Operations on the new south runway could increase aircraft noise levels at the University of Missouri-St. Louis campus to the southeast. Alternative S-1 would directly affect nine park and recreational areas (57 total acres), requiring replacement.

## ***Alternative W-1W***

Alternative W-1W consists of the following developments, which would be initiated and/or completed by the year 2002 (Phase I):

- Land acquisition (approximately 1,568 acres) and associated relocations of homes and businesses.

- Construction of a new runway complex parallel to and southwest of existing runways 12L/30R and 12R/30L. Runway 12W/30W would be 9,000 feet in length and 150 feet in width and would be capable of handling air carrier jet aircraft. The parallel runway would be laterally separated by 4,100 feet from existing Runway 12L/30R and would be south and west of existing Runway 6/24. A PRM, for enhanced air traffic control of existing operations, has been installed at Lambert (projected commissioning scheduled for November 1998). Alternative W-1W would require the use of a PRM.
- Construction of related taxiways, lighting, navigational aids, grading, drainage, and utility relocations.
- Implementation of air traffic control procedures below 3,000 feet AGL.
- Renovation and expansion of existing terminal facilities and associated aprons.
- Relocation of airline support facilities.
- Relocation of the MoANG and Navy/Marine Corps Reserve facilities.
- Realignment of Lindbergh Boulevard and construction of a roadway tunnel for those portions of Lindbergh Boulevard impacted by the construction of the new runway and the optional future extension of existing Runway 12R/30L.
- Realignment or relocation of roadways, including Natural Bridge Road, Bonfils Road, Fee Fee Road, Cypress Road, Gist Road, Lambert International Boulevard, Missouri Bottom Road and McDonnell Boulevard.
- Improvements to the I-70/Airport Terminal Interchange.
- Implementation of mitigation measures and acquisition of permits.

Alternative W-1W, Phase II projects that would be developed between the years 2002 and 2015 include the following:

- Construction of new landside terminal facilities (up to approximately 110 gates), west of the existing terminal, possibly located at the current location of the MoANG and Navy/Marine Corps Reserve facilities. A portion of the terminal facilities may be located west of Runway 6/24.

Phase III projects are beyond the 20-year planning period and are not specifically programmed for implementation. Possible projects that may be developed in Phase III, after the year 2015, include:

- Construction of a 2,500-foot extension to the northwest end of existing Runway 12R/30L.
- Additional construction of new west landside terminal facilities.
- Construction of a new airport access roadway from I-270 to the new west landside terminal complex.
- Demolition of the existing terminal complex and construction of new east airfield terminal concourses.

Alternative W-1W is depicted in Figure S.3 of the FEIS Summary (Appendix J of this ROD).

### ***Operational Considerations***

Operationally, Alternative W-1W fulfills all of the first tier purpose and need review criteria in the FEIS, because it would allow dual simultaneous IFR arrival operations, improve VFR capacity at Lambert, help enhance the NAS, allow the passenger hub to remain at Lambert and would be consistent with local planning and economic goals.

### ***Financial Feasibility***

The results of the MPS financial feasibility analysis indicate that for Alternative W-1W, in the year 2015, the total savings in annual aircraft operating cost is calculated to be \$297 million, cost per passenger is projected at \$10.50, total construction cost is estimated to be \$2.2 billion, and the BCR is calculated to be 2.2. The BCR of 2.2 indicates that the economic benefits of implementing this alternative are more than twice as great as the costs associated with its construction. An independent benefit/cost analysis (BCA), conducted by FAA's Systems and Policy Analysis Division (APO-200), determined that Alternative W-1W had a BCR of 2.6.

### ***Environmental Impacts***

The adverse environmental impacts that would result from Alternative W-1W include the acquisition and displacement of established land uses including homes, schools, churches and businesses; shifting aircraft noise exposure patterns over sensitive

areas; impacting park, historic and archaeological resources; requiring development in wetland and floodplain areas and potential disruption of several hazardous materials sites.

Alternative W-1W would require the acquisition of approximately 2,324 households (relocating approximately 5,680 people), 75 businesses, 6 schools, 6 churches and one nursing home for airfield development and surface transportation improvements. The areas of acquisition would be in the City of Bridgeton (displacing approximately 5,404 people), and the City of St. Ann (displacing 276 people). Alternative W-1W would directly affect four park and recreational areas (26 total acres), requiring replacement. The 12W end of the proposed runway would also be located within 10,000 feet of an existing active landfill and would not be consistent with FAA's current runway siting guidelines without mitigation.

### ***THE FAA'S SELECTED ALTERNATIVE (ALTERNATIVE W-1W)***

The FAA finds that the selected alternative is preferred principally because it enhances capacity and reduces delay for Lambert and the total NAS. The FAA in this ROD approves the preferred alternative.

Alternative W-1W was selected rather than Alternative S-1 because it meets purpose and need and is environmentally superior to S-1. Alternative W-1W has fewer impacts on people to be relocated, and less severe impacts on resources protected under special purpose laws (e.g., parks, wetlands).

The FAA has made its required special purpose law determinations that there is no possible, prudent and practicable alternative to Alternative W-1W, based upon the following information (see also Appendix J of this ROD, Table S.1A, page S-9):

- Both development alternatives would have unavoidable impacts on resources protected under Section 303 of the Department of Transportation Act and Section 6(f) of the Land and Water Conservation Fund Act. There are no possible or prudent alternatives to the use of these resources. Alternative W-1W will use approximately half the park and recreational resources and acres that would be required for Alternative S-1.
- Both Alternatives W-1W and S-1 would have unavoidable wetland impacts due to the proximity of wetlands to the airport. Consequently, there are no practicable alternatives to filling of wetlands. Alternative W-1W has the least amount (acreage) of wetland impacts.

- There is no practicable alternative to the floodplain impacts of Alternative W-1W. Mitigation measures to minimize the floodplain impacts can be accomplished. The floodplain encroachment will not be considered significant.

The FAA has also considered that the preferred alternative proposed in the FEIS has withstood extensive public scrutiny throughout the public involvement process. The FAA recognizes that some segments of the community strongly oppose Alternative W-1W. Lambert has been conducting ongoing negotiations with the neighboring cities to resolve issues related to the impacts and mitigation proposed in the FEIS.

Because the FAA determined that Alternative W-1W is the least impacting alternative, overall, it selected Alternative W-1W as the preferred alternative. A comparative table summarizing Alternatives X-1, S-1 and W-1W is contained in Table S.2 of the FEIS Summary (Appendix J of this ROD).

However, a few key comparisons of impacts to the communities are:

	<b>Alternative S-1</b>	<b>Alternative W-1W</b>
Number of people to be relocated	9,725	5,680
Number of households to be relocated	4,528	2,324
Number of residential parcels to be acquired	2,902	1,937
Number of businesses to be relocated	210	75
Number of schools to be acquired	8	6
Number of churches to be acquired	6	6
Number of nursing homes to be acquired	0	1
Number of parks directly affected	9	4
Acreage of parks directly affected	57	26
Acreage of parks affected	10.8	9.7
Acreage of floodplains affected	51	57

Accordingly, having considered: (1) the policies set forth at *49 U.S.C. Sections 40104 and 47101*, (2) the ability of the alternatives to meet the purpose and need, and (3) the administrative record which concerns these development projects, the FAA hereby selects the W-1W development recommended in the FEIS.

The FAA's approval of these expansion and improvement projects in this ROD signifies that these projects meet FAA standards for agency approval discussed in Section 3 of this ROD. It does not, however, signify an FAA commitment to provide a specific level

of financial support for these projects, which must await future decisions under the criteria prescribed by *49 U.S.C. 47115(d)* and *49 U.S.C. 40117*.

## **6. MAJOR IMPACTS AND MITIGATION**

In accordance with 40 CFR 1505.3, the FAA will take appropriate steps, through Federal funding grant assurances and conditions, PFC “use” approvals, airport layout plan approvals and contract plans and specifications to ensure that the following mitigation actions are implemented during project development. The FAA will monitor the implementation of these mitigation actions as necessary. The approvals contained in this ROD are specifically conditioned upon full implementation of these mitigation measures. These mitigation actions will be made the subject of a special condition included in future airport grants to the STLAA.

A detailed environmental analysis of the potential environmental impacts resulting from the construction and operation of the selected alternative was accomplished as part of the FEIS. Two study periods were examined, 2002 and 2015. The year 2002 is projected to be the first year that the new runway and associated development will be operational. The year 2015 is the outside planning period of the MPS and when most of the ALP’s recommendations will be operational. Twenty-two different environmental impact categories were examined.

### **SUPPLEMENTAL TECHNICAL REPORTS**

Supplemental technical reports have been prepared, published and distributed separately from the FEIS. These reports address the potential direct and indirect effects to resources protected under special Federal laws. The following lists each of these reports and the relevant Federal law:

- Section 303 and 6(f) Evaluation - *49 U.S.C. Sections 303* [Recodified from and commonly known as Section 4(f) of the Department of Transportation Act 1966]; and the Land and Water Conservation Fund Act;
- Section 106 Documentation associated with the Final Environmental Impact Statement - Section 106 of the National Historic Preservation Act of 1966; and
- Draft and Final General Conformity Determinations - Federal Clean Air Act and State of Missouri requirements.

### **IMPACTS AND MITIGATION**

This section of the ROD includes a summary of the mitigation measures, discussed more fully in the FEIS, Section 6.3, for each environmental impact category.

The primary responsibility for implementation of the mitigation program rests with the STLAA. The FAA will have oversight responsibility and will condition grant agreements and/or PFC “use” approvals upon completion of the mitigation program by the City of St. Louis. Mitigation measures for those impact categories where mitigation measures are necessary to avoid or minimize significant environmental impacts, as well as identified or adopted monitoring and enforcement programs, are summarized below. The FAA finds that all practical means to avoid or minimize environmental harm have been adopted, through appropriate mitigation planning.

### ***Noise and Compatible Land Use Impacts and Mitigation***

Because of the effects of the introduction of quieter Stage 3 aircraft, noise levels are projected to decrease in future years. For this reason, even with the selected alternative, there will be a significant reduction in land area and population impacted by noise in the years 2002 and 2015 when compared to current conditions. For future year comparisons, Alternative W-1W will impact fewer people within the Day-Night Equivalent Sound Level (DNL) 65 dB contour than Alternative S-1, but more than Alternative X-1, in both 2002 and 2015. A review of the proposed roadway improvements and realignments for Alternative W-1W indicates that traffic noise impacts would be minimal. Noise impacts resulting from the proposed airport development will be mitigated through measures identified in Section 6.3.1 of the FEIS.

The noise mitigation program for the selected alternative consists of operational and land use control measures. The program was developed in a manner which is consistent with the previous and ongoing noise mitigation and abatement programs implemented by the STLAA. The main objective of this program is to mitigate noise impacts associated with the selected alternative’s aircraft operations by recommending appropriate measures consistent with the approved 1997 Part 150 Noise Compatibility Program Update. Although the mitigation program outlined below is designed to be consistent with the ongoing Lambert Part 150 process, the mitigation measures described below are associated with the specific impacts of Lambert’s proposed expansion. It is the obligation of the City of St. Louis to implement the mitigation for the expansion.

The land use mitigation program is based on the potential noise impacts identified through the comparison of the year 2002 No-Action and selected alternative noise contours. The year 2002 selected alternative noise contours were chosen for the mitigation program, because they are larger in size than the year 2015 noise contours. The mitigation program consists of:

### ***Land Acquisition for Mitigation of Noise Impacts Due to Alternative W-1W***

The STLAA will acquire all residential and residentially zoned areas located within the 70 DNL noise contour for the year 2002, as well as all mobile home parks within the 65 DNL noise contour. It is anticipated that any of these land uses not acquired through the STLAA's ongoing Part 150 acquisition program for the existing airport will be acquired through the acquisition program for the construction of Alternative W-1W.

### ***Voluntary Noise Mitigation Program***

The STLAA will offer a voluntary noise mitigation program to eligible homeowners (located in the 65 DNL noise contour for the year 2002). Each eligible homeowner within this area will be offered the choice of one of three options: sales assistance, sound insulation or easement purchase. In exchange for one of these three options, the airport will receive an aviation easement.

### ***Noise Mitigation Assurance***

This element of the noise mitigation program enables STLAA to concentrate the voluntary and land acquisition measures on the areas actually experiencing the annual average DNL noise levels predicted in the FEIS, Section 5.1, after the opening of the new west runway. Using a permanent noise monitoring system, STLAA will monitor and analyze the noise levels resulting from actual, normal operation of the new west runway. If that actual experience diverges from the contours projected, an adjustment will be made to the boundaries of the areas eligible for the mitigation programs. The STLAA will reassess the average-annual noise characteristics of Lambert approximately 18 months after the new runway opens.

### ***Accommodate New Runway in the Permanent Noise Management System***

The STLAA is in the process of installing a new permanent noise management (monitoring) system, which will assist in the management of the noise program and monitor the effectiveness of operational noise mitigation measures. The STLAA will add or relocate noise monitoring stations to monitor operations on Runway 12W/30W and associated flight tracks. Appropriate sites will be selected to provide data for monitoring of Runway 12W/30W to assist STLAA in re-assessing the boundaries of the mitigation programs.

### ***Noise Abatement Departure Procedures***

This voluntary procedure, already in use for existing runways, involves the reduction of thrust for departing air-carrier aircraft to reduce noise levels in sensitive areas. Once

Runway 12W/30W is commissioned (or operational), commercial jet airline departures will be requested to use the voluntary “Distant Noise Abatement Departure Procedure,” as defined in FAA Advisory Circular 91-53A.

### ***Social Impacts and Mitigation; Environmental Justice Impacts***

Residential and business displacements are the principal social impacts associated with the selected alternative. The selected alternative will result in the acquisition and relocation of numerous residences and businesses. Other direct social impacts involve the relocation of community facilities such as schools and churches. A large degree of community disruption will be experienced in the City of Bridgeton due to the selected alternative. All acquisitions and relocations will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. STLAA will develop a detailed plan for the relocation of all properties including residential, commercial, public, and nonprofit organizations. The program will be consistent with FAA Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects.

Surface transportation patterns will be altered and temporarily disrupted with the selected alternative. Measures to mitigate surface transportation impacts are discussed in Section 6.3.13 of the FEIS and later in this Section of the ROD. The acquisition and relocation of residential and commercial properties will be required to accommodate the proposed surface transportation improvements associated with the selected alternative.

Acquisition of property will result in the loss of assessed valuation and, therefore, tax revenue to local taxing units through the year 2002. However, this loss should be offset between the years 2002 and 2015 by the development of commercial, industrial, office, and mixed land uses in or adjacent to the previously acquired areas. For that reason and because per capita tax revenues will likewise be maintained, formal mitigation actions for tax base impacts are not required. Implementation of the selected alternative will not result in disproportionately adverse impacts on minority or low-income populations. For example, the racial characteristics within the acquisition areas are approximately 95 percent white; 3 percent black; and less than 2 percent other races. Low-income persons make up approximately 1.5 percent of the total number of impacted persons. The measures to mitigate social impacts, discussed in Section 6.3.2 of the FEIS, are summarized below.

#### ***Acquisition and Relocation Program***

This program will minimize the impacts of property acquisition and relocation on displaced residents, businesses and churches by providing services to educate, inform

and respond to the needs of those affected, both individually and collectively. This program will also provide for the acquisition and relocation of public and private schools and other public facilities included within the development area for the selected alternative. This program will include measures to minimize the adverse effects associated with the displacement of these facilities.

Acquisitions and relocations will proceed in keeping with the following mitigation objectives:

- Comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.
- Comply with the Missouri Airport Relocation Act, R.S. Mo. Section 305.600, *et seq.*
- Develop a detailed Relocation Plan that addresses the specific needs of relocated residents, such as access to employment, access to social services, residency in existing school districts, and access to commercial facilities.
- Educate residents about the Uniform Act and the STLAA's Relocation Plan by holding community meetings prior to the actual acquisition process.
- Work to maintain neighborhood relationships by providing comparable housing areas that can accommodate multiple households from acquisition areas.
- Coordinate with the St. Louis County Housing Authority, the Missouri Housing Development Corporation and the U.S. Department of Housing and Urban Development to provide access to housing assistance programs that meet the identified needs of displaced households.
- Provide information to the real estate industry on the project displacements and acquisition/relocation process. Communicate with real estate agents through the St. Louis Association of Realtors to facilitate access to the real estate market for needed replacement properties.
- Work closely with churches through the relocation process to determine facility needs based on net impact to church membership and to maintain church communities.
- Work with school districts and private schools to determine facility needs based on the net student enrollment impacts.

- Relocate acquired schools in existing enrollment areas to cause the least disruption to students.

Acquisitions related to construction will be completed before the opening of the new runway, estimated to be the year 2002. For those acquisitions not necessary for construction but for noise mitigation, the airport shall have made an offer for acquisition prior to the opening of the new runway, estimated to be the year 2002.

### ***Induced Socioeconomic Impacts***

Between 1998 and 2002, economic impacts of the airport expansion project and surface transportation improvements will be related primarily to construction employment, loss of market area population for certain retail developments, and the acquisition of commercial properties. The selected alternative will generate significantly greater construction employment than the No-Action Alternative. However, considering the long-term impacts of the airport, these short-term construction employment increases will not be significant. Loss of market area population will create isolated impacts for several retail establishments along Natural Bridge Road and Pear Tree Lane with the acquisition and relocation of commercial property. These localized impacts will not be significant when assessed from a regional perspective or for the local economy but could be significant to individual businesses, especially those businesses that depend on neighborhood patronage. Impacts to the local economy and the tax base will be short term, as anticipated induced growth and development resulting from airport expansion will replace initial tax base losses.

Since no adverse impacts are anticipated as a result of induced socioeconomic impacts, mitigation is not required.

### ***Air Quality Impacts and Mitigation***

Lambert is located in an area designated as moderate non-attainment for ozone and maintenance for carbon monoxide (CO). Based on recent monitoring data, the City of St. Louis may be redesignated by EPA as serious non-attainment for ozone. Air emissions from aircraft, motor vehicles, ground support equipment and adjacent roadway improvements associated with Lambert are expected to increase somewhat in the future as enplanements and aircraft operations increase. However, comparison of the Build and No-Build Alternative in 2002 shows that emissions resulting from the selected alternative are predicted to be lower, in nearly all cases, than emissions from the No-Build Alternative. Project-related emissions, including construction, do not exceed *de minimis* levels in 2002 for any pollutant (including nitrogen oxides, CO and volatile organic compounds (VOCs)). In spite of the increased airport capacity, emissions reductions result from decreased aircraft delay and queuing times attributable to the proposed improvements to Lambert. The only exception to this is the

predicted increase in NO<sub>x</sub> emissions over the No-Build condition some time between the years 2002 and 2015. However, this long-range (2015) estimate is beyond SIP forecasts and potentially imprecise due to likely changes in the future aircraft fleet and fuel combustion technology. These long-range estimates are subject to change, should only be used for planning or information purposes and are not appropriate for conformity determination. Notwithstanding the above, total emissions associated with Lambert are not expected to result in any violation of the National Ambient Air Quality Program (NAAQS), nor interfere with the goals of the State Implementation Plan (SIP).

Lambert-related emissions for aircraft and fueling are accounted for in the SIP through the year 2005. The action does not cause or contribute to a violation of the NAAQS. The project-related emissions are not regionally significant. Based on these findings, the FAA determined, in its Final General Conformity Determination, that the planned improvements to Lambert conform to the goals of the SIP and meet the requirements of the General Conformity Rule and the Clean Air Act.

Both EPA and MDNR reviewed the Draft General Conformity Determination developed for this project and determined that all of the relevant issues were addressed (see FEIS Appendix A, EPA letter dated November 7, 1997, and MDNR letter dated November 20, 1997). On June 29, 1998, the FAA published in the *St. Louis Post Dispatch* notice of its Final General Conformity Determination. Copies of the Final General Conformity Determination were provided to EPA and MDNR. In accordance with the Clean Air Act, and EPA General Conformity Regulations, the FAA has demonstrated that the selected alternative will conform with the Missouri SIP for achieving and maintaining the NAAQS for ozone and carbon monoxide, respectively.

As noted in this ROD, Section 11.C, after consultation with the Missouri Department of Natural Resources (MDNR) (the Governor's designated agency for air quality), the Governor of Missouri certified that there is a reasonable assurance that the project will meet all applicable air quality standards in accordance with Section 509(b)(7) of the Airport and Airway Improvement Act, recodified under 49 U.S.C. 47106(c) (letter dated August 11, 1998, in Appendix I).

### ***Further Studies and Ongoing and Planned Activities to Minimize Air Pollution***

The FAA and STLAA have agreed to explore EPA's request to establish additional air quality monitors in the airport area. Also, the MPS identified certain terminal area improvement concepts that included roadway, parking structure, transit and terminal structure developments. These improvements have the potential to influence air quality for workers, passengers and visitors. However, the MPS did not provide design-specific details to enable the meaningful analysis of the carbon monoxide impacts of future terminal facilities. The FAA and STLAA have agreed that when terminal design

progresses sufficiently, the STLAA will conduct a carbon monoxide hot-spot analysis for terminal expansion to ensure that the terminal structure is designed efficiently from an air-quality standpoint. The results of the terminal carbon monoxide hot-spot analysis will be submitted to EPA and MDNR.

While specific measures to mitigate for air-quality impacts were not required for the preferred alternative, some air-pollutant minimization efforts were considered reasonable and proposed by STLAA. Ongoing or planned STLAA air-quality minimization measures, contained in Section 6.3.3 of the FEIS, are summarized below:

- **Continued Membership in the St. Louis Regional Clean Cities Program:** The City of St. Louis, the owner and operator of Lambert, is a participating member of the St. Louis Regional Clean Cities Program, which is a partnership of public- and private-sector entities, who encourage voluntary emissions reductions through awareness, education and demonstration.
- **Conversion to Alternative, Cleaner Burning Fuels:** Lambert is using alternative, cleaner burning fuels in its maintenance vehicles. This program involves the retrofit or procurement of airport service vehicles capable of burning alternative fuel types, which emit fewer pollutants. An alternative fuel station will supply fuel for airport service vehicles. Construction of this facility is scheduled for 1998.
- **Use of Low Volatile Organic Compound (VOC) Traffic Coatings:** To limit both VOC and hazardous air pollution emissions, STLAA has switched to the use of coating materials for the airfield and roadway improvements, which emit extremely low levels of VOCs. These materials include paints and asphalt-seal coating.
- **Continued Compliance with the Stationary Source Operating Permit and Air Emission Source Survey:** STLAA has voluntarily chosen to limit its annual emissions below 100 tons per year for hazardous air pollutants. Lambert is placing a cap on the amount of fuel consumed at the East and West Power Plants.

### ***Water Quality Impacts and Mitigation***

Many of the routine operations that will occur at Lambert as a result of the selected alternative will affect the water quality of Coldwater Creek. Stormwater runoff from runways, taxiways, apron areas, storage areas, gates and surface transportation improvements has the potential to be contaminated. These areas may contain

pollutants such as oil, grease, sediments and deicing agents that may require detention and/or treatment. In addition, effluent from oil/water separators or waste reduction activities on the airport may also contribute to degradation of water quality. As runoff from the above activities is subject to the requirements of the NPDES permit process, all future stormwater discharges will be required to comply with the permit-established pollutant limits.

As noted in Section 11.C of this ROD, after consultation with the MDNR (the Governor's designated agency for water quality), the Governor of Missouri certified that there is a reasonable assurance that the project will meet all applicable water quality standards in accordance with Section 509(b)(7) of the Airport and Airway Improvement Act, recodified under *49 U.S.C. 47106(c)* (letter dated August 11, 1998, in Appendix I).

The proposed airport improvements will result in an increase in potable water demand and wastewater generation. However, with the acquisition of additional land for airport development and noise compatibility, overall or net airport area water demand and wastewater generation will be less than the existing airport area demand. Proposed water quality mitigation measures are described in detail in Section 6.3.4 of the FEIS and summarized below:

- **Implement Glycol Deicing Master Plan System:** Airlines operating at Lambert currently use glycol fluids for the deicing of aircraft. This fluid has the potential to pass through the airport's drainage system into local surface waters. The airport is currently in the process of implementing a Glycol Deicing Master Plan, which centralizes the collection of deicing fluids for recycling and treatment. It is anticipated that this system will handle 90 percent of the storm events encountered during the deicing season. In addition, a central deicing facility for narrow body aircraft will be used when applicable for westbound departures from existing Runways 30R and 30L.
- **Implement Stormwater Management Options:** Lambert's NPDES permit regulates the discharge of stormwater to Coldwater Creek by imposing effluent limitation, monitoring and reporting obligations. The airport has undertaken voluntary management options to reduce pollutants entering the stormwater system. These include the use of potassium acetate and heated sand for runway/taxiway deicing, the use of remote aircraft deicing facilities and diversion and treatment of runoff containing deicing fluid to wastewater treatment plants. The STLAA will implement similar management options for the new runway and taxiways.

- **Create Stormwater Detention Areas For Attenuation of Stormwater Runoff:** Runoff from new impervious areas (associated with buildings, parking, apron, runway and roadway areas) will be directed to stormwater detention areas for peak discharge attenuation. These detention areas may consist of grassed swales, dry detention areas or underground vaults, which will allow stormwater to be detained prior to discharging to Coldwater, Cowmire or Maline Creeks.
- **Increase Airport Potable Water Storage and Pressure Capacity:** Potable water storage tank and booster pump capacity will be evaluated to ensure that adequate potable water and fire-protection supply and pressure requirements are met.
- **Review Wastewater Discharge Capacity:** The airport will be required to consult with the Metropolitan Sewer District (MSD) on future wastewater discharges to determine whether methods for increasing wastewater discharge capacity are needed.
- **Close Wastewater Lines in Acquisition Areas:** Existing wastewater lines will be removed or plugged prior to discharging to the MSD wastewater main lines. Otherwise, inflow of stormwater could occur through broken pipe joints and contribute to additional flow to the wastewater treatment plant. Closing abandoned lines will help offset future wastewater contributions from the airport expansion by reducing infiltration flows to the wastewater treatment plant.

With regard to normal airport operations, the airport sponsor, through its grant assurances with the FAA, commits to suitably operating and maintaining the airport and all facilities in a safe and serviceable condition and complying with all applicable Federal laws, regulations, executive orders and other mandatory requirements related to water quality.

### ***Section 303 and Section 6(f) Impacts and Mitigation***

The selected alternative will directly affect four park and recreation area Section 303 sites. Three of the sites adversely affected by the selected alternative are also protected under Section 6(f). The selected alternative, including the associated surface transportation improvements, also has the potential to directly and indirectly affect several historic and archaeological sites protected under Section 106 of the National Historic Preservation Act. These sites will be mitigated through a Section 106 Memorandum of Agreement (MOA) (Appendix H of this ROD). The project will also have indirect adverse impacts upon Section 303 and 6(f) sites. The selected

alternative will not result in any incompatible park areas due to aircraft noise. In terms of avoidance alternatives, review of the tiered alternatives evaluation prepared in Section 3.0, Alternatives, of the FEIS, indicates that there are no prudent and feasible alternatives to the use of the Section 303 and 6(f) sites.

The FAA has coordinated with the public and agencies having jurisdiction over the affected sites to determine site significance and to develop mitigation measures necessary to meet Section 303 and 6(f) requirements. Generally, the entity responsible for conversion of the Section 6(f) parkland to other use is the local government entity where the Section 6(f) facilities are located, in this case, the City of Bridgeton. By letter dated January 16, 1997, the City of Bridgeton, through its counsel, has advised that it does not intend to initiate the 6(f) conversion process. A coordination meeting with the City of Bridgeton was held on April 18, 1997, with the mayor and key staff members to discuss Draft EIS comments relative to Section 303/6(f) issues, and to solicit input from the City of Bridgeton regarding future plans and goals for their parks and recreation program. Items listed in the City of Bridgeton's comprehensive plan were discussed regarding candidate mitigation options. The City of Bridgeton has stated that it will not initiate the Section 6(f) conversions for Lambert.

Since the FAA is issuing this ROD that approves the Federal actions needed to implement the selected alternative, the City of St. Louis and the STLAA will initiate condemnation proceedings and take possession of the parklands. The City of St. Louis and STLAA will then be responsible for the conversion of the 6(f) property as the owner of the parkland and local project sponsor. MDNR will be the authorized agency to document the adequacy of the replacement lands (see FEIS Appendix A, Department of Interior (DOI) letter commenting on FEIS.)

Measures to minimize harm to Section 303 and 6(f) resources are summarized in Section 6.3.5 of the FEIS. The Section 303 and 6(f) Evaluation, published separately, provides detailed information about the effects of the proposed improvements on Section 303 and 6(f) resources and describes the mitigation plans developed. The STLAA will provide mitigation that fulfills both the Section 303 and Section 6(f) requirements. Conceptual mitigation plans have been developed to minimize harm to the affected resources. The mitigation measures proposed in Section 6.3.5 of the FEIS are summarized below.

### ***Develop and Replace Existing Parks and Associated Facilities***

The selected alternative will directly affect three Section 6(f) properties, consisting of a portion of Oak Valley Park (approximately 5 acres), all of Freebourn Park (approximately 14 acres), and Cardinal Park (approximately 4 acres). The selected

alternative will also affect one Section 303 resource, Bridgeton Memorial Park, which is approximately 3 acres in size.

Candidate replacement areas have been identified and are under consideration as mitigation for both Section 303 and Section 6(f) direct effects at Freebourn, Oak Valley and Cardinal parks. Definitive locations will be determined during final design of the project. Playgrounds, ballfields, ball courts and fitness and nature trails are some of the potential recreational opportunities that could be provided at each new site. Potential mitigation areas exceed an acre-for-acre replacement ratio to provide the opportunity for maximum flexibility in the actual types and locations of facilities. Because the STLAA has committed to exceeding an acre-for-acre replacement ratio as well as meeting fair-market value requirements, the proposed mitigation exceeds the minimum mitigation requirements and provides significant improvement to the recreational resources in the affected area.

The selected alternative will result in direct impacts to one Section 303 resource (Bridgeton Memorial Park), which is not a Section 6(f) resource. STLAA proposes to provide separate mitigation for the direct effects to this site. Candidate replacement property for this Section 303 resource, which is approximately 3 acres in size, would be located near other cemetery property close to the City of Bridgeton. In addition, the construction of a new neighborhood park in south Bridgeton, to supplement those facilities already in place, is also under consideration. This activity will commence when the Property Acquisition Program is implemented.

### ***Expand and Enhance Existing Parks and Recreational Areas***

Indirect effects associated with the selected alternative have been identified at four sites: O'Connor Park, Berry Hill Golf Course, Oak Valley Park and Carrollton Buffer Zone. As mitigation for these effects, enhanced vehicular access to these sites is under study. In addition, a new bicycle trail is being considered to link the City of Bridgeton's recreation resources to the regional bicycle network. This link to the regional bicycle network would occur via the Missouri Highway 370 bridge leading to St. Charles and would directly connect with the Katy Trail. A bicycle facility is already provided on the bridge. Potential trailheads could be located at the Bridgeton Municipal Athletic Complex and the (proposed) expanded O'Connor Park/Carrollton Buffer Zone Park Complex. The proposed new bicycle trail would increase and replace lost patronage, enhance the area's existing bicycling opportunities, provide a logical and accessible origin/destination point for trail users and be consistent with regional bicycle plans.

In addition to the proposed recreational bicycle trail, local roadway improvements associated with the selected alternative would provide the opportunity to integrate

paved, striped bicycle lanes as a part of these roadway improvements. New bicycle lanes would enhance existing multi-modal transportation options, including linking community and neighborhood parks within the City of Bridgeton, as well as ultimately providing access to the regional trail network. Consultation with local and regional planning agencies has indicated that such improvements are consistent with long-range multi-modal plans for the area. The STLAA will assist in funding as appropriate. This activity will be scheduled concurrent with airport expansion.

### ***Reasonably Equivalent Replacement Of Converted DOI Section 6(f) Lands***

Mitigation for Section 6(f) impacts will consist of replacement of the converted Section 6(f) lands with land of equal or greater value and usefulness. At the time of conversion, appraisals will be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisition (Interagency Land Acquisition Conference, 1992) to assure that fair market values of the replacement facilities will be at least equal to that of any converted Section 6(f) sites. This activity will commence when the Property Acquisition Program is implemented.

### ***Historic, Architectural, and Archaeological Impacts and Mitigation***

An evaluation of the potential impacts to historic and archaeological resources was accomplished in accordance with the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended. The FAA has determined that the selected alternative will have an adverse effect on historic resources and may have an effect on archaeological resources eligible for listing in the National Register. The State Historic Preservation Officer (SHPO) has concurred in this determination.

The FEIS states that in the event artifacts are discovered during construction activities, construction in the area will be halted immediately in order to record the finding, determine its level of significance, and develop appropriate mitigation measures.

An MOA has been prepared stipulating measures to be implemented to avoid, reduce or mitigate the adverse effects from this project on historic properties. The Missouri SHPO, the Advisory Council on Historic Preservation (Advisory Council), the STLAA, and the City of Bridgeton have been consulted on the MOA and provided comments on the agreement document throughout its development (see FEIS Appendix N-1, November 18, 1997, letter from MDNR, and November 14, 1997, letter from City of Bridgeton). The FAA solicited final comments on the MOA from the consulting parties, including the City of Bridgeton.

The MOA, in compliance with Section 106 of the National Historic Preservation Act, has been signed by the FAA, STLAA and MDNR. The City of Bridgeton did not concur with

the MOA and chose not to sign the agreement. The agreement was executed by the Council on May 29, 1998. As part of the FAA's comprehensive efforts to involve all appropriate commenters, the FAA will continue to work with the appropriate agencies. In reaching its conclusions relative to the National Historic Preservation Act, the FAA's findings are supported by the FEIS, and the Department of Transportation Section 303/Section 6(f) Evaluation. Execution of the MOA satisfies the FAA's Section 106 responsibilities for all actions associated with the selected alternative. The stipulations of the MOA are discussed in Section 6.3.6 of the FEIS. A final copy of the entire MOA is included in Appendix H of this ROD.

### ***Memorandum of Agreement***

Specifically, the stipulations within the MOA, summarized below, ensure that:

- The FAA will consult with the SHPO and the Council to seek ways to reduce or mitigate the adverse effects on the five (5) above ground historic properties within the undertaking's APE. These properties include the Bridgeton Inn, the Airport News Building, the Emmanuel Blum House, the Blum Store, and the De Hatre House.
- The FAA will prepare a preservation management plan, in consultation with the SHPO, that ensures the long-term protection of archaeological resources within the APE of the selected alternative which the FAA and the SHPO agree are considered eligible for listing on the National Register of Historic Places and that can be preserved in place.
- Those sites that the FAA and the SHPO agree are considered eligible for listing in the National Register of Historic Places and that cannot be preserved in place shall be treated in accordance with a data recovery plan.
- As the Village à Robert Cemetery (which is encompassed by the current Bridgeton Memorial Park Cemetery) cannot be preserved in place, it shall be treated in accordance with a data recovery plan.

The MOA also states that all human remains and funerary objects excavated during the data recovery will be reburied in a location where their subsequent disturbance is unlikely and in a manner as similar as possible to the manner in which they were originally interred. The location and method of reburial, and the memorialization and commemoration of the reburial site(s), will be made in consultation with descendants of individuals that were buried within the cemetery.

### ***Biotic Communities Impacts***

The selected alternative will impact upland and wetland communities. Although the project will reduce existing vegetation and small, fragmented areas of wildlife habitat, none of the affected areas are characterized by unique vegetative patterns. Development will impact biotic communities within the Cowmire Creek watershed, in addition to those of the Coldwater Creek watershed. The project will place aircraft at lower altitudes over the Missouri River floodplain, which may have the potential to disrupt feeding and nesting activities of birds in a flyway area. However, the anticipated impacts will be minimal and will not require mitigation.

### ***Threatened and Endangered Species Impacts***

Several Federally listed plant and animal species have historically occurred in the airport area. Based on information obtained and correspondence received, the expansion project for Lambert would not have an effect on Federal or state listed threatened and endangered species or areas designated as “critical habitat” by the U.S. Fish and Wildlife Service (FWS). In accordance with Section 7 of the Endangered Species Act, the FAA’s consulted with the FWS. The FWS concurred that Alternative W-1W will likely have no adverse effects on listed species or their habitats (letter dated September 1, 1994, in Appendix A of the FEIS). Therefore, mitigation measures are not required.

### ***Wetlands Impacts and Mitigation***

The airfield development and associated surface transportation improvements will result in impacts to existing wetlands. The various types of impacts will include loss of wetlands as a result of earthwork or construction, removal of existing vegetation and re-vegetation with grasses, or the clearing of trees and shrubs to ground level. Based on the conceptual plans used in the preparation of the FEIS, the selected alternative will impact approximately 9.7 acres. The majority of the wetlands that will be impacted have been previously disturbed and exhibit low habitat values. Their current status exhibits erosion, dumping, loss of canopy cover and extensive ditching.

Final design plans will be prepared in such a manner as to avoid, minimize and mitigate wetland impacts to the greatest extent practicable, as required by applicable rules and regulations. These plans will be developed during the permitting process and as construction plans are finalized. A formal jurisdictional wetland delineation with agencies having jurisdiction over this project will be conducted during the permitting process. Wetlands have been avoided to the extent practicable. Measures to mitigate

wetland impacts have been developed, are contained in Section 6.3.7 of the FEIS and summarized below.

- **Enhance and Replace Existing Wetlands:** This program will mitigate for the removal of existing wetland areas by enhancing and/or replacing existing wetland areas. Enhancing and replacing existing wetland areas on-airport has been eliminated from further consideration because of the potential safety hazard associated with aircraft bird strikes. Off-site mitigation options that remain under consideration include: mitigation within the Coldwater Creek watershed, mitigation within the Cowmire Creek watershed or a combination.
- **Candidate Mitigation Sites:** Several candidate wetland mitigation sites have been examined; however, none have been formally designated for the Lambert wetland mitigation program at this time. Final mitigation requirements will be determined during the Section 404 permit application review process in consultation with the COE.

The wetland mitigation program will be initiated upon Section 404 permit approval. For any particular affected wetland area, the wetland mitigation (enhancement or replacement) will be completed prior to the removal of the existing wetland.

### ***Floodplains Impacts and Mitigation***

The project will result in additional development within the 100-year floodplain. Surface transportation improvements associated with the selected alternative will impact the 100-year floodplain as well. The project will impact approximately 22.3 acres for year 2002 and 35 acres for year 2015 in the Coldwater Creek floodplain. Therefore, this project will result in a floodplain encroachment. Mitigation will be developed to compensate for potential increased flooding caused by the proposed development. Mitigation measures to minimize the floodplain impacts will be accomplished so that the floodplain encroachment would not be considered significant. Floodplains have been avoided to the extent practicable, in light of greater impacts on protected resources in other impact categories. Measures to mitigate floodplain impacts, which are contained in Section 6.3.8 of the FEIS, are summarized here.

- **Limit Fill Within Floodplain Areas:** During design of the proposed runways and taxiways, the placement of fill within the floodplains adjacent to Coldwater Creek will be minimized. However, airport runways and taxiways must be designed to meet specific criteria related to runway profiles and cross slope. Some fill within the floodplain areas is

unavoidable. Infield areas will be graded to reduce potential floodplain impacts.

- **Provide Stormwater Detention Areas:** To offset potential filling of shallow floodplain areas and construction of new impervious areas, detention storage volume may be provided to reduce peak discharges downstream, provide for floodplain storage compensation volume and avoid airport-induced increases of flood elevations upstream. The detention areas will be of shallow depth to minimize standing water in the ponds, thereby reducing attractiveness of the ponds to birds, which are a potential safety hazard to aircraft. Underground detention vaults may also be used. Detention areas will be constructed concurrently with the construction of new impervious areas.

### ***Farmland Impacts***

Development will not adversely impact any prime or unique farmlands or soil types as designated by the U.S. Department of Agriculture, Natural Resource Conservation Service. The areas have already been converted into urban uses, such as residential and commercial, and no longer retain their previous agricultural designation. Since there are no impacts anticipated, mitigation measures are not proposed.

### ***Energy Supply and Natural Resources Impacts***

Energy consumption at Lambert is expected to increase as activity increases. Aircraft and vehicle energy consumption estimates for the selected alternative are predicted to be less when compared to the No-Build Alternative. This reduction is a consequence of declining aircraft and vehicle fuel consumption resulting from shorter aircraft queuing times and moderate improvements to the roadway network surrounding Lambert. There are no known sources of mineral or energy resources in the Lambert area that will be impacted. Development of the selected alternative will not require the use of unusual materials or those that are in short supply in the Lambert area. Since there are no impacts anticipated, specific measures to mitigate energy consumption are not proposed.

### ***Light Emissions Impacts and Mitigation***

Areas sensitive to changes in light emissions are located in the vicinity of the proposed lighting systems. The proposed project will have the potential to create off-airport, light emission impacts. Through shielding and screening techniques, light emission impacts on surrounding residential areas will be minimized. Future light emission levels from airborne aircraft or aircraft operating on the ground are not anticipated to adversely

impact surrounding residential areas. Proposed light emissions mitigation measures, described in Section 6.3.9 of the FEIS, include using light shields to direct light emissions away from residential or other sensitive areas. This measure will pertain primarily to the terminal area and roadway pole-mounted lighting.

### ***Solid Waste Impacts and Mitigation***

Alternative W-1W would increase the quantity of solid waste generated at the airport. This is primarily due to increased passenger flow and operations at the airport, increased airport tenant operations, and construction activity. Alternative W-1W would result in the generation of approximately 49,000 more cubic yards per year of solid waste as compared to the existing condition. However, this increase is not anticipated to adversely impact the area's solid waste handling practices or disposal facility capacity. Airport-generated solid waste levels comprise only a small percentage of the total waste produced in the metropolitan area, and existing solid waste disposal facilities have sufficient capacity to accommodate projected future solid waste generation levels.

While specific measures to mitigate for demolition-waste impacts were not required for the preferred alternative, some waste minimization efforts were considered reasonable and proposed by STLAA. These planned efforts to minimize demolition waste, contained in Section 6.3.10 of the FEIS, include the development and implementation of a construction recycling and salvage pilot program. This program will maximize recovery and reuse of construction materials, and reduce the waste entering landfills. Examples of the types of measures which may be considered in the pilot program are: conducting a salvage operation process to remove reusable building components and interior furnishings such as doors, windows, cabinets and plumbing fixtures and segregating building components and interior finishings by type and offering them for resale or reuse. The recycling and salvage management pilot program will be developed and approved prior to initiation of demolition and construction activities.

Several active landfills are located in the vicinity of Lambert. The Laidlaw Combined Sanitary and Demolition Landfill, at its closest point, is located approximately 9,166 feet west of the northwest end of proposed Runway 12W/30W. This is not consistent with FAA's runway siting guideline of 10,000 feet, which was developed to protect aircraft from potential bird strikes. The new runway will be compatible with all area landfills in accordance with FAA Order 5200.5A, as described in detail in Section 6.3.10 of the FEIS. STLAA will attempt to develop an agreement with the operator of the landfill to implement one of the following options:

- Re-prioritize the landfill utilization plan so that the subject portion (i.e., that portion within the FAA's 10,000-foot radius of incompatibility) of the landfill is utilized first;

- Require that STLAA be able to direct available fill that cannot be reasonably recycled from the construction projects to the subject portions of the landfill;
- Require that organic waste be capped in the landfill before the new runway is opened and that only clean fill (such as construction materials) be placed in the subject portions of the landfill once the runway is operational.

Should it not be practical to completely fill the subject landfill through the above measures, the STLAA will purchase an easement from the landfill operator which will provide the operator compensation for any lost revenue associated with the unused excess capacity. Any plan to convert or close the landfill must provide for a one-year bird-repelling program. Repelling efforts will begin 6 months before opening of the new runway and continue for a minimum of 6 months thereafter. The program will be in effect from dawn until dusk.

### ***Coastal Barriers and Coastal Zone Management Program Impacts***

The proposed improvements will not affect or involve the Coastal Zone Management Program or the Coastal Barriers Resources Act of 1982. Since there will be no impacts, mitigation measures have not been proposed.

### ***Wild and Scenic Rivers Impacts***

Review of the U.S. Department of the Interior's National Inventory of Wild and Scenic Rivers indicated that there are no designated "Wild and Scenic Rivers" within a 1,000-foot radius of Lambert. There will be no impact on any rivers designated as "Wild and Scenic"; therefore, mitigation measures are not warranted.

### ***Construction Impacts and Mitigation***

Construction impacts resulting from the airport development alternatives, including surface-transportation-related improvements, may include but are not limited to temporary impacts, such as soil erosion, increased air emissions, water quality degradation, noise disturbance and disrupted surface transportation patterns. These temporary impacts are short term in nature and can be minimized through the establishment and utilization of environmental controls and best management practices (BMPs).

To minimize construction impacts, environmental controls as specified in Advisory Circular 150/5370.10A will be included throughout the preparation of the plans and specifications for each of the proposed construction projects. These controls will be

established to minimize the temporary air, water, noise, erosion, and light impacts typically associated with construction activities. STLAA will also incorporate all applicable State of Missouri and St. Louis County construction and environmental control provisions into the plans and specifications developed for all roadway and off-site airport-related improvements. Construction and environmental control measures will be developed as part of the preparation of plans and specifications for each airport development project and will be implemented with the initiation of demolition and construction activities.

### ***Design, Art and Architecture Impacts***

Design, art and architectural applications will be a consideration in the design and operation of the proposed improvements to the terminal facilities. Therefore, no mitigation measures are required.

### ***Hazardous Materials Impacts and Mitigation***

Several areas in the vicinity of Lambert have been reported to or have the potential to contain hazardous materials, hazardous wastes and/or petroleum products that have resulted in environmental contamination. Some of these sites have undergone preliminary investigations and will either be evaluated further, cleaned up or will require no further action by the responsible parties. Other sites have not been investigated. These sites have been identified and located so that they can be avoided or, if necessary, properly addressed during the planning and development of the proposed airport improvements. It is not expected that the project will involve any sites that are significantly impacted by hazardous materials, petroleum products or environmental contamination. Therefore mitigation measures *per se* are not required. However, BMPs developed as a means to minimize potential impacts are discussed in Section 6.3.12 of the FEIS. Examples of such BMPs include the following practices:

- **Assess and Remediate Contaminated Sites:** In accordance with state regulations, sites that are contaminated with hazardous materials will be fully assessed to determine the types and areas of the impacts. These sites will be cleaned up or other appropriate corrective measures will be undertaken.
- **Conduct Environmental Audits of Properties Prior to Acquisition:** The STLAA will conduct surveys of existing facilities requiring demolition to evaluate any potential involvement with asbestos, lead paint and/or other regulated materials. Site assessments will be included as part of the property acquisition process. Sites found to contain hazardous

wastes, other regulated materials and/or environmental contamination will be properly addressed.

- **Develop/Implement Asbestos and Hazardous Materials Management Plan:** When materials containing asbestos or classified as hazardous are encountered during demolition, appropriate precautions will be followed. These include the employment of certified contractors trained and equipped to work under such conditions and the strict adherence to standards, practices and guidelines governing the handling and disposal of these materials.

### ***Surface Transportation Impacts and Mitigation***

Development will impact significant surface transportation facilities located in the airport vicinity. It will require the modification and/or realignment of several local and regional roadways to accommodate the proposed expansion of the airport.

It is estimated that after the year 2010, the additional aviation activity will result in increased associated surface traffic. Sections 5.22 and 6.3.13 of the FEIS provide a detailed analysis of the anticipated environmental impacts and mitigation measures associated specifically with the surface transportation improvements that would result from the proposed development.

Based on the assessment of surface transportation impacts detailed in Section 5.22 of the FEIS, there are no specific mitigation measures required for associated roadway improvements for the selected alternative. However, means to minimize impacts associated with the proposed roadway improvements, including construction of the Lindbergh Tunnel, are presented below.

- **Maintenance of Traffic Plan:** The Missouri Department of Transportation (MoDOT) will develop a staged implementation plan. This staging plan will identify what portions of the proposed roadway improvements will be constructed during each phase of the implementation plan, what the overall sequence of construction will be, and how traffic flow/access will be maintained during the construction phases. This staged construction plan will be coordinated with the appropriate county and city agencies prior to the beginning of construction. The maintenance of traffic plan will be developed during the preliminary engineering and final design of the improvements.
- **Roadway Improvement Safety Plan:** To mitigate the potential for vehicular accidents, fire and/or explosions occurring in the proposed

Lindbergh Tunnel, all applicable state and local fire codes will be adhered to during the design of the tunnel. The tunnel will also be designed to meet or exceed the current MoDOT lighting criteria/standards.

- **Visual Impacts from I-70/Airport Access Improvements:** Retaining walls will be incorporated into the construction design plans and implemented prior to the beginning of any roadway construction. The plans for retaining walls will be developed during the design phase of the I-70/Airport Interchange improvements and are dependent on specific requirements of MoDOT.

### ***MITIGATION SUMMARY***

The FAA has provided a comprehensive mitigation program, which establishes measures to mitigate the adverse effects of construction and operation of the proposed development. This program was developed to meet applicable Federal and state requirements and in consideration of local guidelines. The concerns and interests of the public and government agencies were also addressed. The mitigation program is described in Section 6.3, Mitigation, of the FEIS. A summary of the mitigation requirements for Alternative W-1W is contained in Table S.3 in Appendix J of this ROD.

Alternative mitigation measures considered in the FEIS are conditions of approval of the project in this ROD, and the project sponsor, the STLAA, has agreed to them. The FAA will monitor the implementation of these mitigation actions as necessary to assure they are carried out as project commitments. The FAA finds that these measures constitute all reasonable steps to minimize harm and all practicable means to avoid or minimize environmental harm from the selected alternative.

## **7. PUBLIC AND AGENCY INVOLVEMENT**

From the outset, the concerns of the public have been considered. Both the STLAA and the FAA have been forthcoming with the communities about the project through extensive opportunities for public involvement. The interests of communities have been considered throughout the decision-making process regarding expansion at Lambert. This is shown in part by the information provided below.

Because of Lambert's impact on the surrounding communities, the FAA and the STLAA have conducted open public meetings to inform the public of the expansion plans. The FAA and the STLAA have received thousands of public comments throughout the EIS process. To the extent practicable, all of these comments have been reviewed to ensure that the needs and concerns of the public were considered and addressed. Based on the extensive opportunities for public participation, the FAA is satisfied that full consideration has been given to the public's views on airport expansion plans.

### **PUBLIC INVOLVEMENT PROCESS**

Public involvement included the following:

- Three EIS scoping meetings were held on September 6 and 7, 1995.
- A scoping comment period extended from August 17 through September 21, 1995. A summary of the scoping comments is provided in Appendix J of the FEIS.
- A public workshop on the environmental process was held on June 11, 1996. There were 476 people in attendance. The meeting was advertised in the *St. Louis Post Dispatch* and other local newspapers. In addition, approximately 13,000 postcards were mailed to residents in the vicinity of the airport announcing the meeting and extending an invitation to the public to attend.
- The DEIS was distributed to local libraries, city halls and to principal commenting agencies. The DEIS was available for review from September 27, 1996, through January 17, 1997.
- The DEIS was available for more than the minimum 45 days required by CEQ regulations. The comment period for the DEIS opened on September 27, 1996. The initial comment period was extended twice, once in response to a request by the City of Bridgeton. The comment period on the DEIS closed on January 17, 1997.

- A public workshop/public hearing to receive comments on the DEIS was held on October 28, 1996, more than 30 days after the DEIS was released for review. Approximately 1,580 people attended.
- Over 15,000 comments were received from the public and agencies in response to the DEIS. The comments were reviewed and considered by the FAA in the preparation of the FEIS. All comments received were summarized and responded to in the FEIS (Appendices S, T, U, V, and W of the FEIS).
- The STLAA used a total of six newsletters to distribute information to approximately 13,000 airport neighbors and to provide information about commonly asked questions regarding airport expansion.
- The FEIS was distributed to local libraries, city halls and the principal commenters on the DEIS. The FEIS was available for review from December 22, 1997, through February 17, 1998.

The public involvement process for this project was documented in Section 7.0 of the FEIS. The list of recipients of the DEIS and FEIS is found in Section 8.2. DEIS and FEIS review locations are listed in Section 8.2.2.

Subsequent to the release of the FEIS and the end of the review period, a series of meetings was held prior to the ROD with certain interested organizations and citizens of local communities in the vicinity of Lambert. The purpose of these meetings was to allow these groups to air their concerns with the proposed expansion of Lambert and Alternative W-1W to FAA headquarters personnel.

## ***ADDITIONAL MEETINGS***

### ***May 13, 1998***

At the request of Senator Christopher Bond and Congressman Jim Talent, FAA Administrator Jane Garvey met in Washington, D.C., with citizens and representatives of organizations and local governments concerned with the proposed expansion of Lambert. Those meeting with the Administrator on May 13, 1998, were representatives of the Air Line Pilots Association (ALPA), National Air Traffic Controllers Association (NATCA), the City of Bridgeton, the City of St. Charles, St. Charles County, and Citizens Against Airport Noise (CAAN). Representatives from Congressman Talent's and Senator Bond's offices also attended.

ALPA, NATCA, the City of Bridgeton, St. Charles County, and CAAN gave presentations. The participants generally supported expansion at Lambert; however, they all oppose Alternative W-1W. Among the reasons given for opposing W-1W, ALPA and NATCA oppose W-1W based on the safety and capacity questions they raised. The represented communities oppose W-1W on the basis of noise concerns and general dissatisfaction with the adequacy of the FAA's EIS and hearing process. The impact to the City of Bridgeton would be a new runway in the city and impacts to approximately 2,324 households, 6 churches, 6 schools, 1 nursing home and 75 businesses. All support a real-time simulation study of Alternative W-1W.

The represented communities expressed a need to see that the STLAA and the FAA are concerned about noise and impacts to the historic district of St. Charles. The City of St. Charles believes that its historic district was ignored and that FAA did not hold a public hearing in St. Charles. St. Charles wants assurance that the EIS is accurate in its prediction of noise impacts. St. Charles desires an enforceable settlement agreement with STLAA if the FAA approves W-1W.

The attendees requested that they be given an opportunity to meet face-to-face with FAA personnel (program office and other specialists) to discuss their concerns, and that FAA authorize a real-time simulation study for the expansion project at Lambert.

The Administrator acknowledged that the meeting was helpful and raised important issues that the FAA would consider further. The Administrator stated that the FAA would take the time needed to study the issues raised.

### ***June 9, 1998***

As a follow-on to the FAA Administrator's meeting of May 13, 1998, representatives of ALPA and NATCA met in Washington, D.C., on June 9, 1998, with various FAA technical specialists and representatives of FAA's Headquarters and Regional Airports program offices. Also attending were representatives of Leigh Fisher Associates, the consultants to St. Louis on the MPS, who conducted the MPS capacity simulations. ALPA and NATCA wanted to present their concerns regarding the MPS, which they felt had not been considered during the planning and environmental processes.

ALPA and NATCA asserted that inaccurate assumptions and/or input data used for the MPS simulations resulted in an overstatement of benefits projected for the preferred Alternative W-1W and an understatement of benefits for the existing airfield. They also asserted that a real-time simulation study is needed to verify their opinion that: (1) it would be impossible to operate Alternative W-1W as proposed or (2) the capacity penalties required to make W-1W work would reduce the project benefit/cost ratio to a point where it would no longer be attractive to TWA. ALPA and NATCA submitted, and

discussion was held on, a list of eighteen questions regarding simulation assumptions affecting the outcome of the MPS that they claim are incorrect or inappropriate.

FAA committed itself to carefully reviewing the ALPA and NATCA concerns. The ALPA and NATCA representatives expressed appreciation for the opportunity to discuss these matters with FAA headquarters personnel on a face-to-face basis.

### ***June 16, 1998***

As another follow-on to the FAA Administrator's meeting of May 13, 1998, representatives of ALPA, NATCA, the City of Bridgeton, the City of St. Charles, St. Charles County and CAAN met with the FAA Associate Administrator for Airports, Susan Kurland, on June 16, 1998, in Washington, D.C. Also in attendance were various FAA technical specialists and other representatives of FAA's Headquarters and Regional Airports program offices, and a representative from Congressman Talent's office.

For the most part, the presentations were a reiteration of the points brought up before in the meetings of May 13, 1998, and/or June 9, 1998, although in some cases in more detail. The parties either wanted to present their concerns regarding the MPS, which they felt had not been considered during the planning and environmental processes, or to express their general dissatisfaction with the adequacy of the FAA's EIS. They again expressed their opinion that a real-time simulation study is necessary to demonstrate that Alternative W-1W can be operated as proposed. The communities offered to provide the funding for the study.

The FAA reiterated its commitment to carefully review the concerns and issues raised.

### ***July 20, 1998***

In furthering the study of the issues, concerns and criticisms expressed during the above outlined meetings of May 13, June 9, and June 16, 1998, with FAA, the FAA's Acting Deputy Administrator, Monte Belger, gave the City of St. Louis the opportunity to meet with officials of FAA. That meeting was held in Washington, D.C., on July 20, 1998, with the St. Louis Director of Airports and his staff and consultants. In addition to the Acting Deputy Administrator, FAA was represented by the Associate Administrator for Regulation and Safety, the Associate Administrator for Airports and the Acting Associate Administrator for Air Traffic Services.

In addition to responding to a number of questions raised on certain safety aspects of Alternative W-1W, the City of St. Louis provided the FAA with a briefing, from its perspective, on several current issues before the FAA involving Alternative W-1W. As

background, they provided a summary of the Lambert MPS planning process. They then provided comments on what they believed to be misleading allegations about Alternative W-1W. They also provided responses to questions raised by the FAA Flight Standards Office regarding the operation of Alternative W-1W, and responded as well to the 18 concerns raised by ALPA and NATCA in their June 9 meeting with FAA.

### ***July 23, 1998***

FAA Administrator, Jane Garvey; Acting Deputy Administrator, Monte Belger; Associate Administrator for Airports, Susan Kurland; and the Assistant Administrator of Government and Industry Affairs, Bradley Mims, attended a meeting at Congressman Richard Gephardt's office in Washington, D.C., on July 23, 1998, to discuss Lambert's proposed expansion.

Congressman Gephardt indicated that he had convened the meeting so that St. Louis public officials could make the case personally to the FAA Administrator in support of issuance of the ROD for the Alternative W-1W runway development project

St. Louis Mayor, Clarence Harmon, stressed that the Lambert expansion was the most critical project before the City of St. Louis in terms of the future economic viability of the city. Mr. Harold Gregory, representing the Let's Get On With Our Lives coalition, indicated his group has 1,100 petitions requesting a buyout and urged the Administrator to issue the ROD at the earliest possible time. Mr. Richard Fleming, President and CEO of the St. Louis Regional Commerce and Growth Association, told the FAA Administrator that each year of delay results in an estimated \$400 million in business opportunities, 4,400 lost jobs, and \$1.4 million in lost taxes. Ms. Norma Kaehler, Managing Director of TWA's Washington Government Affairs Office, indicated that TWA strongly supports the W-1W expansion plan. It is important to TWA from an operational viewpoint that the new runway proceed as soon as possible. Mr. Thomas Chapman, Southwest Airlines Government Affairs Director in Washington, paralleled TWA's comments. Lastly, the St. Louis Director of Airports, Leonard Griggs, stated that St. Louis believes that a real-time study of the planned runway operations is unnecessary and would cause a lengthy delay before the ROD could be issued. He reminded the group that Alternative W-1W has been coordinated with airline pilot and controller groups, and representatives of FAA's Flight Standard organization have been included in these past technical discussions. He urged the FAA Administrator to deny the pending request for a real-time study at St. Louis and to approve the ROD without delay.

## **8. COOPERATING AGENCIES**

The environmental process involved the following cooperating agencies:

- U.S. Air Force - for environmental processing of relocation of the MoANG.
- U.S. Navy - for environmental processing of relocation of Naval and Marine Reserve Corps facilities.
- U.S. Army Corps of Engineers - for coordination of wetland impact and mitigation issues.
- Federal Highway Administration - for environmental processing of related roadway improvements.

A cooperating agency is an agency that has jurisdiction by law or special expertise regarding any environmental impact resulting from a proposed action or reasonable alternative. These agencies and the reasons for their inclusion in the process as cooperating agencies are described below.

### ***U.S. AIR FORCE***

The proposed expansion of Lambert involves the relocation and/or improvement of the MoANG, which falls under the jurisdiction of the USAF. To provide for additional terminal expansion, the Lambert development plan proposes to relocate the MoANG from its present location on the south side of the airfield to the northeast side of the airfield. The FEIS examined the potential environmental impacts associated with the relocation of the MoANG facilities and associated actions. This information will assist the USAF in meeting its specific environmental obligations.

The USAF has notified the FAA that it will prepare its own separate ROD at the appropriate time, once negotiations between the USAF and STLAA have progressed to the point that specific replacement facilities are identified and being finalized.

### ***U.S. NAVY***

The proposed expansion of Lambert involves the relocation and/or improvement of a Naval Reserve facility located on the south side of the airport. To provide for additional terminal expansion, the Lambert development plan proposes to relocate the Navy facility from its present location near the MoANG on the south side of the airfield to another site in the airport vicinity. The FEIS examined the potential environmental

impacts associated with the relocation of the Navy facilities and associated actions. This information will assist the Navy in meeting its specific environmental obligations.

The Navy's ROD preparation would be similar to the USAF's in that it will be prepared at the appropriate time, once negotiations between the Navy and STLAA have progressed to the point that specific replacement facilities are identified and in the process of being finalized.

### ***U.S. ARMY CORPS OF ENGINEERS***

The proposed expansion of Lambert has the potential to impact wetlands, floodplains, and water quality--all under the jurisdiction of the COE. For that reason, the FEIS examined the potential environmental impacts to those resources and possible mitigation concepts. The involvement of the COE in conceptual mitigation planning at the EIS stage facilitates the subsequent preparation of permits, which may be required after the preparation of detailed design plans. The FEIS fulfills the National Environmental Policy Act (NEPA) requirements of the COE.

The COE will not need to prepare its own ROD for this project. It will approve a Section 404 permit application to be submitted by STLAA at the appropriate time after design plans are sufficiently finalized.

### ***FEDERAL HIGHWAY ADMINISTRATION***

The proposed expansion of Lambert involves the relocation and/or improvement of roadways under the jurisdiction of the FHWA. These roadways include improvements to portions of I-70 and relocation of a portion of Lindbergh Boulevard (U.S. 67) through a tunnel. The FEIS examined the potential environmental impacts associated with the modification of these and other local roadways. The FEIS fulfills the NEPA requirements of the FHWA.

The FHWA asked the FAA to include the following section in its ROD, which the FHWA will adopt regarding that agency's Federal actions.

### ***Decisions Relative to Surface Transportation Actions***

Airport development Alternative W-1W will impact significant surface transportation facilities located in the airport vicinity. Alternative W-1W will require the modification and/or realignment of several local and regional roadways to accommodate the proposed expansion of the airport. Section 5.22 of the FEIS provides a summary of the anticipated environmental impacts associated with surface transportation improvements that would result from the airport development alternative. This section of the EIS was

designed to fulfill the NEPA requirements of both MoDOT and FHWA and addresses transportation impacts. Both MoDOT and FHWA assisted the FAA in the development of this section of FAA's FEIS. Only the incremental impacts of the roadway improvements are discussed in Section 5.22 of the FEIS, which is provided in a format consistent with the FHWA Technical Advisory T 6640.8A, "Guidance for Preparing and Processing Environmental and Section 303 Documents." The other portions of Section 5.0 of the FEIS address the cumulative impacts of the airport and roadway improvements. Measures to mitigate surface transportation impacts have been developed and are contained in Section 6.3.13 of the FEIS.

The proposed action is to expand Lambert-St. Louis International Airport, and Alternative W-1W was identified as the selected alternative to improve the airport. The selected alternative appears on Figures S-3 and 2.1 of the FEIS. Associated with that airport action are the following roadway location changes, along with an explanation of the proposed action and purpose/need for each of those changes:

<b>Roadway</b>	<b>Proposed Action</b>	<b>Purpose/Need</b>
Lindbergh Blvd (U.S. 67) [FEIS Figure 5.32]	Horizontal and vertical realignment through a tunnel 3,400' long by 6 lanes wide.	To accommodate new parallel runway and midfield terminal area, and to provide sufficient capacity to meet projected traffic demands.
Improvements to I-70/Airport Terminal Interchange and Terminal Area Roadway [FEIS Figure 5.31]	Improvements to I-70 in terminal area: improved system of access ramps and increased capacity along mainline.	To provide acceptable level of service by alleviating current congestion problems and accommodating future needs.
	Re-alignment and expansion of on-airport terminal area roadway and ramp facilities, including parts of Lambert International Blvd., that provide access to terminal buildings and parking facilities.	To improve operational efficiency of the terminal area roadway system and provide added land area for proposed terminal expansion.
Natural Bridge Rd. (SR 115) [FEIS Figure 5.34]	Relocation of this road to the south, and relocate Natural Bridge-Lindbergh interchange immediately south of proposed Lindbergh tunnel.	To accommodate new parallel runway and midfield development and provide capacity to meet projected traffic demands.
McDonnell Blvd. [FEIS Figure 5.35]	Relocation of about 6,000 feet of Blvd., along I-70 right-of-way	To maximize the amount of land available for the relocation of the MoANG.
Missouri Bottom Rd. [FEIS Figure 5.38]	Relocation of the intersection of Missouri Bottom Rd. and Lindbergh Blvd.	To avoid conflict with the Lindbergh Blvd. north tunnel entrance/exit.
Local and neighborhood roadways [FEIS Figures 5.36 and 5.3.7]	Closure or relocation of numerous local and neighborhood roadways	To accommodate new parallel runway and midfield development. Acquisition of homes will make some roads no longer necessary.

Figure 5.29 of the FEIS provides a general location or description of area roadways that will be affected by Alternative W-1W. Figures 5.31 through 5.38 of the FEIS show individual roadway concepts, including the preferred alternative selected for each concept.

The final recommendation for the aviation-related preferred alternative selection, as well as the surface transportation-related preferred alternative selections, was accomplished through an assessment of the social, economic, engineering and environmental consequences of the alternatives, in combination with public involvement. After release of the DEIS, a public hearing was held on the airport improvements, and comments were grouped by category. Twenty-one comments were received relative to roadway improvements. Summaries of comments received on the DEIS and responses to those comments are located in Appendix V, number 27, of the FEIS.

Through the surface transportation alternatives screening process (described in Section 5.22.4 of the FEIS), it became apparent that the selected alternatives for each roadway had the least detrimental social, economic, engineering and environmental impacts. Additional discussion of the selected alternatives for roadway improvements appears in Section 5.22.4 of the FEIS. The selection of a preferred alternative to implement a solution for Lambert's capacity problems was completed in December 1997, with the concurrent release of the FEIS documentation. The FAA's FEIS review period ended on February 17, 1998.

While the aviation element of the overall project received strong opposition, the surface transportation alternatives received no strong public opposition. No notable concerns relative to surface transportation alternatives arose that would alter or prevent the selection of the preferred alignments.

### ***Surface Transportation Alternatives Considered***

A discussion of the process leading up to the selection of aviation-related facilities described in Alternative W-1W (including Runway 12W-30W) is provided in Section 5 of this ROD.

Per FHWA requirements, Transportation System Management (TSM) alternatives, such as High-Occupancy-Vehicle (HOV) lanes, park-and-ride lots, and employer-sponsored ridesharing programs, were examined. Public transit alternatives, such as bus systems and rail, were also considered. Based on the results of the evaluation process, it was concluded that the TSM strategy, and the transit strategy by themselves would not fulfill

the safety and mobility goals of this project. As such, these two strategies were eliminated from this study for further evaluation as stand-alone solutions.

It has been concluded that the No-Build Alternative does not address the purpose and need of this project. However, it was the baseline alternative for the FEIS and is required by Federal law to be evaluated in concert with the other project alternatives.

The surface transportation alternative described below was found to be the only alternative to solve the safety and capacity problems associated with the selected aviation-related elements in Alternative W-1W.

The MPS identified surface transportation elements on the proposed ALP. However, the details provided on the ALP were conceptual in nature, requiring further refinement by the FAA, FHWA, MoDOT, STLAA and the FAA's FEIS consultant as part of the FEIS. This refinement consisted of traffic capacity analyses and development of alternative concepts that would more effectively meet roadway design standards and provide acceptable levels of service for surface vehicle traffic. Projected traffic volumes were developed based on traffic count data and methodologies provided by MoDOT. For each of the roadways discussed below that will be impacted by the new Runway 12W/30W, numerous alternatives were evaluated to determine the best solution to the surface transportation problems for that affected roadway area. In some instances, only one roadway concept is provided. This is primarily due to severe constraints imposed by the adjacent roadway system, the land uses, and the existing right-of-way.

The process leading to the selection of the preferred alternative for each of these roadway areas is summarized below and discussed in detail in the FEIS, Section 5.22.2.2 and in Appendix K, Roadway Concepts. Figure 5.29 in the FEIS depicts all the proposed roadway improvements associated with Alternative W-1W. Figures 5.31 through 5.38 in the FEIS show individual roadway concepts.

### ***Lindbergh Boulevard (U.S. 67)***

The implementation of new Runway 12W-30W will create a conflict with the existing alignment of Lindbergh Boulevard. Because Lindbergh Boulevard (U.S. 67) is a principal artery within St. Louis County, all of the alternatives developed and evaluated kept this roadway in service. Four alternatives for Lindbergh Boulevard were evaluated and are depicted in Figure 5.32 of the FEIS.

Alternative D, the preferred alternative, included the construction of a tunnel for Lindbergh Boulevard underneath the proposed Runway 12W-30W between the intersection of relocated Natural Bridge Road and relocated Missouri Bottom Road.

This alternative shifts the tunnel alignment approximately 200 to 300 feet to the west of the existing alignment of Lindbergh Boulevard.

Alternative D was selected because, among other reasons: (1) the horizontal alignment provides for a 60 mph design speed; (2) the vertical alignment provides for a 65 mph design speed; (3) the relocated Lindbergh Boulevard alignment would allow construction of the tunnel to occur while traffic was using the existing Lindbergh alignment. This alternative also offered the additional advantages of allowing the TWA training facility to remain at its present site and making 50 more acres available for future airport terminal expansion.

### ***Improvements to I-70/Airport Terminal Interchange and Terminal Area Roadways***

Improved capacity and access will be needed in the terminal area to provide an acceptable level of service. I-70 improvements include an improved system of access ramps and increased capacity along the mainline. These improvements are needed to provide an acceptable level of service by alleviating current congestion problems and to accommodate future needs. Re-alignment and expansion of terminal area roadways is required to improve operational efficiency and provide additional land area for terminal expansion. These improvements are depicted in Figure 5.31 of the FEIS.

Only one alternative, depicted in Figure 5.31 of the FEIS, was considered reasonable. This alternative involves the widening of I-70, adding ramps, reconstructing bridges, and reconstructing crossroads over I-70. In addition, this alternative involves improvements to the terminal access roadway system and reconstruction of the existing elevated Metro Link guideway.

This alternative was selected as the preferred alternative primarily based on its lesser right-of-way acquisition, fewer structures, lesser roadway length, and longer distances between successive ramps when compared to the other development concepts.

### ***Natural Bridge Road (SR 115)***

Because of the development of new Runway 12W-30W, Natural Bridge Road (SR 115) will require a relocation south with a new interchange to accommodate new parallel runway and midfield development.

Due to the need to maintain service on Natural Bridge Road and because of the high costs associated with some of the other alternatives, only one alternative was retained for the relocation of Natural Bridge Road. The relocation configuration is depicted in Figure 5.33 of the FEIS.

The major consideration of this proposed element involved alternatives for the new interchange that will be required at Lindbergh Boulevard and relocated Natural Bridge Road. Five alternative interchange configurations for Natural Bridge and Lindbergh Boulevard were evaluated and are depicted in Figure 5.34 of the FEIS.

Alternative E, which was selected as the preferred alternative, will be a partial cloverleaf interchange. The primary factors that led to the selection of this interchange configuration as the best type for this location are: (1) the available ramps to/from the north and (2) the need to maintain access between the Natural Bridge Road and Lindbergh Boulevard. There is a need to provide continuous traffic flow on Lindbergh Boulevard; therefore, the traffic signal on Lindbergh Boulevard was replaced with on/off ramps. To improve operations and safety for vehicles, other modifications are also provided.

### ***McDonnell Boulevard***

The proposed relocation of the MoANG will require relocation of McDonnell Boulevard east along the I-170 right-of-way and the reconfiguration of the intersection of I-170 and Airport Road.

Only one roadway alignment alternative, depicted in Figure 5.35 of the FEIS, was found to be reasonable and practicable for this roadway. McDonnell Boulevard will remain as a two-lane roadway from the end of the extended centerline of existing Runway 30R to the intersection of Airport Road. Internal roadways between existing McDonnell Boulevard and I-170 may be modified to meet the need of the MoANG.

The airport's future land use plans call for this area to be used by the MoANG. This alignment maximizes the efficient use of this land for the MoANG and other future airport-related developments.

### ***Missouri Bottom Road***

Relocation of the intersection of Missouri Bottom Road and Lindbergh Boulevard (approximately 1,800 feet north of its existing location) will be required to avoid conflict with the Lindbergh Boulevard north tunnel entrance/exit.

Only one alternative was considered reasonable for this improvement. It is depicted in Figure 5.38 of the FEIS. The development of the new Runway 12W-30W will require tunneling of Lindbergh Boulevard under the new runway. To safely maintain a connection between Missouri Bottom Road and Lindbergh Boulevard, the intersection of these roads will need to be relocated so that it will not conflict with the north tunnel entrance/exit. This alternative was selected as preferred because the shortest distance

that will allow safe connection of this intersection is the 1,800 feet relocation to the north.

### ***Local and Neighborhood Roadways***

Closure or relocation of numerous local and neighborhood roadways will be needed to accommodate new parallel runway and midfield terminal development. Unnecessary roadways will also be removed.

**Bonfils Drive** - Bonfils Drive improvements that would be associated with Alternative W-1W include the realignment of Bonfils Drive from Gist Road to Natural Bridge Road. The two alternatives evaluated for this action are depicted in Figure 5.36 of the FEIS.

With Alternative B, the new roadway will be realigned so it will not travel through the proposed Runway Protection Zone (RPZ) of Runway 12W. The future road will be two lanes (approximately 4,700 feet long) and will serve as the local connector between Gist Road and Natural Bridge Road.

The primary consideration in evaluating the alternatives for this action were safety considerations involving the location and use of a public roadway within the active RPZ of future Runway 12W. FAA guidelines state that, whenever possible, roadways should be located outside the RPZ for the safety of the traveling public, as well as the safety of people and structures on the ground. For these reasons, Alternative B was selected as the preferred alternative for the relocation of Bonfils Drive.

**Gist Road/Fee Fee Road** - These two roadways are currently connected by a 90-degree intersection. Only one alternative runway alignment was found to be reasonable and practicable. Figure 5.37 of the FEIS depicts the preferred alternative for the Gist Road/Fee Fee Road improvements.

The proposed improvements will eliminate a portion of Fee Fee Road from Gist Road to relocated Natural Bridge Road (approximately 3,000 feet) and eliminate the existing T-intersection. The alignment of Gist Road in the vicinity of the existing Fee Fee Road intersection will be modified to provide a 300-foot turning radius. Gist Road will remain a two-lane facility. Because alternative north-south routes are available within proximity of Fee Fee Road (Lindbergh Boulevard and Bonfils Drive), the closure of Fee Fee Road in this area was determined to be the most reasonable and practicable alternative.

## ***Summary of Proposed Roadway Development Plans for Alternative W-1W***

All the above options were discussed at length during seven separate coordination meetings and six conference calls of the team overseeing the surface transportation projects. The team consisted of the cooperating agencies, FAA, FHWA and MoDOT, along with the airport sponsor, STLAA, and FAA's consultant, Greiner.

The individual roadway alternatives selected as the preferred, which make up the proposed development plan for each roadway area discussed above, are summarized as follows:

- Realignment of McDonnell Boulevard.
- Tunneling of Lindbergh Boulevard (Alternative D).
- Reconfiguration of the Lindbergh Boulevard/Natural Bridge Road Interchange (Alternative E).
- Improvements to the I-70/Airport Terminal Interchange.
- Realignment of Natural Bridge Road.
- Realignment of Bonfils Drive (Alternative B).
- Removal of approximately 3,000 feet of Fee Fee Road.
- Realignment of the intersection of Gist Road and Fee Fee Road.
- Terminal Area Roadway improvements.
- Relocation of portions of Gist Road and Fee Fee Road.
- Terminal area improvements and the relocation of Lambert International Boulevard.
- Realignment of Missouri Bottom Road.

## ***Section 303 (Formerly Called Section 4(f)) and Section 6 Resources***

There are no Section 303 (formerly called Section 4(f)) or Section 6(f) resources that will be impacted by the surface transportation elements of the overall project. The

Section 303/Section 6(f) impacts, associated with the aviation element, are discussed in Section 6 of this ROD.

### **Measures to Minimize Harm**

All practicable measures to minimize harm have been incorporated into the decision for the selected alternative, W-1W, and its associated surface transportation elements.

The project will require approximately 24.2 acres of land for roadway right-of-way, consisting of 12 residential parcels, 7 commercial/industrial parcels, and 17 tax exempt parcels. These include six single-family residences, a 133-unit apartment complex, and the Drury Office Building. The proposed roadway improvements would not disproportionately impact low-income or minority groups. The acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Properties Act of 1970, as amended in 1987 (*42 U.S.C. 4601*). A summary of the environmental impacts of surface transportation for Alternative W-1W follows:

Relocations	
Homes	6
Rental Units	133
Commercial Buildings	1
Population	276
Wetlands (acres)	1.8
Floodplains (acres)	2.3
Parks	0
Hazardous Material Sites	10

Section 6.3 of the FEIS provides further information regarding mitigation for surface transportation elements of Alternative W-1W. Efforts will be made to minimize disruption of communities and hardships on neighborhoods during construction of the roadway improvements through the development and implementation of a Maintenance of Traffic Plan and a Roadway Improvement Safety Plan.

Farmland impacts have been addressed. Because the area is zoned for urban uses and is fully developed, the criteria established in the Farmland Protection Policy Act do not apply and mitigation is not warranted.

Cultural resources have been addressed in accordance with regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act (*16 U.S.C. 470*). The FAA determined that the surface transportation improvements may have an adverse effect on currently identified historic properties and additional, yet-to-be-

identified historic properties. An MOA was required for the FEIS. The MOA was developed to specify measures to be implemented to avoid, reduce or mitigate any adverse effects. The MOA also details eligibility assessment and treatment measures for any additional archaeological and historic architectural resources that may be present in the undertaking's Area of Potential Effect (APE). The MOA was prepared in consultation with the Missouri SHPO and the Advisory Council on Historic Preservation and was executed by the Advisory Council on Historic Preservation on May 29, 1998. This satisfies the Section 106 responsibilities for all actions associated with the proposed surface transportation improvements. A final copy of the MOA is included in ROD Appendix H.

Due to the proximity of the alignment to residential areas, a carefully planned and executed drilling and blasting program will be implemented. The requirements of this blasting program will be governed by local, state and Federal regulations. This program can involve the following activities: pre-blast survey, vibration criteria, contractor's blasting plan, vibration monitoring during blasting, and post-blasting survey. This type of program has been successfully used on a large number of projects, including blasting in urban areas and along natural gas and electrical lines.

Motor vehicle emissions caused by the proposed action are estimated to be well below the *de minimis* levels requiring a determination to demonstrate conformity with the SIP. Emissions from all airport-related sources were evaluated in the Final General Conformity Determination, which FAA made available on June 19, 1998.

Job construction specifications will require erosion control measures to prevent sedimentation. MoDOT's Sediment and Erosion Control Plan, as approved by the MDNR, will be implemented to prevent pollution caused by construction activities. As described in detail in the FEIS, compliance with the provisions of the MDNR's stormwater regulations and the provisions of the NPDES permit will also minimize adverse water quality impacts.

MoDOT will implement BMPs for stormwater control and comply with MDNR stormwater regulations and the provisions of the NPDES, a general permit issued for road construction projects statewide.

Wetlands have been avoided to the extent practicable. The position of the selected alternatives have been chosen to minimize impacts to wetlands. The surface transportation elements associated with Alternative W-1W will require a structure across Coldwater Creek, the relocation of a culvert crossing for McDonnell Boulevard, and possible modifications to an existing ditch system. Final mitigation measures, if required, will be decided in coordination with the U.S. Army Corps of Engineers with the assistance of the U.S. Fish and Wildlife Service. Stormwater, NPDES and COE

Section 404 permits will be obtained prior to construction of any of the proposed roadway facilities. Mitigation measures addressing stormwater NPDES and COE Section 404 permits are discussed in Section 6.3 of the FEIS.

The proposed surface transportation improvements associated with Alternative W-1W will impact approximately 2.0 acres of Coldwater Creek floodplain and 0.3 acre of Cowmire Creek floodplain. Floodplain impacts have been reduced by holding right-of-way requirements to a minimum.

Wells found during construction will be sealed to prevent groundwater pollution from construction and from future road maintenance.

The project will not have adverse effects on any Federally listed endangered or threatened species.

Noise studies as detailed in the FEIS, dependent upon final design, indicate that traffic noise impacts will be minimal because: (1) noise-sensitive sites will be part of the relocation program associated with the airport alternative; (2) remaining noise-sensitive sites will experience traffic noise from another existing roadway; or (3) noise-sensitive sites will be impacted by aircraft noise. The mitigation of noise impacts all along the roadway project is unlikely. Consideration of noise barriers for residential properties adjacent to the highway project will be in accordance with the MoDOT policy on noise abatement. Mitigation of aircraft noise impacts is discussed in Section 6 of this ROD.

Ten sites (depicted in Figure 5.28 of the FEIS) potentially involving hazardous materials and/or environmental contamination, could be impacted by the surface transportation elements of Alternative W-1W. The preferred method of mitigation for hazardous waste sites is avoidance. The sites that cannot be avoided will require additional site inspection and characterization of material releases. It is not anticipated that remediation of potential contaminants will require substantial amounts of work. Sites requiring remediation will need to have a Remedial Action Plan developed with approval by the MDNR prior to implementation.

### ***Monitoring or Enforcement Program***

The proposed project will be subject to further review by Federal and state agencies and local units of government. Some permits will need to be obtained. This review and permit process will ensure that the included mitigation measures are implemented.

## ***Comments on FEIS***

The FEIS was approved for circulation on December 19, 1997, and was distributed to the agencies and individuals noted within the document on December 22, 1997. Those receiving a copy of the FEIS were provided 30 days to respond with comments. The Notice of Availability of the FEIS was published in the Federal Register on January 2, 1998. Only one letter, from Mr. Wilfred H. Adelt, mentioned the roadway projects. No other comments on the surface transportation projects were received on the FEIS.

Mr. Adelt suggested that the Lindbergh Boulevard tunnel will negatively impact the main thoroughfare between north and south St. Louis County. The response to that comment is as follows: The FAA has coordinated the proposed roadway changes, including the tunneling of Lindbergh Boulevard, with the FHWA and MoDOT. The environmental impacts of the roadway changes are contained in the FEIS Section 5.22. The proposed tunnel will not separate ties to neighborhoods, families or local businesses, or adversely affect community cohesion. The tunnel will be built to the appropriate level of service to accommodate the traffic needs of the roadway.

## **9. RELATED PLANNING ISSUES**

Several commenting parties, principally ALPA and NATCA, maintain that Alternative W-1W will not provide the needed capacity at Lambert (Appendices C and G of this ROD). This belief is based in part on their view that the proposed operation of the expanded airport is unsafe and, therefore, cannot be operated as planned.

The major technical issues raised include:

- Safety
- Capacity
  - National Airspace System Capacity Benefits
  - Runway Stagger/Departure Dependency
  - PRM/No Transgression Zone (NTZ) Issue
  - Real Time Simulation
  - SIMMOD Input
  - Terminal Expansion
  - Benefit/Cost Analyses
  - ALPA/NATCA 18 points

### **SAFETY**

Concerns have been expressed about safety issues and capacity/delay estimates developed during the MPS and EIS processes. In analyzing and comparing capacity and delay reduction benefits of various alternatives during the planning and environmental review processes, both the FAA and the City of St. Louis gave the highest priority to safety requirements in accordance with FAA's statutory mandate. Safety of operation is a prerequisite for operation and expansion of any airport. The FAA has rules (such as FAA Order 7110.65L, Air Traffic Control) and local air traffic control procedures, that govern the operation and interaction of aircraft in virtually any conceivable situation and combination of weather conditions. These rules include such things as in-trail, horizontal and vertical separations. The same rules applied by FAA's Air Traffic Division in operating existing airports are applied in airport planning to estimate the capacity and delay benefit of alternatives. The existing airport or any expanded airport will be operated safely in accordance with the rules established by FAA and applied by the Air Traffic Division.

The FAA has carefully considered all safety issues raised during the EIS process. Safety implications related to airfield layout are addressed by designing facilities in accordance with FAA design standards. The selected alternative, W-1W, is designed in accordance with Advisory Circular 150/5300-13. Alternative W-1W enhances safety

because it reduces the project number of runway crossings with the existing airfield in 2015 from approximately 800 to 580 per day. See Appendix C of this ROD, response to Comment 8. See also Appendix G.

The selected alternative, W-1W, will use procedures that are already approved by FAA and used daily at airports throughout the United States. It was developed using FAA approved airport design standards for airfield layout.

## **CAPACITY**

Estimates of capacity and delay are complex. The capacity and associated delay of a particular airport is influenced by a large number of variables, including the runway layout, taxiway system, terminal layout, gate utilization, weather variability, volume of demand, peaking characteristics of demand, airline operating strategies and fleet mix, to name a few. Estimating how well some future runway configuration will perform becomes a nearly impossible task, unless computer models are used to simulate the operation of the future airport. These models are very useful in analyzing different alternatives by changing one or two of the variables for comparative runs of the model and observing the differences in average annual delay that result. Such computer models have been used throughout this process.

The hourly capacity numbers for any specific set of circumstances produced as a result of this modeling are of far less importance than the relative magnitude of delay estimated. Any comparison or discussion of hourly capacity numbers for a specific case that does not include the associated delay results in an incomplete understanding of the operating efficiency of the case.

ALPA has stated that the runway stagger, which influences the dependence of departures from the existing Runway 30L on arrivals to the new Runway 30W, negates the advantage of the new runway. The FAA and the MPS consultant have always agreed that the departure dependence will exist. The condition was included in the modeling assumptions. The result is that the proposed expansion provides sufficient delay reduction to produce a very favorable benefit/cost ratio and acceptable projected delay levels through the planning period (the year 2015).

All of the inconsistencies in capacity/delay figures cited by ALPA have been derived from taking numbers from one study that used one set of assumptions and comparing them to another study that used different assumptions. Valid comparisons depend on use of the same assumptions and variables. Simulations for capacity and delay analysis are conducted by comparing each alternative with the existing airport and changing one variable at a time while keeping all the other variables constant.

Generally, capacity and delay estimates have more importance for comparative purposes than for any given absolute value.

The planning process for Lambert included capacity/delay analyses utilizing four different computer models: the FAA Runway Capacity Model, the FAA Annual Delay Model, SIMMOD and the National Airspace System Performance Analysis Capability (NASPAC) model. The assumptions and conditions used as input for these models were extensively discussed and coordinated with appropriate parties. In the case of the first three models, this included the Airfield and Airspace Working Group (AAWG). This group was comprised of representatives such as the St. Louis Air Traffic Control Tower (ATCT), ALPA, the airlines, Air Transport Association (ATA), and others. In the case of the National Airspace System Performance Analysis Capability (NASPAC) analysis, the FAA's William J. Hughes Technical Center (FAA Technical Center) performed the study, with input coordinated with FAA Airports Division and the St. Louis ATCT.

In the alternatives analysis stage of the master planning process, FAA's capacity and delay models were used to compare the relative operational efficiency of the various alternatives. The assumptions and results of this analysis are documented in Section 2 of the Master Plan Supplement Technical Compendium (MPSTC). Additionally, a sensitivity analysis was performed to assess the impact of changing circumstances that occurred during the planning process.

Once STLAA selected its preferred alternative, W-1W, different simulations were performed utilizing the more sophisticated SIMMOD computer model. The goals of the SIMMOD analysis were twofold: (1) to evaluate the most efficient means of operating the preferred airfield alternative, W-1W, reconfirming its overall operational benefits; and (2) to evaluate effects on aircraft delays and taxiing times of potential refinements to the operation and layout of Alternative W-1W. For these reasons, eighteen simulations were performed. The conditions and results of the model simulations are documented in Section 6 of the MPSTC.

The FAA Technical Center also performed capacity and delay simulation modeling to compare the preferred alternative (W-1W) to the existing airfield. This analysis utilized FAA's NASPAC computer model. Assumptions, conditions and results of this study are documented in a report published by the FAA Technical Center in June 1997, entitled "Evaluation of the Proposed Lambert-St. Louis Airport Expansion" and are discussed elsewhere in this section of the ROD.

Within each analysis, the alternatives being compared were subjected to the same sets of variables, which could affect the capacity/delay results of the study. This is necessary in order to draw valid comparisons between alternatives. Results of studies

performed under different assumptions and circumstances do not provide for valid comparisons.

The proposed expansion does rely on the use of a PRM to allow dual simultaneous independent IFR approaches to the outboard runways. This procedure has been tested and approved by the FAA. Simultaneous IFR approaches to closely spaced parallel runways were subjected to real-time simulations prior to the FAA approving them. In addition, a PRM was installed and operated for over a year in Raleigh-Durham, North Carolina.

In summary, the proposed expansion at Lambert has been subjected to simulations using the FAA Runway Capacity Model, the Annual Delay Model, the SIMMOD model, and the NASPAC model. In each case, the proposed expansion has shown the potential to increase capacity and significantly reduce projected delays.

### ***National Airspace System Capacity Benefits***

The lack of airfield capacity at high-activity airports in the United States is a frequent cause of "bottlenecks" in the nation's aviation system. Lambert is identified as 1 of 23 existing delay-problem airports in the FAA's 1994 Aviation Capacity Enhancement Plan; therefore, the proposed project at the airport is crucial to the development of needed capacity for the NAS.

In 1997, the FAA Technical Center conducted a study of the proposed expansion of Lambert-St. Louis International Airport to determine the expected benefits of the proposed project to Lambert and the NAS. The study was initiated at the request of FAA Central Region Airports Division. A report documenting the methodology used and results of the study was published in June 1997.

The NASPAC Simulation Modeling System (SMS) was used to perform the task. The NASPAC SMS is a discrete event simulation model that tracks aircraft as they progress through the NAS and compete for Air Traffic Control (ATC) resources, e.g., airports, sectors, flow control restrictions and arrival and departure fixes. The NASPAC evaluates system performance based on the demand placed on resources modeled in the NAS and records statistics at the 50 busiest national airports and 8 associated airports.

The study used the model to calculate local and system-wide delays, with and without the new runway proposed for the airport. Monetary benefits of the new runway were calculated using the NASPAC Cost of Delay Module. The Cost of Delay Module calculates the passenger and operational delay cost based on actual cost reported by the airlines to the Department of Transportation's Office of Aviation Statistics. The

results of the study indicate that the construction of the new runway would provide substantial monetary benefits to the airlines and the user community due to the abatement of operational and passenger delays locally and in the NAS.

Data were presented for operational delay, passenger delay and delay savings. Operational delay occurs whenever an aircraft has to compete for an ATC system resource. Passenger delay reflects the “ripple-effects” in the NAS and shows the lateness of a flight at the destination airport. The delay savings represent the difference in delay with or without the Lambert expansion project. The delay savings assumed that the current NAS stays essentially the same for the study period (2005 - 2015), with some new technologies introduced and some airspace procedures revised.

The new runway will reduce operational delay at Lambert by 63 percent in 2005, 65 percent in 2010 and 66 percent in 2015. NAS-wide, operational delay will be reduced by 5 percent in 2005, 8 percent in 2010 and 14 percent in 2015 with the implementation of the improvements at Lambert.

The new runway will also reduce passenger delay at Lambert by 55 percent in 2005, 52 percent in 2010 and 57 percent in 2015. NAS-wide, passenger delay will be reduced by 7 percent in 2005, 9 percent in 2010 and 18 percent in 2015.

Delay savings in monetary terms was also analyzed by the NASPAC model. The monetary savings indicated do not represent actual cash savings but an estimate of what could be saved by the airlines and passengers with the implementation of the Lambert expansion project. The benefits to the airlines were based on their direct cost as reported to the Department of Transportation. The passenger cost was assumed to be \$45.50 per passenger hour, if they were reimbursed for lost time caused by delays in the system.

The estimated savings that could be realized by implementing the new runway at Lambert would result in significant operational and passenger delay savings both at Lambert and NAS-wide. In terms of cumulative operational delay savings during the study period (2005 - 2015), the model predicted a \$1.9 billion savings at Lambert and a \$5.1 billion savings NAS-wide. Likewise, cumulative passenger delay savings over the study period was predicted to be \$1.4 billion at Lambert and \$9.5 billion NAS-wide.

### ***Runway Stagger/Departure Dependency***

The selected alternative, W-1W, includes construction of one new parallel runway located 4,100 feet south of the existing north parallel runway (30R). The threshold of the proposed new runway is staggered approximately 12,200 feet to the west from the threshold of existing Runway 30R. This location, along with the location of the existing

south parallel runway (30L), results in departures from either of the existing runways being dependent on arrivals to the new runway in IFR west flow conditions.

Critics of the W-1W plan claim this operation is unsafe and inefficient and, therefore, does not provide the capacity necessary to reduce delays as the MPS and FEIS suggest it will.

The stagger of Alternative W-1W increases safety because simultaneous arrivals will occur on runways separated by 4,100 feet instead of 3,400 feet. This is 600 feet more than the minimum lateral spacing of 3,400 feet allowed under PRM operations for straight-in approaches. The effects of the runway stagger and the dependency of departures have been thoroughly analyzed in the MPS. In addition, these issues have been addressed in the FEIS, in particular, see the responses to Comments 2-39, 2-64, 2-65, 2-137, 2-142, 2-144 and 2-150 in Appendix V. The SIMMOD input and ALPA/NATCA 18 points are discussed below.

### ***Precision Runway Monitor/No Transgression Zone Issue***

This issue has both safety and capacity aspects. It also relates to the real-time simulation issue discussed below. The safety and capacity of operational procedures contemplated for use with Alternative W-1W has been the subject of numerous comments previously responded to in the FEIS. See FEIS response to Comment 1-50.

The Precision Runway Monitor (PRM) is a system comprised of a rapid update radar, an enhanced color graphic monitor and a software package, which aids the air traffic controller in more accurately monitoring the position of aircraft on final approach to a runway. As noted above, use of a PRM to allow dual simultaneous independent IFR approaches to closely spaced parallel runways has been subjected to real-time simulation and approved by the FAA. The FAA has certified PRM for use to provide simultaneous independent approaches with parallel runways separated by at least 3,000 feet (FAA Order 8260.39) (3,400 feet for straight-in approaches). PRM is the primary tool that has allowed the FAA to achieve this. The W-1W proposal for St. Louis includes outboard runways spaced 4,100 feet apart, and stipulates that a PRM would be required to provide independent approaches. Runways spaced 4,300 feet apart allow simultaneous independent approaches without a PRM.

One of the features of the PRM system is a digital map displayed on a computer terminal monitored by an air traffic controller. The digital map includes an area designated as the No Transgression Zone (NTZ). The NTZ is generally centered between the approach paths of the runways being monitored with the PRM. In the case of the Lambert expansion, the outboard runways are separated by 4,100 feet. The NTZ is 2,000 feet wide, centered between the runways. Therefore, the edge of the NTZ is

1,050 feet from the centerline of each outboard runway. Since the existing two parallel runways are 1,300 feet apart, the future center runway will be 250 feet inside the NTZ. The purpose of the NTZ is to assure proper horizontal separation between arrivals.

When operating the proposed expanded airport in IFR conditions in west flow, the plan envisions approaches to the outboard runways, existing 30R and the new runway 30W (which will be designated 30L after expansion), while allowing a departure on existing Runway 30L (which would be 30C after expansion). With the PRM in operation, this will result in the departure off existing Runway 30L (30C after expansion) entering the NTZ. With the current software design for the operation of PRM, the departure would generate an alarm notifying the controller monitoring the PRM that an aircraft has penetrated the NTZ.

Some commenters have expressed concerns that PRM has not been specifically tested with the approximately 12,200-foot stagger contemplated for Alternative W-1W or with simultaneous approaches to the outboard runways with departures from the center runway. Others comment that use of PRM with a staggered runway and departures on a center runway in the NTZ exceeds the parameters for PRM certification. The FAA has carefully considered whether use of the PRM is authorized in these circumstances. The Air Traffic Division and Flight Standards Division reviewed the plan for operation of Alternative W-1W and requirements under Air Traffic Control Handbook 7110.65 Chapters 3 and 5 and PRM procedures in FAA Order 8260.39 as they apply to that plan in detail. That review indicates that the planned operation of the runway configuration is authorized as explained below:

When operating in IFR conditions in west flow, aircraft will arrive on the outboard Runways 30W (which will be designated 30L after expansion) and 30R, while departing 30C. Departures from Runway 30C will be dependent on arrivals to both outboard runways. Before a departure is released from Runway 30C the air traffic controller will apply the provisions of FAA Order 7110.65L Paragraph 5-9-8 c.3, which defines conditions for termination of radar monitoring. Internal air traffic procedures will specify that when provisions of paragraph 5-9-8 c.3 have been applied, radar monitoring shall be terminated and no action will be required in response to any alarm that may be generated by aircraft departing runway 30C. The fact that a departure from the center runway (current 30L) is inside the NTZ is not relevant because radar monitoring will have been terminated for the approach, and PRM is not used to separate departures.

W-1W does not depend upon a change in the PRM software to deactivate alarms for departures to assure safety. The purpose of the NTZ is to enable controllers to detect loss of separation between simultaneous approaches. To conduct operations as planned, modification of the software may be required. If such a software modification is required it will be subject to appropriate testing not involving real-time simulation.

This review of the proposed procedures determined that they are authorized by current ATC guidance and consistent with procedures that would require real-time simulation, as discussed below, are necessary. This determination is documented in letters dated July 31, 1998, from the FAA Administrator, Jane Garvey, to Congressmen James Talent and Richard Gephardt (Appendix I of this ROD). The result of this review and documentation is to confirm that the proposed expanded runway configuration can be operated safely as planned and depicted in the MPS and the FEIS and that real-time simulation is not necessary to verify the safety of the procedures.

### ***Real-Time Simulation***

The request for real-time simulation was first submitted to the FAA in a letter dated December 29, 1997, from ALPA representative, Dean Adam, to John Turner, Central Region Administrator, FAA. In that letter, ALPA stated that real-time simulation was the only way to resolve capacity questions surrounding the W-1W proposal. Real-time simulation was subsequently requested to address claimed significant safety impacts and to confirm the operational assumptions in the MPS and FEIS, particularly in west flow. ALPA considers such a study essential to determine whether controllers can actually pair arrivals of aircraft having different approach speeds as simulated by computer modeling. ALPA also views testing as needed to address safe use of the NTZ for departures on the center runway.

Real-time simulation is the process by which computers, flight simulators, target generators and radar scopes, operated by real air traffic controllers and actual pilots, replicate actual flight operations in an air traffic control environment. The controllers are located in a radar lab (normally at the FAA Technical Center) while the pilots operate flight simulators at various locations throughout the country, many of which are leased from airline training departments.

The process begins with a definition of requirements. Next comes the design of the simulation, which involves the development of scenarios to reflect such variables as fleet mix, weather conditions, runway configuration and use, air traffic procedures, navigational aids, approach speeds and in-trail and lateral separation. Then the actual real-time simulation is completed. If further risk analysis is required, the data is sent to the FAA's Aeronautical Center for use in a computer simulation system. Analysis of the resulting data leads to a final report.

Real-time simulation has been used by FAA numerous times to test the viability of new procedures that have been developed for specific applications. Notably, the real-time simulation process has been used by FAA to test simultaneous independent parallel IFR approaches to closely spaced parallel runways using a PRM, when it was a new

approach aid system. As a result of this and other analyses, FAA approved dual simultaneous independent IFR approaches to parallel runways spaced as close as 3,400 feet apart using PRM. Subsequently, FAA approved dual simultaneous independent IFR approaches to parallel runways spaced as close as 3,000 feet apart (3,400 feet for straight-in approaches) using PRM, with a 2½ degree offset of one of the approaches.

Real-time simulation was deemed unnecessary for this project because the procedures to be used with Alternative W-1W are authorized under existing procedures that are used daily at airports throughout the United States. Some commenters stated that real-time simulation would show that Alternative W-1W would not have the capacity claimed in comparison to other alternatives, particularly in west flow conditions. As new and untested procedures are not needed to support Alternative W-1W, real-time simulation would have no bearing on estimates of capacity and delay. While real-time simulation is a valuable tool in analyzing new and untested procedures and special situations, it is not a capacity tool. It does not provide capacity/delay numbers for comparison of alternatives.

### ***SIMMOD Review***

ALPA has commented throughout the environmental review process that various characteristics of Alternative W-1W were not properly reflected in the computer modeling and simulation analysis used by the airport's consultant and by the FAA in determining capacity. ALPA contends that incorrect information was used as input to the computer models, particularly the SIMMOD model. Others have commented that the SIMMOD capacity calculations overstate the capacity of Alternative W-1W and understate that of the existing airfield and Alternative NE-1a and that all alternatives should be evaluated using SIMMOD.

Some of the factors ALPA believes were incorrectly analyzed include the runway stagger, the dependency of departures from the center runway, the ground movements in front of the terminal, the arrival rates for the existing parallel runways, the arrival rates for the Dependent Converging Instrument Approach (DCIA) operation for the existing airfield, runway crossings and the effects of wake turbulence.

During the MPS, the City of St. Louis compared alternatives using the results of the FAA Airfield Capacity Model and the FAA Annual Delay Model. Numerous sensitivity analyses were performed throughout the planning and environmental review process using the capacity and delay models in order to determine what, if any, effect the suggested changes would have on the alternatives analysis. The latest of these analyses was conducted for the No-Action, S-1, NE-1a and three scenarios for W-1W

in response to a list of 18 points that ALPA presented to FAA during a meeting on June 9, 1998 (Appendix C of this ROD).

After the capacity and delay models were used to make estimates that enabled the City of St. Louis to select its preferred alternative, Alternative W-1W, the SIMMOD was used to refine comparisons between Alternative W-1W and the No-Action Alternative. Although FAA had already conducted one study that confirmed the results of the MPS SIMMOD analysis, to further address concerns about the adequacy of FAA's independent review, the FAA Technical Center reviewed the input files used by the consultant for the SIMMOD analysis, as well as the procedures used for modeling the runway crossings, departure dependencies and taxiway movements in front of the terminal.

The results of the FAA Technical Center review of the SIMMOD analysis of the proposed expansion are documented in an August 1998 report. The Technical Center established that the analysis was performed in conformance with the accepted standard practice and the results obtained are reasonable. The Technical Center's letter dated July 29, 1998, summarizing the results of this review, is documented in Appendix I of this ROD. As it is reasonable for the FAA to select Alternative W-1W based upon the comparison with other alternatives, it would not be useful to conduct additional SIMMOD analyses to refine other alternatives.

### ***Terminal Expansion***

One of the issues raised concerns the plan for expansion of the terminal facilities included in the overall expansion plan for Lambert.

The local press reported in May 1998, that TWA (the major hub operator at Lambert) was pressing the airport for immediate construction of a new 60-gate terminal. It was also reported that TWA was contemplating withdrawing its support of the W-1W plan, if the airline did not get its new terminal by the time the new runway was to open. This report stirred controversy, because the MPS and the FEIS envisioned development of new terminal facilities on a more gradual schedule.

The MPS and the FEIS documented terminal development to the west of the current terminal location, including a location west of Runway 06/24 (Figure S.3 in Appendix J of this ROD). The FEIS addresses impacts of terminal development relating to location (footprint) of new facilities and gates to accommodate the forecast aviation demand through 2015. It was estimated that 105 to 110 total gates would be necessary to accommodate the aviation demand in 2015. As part of the mitigation program in the FEIS, STLAA has agreed that when terminal design progresses sufficiently, the STLAA

will conduct a carbon monoxide hot-spot analysis for terminal expansion to ensure that the terminal structure is designed efficiently from an air quality standpoint.

At the request of the FAA, the STLAA and TWA subsequently clarified the level and extent to which negotiations for new terminal facilities for TWA had progressed (see letters from STLAA and TWA in Appendix F of this ROD). Both parties reported that preliminary discussions had taken place, but that both STLAA and TWA were in full support of the expansion plan as developed in the MPS and documented in the FEIS.

An issue directly related to the terminal expansion plan that has been the subject of comments is the ground movement on Taxiway Delta in front of (and adjacent to) Concourse C. The current configuration of this taxiway in relationship to the terminal requires that aircraft using the gates on the north side of Concourse C push back into the taxiway. This restricts the efficient utilization of the taxiway.

This limitation was identified at the alternatives analysis stage in the MPS process. A number of possible solutions to the problem were explored with the participation of the AAWG. Some of those solutions were:

1. Remove a section of Concourse C near the main terminal to allow one-way taxi flow into the “back alley” between Concourses C and D, with opposite flow along the north side of Concourse C.
2. Move Runway 12R/30L 300 feet north of its present location to allow enough room to clear push backs from the terminal with a new parallel taxiway.
3. Reduce the width of Runway 12R/30L to 150 feet (presently 200 feet) to allow room to shift Taxiways Alfa and Delta 50 feet to the north.
4. Eliminate approximately 11 conventional gate positions on the north side of Concourse C, replacing them with 5 “power-in, power-out” gate positions to eliminate push backs into the taxiway--to be accomplished when terminal expansion to the west of the present terminal provides enough gates to compensate for the six-gate net loss required by the plan. This is the solution that was selected.

In summary, terminal development up to a total of 110 gates is covered in the FEIS. Terminal development west of the current terminal and some terminal development west of Runway 6/24 is documented in the FEIS. The proposed terminal areas are shown in green in Figure S.3 of the FEIS (Appendix J of this ROD). Impacts of the terminal facilities were considered for each of the 22 environmental categories

examined in the FEIS and documented in the FEIS. The only additional analysis needed is a carbon monoxide hot-spot analysis unique to exact terminal design. Terminal development in excess of 110 total gates would need additional environmental review.

### ***Benefit/Cost Analyses***

Two separate benefit/cost analyses were prepared during the study process. The first was conducted by the MPS contractor for STLAA. A second independent BCA was conducted by the FAA.

#### ***Master Plan Supplement Benefit/Cost Analysis***

Benefit/cost ratios (BCR) were computed in the MPS. Benefits included aircraft travel time and delay savings, while costs were calculated using construction costs to be incurred from 1996 to 2015. According to the analysis prepared by STLAA, the new runway at Lambert (Runway 12W/30W) would have a BCR of 2.2, indicating that its economic benefits are over two times greater than the project cost, and that it is economically preferable to not constructing the runway.

#### ***FAA's Independent Benefit/Cost Analysis***

As a supplement to the analysis of the Lambert expansion plan (W-1W) for the FEIS, and in anticipation of a request for funding under the Airport Improvement Program (AIP), the FAA Airports Division requested the FAA's Systems and Policy Analysis Division (APO-200), Office of Aviation Policy and Plans, to conduct an independent BCA of the proposed plan.

In July 1997, the FAA performed and completed an independent BCA for Lambert. The analysis, performed by FAA's Systems and Policy Analysis Division, Office of Aviation Policy and Plans, compared Alternative W-1W with the No-Action Alternative. The methodology, assumptions and results of the analysis are documented in a report entitled "Benefit-Cost Analysis for Lambert-St. Louis International Airport Capacity Enhancement Project," dated July 31, 1997.

The results of the FAA analysis indicate that Alternative W-1W has a BCR of 2.6 compared to the No-Action Alternative, making it economically preferable to the No-Action Alternative.

The FAA report also includes a risk analysis, which calculates the effect of cost overruns, construction schedule slippage, traffic growth variations, and combinations of

these variables. The risk analysis indicates that Alternative W-1W has a high probability of maintaining a BCR greater than 1.0 under a wide variety of scenarios.

In summary, regardless of whether one relies upon the BCR of 2.2 from the MPS or the FAA's BCR of 2.6, the BCR for Alternative W-1W is clearly advantageous.

### ***Air Line Pilots Association/National Air Traffic Controllers Association 18 Points***

ALPA and NATCA presented a written list of 18 concerns to FAA senior staff at a meeting on June 9, 1998, and submitted basically the same list when they met with the Associate Administrator for Airports on June 16, 1998.

In response to these concerns, the FAA Airports and Air Traffic staff met with STLAA and its consultant to determine the variables to examine in a "sensitivity" analysis. A sensitivity analysis is a process of reevaluation or recalculation of a previously completed analysis using one or more changed variables. The purpose of the sensitivity analysis is to see what effect the changed variables have on the results of the analysis, or how sensitive the results of the analysis are to the variables that are the subject of the sensitivity analysis. In this case, at the request of the FAA, STLAA and its consultant performed a sensitivity analysis to determine what effect the use of the variables suggested by ALPA and NATCA would have on the results of the capacity/delay analysis and the overall analysis of the alternatives. The results of the sensitivity analysis indicate that incorporation of the ALPA/NATCA data would make no significant difference in the capacity/delay and cost/benefit analysis relative comparison of the alternatives. The details of the sensitivity analysis are included in Appendix C of this ROD.

In recent comments, both ALPA and Bridgeton have misinterpreted FAA's use of different assumptions as proof that the assumptions and analyses in the MPS and the FEIS are incorrect. The sensitivity analysis was done with, among other assumptions, a lower arrival rate of 60 arrivals per hour instead of 72 per hour during VFR 1 conditions for the No-Action Alternative and Alternative W-1W. It also examined the effect of using outboard runways during VFR 1 and 2 conditions and west flow with Alternative W-1. These analyses were done to accommodate and address concerns about the validity and integrity of the process.

The operational assumptions used in the planning and EIS processes remain reasonable and valid. The arrival rate of 72 arrivals per hour includes ample time for voice communication between pilots and controllers and for clearances. The assumptions used in the MPS and the FEIS are consistent with operational efficiency. During good weather and west flow, it would be more efficient to use the new runway for

departures and the existing runways for simultaneous independent arrivals than to sequence departures between gaps in simultaneous arrivals to the outboard runways given the demand for departures at Lambert.

## **10. ENVIRONMENTAL ISSUES RAISED ABOUT THE FEIS**

During the 30-day review period, comments were received from the following in response to the FEIS:

### **Federal Agencies**

- Department of Health and Human Services
- Department of the Interior
- Department of Transportation, Federal Transit Administration
- US Environmental Protection Agency

### **Local Agencies/Interest Groups**

- City of Woodson Terrace
- St. Clair County Board
- St. Charles R-6 School District
- Office of the County Executive, St. Charles County
- City of Bridgeton
- City of St. Charles
- National Air Traffic Controllers Association
- Air Line Pilots Association
- People Building Community
- St. Charles County Citizens Against Aircraft Noise
- Bridgeton Air Defense

### **Interested Citizens**

- 161 letters from interested citizens

Letters from the public echoed many of the comments received from the local governments and interest groups. Most of their comments were in the areas of noise, airport planning, alternatives and public involvement.

No substantive comments were received from the public on the following categories after the release of the FEIS: hazardous materials; water quality; historic, architectural and archaeological resources; biotic communities; endangered and threatened species; wetlands; farmlands; energy and natural resources; light emissions; solid waste impacts; construction impacts; cost considerations; environmental justice; surface transportation; floodplains; and design, art and architecture.

The FAA has carefully assessed and considered comment letters received on the FEIS in making its decision. Copies of these letters are available for inspection at the FAA Regional office. While not every comment in every letter has been addressed, Appendices A, B, C, D, E and G of this ROD provide detailed responses to comments on major issues raised by the principal commenting agencies and citizen groups. Airport planning issues raised in comments on the FEIS are summarized previously, in Section 9 of this ROD. The major environmental issues raised in comments on the FEIS are summarized below.

**1. Flawed purpose statement includes dual simultaneous independent arrivals**

Commenters contend that dual simultaneous independent arrivals are not a legitimate purpose and need.

The purpose and need statements contained in the FEIS present an accurate description of the purpose for the project and the reasons why the proposed Lambert action is needed. The FEIS, Section 2.0, Purpose and Need, identifies four major elements of the purpose of the proposed Federal action.

The first major element listed is associated with capacity and aircraft delay. One of the sub-items identified under capacity and delay is the development of a capability for dual simultaneous independent IFR arrival operations. This capability was identified as far back as the FAA's 1986 Capacity Enhancement Study, done by the FAA Technical Center. It was subsequently identified in the master planning process. Both the FAA and STLAA determined, based on the forecasts of aviation demand and analysis of existing airfield capacity, that a third parallel runway and a separation of at least 3,400 feet between the outboard parallel runways would have the greatest potential to reduce aircraft delays during adverse weather conditions. This capability was identified as a subordinate item under the general purpose of enhancing capacity and reducing delays, reflecting the operational importance of improving airport capacity during poor weather (IFR and VFR-3) conditions. This was the major capacity problem identified by the master planning process and confirmed by the FAA Technical Center's independent evaluation.

The City of Bridgeton commented both on the DEIS and on the FEIS that the FAA has unduly narrowed the purpose and need and skewed the analysis of alternatives by relying upon simultaneous instrument arrival capability as a factor. The inclusion of dual simultaneous independent IFR arrival operations at Lambert did not unduly narrow or restrict the consideration of alternatives.

It was reasonable to include simultaneous arrival capability during instrument meteorological conditions as a sub-element of the general purpose and need of enhancing capacity based on the 1986 and master planning studies. Simultaneous arrival capability did not skew the analysis of alternatives because it was one of seven project goals or factors weighed by FAA, along with reducing delay and enhancing capacity generally both at Lambert and in the NAS during visual meteorological conditions, consistency with local planning, and consistency with economic goals (FEIS, Section 3.2, p. 3-3-3-6). These factors, derived from the purpose and need section of the EIS (FEIS Section 2.0), are listed in Section 4 of this ROD. Subsequently, operational efficiency, financial and environmental concerns were considered in the decisionmaking process.

While independent arrival capability during IMC was dispositive in dismissing Alternative NE-1a in the DEIS, two other similar north airfield alternatives met this requirement and were retained for further consideration in Tier 2.

Even if simultaneous independent arrival capability in IMC was an overriding factor, the analysis of alternatives was not skewed because all but one of the eight development alternatives carried forward from the MPS met the criteria. In addition to Alternative W-1W, of the onsite airfield alternatives, Alternatives NE-1, N-1, C-1, W-1E, W-2 and S-1 met the simultaneous arrival capability criteria (FEIS, Table 3.7, p. 3-35). Alternative S-1, which had simultaneous independent arrival capability, was one of the reasonable alternatives evaluated fully throughout the EIS process. A recent NASA study indicates that additional runways, providing independent IFR capability, are one of the most promising strategies for improving capacity in the NAS (Pages 24-26 of the NASA study, attached to the City of Bridgeton's comments on the FEIS dated February 2, 1998). That the FAA and STLAA view independent arrival capability as important and the most plausible goal is not unreasonable because others might consider the lower levels of capacity and delay reduction of NE-1a tolerable.

The analysis of alternatives was also not skewed because the FAA has done supplemental analysis to assure that it did not elevate independent arrival capability over the larger project goals. In the DEIS, the FAA examined the FAA Runway Capacity Model and FAA Annual Delay Model results that estimated the capacity and delay associated with Alternative W-1W, and Alternative S-1, along with the other alternatives N-1, NE-1, NE-1a, C-1, W-1E, W-2 and the No-Action Alternative. This analysis indicated that Alternative W-1W provides greater capacity benefits than the No-Action Alternative. In response to comments on the DEIS, the FAA examined Alternative NE-1a in more detail in the FEIS (FEIS Section 3.3.4.1). Further examination in the FEIS indicates that Alternative NE-1a was not a reasonable alternative because it has substantially higher average annual delays, total annual

delay and more runway crossings than the alternatives studied in detail in the EIS (MPS Section 3, Attachment D-2).

In response to further comments from the City of Bridgeton, ALPA and NATCA, that questioned the validity of the modeling assumptions used in the FEIS, the STLAA, with oversight from the FAA, conducted a sensitivity analysis in June 1998 that included Alternative NE-1a. This sensitivity analysis assumed, for the sake of argument, the truth of four different assumptions posited by these commenters. The sensitivity analysis indicated that Alternative W-1W increases capacity and reduces delays better than Alternative NE-1a and the No-Action Alternative. The commenters do not identify any alternative that provides capacity or delay reduction benefits comparable to or greater than Alternative W-1W but lacks simultaneous independent arrival capability.

This comment is very similar to prior comments on the DEIS. See responses to Comments 1-14, 1-21 and 1-49 in FEIS Appendix V.

## **2. FEIS flawed based on tiering process for screening alternatives**

There were concerns that the FEIS and its alternatives analysis do not meet the requirements of NEPA, because the tiering process used by FAA to screen alternatives was flawed.

While some commenters believe that the FEIS is flawed, the FEIS is a comprehensive document that fully meets the spirit, intent and requirements of NEPA as well as other substantive statutes. The FAA prepared an evaluation of the proposed action through the EIS process as required by NEPA. The purpose of an EIS is to consider alternatives, present probable environmental impacts and examine possible mitigation to address the significant adverse environmental impacts of those alternatives. The FEIS identifies significant adverse environmental impacts for the preferred alternative and contains appropriate mitigation for those significant adverse environmental impacts.

The FAA solicited comments from interested parties, starting with the scoping process on the DEIS, and continuing throughout, so that it could correct any deficiencies in the documents and provide any additional analyses needed in the FEIS. As examples, because of comments received on the DEIS, the FAA supplemented its FEIS noise analysis with grid points outside the 65 DNL contour, and supplemented the air quality analysis to further describe issues of interest to EPA and MDNR.

The FAA worked closely with each jurisdictional agency to ensure that its concerns were adequately addressed in the FEIS. The EPA expressed satisfaction with the Draft General Conformity Determination, which demonstrated that the project meets the

requirements of the Clean Air Act (EPA letter dated April 22, 1998, in Appendix A of this ROD). The DOI and MDNR commented on requirements of the Land and Water Conservation Fund Act and DOT Section 303 (also referred to as Section 4(f)) and had no outstanding issues remaining. Along with the FAA and the STLAA, the SHPO and Advisory Council on Historic Preservation signed an MOA (Appendix H of this ROD) that satisfies the requirements of the National Historic Preservation Act. The Corps of Engineers was consulted and had no objections to the proposed wetlands mitigation concept. These examples demonstrate that the FAA has fulfilled the procedural and substantive requirements of NEPA as well as other environmental statutes and requirements.

Regarding the FAA's tiering process and alternatives analysis, a full and comprehensive range of alternatives was explored by the FAA in the Federal EIS process. The EIS examined the alternatives of using a multiple airport system, using existing or proposed regional airports as a replacement or supplement to Lambert, development of a new airport, other modes of transportation and use of other runway configurations at Lambert.

The Council on Environmental Quality (CEQ) regulations require that reasonable alternatives be comprehensively considered and an explanation be provided as to why other alternatives were eliminated from detailed consideration. The FAA used a three-tiered analysis process, which the EPA acknowledged as meeting the requirements of NEPA, to determine the reasonable alternatives that were subject to detailed analysis. Alternatives that were not considered reasonable were not retained for detailed evaluation. In order to be carried through for detailed analysis, an alternative had to meet all the purposes and needs for the proposed action.

In its letter dated February 27, 1998, the EPA expressed concerns regarding the alternatives analysis in the FEIS. The FAA provided additional explanation to EPA in a letter dated April 9, 1998, and the EPA responded, in a letter dated April 22, 1998, that its remaining concerns had been resolved (Appendix A of this ROD contains these letters). In that letter, the EPA stated the following: "I believe it is important to note that while we may have expressed disagreements or requested clarification in the areas of air quality and noise impacts, our comments on the FEIS should not be viewed as questioning whether the FEIS met the spirit, intent, and requirements of NEPA in these two issue areas. Our comments concerning NEPA requirements were directed solely at the issue of the alternatives analysis contained in the FEIS, and particularly the role of economic factors in the screening process for the alternatives."

The tiered alternatives analysis presented a logical, objective means to screen all alternatives considered in the study. The tiered evaluation retained two reasonable alternatives, W-1W and S-1, for detailed evaluation, not just the sponsor's proposed

action. In its letter of April 22, 1998, the EPA stated that the tiered screening analysis of alternatives, based on the particular purposes and needs identified for this project, represented an adequate screening of the alternatives consistent with the requirements of NEPA. In its response to FAA's clarification of the alternatives analysis, the EPA responded: "As we indicated in our earlier correspondence, our Agency supports the concept of screening a full range of alternatives against a project's purpose and needs to identify which alternatives are reasonable, and are carried forward for detailed analysis. We believe this approach meets the spirit, the intent, and the requirements of NEPA, provided that the process is conducted in a valid, legitimate manner. With the additional clarification provided in your letter of April 9, 1998, we better understand how FAA conducted the tiered alternatives screening, and believe that the analysis of alternatives, based on the particular purpose and needs identified for this project, represents an adequate screening of the alternatives consistent with the requirements of NEPA." Thus, the FAA's analysis of alternatives fulfills the requirements of NEPA.

These comments also do not raise entirely new issues, but are similar to comments previously raised on the DEIS. Tiering was discussed in the FEIS Appendix V, responses to Comments 2-74, 2-77, 2-78, 2-121, 2-131, 2-132, 2-133, and 2-134. The alternatives selection process was discussed in the FEIS responses to Comments 211, 2-15, 2-29, 2-58, 2-72 and 2-85.

In summary, the FEIS, including its alternatives analysis, is a comprehensive document that fully meets the spirit, intent and requirements of NEPA.

### **3. Use of Scott AFB/MAA**

Citizens questioned why Mid-America Airport (MAA) could not be used as an alternative to supplement or replace Lambert.

The FAA believes that the effects of the future development of MAA on Lambert have been fully considered in the FEIS. The use of other airports, including MAA, as a hub or to supplement Lambert is not considered a viable alternative to the planned development of Lambert. At the present time, it appears that the capital investment required, the travel distance involved, and the impact on airline hub operations exceed the benefits derived. However, all airports in the St. Louis area were examined in the FEIS to determine their capability to handle commercial traffic.

In order to be carried through for detailed analysis, an alternative had to meet all the purposes and needs for the proposed action. Alternatives eliminated during Tier 1 of the analysis did not meet aviation-related project purposes and needs and were not considered reasonable. All off-site alternatives were found to be unreasonable alternatives in terms of the first tier of the analysis. In the EIS, we discussed

specifically how the off-site alternatives, such as MAA, did not maintain a passenger hub at Lambert, a key component of the project need. If a proposed alternative could not enable Lambert to effectively function as a hub by safely accommodating projected levels of aviation activity at an acceptable level of delay, then it would serve no purpose to carry that alternative forward for detailed evaluation.

The lack of a sponsor for airport expansion in another political jurisdiction is a reality that the FAA is authorized to consider under CEQ regulations and the rule of reason. The FAA has received correspondence from St. Clair County, the operator of MAA (which is a joint-use facility with Scott AFB), that indicates it supports Lambert as the regional hub (FEIS Appendix A, pages A-20 and A-21). There has been no correspondence from St. Clair County or any other political entity in the region that indicates the desire to be the sponsor of such a hub airport.

Section 3.3.3 of the FEIS contains a thorough analysis of the MAA alternative. Also, comments on this alternative were received after release of the DEIS and FAA provided explanation of its elimination from consideration in FEIS Appendix V responses to Comments 2-3, 2-33, 2-45, 2-60 and 2-120.

#### **4. Selection of Modified S-1 alternative**

Some groups favored the Modified S-1 alternative, which was supported by ALPA, and believed FAA should select that alternative rather than Alternative W-1W.

An analysis contained in Section 3.3.4.3 of the FEIS details the environmental impacts associated with the Modified S-1 alternative. ALPA has proposed two versions of the Modified S-1 plan. It was estimated that the 1993 version would involve the purchase of nearly twice the number of homes, and the overall environmental impact would greatly exceed Alternative S-1. While the 1996 version would affect substantially fewer homes, simple review of the Modified S-1 plan reveals that it would so severely impact I-70 that the cost and construction difficulties make it unreasonable and also less desirable than Alternative S-1. As indicated in the FEIS analysis, this alternative would have significantly greater environmental impacts when compared to Alternative S-1. Therefore, after examination of the Modified S-1 alternative, the FAA eliminated it from further consideration, because there were no operational or cost advantages when compared to Alternative S-1.

These comments do not present significantly new issues. Similar comments were made on the DEIS. FAA previously provided responses to those comments (FEIS Appendix V responses to Comments 2-5, 2-27, 2-104, 2-140 and 2-155).

## **5. Selection of Alternative NE-1a**

NATCA and other commenters suggested that FAA should select Alternative NE-1a as its preferred alternative. In comments provided on the DEIS, NATCA outlined numerous reasons why it believes that runways separated by 2,500 feet would meet Lambert's needs.

Although Alternative NE-1a provides only a 2,500-foot separation between the outboard runways, it was included and studied in detail in the MPS at the request of the airlines. One of the purposes of the proposed action is to increase IFR capacity, as well as VFR capacity. Alternative NE-1a was eliminated from detailed environmental analysis in the DEIS because it provides less than the 3,400-foot separation needed for simultaneous, independent arrivals in either IFR or VFR weather conditions.

In comments provided on the DEIS, NATCA outlined numerous reasons why it believed that runways separated by 2,500 feet would meet Lambert's needs. FAA's detailed responses to NATCA's comments are provided in responses to Comments 1-52, 2-157 and 2-158 in the FEIS Appendix V. Other FEIS Appendix V responses to comments that discuss Alternative NE-1a include Numbers 2-27, 2-40, 2-89, 2-90, 2-119, 2-126 and 2-139. In response to these comments, FAA conducted further analysis of NE-1a in the FEIS (FEIS Section 3.3.4.1). The analysis indicated that Alternative NE-1a increases the number of runway crossings over existing conditions, as well as over Alternative W-1W. Additionally, more significant interactions between arrivals and departures would be expected with NE-1a as compared to the other alternatives. Thus, the FAA did examine the alternative preferred by NATCA, NE-1a, but eliminated it from further consideration.

## **6. Selection of the Lambert 2020 alternative**

The City of Bridgeton stated that the FAA should select the Lambert 2020 alternative, which was proposed by the City of Bridgeton.

The City of Bridgeton's Lambert 2020 Plan as submitted was very general in nature. However, the Lambert 2020 Plan is very similar to Alternative NE-1a, particularly as to runway location. The Lambert 2020 Plan calls for a third parallel runway in the same location as Alternative NE-1a. It does not meet the purpose and need, primarily because the runway spacing would only be 2,500 feet, which would not permit simultaneous, independent arrivals in poor weather conditions.

Section 3.3.4.5 of the FEIS provides further details regarding the elimination of this alternative. The Lambert 2020 plan was also previously discussed in FEIS Appendix V responses to Comments 2-24, 2-109 and 2-141.

## **7. EPA concerns with noise impact analysis and noise mitigation program**

The EPA expressed concerns that the noise impact analysis and noise mitigation program, as described in the DEIS, were not adequate. Those concerns were addressed in the FEIS, Appendix V, responses to Comments 3-77, 3-78, 3-79, 3-87 and 3-99.

The EPA was under the impression from the DEIS that the FAA deferred mitigation to a Part 150 study, which was not our intention. The FEIS states that mitigation for the EIS is separately required and not dependent upon a Part 150 study (Section 6.3.1 of the FEIS).

Regarding noise impacts, the FAA believes it provided a comprehensive analysis of noise impacts, including an analysis of the areas that will experience a 3-dB increase in the 60 to 65 DNL contour. Although it was not the type of analysis that the EPA expressed an interest in seeing, FAA believes that the extended analysis is within the framework of the Federal Interagency Committee on Noise (FICON) guidelines and public disclosure requirements under NEPA.

With respect to the EPA's suggestion for clarification of proposed mitigation, as stated in the FEIS, the FAA has determined that the mitigation programs will consist of: (1) for areas 70 DNL and higher, residential and residentially zoned areas will be acquired; and (2) for areas 65-70 DNL, a voluntary mitigation program (sound insulation or residential sales transaction assistance) will be offered for residences and community facilities, including schools, and mobile home parks will be acquired. For areas between 60-65 DNL, we have determined that mitigation measures are neither appropriate nor practical. We note also that the STLAA has an ongoing, FAA-approved FAR Part 150 Noise Compatibility Program, which already provides mitigation for existing and future noise impacts around the airport.

The FEIS noise mitigation program was explained to EPA staff, who concurred that it is sufficient. Therefore, the FAA believes its noise analysis and mitigation program adequately meet the spirit, intent and disclosure requirements of NEPA.

The development of Alternative W-1W will not reverse ongoing efforts to provide relief to residents impacted by existing airport noise. The airport is continuing with its Part 150 program, approved by the FAA in 1997, to address noise issues related to existing airport operations.

The STLAA is planning to install a new permanent noise monitoring and flight tracking system, intended to assist in the management of its noise program and monitor the

effectiveness of operational noise mitigation measures, such as directing aircraft to turn over the Missouri River bottoms. Once a full year's noise and flight track data showing the actual noise levels and flight tracks resulting from the operation of the new west runway are available and have been analyzed, an adjustment will be made to the mitigation program, if appropriate.

## **8. Increases in noise and overflights in communities west of Lambert**

Citizens in communities west of the airport, such as Bridgeton, St. Charles and Maryland Heights, question the noise analysis and believe there will be large increases of noise and overflights in their communities

The noise exposure analysis was prepared by Greiner and reviewed and approved by the FAA. Flight tracks were developed by Greiner under the direction of the FAA, utilizing information from FAA Air Traffic Control Specialists, analysis of Automated Radar Terminal System (ARTS) data and information gathered during field observations. The FAA's Integrated Noise Model (INM) was used to model dispersed flight tracks, which represent corridors of aircraft flight activity. Departure and arrival flight tracks used in the noise analysis represent average conditions, including both instrument and visual flight conditions. Flight tracks for Alternative W-1W were developed based on a 3-parallel runway configuration. The aircraft operations mix was developed through coordination with the FAA ATCT, airlines, the Missouri Air National Guard and other airport users. Information was also obtained from aircraft manufacturers regarding aircraft performance characteristics of existing and new generation aircraft. Projections of future operations were closely coordinated with the FAA and aircraft operators. Therefore, the noise exposure analysis and noise exposure maps contained in the FEIS are based on the most accurate information available regarding the current and predicted future operation of the airport. The flight paths projected do represent annual average conditions. We note, however, that flight paths may change from day to day because of wind, weather or other conditions.

Although noise measurements are not required for an FEIS, since the airport has had a permanent Noise Monitoring System, data collected by the Noise Monitoring System were used for the EIS. The purpose was to provide validation of, or adjustments to, the data base provided in the INM computer model. On-site noise measurements provided data to compare with that provided by the prediction model for the existing condition. Measured values were compared with the noise levels derived from the INM. On the basis of this comparison, it was concluded that the measured values of these sites were within reasonable conformance with values calculated by the computer program. No manual adjustments not already included in the computer model were required due to terrain or climatic variations. The INM noise analysis results correlated to within 1 dB of the actual monitored results (Section 4.2.4.2 of the FEIS).

Airplanes will fly over St. Charles or Maryland Heights. Departing flight tracks will not be concentrated over the central portions of the City of St. Charles. For the existing runways and the proposed new runway, departure corridors to the southwest would be over the Missouri River Bottoms. This would generally place aircraft over the Missouri River Bottoms, rather than over the City of St. Charles. Departure Track T46, as shown in Figure 5.7 of the FEIS, will be located over St. Charles. Tracks T47, T48 and T49 are also departing flight tracks from Runway 30W, which do not go over the City of St. Charles. As indicated in the FEIS Appendix F, Table F.21, of all the departures on Runway 30W, only 33 percent of general aviation and small and medium commercial jets will utilize Track T46. All large commercial jets and military jets, as well as 67 percent of general aviation and small and medium commercial jets departing from Runway 30W, will utilize Tracks T47, T48 and T49, which do not impact the City of St. Charles.

In summary, after Runway 12W/30W is operational, certain neighborhoods in St. Charles and other communities west of the airport will be overflown more directly and at shorter slant ranges than they are at present. Because of the effects of the introduction of quieter Stage 3 aircraft, noise levels are projected to decrease in future years. With the implementation of Alternative W-1W and the increased percentage of Stage 3 aircraft, the FEIS grid point analysis conducted for locations C01 through C06 in St. Charles indicates that noise levels at these locations will be well below the DNL 65 dB threshold. By the year 2002, aircraft noise levels will have decreased to below DNL 60 dB, with or without Runway 12W-30W.

Similar comments previously received on the DEIS regarding noise increases and flight tracks were addressed in responses to Comments 3-17, 3-86, 3-93, 3-102, 3-103, 3-107 and 29-62 in Appendix V of the FEIS.

## **9. Current noise levels in St. Charles**

According to an independent noise study commissioned by the City of St. Charles and prepared by Engineering Dynamics International (EDI), St. Charles is currently experiencing high noise levels.

The current noise situation in St. Charles is not associated with the proposed Runway 12W/30W alternative. While some areas in St. Charles may currently experience noise levels between DNL 60 and 65 dB, they are not related to the proposed expansion, including Runway 12W/30W.

Section 4.2.4.2 of the FEIS contains a detailed analysis of the existing noise environment in the Lambert study area. Based on the information contained in this

section, the St. Charles area is outside the DNL 65 dB contour area. This conclusion is supported by the results of both the St. Charles County Government study, prepared by EDI, and the FEIS. The EDI report was considered by the FAA in its preparation of the FEIS. In Appendix V of the FEIS, responses to Comments 3-43 and 3-54 address the findings of the EDI report.

#### **10. Inappropriate use of 65 DNL as cutoff for noise impacts or mitigation**

St. Charles citizens expressed the opinion that DNL 65 is not an appropriate cutoff for noise impacts or mitigation.

NEPA requires Federal agencies to evaluate the environmental consequences of a project's environmental impacts and to determine whether they are potentially significant. In some impact categories, that significance is determined by reliance upon certain thresholds or standards. In this case, the FAA used the 1.5 dB or greater increases in noise within the DNL 65 dB.

In 1979, Congress directed the FAA to adopt regulations to establish standard methodologies for measuring noise and guidelines for determining noise levels at which land uses are compatible with various levels of noise exposure (49 U.S.C. 47502). In 1981, the FAA issued 14 CFR Part 150. Under FAA guidelines, residential land uses are compatible with noise exposure levels below DNL 65 dB. The FAR Part 150 guidelines were established after years of extensive consideration by various agencies (i.e., EPA, HUD, FAA) of the impact of aircraft noise on people. FAA's policy decision regarding the selection of DNL 65 dB as the threshold of significant noise impact is based upon a variety of noise studies such as Impact of Noise on People (USDOT, May 1977) and Guidelines for Considering Noise in Land Use Planning and Control (Federal Interagency Committee on Urban Noise, June 1980). This study states that "a valid indicator of noise impact is the changing percentage of population associated with a given response category." The study indicates that at DNL 65 dB, 30 percent of the population rate noise as unacceptable, while 70 percent rate noise as acceptable. Use of the 65 DNL contour as the threshold of significance under FAA Orders 1050.1D and 5050.4A, which implement NEPA, is well established and has been judicially approved.

As discussed below, a DNL grid point analysis was done for certain noise-sensitive locations, including some residential areas in St. Charles. However, the FAA properly determined not to analyze alternative mitigation measures in areas surrounding the airport like St. Charles that would experience less than significant cumulative noise exposure levels as a result of the proposed action. The FICON report indicates that few mitigation measures are appropriate or practical in areas below DNL 65 dB. Noise abatement adjustments to flight procedures tend to be viewed as the most likely

candidates for mitigating noise at lower levels, because they are within Federal control and do not involve changes in land use. However, this tool also has limitations. In order for a noise abatement flight procedure to be considered for analysis, there should be a reasonable expectation that a noise benefit of worthwhile magnitude would result and that implementation of the procedure is appropriate and practicable. Procedural changes usually involve moving noise around rather than eliminating it and may actually result in noise increases for some people, while reducing noise for others. It is generally expected that Federal priority will be given to mitigating noise at higher levels. It would not normally be a mitigating practice to increase the impacted population at higher noise levels in order to reduce increases at lower noise levels.

Recognizing that residents located outside the DNL 65 contour experience noise exposure, the FAA did examine noise at residential and other noise-sensitive facilities located in areas less than DNL 65. The noise impacts to St. Charles that can be expected with the implementation of Alternative W-1W are evaluated in Appendix Q of the FEIS. Table Q-1 in Appendix Q of the FEIS indicated that DNL levels will increase at three of the six grid points analyzed. However, in no instance was the DNL level in excess of DNL 60 dB with the proposed action. The table also indicates that the DNL level will decrease at three of the six grid point locations, again, with none of the locations experiencing DNL levels greater than DNL 60 dB with the proposed action. Therefore, residential land uses in St. Charles are compatible under Federal guidelines and no mitigation is required. No mitigation is warranted in St. Charles.

Comments on the DEIS stated that DNL 65 dB is not an appropriate standard for the examination of noise impacts or the establishment of the mitigation program for the Lambert expansion. The FAA explained this issue in the responses to Comments 3-10, 3-45, 3-56, 3-58, 3-67, 3-100, and 3-101 in Appendix V of the FEIS.

In summary, DNL is an appropriate noise metric and DNL 65 dB is an appropriate standard of significance. The FICON report states in Section 3 Airport Noise Policy Recommendations, "All Federal agencies have now adopted DNL as the metric for airport noise analysis in NEPA (EIS/EA) documents."

## **11. Use of supplemental metrics for speech interference and sleep disturbance**

Commenters requested that FAA should use supplemental metrics to determine speech interference and sleep disturbance impacts in St. Charles.

In keeping with the guidance provided by FICON, the use of supplemental metrics (such as single-event analysis) is best left to the discretion of individual agencies. At the onset of the study, and again later in the study after additional information was available, the FAA made a policy decision that the noise analysis in the FEIS would be

based on DNL contour analyses. The FAA further found that the use of supplemental metrics to analyze noise conditions in the City of St. Charles was not necessary. However, in response to comments received on the DEIS, the FAA did prepare a DNL Grid Point analysis for several sites located within St. Charles County. The results of this analysis, contained in Appendix Q of the FEIS, indicate that DNL levels at each of the six modeled locations would be below DNL 60 dB for both the 2002 and 2015 study years.

**Time-Above Analysis** - The FAA's decision that a Time-above analysis is not needed in St. Charles is based upon the results of the DNL grid point analyses, which indicate that St. Charles will experience noise levels below DNL 60 dB. The time-above analysis has no standards or guidelines against which it can be compared, so it provides relatively limited information.

**Speech Interference and Sleep Deprivation** - As discussed above, supplemental noise analysis was done by evaluating noise impacts and noise-sensitive areas in St. Charles (FEIS Appendix Q). This analysis confirmed that the cumulative noise exposure levels will not exceed DNL 60 dB with the proposed action.

The FEIS does not include supplemental noise analysis concerning speech interference or sleep deprivation in St. Charles. Impact of Noise on People (USDOT May 1977) indicates that below DNL 65 dB less than 10 percent sentence interference occurs outdoors with normal voice level and 2 meters separation. Indoor interference does not begin to appear until the DNL 70 dB level is reached. At these levels of cumulative noise exposure, only 8 percent of the population experience sleep disruption at DNL 65 dB and only 1 percent at DNL 55 dB. At levels below DNL 60 dB, less than 2 percent sentence interference occurs outdoors with normal voice level and 2 meters separation. Based on these indicators, the FAA decided that the FEIS did not need to analyze potential speech interference or sleep deprivation impacts in areas surrounding Lambert that would be exposed to aviation noise at levels below DNL 60 dB.

With regard to the St. Charles historic river front district, in particular, the FAA did not analyze speech interference or sleep deprivation impacts for that area, because the INM grid analysis included in Appendix Q of the FEIS indicates that St. Charles will be below DNL 60 dB. The FICON report states in Section 3 Airport Noise Policy Recommendations, "...because public health and welfare effects below DNL 60 dB have not been well established, the FICON decided not to recommend evaluation of aviation noise impacts below DNL 60 dB." Since St. Charles is below DNL 60 dB with the proposed airport noise exposure, further evaluations of aviation noise impacts, such as speech interference and sleep deprivation effects, in St. Charles were not deemed necessary for the FEIS.

In addition, although not required, STLAA has committed to monitor noise for one year and to adjust the boundaries of the noise mitigation program in the unlikely event that actual noise levels exceed those predicted in the FEIS.

## **12. Unacceptable noise and vibration impacts in the St. Charles historic district, the Goldenrod Showboat and Frontier Park**

Citizens of St. Charles believe that noise and vibration impacts will be unacceptable in the St. Charles historic district and two of its unique resources, the Goldenrod Showboat and Frontier Park.

The issues of noise exposure and vibrations on the City of St. Charles and its historic district have been thoroughly discussed throughout the FEIS (Sections 5.1 and 5.5). The effects of Alternative W-1W on the City of St. Charles, including noise and vibration impacts, are also documented in FEIS Appendix Q and FEIS Appendix V in numerous responses to comments, such as numbers 3-17, 3-43, 3-54, 3-56, 3-57, 3-58, 3-68, 36, 11-2, 11-6, 23-46, 23-47, 23-53, 23-54, 23-55, 23-56, 23-57, and 23-58.

The FAA uses 1.5 dB increases in the DNL 65 dB noise contour as the standard for evaluating the effects of increases in aircraft noise on historic properties used as residences and for outdoor music areas or amphitheaters, fulfilling the requirements of 36 CFR 800.9. This is based on FAA's land-use compatibility guidelines under 14 CFR Part 150. For other historic properties, the FAA considers whether noise or other impacts due to the proximity of the project substantially impair the activities, features, or attributes of the resource.

The historic properties in the City of St. Charles, including the Goldenrod Showboat, are not expected to be within the DNL 65 dB noise contour as a result of Alternative W-1W. The results of the FAA's noise analysis indicate that with the proposed W-1W improvements, cumulative aircraft noise levels will be below DNL 60 dB in the St. Charles historic district, including the Goldenrod Showboat and Frontier Park. DNL grid sites in St. Charles for future years 2002-2015 will range between DNL 48 and 58 dB (FEIS Appendix Q). Therefore, neither the Goldenrod Showboat, a national historic landmark used for performances, nor Frontier Park, used for festivals, will be significantly impacted by the project.

There are no impacts in St. Charles that require mitigation, and there will be no new substantial incompatible land uses as defined by FAR Part 150 guidelines. Impact of Noise on People (USDOT May 1977) indicates that at levels below DNL 60 dB, less than 2 percent sentence interference occurs outdoors with normal voice level and 2 meters separation. Indoor sentence interference will occur even less frequently as a

result of the exterior-to-interior noise reduction provided by the Goldenrod Showboat. Aircraft noise levels of this magnitude will not have a significant impact on the many plays and events that occur on the Goldenrod Showboat or the festivals in Frontier Park.

One commenter noted that people occupy and care for many of the historic buildings. Under FAA noise compatibility guidelines, these buildings will continue to be compatible land uses appropriate for residential homes. Therefore, the proposed alternative will have no effect on historic properties within the City of St. Charles. The Missouri SHPO and the Advisory Council have concurred with the FAA on the area of potential effect, which encompassed land areas above DNL 65 dB.

To summarize, regarding noise impacts on historic properties in St. Charles, noise levels below DNL 60 dB are not considered significant. All land uses, including historic properties, are considered compatible with noise levels below DNL 60 dB. Given that noise levels in St. Charles are projected to be below DNL 60 dB with Runway 12W/30W in operation, it is unlikely that noise will significantly impact the daily lives of the citizenry of St. Charles, their carefully preserved national historic district, or the annual outdoor celebrations of their heritage. Therefore, the FAA has concluded that the new runway will not significantly affect the heart of St. Charles or its national historic district.

Regarding vibration impacts, generally, overflights by fixed-wing, subsonic aircraft do not generate vibration levels of the frequency or intensity to result in damage to structures. It has been found that exposure to normal weather conditions, such as thunder and wind, usually have more potential that could result in significant structural vibration than aircraft. Two recent studies that involved the measurement of vibration level resulting from aircraft operations upon sensitive historic structure concluded that aircraft operations do not result in significant structural vibration. Additional details regarding this comment are addressed in Section 5.1.6, Vibration Resulting from Aircraft Operations, in the FEIS.

### **13. Effect of Bridgeton's planning and zoning laws on airport expansion**

The City of Bridgeton believes that the effects of its planning and zoning laws on the proposed Lambert expansion were not adequately considered by the FAA and STLAA.

In April 1996, the City of Bridgeton sued the City of St. Louis to block the proposed expansion plan. The lawsuit alleged that City of St. Louis officials were taking away Bridgeton's constitutional right to determine how its land is used, by expanding the airport onto land not zoned for airport use. The City of Bridgeton stated that Missouri law gives its residents control over airport expansion by allowing city officials to

determine whether any land is zoned for airport use. The suit asserted that Missouri Revised Statutes, Section 305 prohibits the City of St. Louis from building an airport or landing field in any city in violation of zoning regulations. Since the proposed airport acquisition area in Bridgeton has not been zoned for airport use by the City of Bridgeton, the City of Bridgeton asserted that the proposed expansion plan cannot be built. The suit also claimed that the right of the City of Bridgeton to determine this zoning is guaranteed by the Missouri State Constitution and State statutes, and that as a Constitutional Charter City, Bridgeton is granted by the Missouri Constitution (Article VI, Section 19(a)) full authority to designate zoning within its borders.

The City of St. Louis moved to dismiss the lawsuit on the grounds that it was premature before the FAA issues its Record of Decision. On the merits, St. Louis maintained that the Missouri courts held in a previous suit of a similar nature, that upon balancing the needs of a community, i.e., a local city versus the needs of a metropolitan area for an airport, the needs of the metropolitan area are superseding.

The court dismissed the case, stating that until the FAA issues a ROD, no legal grounds exist to try the case. The outcome of the litigation does not affect the decisions of the FAA following completion of the FEIS. Whether the City of St. Louis is required to obtain a local permit is, in the circumstances, a matter of local law and is not relevant to the approval of the Federal actions pertaining to the expansion of Lambert. The FAA assumes that if the ordinances are finally determined to be applicable to the City of St. Louis, then the City of St. Louis will comply with them or will be exempted.

For the reasons discussed above, there may be little or no inconsistency with local plans. With regard to any restrictions on land acquisition by the City of St. Louis for essential aviation safety and aircraft operation purposes, the FAA notes that such planning policies may be of questionable applicability and legal validity, both under state and Federal law.

This issue was covered previously in the FEIS Sections 5.2.5.1 and 5.2.5.3 and in FEIS Appendix V responses to Comments 5-53, 6-23, and 6-24.

#### **14. Effects of Alternative W-1W on the City of Bridgeton**

The City of Bridgeton and its citizens commented that Alternative W-1W would destroy a large part of Bridgeton and there would be effects on the Bridgeton City Hall/Police Station complex.

The FAA acknowledges that Alternative W-1W will cause significant impacts to the City of Bridgeton including community disruption; displacement of residents; acquisition of

community properties, parkland, historic properties, and community facilities; and changes to the local road network. Section 6.3 of the FEIS outlines specific measures to mitigate these impacts.

The FAA recognizes that people's lives will be adversely affected by the acquisition of their homes. The FAA will take all measures available to ensure that the STLAA minimizes the impacts as much as possible and to ensure that programs are implemented in a fair and equitable manner. The disruption of established neighborhoods and displacement of residents will be mitigated by ensuring that all property acquisitions and relocations are implemented according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The airport has committed to expediting and streamlining the acquisition process, after project approval, to minimize the amount of time residents will have to remain in neighborhoods where acquisition would be required. A relocation plan, developed in accordance with the Uniform Relocation Act, will be designed to minimize relocation impacts as much as possible. The relocation counselor assigned to each resident will provide advisory assistance to alleviate the stress associated with moving to a new location.

Because there will be a small area of new residential noncompatible land use in Bridgeton, the FEIS includes specific mitigation for the residential portion of Bridgeton that will be impacted by levels above DNL 65 dB (Section 6.3.1 and Figures 6.2 and 6.3 in the FEIS). Mitigation is not included for the portions of Bridgeton that will be impacted by noise levels below DNL 65 dB, because they are considered a compatible land use.

Section 5.3 of the FEIS discusses the acquisition of commercial properties in Bridgeton. All properties acquired will be entitled to fair market value, including commercial properties, and will be subject to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

The realignment and/or closure of portions of the local roadway network will be minimized in order to reduce the impacts to the local communities. Those roadways that will be removed are associated with facilities within the acquisition areas. Other areas will be adequately served by the relocated roads. Prior to the construction of any proposed roadway improvements, MoDOT will develop a Maintenance of Traffic Plan designed to reduce impacts of roadway construction and maintain access during construction (Section 6.3.13 of the FEIS).

The effects on Bridgeton City Hall/Police Station complex were previously addressed in the FEIS Appendix V, responses to Comments 5-43, 29-46, 29-58 and 29-74. Alternative W-1W will not have a direct impact on the Bridgeton City Hall. The FEIS

indicates that with the proposed action Bridgeton City Hall would be in the 70 DNL noise contour. Unless the existing structure includes noise attenuation of 25 dB, City Hall would be rendered incompatible in light of its governmental services and office uses, even without noise insulation measures. St. Louis will offer to provide any necessary soundproofing and is willing to work with Bridgeton to relocate City Hall, if necessary.

Parks and recreation facilities to be impacted by Alternative W-1W are described in Section 5.7 of the FEIS. The City of Bridgeton has been consulted regarding these impacts and the potential candidate mitigation sites. The proposed candidate mitigation sites are described in detail in the Section 303 and 6(f) Evaluation, which was released concurrently with the FEIS, and summarized in Section 6.3.5 of the FEIS.

The FAA has considered alternatives that avoid historic properties. As discussed in the Section 303 document, the FAA determined that due to environmental and social consequences, there was no prudent or feasible alternative to avoid the following historic properties in the City of Bridgeton: the Bridgeton Inn, the Airport News Building, the Emmanuel Blum House, the Blum Store, and the De Hatre House, which are eligible for inclusion in the National Register of Historic Places; and the Village à Robert Cemetery (which encompasses the current Bridgeton Memorial Park), which is eligible for inclusion in the National Register of Historic Places under National Register Criterion D. Therefore, there will be an adverse effect on these historic properties, pursuant to 36 CFR 800.9(b). Treatment measures for these adversely affected historic properties are included within the MOA for the selected alternative, W-1W. The MOA was signed by FAA, the SHPO, and the Advisory Council. The STLAA signed as a concurring party. The City of Bridgeton was invited to participate as a concurring party to the MOA, but it chose not to concur in the MOA. The Advisory Council executed the MOA on May 29, 1998. A copy of the MOA is included in Appendix H of this ROD.

## **15. People Building Community survey objections**

People Building Community objects to a survey accomplished as part of the MPS, and referenced in the FEIS, which claims that the majority of residents want to be acquired. A detailed description of this survey, conducted in October 1995, by a subcontractor to the MPS consultant, is contained in Section 8 of the MPS. People Building Community wants FAA recognition of the results of the Peters Marketing Research Survey showing strong Bridgeton opposition to expansion. The FAA's responses to comments on the FEIS submitted by People Building Community are contained in Appendix A of this ROD.

The FAA did not rely on the results of the referenced survey to make its decision. Its existence was only mentioned in the FEIS for informational purposes. Its mention was not intended to minimize or dismiss the concerns of neighboring communities. While the conduct of social surveys might provide information of interest to area residents, the information would not alter or affect the conclusions of an EIS process. The purpose of the EIS was to analyze the potential environmental impacts of the proposed improvements upon the communities surrounding the airport. In some cases, there were no impacts to the communities. In others, there were even positive effects overall. Where there were significant adverse impacts, the EIS examined mitigation to lessen the adverse impacts. The FAA's EIS identified the anticipated impacts associated with the alternatives analyzed and outlined the proposed measures for mitigation for significant impacts associated with the Alternative W-1W.

It is recognized that the impact categories of principal concern to neighboring residents are noise and land acquisition. The social impacts resulting from the airport development would include the displacement of persons, homes, businesses, and community facilities. These would be mitigated by ensuring that all property acquisition and relocations be implemented according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

The FAA recognizes that the acquisition/relocation process can be a difficult and emotionally upsetting experience for homeowners. As part of its land acquisition programs, the STLAA offers advisory services to those being relocated. Part of that advisory service is to notify those relocatees of special programs being offered by different agencies. This includes first-time home buyer programs, loan information, and assistance in understanding the various documents.

The FAA has acknowledged throughout the EIS process that some segments of the community strongly oppose the proposed plan. The comments provided by agencies, associations, elected officials and individuals have been thoroughly evaluated by the FAA during the EIS process and have been carefully considered in the development of this ROD. This included the FAA's review of the results of the Peters Marketing Research Survey, which People Building Community requested the FAA to consider. This survey was conducted to determine how many Bridgeton residents feel about the airport expansion.

The FAA acknowledges that there are also residents in the area of the proposed expansion, including Bridgeton residents, who feel they have been held hostage by the expansion process. Given the length of time needed to prepare the planning studies on the proposed expansion, this is understandable. The STLAA has received approximately 250 letters from residents, who indicated that they either need or want to move from their residence because of different hardship situations (STLAA letter dated

July 9, 1998, in Appendix I). The STLAA has received inquiries from another 150 residents, who wish to have their property purchased and move on with their lives. Many of those citizens have also called the FAA's Regional Office over the last several months to express those same views to the FAA decisionmakers on the ROD. The Let's Get On With Our Lives group, which consists of over 1,200 people living in the area proposed for acquisition, has requested that the FAA make a final decision on the Lambert as quickly as possible so that they can relocate (Don Vandervort letter, dated July 9, 1998, in Appendix I).

The FAA has carefully assessed and considered both sides of the issue in making its decision. Fair consideration has been given to the interests of communities in or near the project location throughout the EIS process.

#### **16. Bridgeton's non-concurrence in DOT Section 303/DOI Section 6(f) process**

Bridgeton has notified the FAA that it cannot concur in the DOT Section 303/DOI Section 6(f) process, because it believes that the alternative selected did not safeguard park land and other resources warranting special protection. Bridgeton commented on this issue after release of the DEIS, and its position has not changed since that time. For FAA's responses to Bridgeton's comments on this issue, see FEIS Appendix V, numbers 2-78, 10-10, 10-26, 10-27 and 10-34.

FAA environmental documents must provide evidence that replacement of affected Section 6(f) lands to the satisfaction of the Secretary of the Interior will be accomplished. Through its grant agreements, the FAA will require STLAA to comply with mitigation provisions of the FEIS related to replacement of Section 303 and Section 6(f) lands.

As documented in the Section 303/Section 6(f) Evaluation and the FEIS Section 5.7, the FAA will require STLAA to provide the responsible jurisdiction with the funds necessary to replace the converted land. In this case, the City of Bridgeton is considered to be the project sponsor, or subgrantee. It is generally held that in the event the subgrantee is unable or unwilling to replace the converted property, the State becomes fully responsible for actual replacement. Since the City of Bridgeton has declined to participate in the process of selecting and securing replacement lands, responsibility for replacement falls upon the MDNR. If Bridgeton continues to decline to participate in the process, the FAA will require STLAA to provide the funds to the MDNR for replacement of converted lands, providing that conversions-in-use are approved.

On January 28, 1998, the Department of Interior provided its final comments on the FEIS, the Section 303/Section 6(f) Evaluation, and the Section 106 process. Appendix

A of the ROD contains the DOI letter and FAA's responses to those comments. The receipt of DOI's comments completes consultation under Sections 303/6(f).

#### **17. Bridgeton's non-concurrence in MOA for historic/archaeological resources**

The City of Bridgeton notified the FAA that it could not concur in the MOA for proposed improvements at Lambert, because the City did not agree with the selection of Alternative W-1W.

As discussed in Section 6 of this ROD, on May 29, 1998, the Advisory Council executed the MOA for the proposed improvements at Lambert (Appendix H of this ROD). Other signatories to the MOA are the FAA and the Missouri SHPO. The STLAA signed the MOA as a concurring party.

The MOA stipulates measures to be implemented to avoid, reduce, or mitigate the adverse effects from this project on historic properties. The SHPO, the Council, the STLAA, and the City of Bridgeton have been consulted on the MOA and provided comments on the agreement document throughout its development (FEIS Appendix N-1, November 18, 1997, letter from MDNR, and November 14, 1997, letter from City of Bridgeton). The FAA solicited final comments on the MOA from the consulting parties, including the City of Bridgeton. As noted above under response to Comment 14, the City of Bridgeton chose not to sign the agreement.

On June 10, 1998, the FAA notified the following parties that the MOA for the Section 106 process had been executed by the Advisory Council: Deputy SHPO at MDNR; DOI; MoDOT, STLAA, and Bridgeton. By entering into and having STLAA carry out the terms of the Agreement, FAA has fulfilled its responsibilities under Section 106 of the National Historic Preservation Act and the Advisory Council's regulations.

#### **18. Analysis of special purpose laws**

Compliance with special purpose laws (e.g., for wetlands, water quality, and floodplains) was raised in comments on the DEIS, which are addressed in the FEIS Appendix V response to Comment 2-78.

All of the development alternatives studied in detail have unavoidable impacts on resources protected under Section 303 of the Department of Transportation Act and Section 6(f) of the Land and Water Conservation Fund Act. There are no possible or prudent alternatives to the use of these resources. Of the development alternatives, Alternative W-1W would use approximately half the park and recreational resources and acres required for S-1.

All of the reasonable alternatives have unavoidable wetland impacts due to the proximity of wetlands to the airport. Consequently, there are no practicable alternatives to filling of wetlands. Of the development alternatives evaluated, Alternative W-1W would have the least amount (acreage) of wetland impacts. This information is displayed in Table S.1A of the FEIS (Appendix J of this ROD, page S-9).

Impacts of the project on water quality have been examined in Section 5.6 of the FEIS. See also response to Comment 9-6 in Appendix V of the FEIS. The MDNR also provided its assurance that state water quality standards would be met with the project (MDNR letter dated November 20, 1997, in Appendix A of the FEIS). On August 11, 1998, the Governor of the State of Missouri provided a letter to the FAA certifying that there is reasonable assurance that the proposed construction and operation of the expansion of Lambert will be located, designed, constructed and operated so as to comply with applicable water quality standards (Governor's letter dated August 11, 1998, in Appendix I of this ROD.)

Potential impacts on floodplains were thoroughly evaluated in the FEIS. There is no practicable alternative to the floodplain impacts of the proposed project. Mitigation measures to minimize the floodplain impacts can be accomplished for each alternative so that the floodplain encroachment would not be considered significant. The floodplain mitigation measures are described in the FEIS Section 6.3.8. See also response to Comment 25-4 in FEIS Appendix V.

## **19. Adequacy of air quality conformity determination**

The City of Bridgeton believes the air quality conformity determination prepared by the FAA is inadequate.

Bridgeton's comments on air quality issues were addressed in the FEIS Appendix V responses to Comments 7-18, 7-19, and 7-31 and in the Final General Conformity Determination. Based on EPA, MDNR, and other comments on the DEIS, the FAA has revised and supplemented the air quality analysis in the FEIS and prepared a Draft and Final General Conformity Determination. These documents and supporting underlying material are available for public review. Both EPA and MDNR indicated that the Draft General Conformity Determination was adequate. The Governor has also certified a reasonable assurance that the project will be designed, built, and operated in conformance with applicable air quality standards (Appendix I of this ROD).

The FAA has been very diligent in addressing air quality concerns. In response to comments made by the City of Bridgeton on the DEIS, the FAA revised its air quality analysis to address the effects of FAA Safety Notice N7110.157, "Wake Turbulence," upon the operational assumptions for air quality emission inventories. This notice,

which was issued during preparation of the DEIS, has the effect of reducing airport capacity due to recategorization of certain aircraft types and a resulting increase in separation standards. The Safety Notice results in potentially constraining the 2015 No-Action Alternative at approximately 532,000 operations a year instead of 595,000 as originally projected in the DEIS. The results of the revised analysis show that, with the exception of NO<sub>x</sub> emissions in 2015, the development alternatives improve air quality in the St. Louis area in comparison with the No-Action Alternative. This is largely the result of increased airfield operational efficiency and reduced delay periods (FEIS Section 5.5.6).

In consultation with the EPA and MDNR, the FAA prepared Draft and Final General Conformity Determinations to address emissions associated with Alternatives S-1 and W-1W, specifically focusing on NO<sub>x</sub>, CO and VOCs. In December 1997, the FAA issued its Draft General Conformity Determination, along with the FEIS. In June 1998, the FAA issued the Final General Conformity Determination. It was subsequently announced in the *St. Louis Post Dispatch*. By issuing this Final Determination, the FAA has fulfilled its affirmative responsibilities to assure conformity of proposed Federal actions under Section 176(c) of the Clean Air Act, as amended in 1990.

## **20. Concerns of EPA regarding FAA's air quality modeling assumptions in DEIS**

The EPA had questions regarding the assumptions used by FAA in its air quality modeling assumptions in the DEIS.

Based upon the EPA comments received on the air quality analysis in the DEIS, the FAA revised and supplemented information in the FEIS. That information was summarized in the FEIS Section 5.5, and is included in Appendices A and M. The FEIS Appendix V contains responses to EPA's comments on the DEIS (Comments 7-18, 7-69, 7-72, 7-73, 7-81 and 7-85).

Regarding air quality modeling, while EPA agreed that there would be no significant air quality impacts associated with the proposed project, it stated that its conclusion was based on air modeling done by MDNR. The Emissions Dispersion Modeling System (EDMS) is the FAA's preferred model for performing air quality analysis on airports and was utilized in this case for developing project emission inventories for NEPA and general conformity purposes. The development alternative would reduce carbon monoxide (CO) emissions compared to the No-Action and the project so that the project was clearly *de minimis* for CO under general conformity requirements. Although no further analysis was necessary, in response to requests from EPA and MDNR the FAA also conducted a microscale dispersion analysis to address "CO hotspots." It was determined, with EPA's concurrence, that the CAL3QHC and ISCST3 models would be

appropriate to conduct this dispersion analysis. Based on the entire assessment of air quality, including modeling, we concluded that there would be no significant impacts to air quality in the St. Louis area. The modeling conducted by MDNR provided independent, definitive, corroboration of the conclusion. The EPA and MDNR have agreed that inclusion in this ROD of the results of the modeling done by MDNR resolves the air quality concerns expressed in EPA's letter dated February 27, 1998.

As noted above, MDNR provided its assurance that state air quality standards would be met with the project (MDNR letter dated November 20, 1997, in Appendix A of FEIS). On August 11, 1998, the Governor of the State of Missouri provided a letter to the FAA certifying that there is reasonable assurance that the proposed construction and operation of the expansion of Lambert will be located, designed, constructed and operated so as to comply with applicable air quality standards (Governor's letter dated August 11, 1998, in Appendix I of this ROD.)

As discussed in number 19 above, on June 19, 1998, the FAA made its Final General Conformity Determination. A legal notice announcing the Final General Conformity Determination was published in the *St. Louis Post Dispatch* on June 29, 1998. By publishing this Final Determination, the FAA has fulfilled its responsibilities under Section 176(c) of the Federal Clean Air Act.

Therefore, the FAA believes that the analysis of air quality impact satisfies the requirements of NEPA, including public disclosure requirements, and other air quality statutes.

## **21. Length of FEIS review period**

Citizens commented that thirty days to review the FEIS was too short and believed the FAA ignored their comments.

FAA carefully reviewed all comments made by the public and local, state, and Federal agencies during the EIS process. The DEIS was available for review and comment from September 27, 1996 through January 17, 1997. A public hearing, attended by over 1580 people, was held, affording each of them the opportunity to provide written or verbal comments to court reporters. The FAA then carefully reviewed over 15,000 letters received on the DEIS. The FAA aggregated these comments and concerns into 29 major categories for review and written response by qualified personnel. All suggestions were taken into consideration and changes were made to the FEIS where appropriate. In addition, the FEIS was revised in some instances to make it clearer and easier to read and understand. All letters, as categorized, were available for public review at Lambert and at the FAA Regional office in Kansas City, Missouri. All comments received, whether in the form of testimony given to the court reporters at the

public hearing or in the form of letters, were summarized, and responses were provided in the FEIS Appendices S, T, U, and V. Appendix W contained a list of commenters. The FEIS Volumes 1, 2, and 3 were available at 21 city halls and 11 libraries.

The 30-day review period after release of the FEIS is not a public comment period, but rather a minimum period that a Federal agency must wait before issuing a Record of Decision. The FEIS review period is required by CEQ regulation to be no less than 30 days. The review period for this FEIS was approximately 58 days. Late filed comments were considered as practicable. Much of the material provided to the public in the FEIS was not new information, as it was simply clarification or enhancement and refinement of material already in the EIS or was in other documents available during review of the DEIS. CEQ regulations permit the FAA to summarize and respond to comments in the FEIS.

Appendices A and B of this ROD contain responses to comments received during the FAA's review or "waiting" period. Appendices C, D, E and G of this ROD contain responses to comments from ALPA, NATCA, Bridgeton Air Defense, the City of Bridgeton, the City of St. Charles, the St. Charles County Executive, and U.S. Congressman Talent. All comments received by the FAA were reviewed and considered during the decision-making process for this ROD.

## **22. Inappropriate public hearing format**

Commenters stated that the public hearing format was inappropriate. They would have preferred a "town hall" format. Commenters indicated that the FAA failed to provide an adequate opportunity for public input in a "formal" public hearing; therefore, they concluded that fair consideration had not been given to the interests of the communities near the project location.

The FAA recognizes that the "town hall" format is the more traditional approach. However, the format the FAA chose to use was equally acceptable and appropriate. The FAA exceeded NEPA requirements, which do not require Federal agencies to conduct public hearings, when it held the public hearing for the proposed action at Lambert. Federal agencies have wide latitude to structure public hearings as appropriate to facilitate public input for consideration in the decision-making process.

The public hearing was also held to afford an opportunity for a public hearing "to consider the economic, social and environmental effects of the [project] and the [project's] consistency with the objectives of any planning that the community has carried out" (49 U.S.C. 47106(c)(1)(A)(I)). The City of St. Louis must certify that this opportunity was provided to qualify for eligibility to receive funds for major airport development projects under the FAA's Airport Improvement Program.

*Title 49 U.S.C. 47106(c)(1)(A)(I)* does not dictate the manner in which the hearing should be held. No case law requires that a “town hall” or any specific type of hearing take place. The public hearing held for the proposed project met and exceeded the statutory standard that opportunity be provided to consider the effects of the proposed action. The record demonstrates that such opportunity was provided in this case.

The public hearing was held near the airport during the hours of 3 p.m. to 8 p.m. on October 28, 1996. Approximately 1,580 people attended. It was held in an open meeting format. The public could interact with FAA personnel and FAA’s consultants at numerous displays or stations, and react to hearing materials provided, presentations made, and the DEIS. Persons could leave written comments, provide oral comments to court reporters, or submit written comments to FAA up until January 17, 1997.

Citizens accessed the public hearing area from an entryway where they were given a proposed project information packet, which contained information about the public hearing format, how to make public comments and a copy of the FEIS Summary about the proposed project itself. Citizens then proceeded through a videotape area, which provided additional information about the proposed project.

In the large hearing room, FAA employees and government contractors, who were involved in the environmental study process, were present the entire time to answer questions and explain exhibits, which were provided to give further information about the proposed project. Government representatives were clearly identified by name tags and circulated through the hearing room to provide opportunity for face-to-face information exchange. All government representatives and contractors present responded to all information sought from them and answered all questions asked of them. This format allowed citizens to view the materials and absorb information at their own pace. Citizens were able to talk to government and contractor representatives directly to obtain meaningful information exchange. In addition, the format allowed citizens to confer among themselves or in small groups with government or contractor representatives in an open forum.

In the middle of the hearing room, all citizens were given opportunity to provide written comments on the proposed project or comments of other persons. In an adjacent area, four court reporters were available to record verbal comments. Citizens had the choice to comment in writing, or verbally to a court reporter. This hearing format provided meaningful, informed community input to this public project. The public was informed about potential economic, social and environmental impacts of the proposed project by government representatives through the information packet, information displays and exhibits and the face-to-face interaction and information exchange. The opportunity for

public comment was afforded in an orderly and open manner. All citizens who wished to comment at the hearing were provided with the opportunity to do so.

The format of the public hearing was selected to allow the attendees to view the materials at their leisure and talk to study team members. In addition, the format allowed for the attendees to talk among themselves and study team members in an open forum. Citizens had the choice to comment in writing or verbally to a court reporter. These are the same choices that would have been available had the FAA used an alternate format.

All comments received were responded to in the FEIS. In this way, informed public comments generated by the public hearing process were communicated to the public and taken into account by decision-makers. The public hearing provided ample opportunity to consider the “economic, social and environmental effects” of the proposed project (*40 U.S.C. 47106(c)(1)(A)*).

For a review of FAA’s responses to comments received specifically regarding the public hearing format, see FEIS Appendix V Comments 21-17, 21-26, 21-27, 23-17, and 23-23.

### **23. Potential conflict of interest for FAA contractor**

St. Charles Executive Ortwerth believes that FAA’s contractor had a conflict of interest, because data compiled by Greiner were used in the MPS, as well as the EIS, and because St. Louis paid Greiner.

Specifically the commenter argues that Greiner had a conflict of interest for the following reasons:

- Greiner could not assist the FAA in accomplishing an independent review of alternatives as the FAA claims in FEIS response to Comment 2-72 because in April 1995 Greiner prepared an environmental evaluation of alternatives and baseline environmental information for the MPS.
- The MPS indicates that Greiner prepared the environmental evaluation of alternatives. Greiner did not prepare the information for the EIS then provide it to St. Louis as claimed in response to Comment 23-39 of the FEIS because Greiner did the work in April 1995 and scoping for the EIS began in September 1995.
- Greiner was intimately involved in developing the justification for the project; there is no evidence to justify that the FAA conducted an

independent review of alternative studies of the alternatives rejected; very little independent work has been generated that distinguishes the EIS from the MPS prepared by the City of St. Louis.

- Greiner was paid by the project sponsor.

Under 40 CFR 1506.5(c) if a Federal agency decides to select a consultant to prepare the EIS, the consultant must “execute a disclosure statement ... specifying that [it has] no financial or other interest in the outcome of the project. A consultant with a known conflict of interest “should be disqualified from preparing the EIS.” (CEQ 40 Questions, 46 Federal Register 18,026 18,031)

Whether there is a conflict of interest depends upon the definition of “financial or other interest” under 40 CFR 1506.5(c). In 1981, the CEQ interpreted the provision “broadly to cover any known benefits other than general enhancement of reputation.” (CEQ 40 Questions 46 Federal Register at 18,031). Even then, the CEQ instructed agencies that contractors may bid in competition with others for future work on a project if the contractor has “no promise of future work or other interest in the outcome of the project.” (40 Questions at 18,031). Subsequently, the CEQ clarified that, absent an agreement to perform construction on the proposed project or actual ownership of construction site, it is “doubtful that an inherent conflict of interest will exist” unless “the contract for the EIS preparer contains ... incentive clauses or guarantees of any future work on the project.” (Guidance Re: NEPA Regulations, 48 Federal Register 34,263 34,266, CEQ, 1983).

In this case, after a competitive bidding process, the FAA selected URS Greiner in November 1992 to prepare the EIS. Greiner’s contract was executed with STLAA in 1993.

In April 1995, the FAA requested that Greiner prepare preliminary environmental evaluations so that the FAA could begin to meet its responsibilities to evaluate other reasonable alternatives in preparation for the EIS. To assure consistency in the environmental analysis done as part of the ongoing Part 150, environmental and master planning studies, the FAA had Greiner submit this baseline environmental information and its environmental analysis of alternatives to St. Louis for use in its master planning and airport noise compatibility (14 CFR Part 150) studies. This practice was instituted several years ago as a practical matter to ensure consistency between the two processes. It arose, in part, as a result of a lawsuit filed by the City of Bridgeton, which challenged approval of the use of passenger facility charges for noise mitigation projects. The major issue was the adequacy of the environmental analysis, because the noise analysis done by the consultant that prepared the Part 150 study

differed from that done by another consultant as part of a concurrent environmental study.

This practice does not constitute a conflict of interest. URS Greiner has executed the disclosure statement required under 40 CFR 1506.6(c) specifying that it has no financial or other interest in the outcome of the project. URS Greiner's only assignment at Lambert has been to assist the FAA in the EIS and at no time during the Lambert expansion process have they been involved in any other contract that could be construed to represent a conflict of interest. There have been no guarantees of future work or incentive clauses in the EIS contract.

While Greiner did prepare the environmental overview for the FAA, which was used as an appendix in the MPS, it did not participate in the STLAA's development of the airport facility needs or the selection of its preferred alternative for the project. Nor did Greiner's preparation of this factual information interfere with its ability to assist the FAA in using its judgment to independently review the range of primary and secondary alternatives to decide which to analyze in the FEIS. The FAA was actively participating in the MPS process at this point. This participation included independent operational analysis and input regarding the development and analysis of alternatives. Once the MPS was submitted to the FAA, as required, the FAA then independently reviewed and analyzed the development alternatives identified in the MPS as well as exploring other alternatives not identified in the MPS. These alternatives included different runway layouts, construction of a new airport facility as well as some publicly submitted alternatives. For a discussion on FAA involvement in the analysis of alternatives, see Section 3.0 of the FEIS.

Moreover, preparation of this information did not give Greiner any incentive to promote the Alternative W-1W over the No-Action Alternative. Providing information to St. Louis, at the FAA's direction, did not result in an enforceable promise, contract, or expectation of future work on the project or other interest in the outcome of the project so as to compromise the integrity of the NEPA process.

To the extent that FAA's practice could be perceived to give rise to a conflict, the FAA exercised a sufficient degree of supervision to cure any defect arising from the perceived conflict and preserve the objectivity and integrity of the NEPA process.

When an agency is integrally involved in the preparation of an EIS, that involvement diminishes the threat posed by any potential conflicts of interest because the agency then has the opportunity to direct the analysis and supplement areas it deems deficient. The record indicates that FAA exercised substantial supervision over the preparation of the EIS. Even after Greiner was hired, FAA continued to perform all management activities and only used Greiner's personnel for technical expertise or to supplement

staff where there was insufficient manpower. FAA managers made all major decisions involved in the FEIS and Greiner's representatives reported to those managers, sometimes on a daily basis, to receive direction. Throughout the environmental process, approximately 90 percent of one FAA environmental program manager's work hours were dedicated solely to managing Greiner and its work products. Other FAA personnel, including airport planning specialists and air traffic controllers, reviewed and corrected Greiner work products, as needed. In addition, FAA prepared, without Greiner's assistance, those portions of the FEIS addressing airport planning and air traffic control issues, particularly responses to comments in FEIS Appendix V. The FAA independently and extensively reviewed all of Greiner's analyses, commented on Greiner's field data and written product, noted deficiencies in the data and analyses, gave direction to the work, and frequently required Greiner to gather more facts or perform supplemental analysis on aspects of the project. This degree of supervision exercised by the FAA protected the integrity and objectivity of the EIS.

Finally, with respect to the commenter's final point, the payment of Greiner by the City of St. Louis does not present a conflict of interest. Greiner was selected by the FAA to prepare the EIS using a common practice known as third-party contracting. Under this practice, the City of St. Louis entered into a contract with Greiner to fund work done on the EIS under the direction and supervision of the FAA. Approved by CEQ, third-party contracting is utilized by many Federal agencies during the preparation of an EIS (40 CFR 1506.5(c) and Forty Most Asked Questions No. 16). So long as the lead agency, or in certain cases the cooperating agency, selects the consulting firm to do the work, the project sponsor is permitted to pay the consultant. Once selected, the preparer's responsibility is to the lead agency to prepare an EIS that complies with NEPA. Third-party contracting is a voluntary practice that is ultimately beneficial to both the agency and the applicant. By paying for the preparation of the EIS, the applicant ensures that movement of its application will not be determined by the budgetary constraints of the agency it is dealing with. At the same time, the agency in question is able to focus its resources on analysis and evaluation rather than the preparation of the EIS.

In this case, the FAA selected Greiner to prepare the EIS. Greiner's responsibility was solely to the FAA to prepare an EIS that met NEPA regulations and FAA's NEPA procedures. As required by CEQ regulations, a memorandum of understanding (MOU) was executed between St. Louis and FAA setting out the procedures to be followed during the third-party contract process. Under the MOA, it was the FAA's responsibility to determine the scope of the EIS, evaluate all environmental data and analysis submitted by Greiner or St. Louis, and to revise or cause additional study and analysis to be performed as necessary.

In conclusion, none of the commenter's concerns have raised issues sufficient to show that the objectivity and integrity of the NEPA process has been compromised.

Greiner's actions were within the scope of its duties. It has properly disclosed that it had no interest, financial or otherwise, in the outcome of the project. The FAA independently evaluated the alternatives analysis and exercised supervision over Greiner's work.

This matter is also discussed in response to the City of St. Charles FEIS Comment FL0004, Comments 28 through 36 of this ROD.

**24. FAA realizes Lambert will not operate as planned and must prepare a revised or supplemental EIS**

According to commenters, the FAA has revealed that Lambert will not operate as planned and must withdraw and revise the FEIS or prepare a supplemental EIS to address the proposed new runway use. Specifically, ALPA, NATCA and the City of Bridgeton indicate that the FAA now plans to use the new Runway 12W/30W primarily for arrivals, instead of exclusively for departures in west flow during VFR 1 and 2 conditions (good weather) as analyzed in the MPS and the FEIS. As proof, the City of Bridgeton relies upon an excerpt from a preliminary draft memorandum prepared by Leigh Fisher Associates dated June 16, 1998. The memorandum states, in relevant part, "For W-1W, the Tower representatives recommended assuming no significant use of visuals to the close parallels (see response to Comment 7 below)." The commenters claim that this change in runway use would significantly impact communities southeast of the airport and requires a revised or supplemental EIS.

The commenters are correct that the environmental impacts in the FEIS, including the noise contours (or footprint), were predicated upon the assumption that the new runway would be used primarily, but not exclusively, for departures during good weather and in west flow. Thus, there would be some arrivals to the new runway. The FAA has not changed its plans for runway use. The statement in the Leigh Fisher Associates preliminary draft memorandum cannot be read in isolation, but rather in the broader context of the sensitivity analysis and related hypothetical assumption concerning arrival rates to which it relates. Appendix C of this ROD clarifies that although this assumption was made, it was only for purposes of modeling. The original assumptions in the MPS and FEIS remain valid. That the FAA elected to include a scenario that featured use of outboard runways during visual conditions and west flow (the "W-1W Outboards Case," see Appendix C, response to Comment 7), did not reflect an FAA realization, decision or intention to change the planned operation of new Runway 12W/30W.

This statement "For W-1W, the Tower representatives recommended assuming no significant use of visuals to the close parallels" is best understood in the context of the related comment from ALPA to which it also responds. As part of its 18 concerns,

ALPA also commented that the MPS and FEIS incorrectly assumed that visuals to the existing closely spaced runways would be independent and arrive at a rate of 80 per hour and should have assumed a rate of 60 per hour instead. This change in assumption clearly would have the effect of increasing delays at the existing airport and under Alternative W-1W. By the referenced statement, the controllers at the June 15 meeting meant that, if the arrival rate during visual and west flow use of the closely spaced existing parallel runways was assumed to be only 60 aircraft per hour, then they agreed with ALPA that it should also be assumed that they would try to minimize delays by using the new runway more for arrivals than for departures. That is, to boost the arrival rate they would seek to use both outboard runways (the existing 30R and the new 30W) primarily for arrivals in west flow during VFR-1 and 2 conditions, instead of limiting its use to departures. The capacity studies done for the MPS estimated an arrival rate of 72 aircraft an hour, not 80 as asserted by ALPA.

Internal agency deliberations after the June 15, 1998, meeting and the preparation of this preliminary draft memorandum by St. Louis' consultant, including discussions with the Air Traffic Division of the Central Region, have confirmed that the FAA has not changed plans to operate Alternative W-1W. Those discussions have also confirmed that the assumptions used in the MPS and FEIS are reasonable and reflect the proposed operation of the airport. The results of the sensitivity analysis confirm that an arrival rate of 60 per hour is an unreasonable assumption. It results in delays greater than those currently experienced at the airport now. This issue is discussed in more detail in Appendix G, response to Comment 7.

## 11. THE AGENCY FINDINGS

In accordance with applicable law, the FAA makes the following determinations for this project, based upon the appropriate information and data contained in the FEIS and the administrative record.

### **A. The project is consistent with existing plans of public agencies for development of the area surrounding the airport (49 U.S.C. 47106(a)(1)).**

The determination prescribed by this statutory provision is a precondition to agency approval of airport project funding applications. It has been the long-standing policy of the FAA to rely heavily upon actions of metropolitan planning organizations (MPOs) to satisfy the project consistency requirement of 49 U.S.C. 47106 (a) (1) [see, e.g., *Suburban O'Hare Com'n v. Dole*, 787 F.2d 186, 199 (7th Cir., 1986)]. Furthermore, both the legislative history and consistent agency interpretations of this statutory provision make it clear that reasonable, rather than absolute consistency with these plans is all that is required.

Under the provisions of both Federal and state law, the East-West Gateway Coordinating Council (EWGCC) has been designated as the MPO for the St. Louis metropolitan area and given primary responsibility for transportation planning in the region. On December 3, 1997, the EWGCC notified the FAA that it endorsed the EIS on the basis that it represented an accurate assessment of the related costs, operational feasibility, and community and environmental impacts. Furthermore, the EWGCC's board had voted to support Alternative W-1W (FEIS Section 5.2.5.3). Thus, Alternative W-1W is reasonably consistent with the plans of public agencies having broad geographic responsibilities in the area.

If the focus is limited to municipalities where land would be acquired for airport expansion, four of the five municipalities (St. Ann, Edmundson, Berkeley, and Hazelwood) have land-use policies for the acquisition areas consistent with W-1W. Alternative W-1W is not consistent with the zoning plans of the City of Bridgeton, but it is not clear that as a matter of state law, Bridgeton is authorized to enforce a zoning plan that is inconsistent with needed airport development.

The FAA finds that the project is reasonably consistent with the existing plans of public agencies authorized by the state in which the airport is located to plan for the development of the area surrounding the airport. The FAA is satisfied that it has fully complied with 49 U.S.C. 47106 (a)(1).

With regard to this issue, however, the FAA has also reviewed the substantial documentation in the administrative record demonstrating that throughout the

environmental process the STLAA has shown concern for the impact of the proposed development actions on surrounding communities. Moreover, the STLAA has attempted to ensure consistency of its project proposals with the planning efforts of neighboring communities. The administrative record for this ROD includes details of coordination between the STLAA and neighboring jurisdictions concerning local planning proposals, along with documents describing the public meetings, hearings, and other means by which public participation in project planning was accommodated. Further discussion of consistency of the proposed development projects with public agency planning is summarized in the FEIS Section 5.2.5.3.

The proposed Lambert expansion lies almost totally within the boundaries of the City of Bridgeton. The extent to which City of Bridgeton regulations apply to Lambert Airport development is unresolved. Meanwhile, the STLAA has offered to assist the City of Bridgeton in land-use planning activities, to address any issues relating to the proposed Lambert development.

The City of Bridgeton has engaged in land-use planning actions, which appear designed to limit airport expansion. Its local plans and ordinances establish zoning policies (a prohibition on use of lands acquired by public entities to be used for new commercial activities). These ordinances purport to restrict the use of some lands within Bridgeton's jurisdiction (e.g., for the new runway), needed by the STLAA in order to implement important safety and aircraft operation aspects of its preferred alternative.

In any event, it is not clear that the development actions proposed in the MPS would be subject to any of the plans and ordinances adopted by the City of Bridgeton. Thus there may be little or no inconsistency with local plans. Implementation of STLAA's preferred alternative would not be expected to result, after mitigation, in any significant increases of noise on land of these neighboring jurisdictions. With regard to any restrictions on land acquisition by STLAA for essential aviation safety and aircraft operation purposes, the FAA notes that such planning policies may be of questionable applicability and legal validity, both under state and Federal law.

In making its determination under *49 U.S.C. 47106 (a) (1)*, the FAA has considered the fact that local governments have been represented on the EWGCC and have participated as members of that organization in its decision to authorize the new runway project at Lambert (although some of these local governments may have disagreed, as individual EWGCC members, with that ultimate decision). The FAA has also recognized the fact that none of these jurisdictions has regulatory authority over airport operations, since long-established doctrines of Federal preemption preclude these communities from regulating aircraft operations conducted at Lambert.

Given the FAA determination in this ROD, under appropriate Federal law, that there is a compelling need for the proposed Lambert improvements, as documented in the FEIS, it is inappropriate for local communities to attempt to exercise local zoning control in a manner which would conflict with the domestic and international aviation requirements of this airport. If there were a conflict between Federal and local policies, the local policies must give way to the Federal policies, under the doctrine of Federal preemption.

**B. The interest of the communities in or near where the project may be located was given fair consideration (49 U.S.C. 47106(b)(2)).**

The determination prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications. The regional planning process over the past decade and the environmental process for this project-specific EIS, which began in 1995 and extended to this point of decision, provided numerous opportunities for the expression of and response to issues put forward by communities in and near the project location. Nearby communities and their residents have had the opportunity to express their views during the DEIS public comment period, at a public hearing, as well as during the review period following public issuance of the FEIS. The FAA's consideration of these community views is set forth in FEIS Appendices J, U, and V and in Appendices A, B, C, D, E and G of this ROD.

Thus, the FAA has determined that throughout the environmental process, beginning at its earliest planning stages, fair consideration was given to the interest of communities in or near the project location.

**C. The State of Missouri has certified in writing that there is reasonable assurance that the project will be located, designed, constructed and operated in compliance with applicable air and water quality standards (49 U.S.C. Section 47106(c)(1)(B)).**

The determination prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications involving a new runway. By letter dated August 11, 1998, (Appendix I of this ROD), after consultation with the MDNR (the Governor's designated agency for air and water quality), the Governor of Missouri, certified that there is a reasonable assurance that the project will meet all applicable air and water quality standards.

The FAA concludes that the airport project evaluated in the FEIS will be located, designed, constructed and operated so as to comply with applicable air and water quality standards.

**D. Effect on Natural Resources (49 U.S.C. Section 47106(c)(1)(C)).**

Under this statutory provision, after consultation with the Secretary of the Interior and the Administrator of the EPA, the FAA may approve funding of a new runway having a significant adverse effect on natural resources, only after determining that no possible and prudent alternative to the project exists and that every reasonable step has been taken to minimize the adverse effect.

As documented in the FEIS, FAA has consulted extensively with both Interior and EPA. For several natural resource impact categories with established significance levels, the FAA finds that, without implementation of the mitigation summarized in Section 6.3 of the FEIS, the selected alternative would have a significant adverse effect. However, given the inability of other alternatives discussed in the FEIS, to satisfy the purpose and needs of the project, we have concluded that no possible and prudent alternative exists to development of the proposed alternative. As discussed in Section 6 of this ROD, and documented throughout the FEIS and the administrative record, every reasonable step has been taken to minimize adverse environmental effects resulting from the project.

In order to consider further mitigation under NEPA, and to address any possible adverse environmental effects resulting from the projects approved in this ROD, the FAA has decided to condition such approval upon the mitigation measures described in Section 6.3 of the FEIS and in Section 6 of this ROD. This conditional approval will be enforced through a special condition included in future Federal airport grants and PFC “use” approvals to the STLAA.

The FAA has determined that all reasonable steps have been taken to minimize any adverse effects on natural resources through mitigation.

**E. Appropriate action, including the adoption of zoning laws, has been or will be taken to the extent reasonable to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations (49 U.S.C. Section 47107(a)(10)).**

The sponsor assurance prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications. In addition to the actions described in Section 11.A of this ROD, the STLAA has worked extensively with local jurisdictions to develop and implement plans and policies to ensure compatible land use in the airport vicinity.

FEIS Section 5.2 describes the current status of zoning and land use planning for lands near the airport. The Airport has an existing noise compatibility program, designed to

either reduce noise at the source or mitigate the noise received by sensitive land uses in the airport vicinity. As explained in the FEIS Section 6.3.1, with planned mitigation, development of the project will not result in any increased significant impacts on non-compatible land uses.

The FAA requires satisfactory assurances, in writing, that appropriate action, including the adoption of zoning laws, has been or will be taken to restrict, to the extent reasonable, the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. Appendix I of the FEIS contains Lambert's land use compatibility assurance.

Based upon the administrative record for this ROD, the FAA has concluded that existing and planned noise reduction programs at Lambert provide for appropriate action to ensure compatible land use in the airport vicinity.

**F. Clean Air Act, Section 176 (c) (1) Conformity Determination Regarding Lambert-St. Louis International Airport Master Plan Supplement Development Actions (42 U.S.C. Section 7506(c)).**

The determination prescribed by this statutory provision is a precondition for Federal Agency support or approval of airport development actions which are projected to exceed the *de minimis* air emission levels prescribed at 40 CFR Section 93.153. The EPA regulations more generally governing the conformity determination process are found at 40 CFR Part 93, Subpart B.

In the 1997 FEIS, the FAA made a Draft General Conformity Determination on the Lambert MPS proposals (FEIS Sections 5.5.6 and 5.5.7). Pursuant to EPA regulations, the FAA announced the availability of the Draft General Conformity Determination in the *St. Louis Post Dispatch*, and provided notice to appropriate Federal, state and local public agencies. The agencies and the general public were invited to review and comment on the Draft General Conformity Determination. Comments received on the Draft General Conformity Determination and responses to those comments are presented in the Final General Conformity Determination. The FEIS Appendix A presents letters from the EPA (dated November 7, 1997) and MDNR (dated November 20, 1997). In their letters, these air quality agencies concurred with the conformity determination analysis conclusions for general conformity under the Clean Air Act. The Final General Conformity Determination was prepared and a notice of the FAA's determination was published in the *St. Louis Post Dispatch* on June 28, 1998. No comments or requests were received regarding the Final General Conformity Determination.

In order to achieve public disclosure and to address community concerns, the FEIS presented an analysis of air quality impacts utilizing the regulatory structure set forth in the EPA conformity regulations. The FEIS analysis (Section 5.5) demonstrates that the project would not cause or contribute to any new exceedances of air quality standards. As confirmed by the MDNR, the project conforms to the Missouri SIP.

Because projects at Lambert are governed by the moderate non-attainment designation for ozone and the maintenance area designation for carbon monoxide, the FAA needed to determine that the project will not cause or contribute to any new violations of the NAAQS in the project area or the metropolitan area. The FEIS and other supporting documentation provided the FAA the information needed to make that determination. The computer modeling predicted that the carbon monoxide NAAQS would not be exceeded in the future with or without the proposed improvements. The FEIS showed that the project will not increase the frequency or severity of any existing violations of any NAAQS and that the project will not delay timely attainment of the NAAQS or any required interim emission reduction in the project area.

Based upon the air quality information and discussion presented in the FEIS and its appendices, the Final General Conformity Determination, and upon supporting material in the administrative record, the FAA finds that the development actions will not cause or contribute to any air quality standards being exceeded and conform to the Missouri SIP and the NAAQS.

**G. For this project, involving new construction which will directly affect wetlands, there is no practicable alternative to such construction. The proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. (Executive Order 11990, as amended).**

This executive order requires all Federal agencies to avoid providing assistance for new construction located in wetlands, unless there is no practicable alternative to such construction, and all practicable measures to minimize harm to wetlands are included in the action.

The FEIS, Section 5.11 documents that the preferred development alternative selected by the STLAA from the MPS will directly affect approximately 9.7 acres of wetlands. The FEIS alternatives analysis (FEIS Section 3.3) identifies no reasonable alternative to developing a new runway at Lambert. The FAA additionally concludes that there is no practicable alternative to constructing such a runway, resulting in these wetland impacts, given the purposes and needs documented in the FEIS, consideration of environmental and economic factors, and land-use issues.

The FEIS, Section 5.11 states that the S-1 development alternative of a 9,000-foot runway would result in impacts to more wetlands (10.8 acres) than would Alternative W-1W (9.7 acres). The FEIS demonstrates that these are low quality wetlands. Two of their significant functions, floodwater attenuation and floodwater storage, would be fully mitigated within the airport basin. Additionally wetland functions for these wetlands will be mitigated as part of the overall wetlands mitigation program.

Alternatives of staggering runway ends or relocating the entire runway are not practicable, because, among other reasons, they would increase delays, have additional detrimental environmental effects, require considerable additional cost and complicate air traffic control procedures. Considering these and other reasons described more fully in Section 3.0 of the FEIS, and taking into consideration cost, existing air traffic control and aviation technology and logistics, in light of the overall purpose of the runway project, the FAA finds that there is no practicable alternative to the wetland loss associated with the 9,000-foot runway.

As noted in the FEIS Section 5.11, the COE has worked with the FAA as a cooperating agency to ensure that all practicable measures will be taken to minimize harm to wetlands, impacted through development of the selected alternative. This will be accomplished by using BMPs during construction and developing a wetland compensatory mitigation site. Following issuance of this ROD, the COE, in consultation with the MDNR, will complete its processing of a Section 404 permit, required for the STLAA to proceed with development impacting wetlands. The project approvals in this ROD and this wetlands determination are expressly conditioned upon permit approval and conditions to be outlined by the COE, and upon the STLAA accomplishing the wetlands mitigation measures identified in the FEIS and any COE permit approval.

Although it is generally preferable to attempt to mitigate wetland loss through replacement wetlands in the same watershed, this is not the case where such replacement would create man-made wetlands in the vicinity of airport aircraft movement areas. FAA Advisory Circular 150/5300-33, dated May 1, 1997, states the FAA's opposition to wetland mitigation projects located within 10,000 feet of airports serving turbine-powered aircraft (such as Lambert), due to the safety hazard such wetlands present as attractants of wildlife, which significantly increase the risk of bird/aircraft strikes.

The safety standards set forth in this FAA policy statement are recommended for the operators of all public-use airports. Furthermore, for airport sponsors who are the recipients of Federal grant funding, adherence to safety standards set forth in FAA advisory circulars is a requirement of standard grant assurance #34, as acknowledged in paragraph 4-6.a. of Advisory Circular 150/5200-33.

This recent agency policy guidance supports the FEIS determination that the replacement wetlands for the Lambert development actions should not be located in the vicinity of the airport. Given the potential hazard associated with the creation of wildlife attractions within 10,000 feet of jet runways, the FAA and COE agreed that it is prudent to permit the STLAA to replace these impacted wetlands outside of the Lambert watershed.

As detailed in the FEIS Section 6.3.7, a wetland mitigation program has been developed to offset the impacts of the project and to recognize other long-term biological problems. The mitigation plan calls for replacing the filled wetlands. Several candidate wetland mitigation sites have been examined. Final mitigation requirements will be determined during the Section 404 permit application and review process in consultation with the COE.

**H. For this project, involving a significant encroachment on a floodplain, there is no practicable alternative to the selected development of the preferred alternative. The proposed action conforms to all applicable state and/or local floodplain protection standards. (Executive Order 11988).**

This executive order, together with applicable DOT and FAA orders, establish a policy to avoid supporting construction within a 100-year floodplain where practicable, and where avoidance is not practicable, to ensure that the construction design minimizes potential harm to or within the floodplain.

Section 5.12 of the FEIS explains that, without mitigation, construction and operation of the MPS preferred alternative could result in adverse floodplain impacts in the Coldwater Creek floodplain.

As outlined in the "Alternatives" discussion in Section 5 of this ROD, and in the FEIS, there is no practicable alternative to the selected alternative. Development of this alternative achieves the purposes and needs for the projects in the most cost-effective manner with the least impact on the surrounding land uses. As shown in the FEIS Section 6.3.8, a mitigation program has been designed, which will create a floodplain so that there would be no net loss of flood storage capacity or increased risk of loss of human life or property damage. This program has been designed to comply with applicable requirements of the permitting agencies, with whom the FAA and the STLAA have been coordinating, in order to ensure that the construction design minimizes potential harm to or within the floodplain. Each of these agencies have agreed with the mitigation plan in concept, and coordination will continue throughout the permitting process.

**I. Relocation Assistance (42 U.S.C. Section 4601 et seq.).**

These statutory provisions, imposed by Title II of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, require that state or local agencies, undertaking Federally-assisted projects which cause the involuntary displacement of persons or businesses, must make relocation benefits available to those persons impacted.

As detailed in the FEIS Section 5.3, the selected development alternative will displace approximately 2,324 households, 75 businesses, and 6 schools, 6 churches, and one nursing home.

The FAA will require Lambert to provide fair and reasonable relocation payments and assistance payments pursuant to the provision of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Comparable decent, safe, and sanitary dwellings are available for occupancy on the open market.

**J. For any use of lands with significant historic sites, there is no prudent and feasible alternative to using the land; the project includes all possible planning to minimize harm resulting from the use (49 U.S.C. Section 303(c)).**

The FEIS Section 5.7 concluded that the MPS development actions would involve either the use or constructive use of resources protected by this statutory provision, more commonly referred to as "4(f)" resources. The selected alternative would directly affect four park and recreation area Section 303 sites and indirectly affect four sites. One of the sites, Oak Valley Park, would have both direct and indirect effects. Three of the sites are also protected under Section 6(f) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. Section 4601-8(f)3).

In terms of avoidance alternatives, review of the tiered alternatives evaluation prepared in Section 3.0 of the FEIS indicated that there are no prudent and feasible alternatives to the identified impacts to Section 303 and 6(f) sites. The FAA has coordinated with the public and agencies having jurisdiction over the impacted sites to determine site significance and to develop mitigation measures necessary to meet Section 303 and 6(f) requirements. The agencies involved in the coordination were the DOI, the MDNR, the Council, STLAA, and the City of Bridgeton.

A coordination meeting with the City of Bridgeton was held on April 18, 1997, with the mayor and key staff members to discuss Draft EIS comments relative to Section 303/6(f) issues, and to solicit input from the City of Bridgeton regarding future plans and goals for their parks and recreation program. Items listed in the City of Bridgeton's comprehensive plan were discussed regarding candidate mitigation options. The City

of Bridgeton has stated that it will not initiate the Section 6(f) conversions for Lambert. Measures to minimize harm to Sections 303 and 6(f) resources are summarized in Section 6.3.5 of the FEIS.

As discussed at FEIS Section 5.8, the FAA determined the project will impact five structures of historic significance. Assuming such "historical significance" and such "use," the referenced FEIS Section 5.8 demonstrates that there is no prudent or feasible alternative to any such use. Furthermore, based upon the planned mitigation (discussed at FEIS Section 6.3.6), the FAA concludes that there has been all possible planning to minimize any harm resulting from use of historic or archaeological resources.

The Missouri SHPO has been consulted concerning these determinations. Treatment measures for these adversely affected historic properties are included within the MOA for the selected alternative, W-1W. It stipulates measures to be implemented to avoid, reduce or mitigate the adverse effects this project will have on historic properties. The MOA was signed by the FAA, the Missouri SHPO, and the Advisory Council. The STLAA signed as a concurring party. The City of Bridgeton was invited to participate as a concurring party to the MOA, but it chose not to concur in the MOA. The Advisory Council executed the MOA on May 29, 1998. A copy of the MOA is included in Appendix H of this ROD.

**K. There are no disproportionately high or adverse human health or environmental effects from the project on minority or low-income populations. (Executive Order 12898).**

Environmental justice concerns were addressed in Section 5.3 of the FEIS, and it was concluded that no minority or low-income group would be disproportionately affected by displacements occurring as a result of the selected alternative. The FEIS contains a discussion of environmental justice issues relative to the selected alternative. It was concluded that the impacts from the proposed MPS improvements will not disproportionately affect minority or low-income communities.

**L. The FAA has given this proposal the independent and objective evaluation required by the Council on Environmental Quality. (40 CFR 1506.5).**

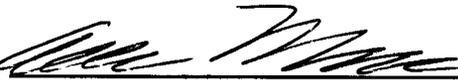
As the FEIS outlined, a lengthy process led to the ultimate identification of the selected alternative, disclosure of potential impacts and selection of appropriate mitigation measures. This process began with the FAA competitive selection of an independent EIS contractor, continuing throughout the preparation of the DEIS and FEIS, and culminating in this ROD. The FAA provided input, advice and expertise throughout the planning and technical analysis, along with administrative direction and legal review of

the project. From its inception, the FAA has taken a strong leadership role in the environmental evaluation of this project and has maintained its objectivity.

## 12. APPROVALS AND FAA ORDER

### **FHWA APPROVAL**

I have carefully considered the FHWA's goals and objectives in relation to the surface transportation aspects of the proposed MPS development actions discussed in the FEIS. After careful review of Section 5.22 of the FEIS and Section 8 of this ROD, I find the surface transportation projects described in this ROD meet the FHWA's NEPA requirements.

  
\_\_\_\_\_  
FHWA Approving Official

9-30-98  
Date

### **FAA APPROVAL AND ORDER**

Having determined that the agency's preferred alternative, Alternative W-1W, is the only possible, prudent, and practicable alternative, the remaining decision is whether to approve or not approve the agency actions necessary for implementation of the project. Approval would signify that applicable Federal requirements relating to airport development planning have been met, and would permit the City of St. Louis to proceed with the proposed development and possibly receive Federal funding for eligible items. Not approving these actions would prevent the City of St. Louis from proceeding with Federally supported development in a timely way.

I have carefully considered the FAA's goals and objectives in relation to various aeronautical aspects of the proposed MPS development actions discussed in the FEIS. These include the purposes and needs to be served by the projects, the alternative means of achieving them, the environmental impacts of these alternatives, the mitigation necessary to preserve and enhance the environment, and the costs and benefits of achieving these purposes and needs in terms of effective and fiscally responsible expenditure of Federal funds. I have also considered comments received by the FAA on the social, environmental and economic impacts of the proposed actions.

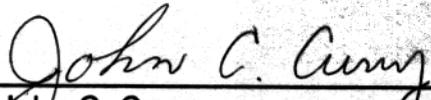
Therefore, under the authority delegated to me by the Administrator of the FAA, I find that the projects in this ROD are reasonably supported and approved. For those projects I, therefore, direct that action be taken to carry out the agency actions discussed more fully in Section 3 of this ROD, including:

- A. Approval under existing or future FAA criteria of project eligibility for Federal grant-in-aid funds and/or PFC, including the following elements:

1. Land Acquisition
  2. Site Preparation
  3. Runway, Taxiway, and Runway Safety Area Construction
  4. Landside Developments, including Roadways
  5. Certain Navigational Aids
  6. Acquisition/relocation of MoANG and Navy/Marine Corps Reserve Facilities
  7. Terminal Facility Improvements and New Terminal Facilities
  8. Environmental Mitigation
- B. Approval of a revised ALP, based on determinations through the aeronautical study process regarding obstructions to navigable airspace, and no FAA objection to the airport development proposal from an airspace perspective.
- C. Approval for relocation and/or upgrade of various navigational aids.
- D. The development of air traffic control and airspace management procedures to effect the safe and efficient movement of air traffic to and from the proposed new runway, including the development of a system for the routing of arriving and departing traffic and the design, establishment, and publication of standardized flight operating procedures, including instrument approach procedures and standard instrument departure procedures.
- E. Review and subsequent approval of an amended Airport Certification Manual for Lambert-St. Louis International Airport (per 14 CFR Part 139).

Finally, based upon the administrative record of this project, I certify, as prescribed by 49 U.S.C. 44502 (b), that implementation of the proposed project is reasonably necessary for use in air commerce.

Concur:

  
\_\_\_\_\_  
John C. Curry  
Regional Counsel, Central Region

Sept. 30, 1998  
Date

Approved:

  
\_\_\_\_\_  
John E. Turner  
Regional Administrator, Central Region

Sep 30, 1998  
Date

## **RIGHT OF APPEAL**

This decision constitutes the Federal approval for the actions identified above and any subsequent actions approving a grant of Federal funds to the City of St. Louis. Today's action is taken pursuant to 49 U.S.C. Subtitle VII, Parts A and B, and constitutes a final order of the Administrator subject to review by the Courts of Appeals of the United States in accordance with the provisions of 49 U.S.C. Section 46110.

**U.S. Department  
of Transportation  
Federal Aviation  
Administration**

**NEWS:  
PUBLIC AFFAIRS STAFF  
Atlanta, GA**

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## **FOR IMMEDIATE RELEASE**

Sept. 30, 1998

Contact: Kathleen Bergen

816-426-5626

### **FAA ISSUES RECORD OF DECISION ON LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT**

The Federal Aviation Administration has approved Lambert-St. Louis International Airport's proposed airside and landside improvements, commonly known as Alternative W-1W. This Record of Decision (ROD) in favor of W-1W deems the improvements eligible for federal financial assistance and commits the airport operator to specific conditions including environmental mitigation measures. The ROD was signed today by FAA Central Region Administrator John E. Turner.

The approved alternative was selected from numerous proposals considered during the environmental process. A central feature of W-1W is a new staggered parallel runway configuration, suitable for use by air carriers, to be located on the southwest side of the airport in Bridgeton, Mo. The plan also includes property acquisition, terminal expansion, roadway improvements and relocation of several airport tenants.

The principal features of the ROD, which is based on a review of the administrative record, including the Final Environmental Impact Statement, include:

- A statement of the agency's decision;
- Identification of all alternatives considered by the FAA, including the environmentally preferable one, and
- Mitigation measures planned to prevent or minimize environmental harm.

The FAA issued its Final Environmental Impact Statement on Dec. 19, 1997, finding that the city of St. Louis's proposed alternative met the requirements of the National Environmental Policy Act (NEPA).

By Oct. 14, 1998, the ROD will be available for review at the following locations:

**The City Halls of:**

Bel Nor; Bel-Ridge; Berkeley; Bridgeton; Calverton Park; Cool Valley; Edmundson; Ferguson; Greendale; Hazelwood; Kinloch; Maryland Heights; Normandy; Northwoods; Pasadena Hills; Village of Pasadena Park; St. Ann; St. John; Woodson Terrace; St. Charles City; St. Charles County.

**Libraries:**

St. Louis County: St. Louis County-Main Branch; Bridgeton Trails Branch; Florrisant Valley Branch; Indian Trains Branch; Indian Trains Branch, Lewis and Clark Branch; Prairie Commons Branch; Rock Road Branch.

St. Charles County: Kathryn Linnemann Branch; Kisker Road Branch; Spencer Road Branch.

**Federal Agencies:**

FAA Central Regional Office, 601 E. 12th St., Kansas City, Mo.; FAA Headquarters, 800 Independence Ave., Washington, D.C.

**Lambert-St. Louis International Airport**

Planning and Development Office, 4610 N. Lindbergh, Bridgeton, Mo.

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