

CHAPTER ONE

INTRODUCTION AND BACKGROUND

The City of Chicago (City), as owner and operator of Chicago O'Hare International Airport (O'Hare or the Airport), proposes to modernize O'Hare to address existing and future capacity and delay problems. The City initiated master planning and the process of seeking FAA approval to amend its airport layout plan to depict the O'Hare Modernization Program (OMP). The City is also seeking that the FAA provide the necessary approvals to implement the OMP and associated capital improvements and procedures. The OMP and associated capital improvements and procedures are referred to as the "proposed action" or "proposed project." In accordance with the National Environmental Policy Act of 1969 (NEPA), the FAA is responsible for analyzing the potential environmental consequences of the federal approvals and other actions to support the proposed OMP and reasonable alternatives. The FAA determined that the proposed action involves major Federal actions requiring preparation of an Environmental Impact Statement. On July 17, 2002, the FAA issued a Notice of Intent¹ to prepare an EIS and conducted environmental scoping. A detailed description of the City's proposal is provided in **Section 1.6, Description of the Sponsor's Proposed Projects**.

A Draft EIS was issued for agency and public comment on January 21, 2005. All comments received on the Draft EIS have been considered and responses are provided in this Final EIS in **Appendix U, Response to Comments**. Where appropriate, the document has been revised and additional analysis completed. This Final EIS will serve as the basis for the FAA to issue its Record of Decision (ROD).

This introductory chapter of this Final EIS explains the purpose and organization of this document, the role of the FAA as lead Federal agency; including the proposed federal actions, and regulatory guidance. It also briefly describes the functional role of the Airport—its location and size, history, facilities, and past airport planning efforts; the greater Chicago Market Area;² historical and current aviation activity; forecasts of aviation demand; a description of the Sponsor's proposed projects; as well as time frame, cost, and funding of proposed projects.

¹ Notice of Intent to Prepare an Environmental Impact Statement and to Conduct Environmental Scoping for Improvements to the O'Hare International Airport, in Chicago, IL, Federal Register: July 17, 2002 (Volume 67, Number 137, Page 47029-47030).

² Greater Chicago Market Area is defined herein as the Chicago metropolitan area, northeastern Illinois, southeastern Wisconsin, including Milwaukee, and northwestern Indiana, including Gary.

1.1 THE NATIONAL ENVIRONMENTAL POLICY ACT PROCESS

The purpose of preparing an EIS is to investigate, analyze, and disclose the potential impacts of proposed Federal actions and their reasonable alternatives. The EIS serves to document and disclose to agency decision-makers as well as the public the environmental consequences of the proposed action and reasonable alternatives. It aids the FAA in making informed decisions and taking actions that protect and may enhance the environment. The FAA is the agency responsible for approval of the proposed Federal actions. The FAA is also responsible for assuring that the proposed project is consistent with safety, utility, and efficiency of the airport and that the proposed project and associated approach and departure procedures are consistent with safe and efficient utilization of the navigable airspace. The Federal actions associated with the proposed development are:

- Approval of an Airport Layout Plan (ALP) depicting the proposed project,
- Eligibility for Federal funding under the Airport Improvement Program (AIP) and to impose and expend passenger facility charges (PFCs),
- Establishment of air traffic control and airspace management procedures designed to affect the safe and efficient movement of air traffic to and from the proposed runways as well as in the airspace surrounding the airport,
- Establishment of flight procedure modifications,
- Certifications as to the safety of instrumentation, procedures, and airfield operations, and,
- Installation and/or relocation of navigational aids associated with the proposed new and relocated runways.

1.1.1 Responsible Federal Agency and Regulatory Guidance

The FAA has prepared this Final EIS for review by regulatory agencies, local jurisdictions, and the general public. During preparation of the Draft and/or Final EIS, the FAA coordinated with Federal, state, and local entities, including the U.S. Environmental Protection Agency (U.S. EPA), U.S. Army Corps of Engineers (USACE), Illinois EPA (IEPA), U.S. Fish and Wildlife Service, (USFWS), Department of Interior (DOI), National Park Service (NPS), Advisory Council on Historic Preservation (ACHP), Illinois Department of Natural Resources (IDNR), Illinois Historic Preservation Agency (IHPA), Federal Highway Administration (FHWA), Illinois Department of Transportation (IDOT), Illinois State Toll Highway Authority (ISTHA), Northeastern Illinois Planning Commission (NIPC), Chicago Area Transportation Study (CATS), local municipalities, other interest groups, and the public to facilitate early consideration of key issues and an understanding of the proposed actions. A more detailed description of public outreach and agency coordination is provided in **Appendix T, Public Outreach and Agency Coordination, Appendix U, Response to Comments**.

This EIS was prepared in compliance with the requirements of NEPA, as implemented by the regulations of the Council on Environmental Quality (CEQ) [40 Code of Federal Regulations

(CFR) Parts 1500-1508] and FAA policies for implementing NEPA in FAA Order 1050.1, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4, *Airport Environmental Handbook*. Refer to **Chapter 8, Reference Documentation**, for a list of regulations potentially relevant to this EIS and the proposed actions.

1.1.2 Agency Responsibility for the Content of the EIS

FAA is responsible for the preparation and content of this EIS. The FAA is also responsible for reviewing and verifying the accuracy of any environmental information provided by outside entities. CEQ regulations permit the FAA to receive information related to the EIS. Under the CEQ regulations, 40 CFR 1506.5,

If an agency requires an applicant to submit environmental information for possible use by the agency in preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers (Sec. 1502.17). It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.

In keeping with its oversight responsibility, FAA has consistently exercised control over the scope, content and development of this EIS. FAA selected a Third Party Contractor (TPC) to assist in the preparation of this EIS.³ The Agency also utilized its own resources, as well as the resources of the TPC, to independently evaluate any environmental information submitted by the City of Chicago Department of Aviation (DOA) or other entities. In addition, FAA has utilized environmental information submitted by the local agency for development of this EIS, only as permitted under 40 CFR 1506.5(a). The local agency in this case was the DOA. As the proprietor and operator of O'Hare, the DOA was in a unique position to provide valuable current and historical information about the Airport. The FAA requested that the DOA provide specific environmental information. Also, the FAA and DOA developed a Memorandum of Understanding (MOU) to further define the information required by the FAA. The DOA and their contractors also completed some portions of the environmental modeling results utilized in the EIS.

FAA is responsible for the accuracy of all information within this EIS. The FAA/TPC independently and extensively reviewed the DOA-provided environmental information utilized in this EIS. Document exchanges between the FAA/TPC and the DOA and its City Consultant Team (CCT) related to environmental modeling have been posted on an FAA website⁴ and are part of the supporting material to this EIS. The documentation demonstrates a thorough review by FAA/TPC of the modeling utilized within this EIS. For example, the documents posted include: (1) comments related to deficiencies in data, (2) requests for the DOA/CCT to gather more information, (3) FAA direction to the DOA related to modeling, and (4) requests to the DOA/CCT to perform additional modeling where necessary. The EIS also

³ The FAA Third Party Contractor (TPC) team is described in **Chapter 8, Reference Documentation**.

⁴ www.agl.faa.gov/OMP/DEIS

includes documentation of the FAA review process as it related to DOA/CCT environmental submissions utilized within the EIS, see for example, **Appendix D, Simulation Modeling, Appendix F, Noise, Appendix G, Surface Transportation, and Appendix J, Air Quality**. Other references provided by the DOA or other outside agencies have been accepted for use by the FAA as the best information available or as factual information. FAA believes that its degree of supervision exercised over the TPC, and FAA involvement in the preparation/review of this EIS is consistent with CEQ regulations and its own Orders, and fully demonstrates the integrity and objectivity of the EIS.

1.1.3 Organization of the Environmental Impact Statement

This EIS is organized into eight chapters, with an Executive Summary and supporting appendices as follows:

- Chapter One – Introduction and Background
- Chapter Two – Purpose and Need
- Chapter Three – Alternatives
- Chapter Four – Affected Environment
- Chapter Five – Environmental Consequences
- Chapter Six – Cumulative Impacts
- Chapter Seven – Mitigation Summary
- Chapter Eight – Reference Documentation
- Appendices A-U

1.2 O'HARE INTERNATIONAL AIRPORT

O'Hare International Airport is one of the most important airports in the National Airspace System (NAS). It provides vital origin and destination service to the nation's third largest metropolitan area, as well as serving as an important connecting hub for two of the world's largest airlines – American and United. Moreover, it provides substantial and growing international service. In 2002 and 2003, O'Hare was the world's busiest airport as measured by total operations, and the second busiest in terms of enplaned passengers.⁵ In 2003, O'Hare experienced more delays than any other airport in the country.⁶ O'Hare also operates as a major cargo airport. Further discussion of the Airport operational activity is presented later in this chapter in **Section 1.4, Historical and Current Aviation Activity**.

⁵ Airports Council International Website, <http://sezame.aci.aero/>, July 2004.

⁶ FAA OPSNET, November 2004.

1.2.1 Location

The Airport is located in northeastern Illinois, within the city limits of Chicago, Des Plaines, Schiller Park, and Rosemont, approximately 17 miles northwest of the Chicago Central Business District. The Airport is situated on approximately 6,804 acres of land located primarily in Cook County; however, approximately 1,400 acres on the west side of the Airport are located in DuPage County. Light industrial, commercial, and some residential and public land uses are directly adjacent to Airport property.

The main access route to the Airport is from the east via I-190, which is linked to other major area expressways I-90 and I-294. The Chicago Transit Authority (CTA) O'Hare Rapid Transit Blue Line Rail Service provides transit service between downtown Chicago and the Airport. Metra also provides access to and from downtown Chicago to a Metra Station east of O'Hare. A shuttle bus service then takes passengers from the Metra Station to an Airport Transit System (ATS) station in the off-Airport parking Lot E for transfer to the Airport. **Exhibit 1-1** illustrates the general location of O'Hare.

1.2.2 Airline Operations at O'Hare

As of October 2004, 47 scheduled passenger airlines served O'Hare -- 10 U.S. flag air carriers, 27 foreign-flag air carriers, and 10 regional/commuter carriers. In addition, 23 carriers provided scheduled cargo service at O'Hare. O'Hare provides nonstop service to 127 domestic and 48 international destinations. **Appendix A, Background** includes a listing of the airlines serving O'Hare in addition to a list of the domestic and international destinations.

The Airport plays a vital role in the overall air transportation and economic system of the greater Chicago Market Area. O'Hare also plays an important role in the NAS as a dual airline hub, a major mid-continent market for nearly every major airline, and a key international gateway. Because of these characteristics, O'Hare is one of the busiest airports in the world in terms of aircraft operations and enplaned passengers.⁷ In 2003, enplaned passengers at O'Hare totaled 32,920,387 and aircraft operations totaled 931,422.⁸

1.2.3 Existing Airport Facilities

As shown in **Exhibit 1-2**, in 2002 the airfield at O'Hare consisted of six (6) primary air carrier runways configured as three (3) parallel sets, and one (1) commuter/general aviation runway. The three sets of parallel runways are oriented in southwest-northeast, east-west, and northwest-southeast directions, with the commuter/general aviation runway oriented in a north-south direction. The runways in each of the parallel sets are separated by at least 5,450 feet, allowing dual-independent instrument flight rule (IFR) approaches to each set.

⁷ Enplaned passenger - revenue passenger boardings on an aircraft utilized for air commerce, either in scheduled or unscheduled service.

⁸ FAA 2003 CY Air Carrier Activity Information System (ACAIS), Enplanements by Individual Carriers for Calendar Year 2003, Chicago O'Hare International Airport (ORD), Report Date: 11/04/2004.

Runway 18/36 was permanently closed on December 4, 2003 and converted to a taxiway.⁹ Further description of the O'Hare airfield and operating procedures is included in **Appendix A**.

⁹ For purposes of this EIS, Runway 18/36 is included in the text and on exhibits for the 2002 Baseline Conditions since the runway was still active at that time. (Chicago O'Hare International Airport, Chicago, IL, Categorical Exclusion Determination for Improvement to Taxiways and Associated Edge Lighting and Pavement Markings Leading to and from the General Aviation Area, Federal Aviation Administration, August 27, 2003).



Chicago O'Hare International Airport

Location Map



**O'Hare Modernization
Environmental Impact Statement**

► Exhibit 1-1

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The airlines serving O'Hare operate from three domestic terminal buildings and one international terminal building with 189 aircraft gates, including separate remote aircraft parking positions (also referred to as hardstands). Terminals 1, 2, and 3 — the domestic terminals that make up the Terminal Core Area—have a total of 168 aircraft gates and 15 hardstands. These hardstands serve domestic flights and some international departures. Terminal 5, the International Terminal, has 21 gates and 5 hardstands, and serves the remaining international departures and all international arrivals requiring Federal Inspection Service (FIS) or U.S. Customs clearance. Terminal 5 also serves some new-entrant carriers and charter operations. Terminal 4 was the designation for the temporary international terminal on the lower level of the core parking structure, which was closed when Terminal 5 opened in 1993.

Ground access facilities include a two-level roadway system at the Terminal Core Area (Terminals 1, 2, and 3) with separate enplaning and deplaning curbs. Terminal 5 is served by its own roadway system. Public parking facilities, with space for over 22,000 vehicles, include a mixture of surface lots and parking structures around the Airport. The Airport Transit System (ATS) is a free, 24-hour rail system that provides for passenger connections between each of the three domestic terminals, the international terminal, and long-term parking. The ATS is fully automated, consists of 2.7 miles of elevated track, and can accommodate up to 2,400 passengers per hour; from beginning to end, travel time is approximately nine minutes. Additionally, a number of other public and nonpublic roads provide access to the various airline and Airport support areas. A discussion of these roadways is presented in **Section 5.3, Surface Transportation**.

In addition to the airfield, terminal, and other facilities mentioned above, many other services support passenger and cargo airline operations at O'Hare. These include:

- General aviation facilities;
- Cargo facilities;
- Airline support facilities;
- Maintenance facilities;
- Fuel and deicing fluid storage facilities;
- Aircraft rescue and fire fighting (ARFF) facilities;
- United States Post Office facility;
- FAA Air Traffic Control; and
- Transportation Security Administration (TSA).

1.2.4 History of O'Hare

This section provides background information on the development of the Airport, describing key developments that occurred through the 1990s, recent planning activities, and other Airport planning studies.

1.2.4.1 Airport Development through the 1990s

In the 1930s, Chicago's Midway International Airport (Midway) was the world's busiest commercial airport with service to numerous cities across the country. At its meeting on April 25, 1944, the Chicago Plan Commission, the organization spearheading the development of a new Chicago airport, adopted the goal of ultimately developing an airport that would make Chicago the center of aviation. In 1946, the Federal government transferred the 1,080-acre Orchard Place Airport to the City of Chicago under the Surplus Property Act of 1944. Orchard Place Airport was originally developed as a home for the military and Douglas aircraft manufacturing facilities. In June 1949, Orchard Field was renamed O'Hare Airport in honor of Edward H. "Butch" O'Hare, a decorated WWII Naval Aviator and recipient of the Congressional Medal of Honor. The original Airport had four intersecting concrete runways.

Commercial service was initiated at O'Hare in 1955, serving over 175,000 passengers in its first year of operation. Midway Airport, the City's primary airport at the time, was not configured to accommodate the original generation of jet aircraft. Long-term financial obligations were undertaken with execution of the airline agreement for development at O'Hare in 1959. O'Hare was expanded to approximately 6,804 acres and numerous capital improvements and infrastructure modifications were undertaken, such as new runways (including the world's longest at the time), the nation's first passenger loading bridges, and a dual-level roadway system. Other improvements included larger passenger terminal facilities and automobile parking, a separate heating and refrigeration plant, new apron areas, cargo buildings, rental car facilities, and an underground fueling system.

By 1962, all of Midway's scheduled commercial airline operations moved to O'Hare. More than 10 million passengers traveled through O'Hare that year, making it the world's busiest airport. In 1965, the number of passengers traveling through O'Hare doubled to 20 million. In 1976, O'Hare handled over 40 million total passengers.

The Airline Deregulation Act of 1978 (ADA) had a profound effect on airline operations, with an increase in airline travel at both O'Hare and airports nationwide. In response to domestic airline deregulation, O'Hare's terminal facilities were reconfigured to accommodate the needs of hubbing airlines. Hubbing airlines need a number of gates close together to allow passengers to move quickly between aircraft arriving from and departing to many destinations in a short period of time. As the activity of United Airlines and American Airlines continued to grow, the O'Hare Development Program of the early 1980s, reflecting many of the elements of the

Airport's 1984 Master Plan, provided for new terminal facilities designed to support a strong hub facility for both airlines. FAA issued a Final EIS in 1984 for the Master Plan.¹⁰

Although international travel, in the 1980s, was still in its infancy, the Master Plan also included a temporary international facility, located in the basement of the parking garage until a new international terminal, Terminal 5, could be completed. Other developments included extension of the CTA BlueLine rail service to O'Hare in 1984; the expansion of Terminal 3, and construction of Concourse L; and construction of United Airlines' Terminal 1, completed in 1988, which included Concourses B and C. Development of the Airport Transit System to connect remote parking lots and all of the terminals was also completed to accommodate the growth in numbers of passengers. Relocation of the inner and outer taxiway system allowed for an expanded gate and apron area, reducing delay. Development of support facilities included construction of the South Cargo Area, Southeast Services Area, and Airport Maintenance Complex.

Bilateral and open skies agreements between the United States and other nations in the 1990s affected existing operations and future development at O'Hare. As a major international air travel market, Chicago was specifically named in many treaties to receive new air service. During this period, a U.S. initiative for international deregulation called for creating more "open skies" agreements with other nations. As a result, international carriers face fewer constraints in selecting destinations to serve in this country and are beginning to provide the flexibility of service typical of domestic deregulated market-driven service. International deregulation led U.S. - and foreign-flag airlines to foster strategic alliances and code-sharing agreements, which continue today. Two of the largest alliances are the Star Alliance, which includes United, Lufthansa, and other airlines, and the "oneworld alliance," which includes American, British Airways, Japan Airlines, and others. In addition, although they do not operate a hub at O'Hare, other major carriers and their alliance partners use O'Hare, including Delta Air Lines and Air France, and KLM and Continental Airlines.

In the 1990s, the development of Terminal 5 and the ATS extension provided international travelers with improved connections and transportation service, but the creation of airline alliances has changed the way many airport managers, including the City of Chicago at O'Hare, plan to meet these needs in the future.

An acoustical dampening Ground Run-Up Enclosure also was installed in the 1990s to reduce routine aircraft engine maintenance run-up noise.

The former military site at O'Hare encompasses approximately 370 acres at the northeast corner of the Airport. The deed to the property is scheduled to be transferred to the City, as recommended in the 1984 Master Plan, once the Air Force and the Army issue a Finding of Suitability to Transfer (FOST). This site was decommissioned in 1996 and is in the process of being acquired by the City from the U.S. Department of Defense.¹¹ Once the U.S. Air Force

¹⁰ Final Environmental Impact Statement, Chicago O'Hare International Airport, U.S. Department of Transportation, Federal Aviation Administration, May 1984.

¹¹ Federal Facility Site Information O'Hare Naval Reserve Station. U.S. EPA. Website, <http://www.epa.gov/swerfrr/ff/ohareNRS.htm/>. August 5, 2003.

completes remediation activities and all reporting requirements, the deeds to the property will be transferred to the City. Currently, the City is leasing a portion of the property to various cargo users, including Polar Air and Airborne and the fixed base operator, Signature Flight Services. The City of Chicago is also using a portion of this property for City Offices.

1984 Record of Decision Background

The FAA's 1984 ROD was issued as a basis for FAA's approval of an Airport Layout Plan which was developed by the City of Chicago as part of the Master Plan Study for O'Hare International Airport. The ROD includes the following under the Alternatives section:

c. Development of New Airport. Development of a new major air carrier airport was considered several times in the past, as well as in the recently completed Master Plan Study. This alternative was not selected because of difficulties in finding a suitable site, the extremely high costs of acquisition and development of a new site, and the long lead time to make it operational. Development of another air carrier to serve the Chicago Metropolitan Area will be studied again as part of a State System Plan to be prepared by the Illinois Department of Transportation under a series of grants to be funded by the FAA's Airport Improvement Program. The initial grant was issued in September 1984.

It should also be noted that in 1982, Chicago entered into an Intergovernmental Agreement with suburban communities and the Suburban O'Hare Committee (SOC) whereby it agreed that it would not place new O'Hare runways in service during the period ending June 30, 1995.

Subsequent to, and in accordance with, the FAA's 1984 Record of Decision (ROD), several FAA grants were issued for state system planning which studied Chicago regional aviation capacity issues and the needs for a supplemental air carrier airport. This satisfied all FAA's 1984 ROD requirements. While the State System Plan did not conclude "that O'Hare's runways should not be expanded...", it did recommend a new south suburban airport. In any event, previous state system plan coverage on the topic of O'Hare has been superseded by the State's 2003 passage of the O'Hare Modernization Act, which provided statewide special emphasis for development of the O'Hare Modernization Program.¹²

After the issuance of the FAA 1984 ROD, SOC sued the FAA [Suburban O'Hare Commission v. Dole 787 F. 2nd 186 (7th Cir, 1986)] over the approval of the Airport Layout Plan for O'Hare, primarily disagreeing with the adequacy of consideration of the possibility of utilizing other airports or construction of a new airport to alleviate some of the demands on O'Hare. The Seventh Circuit Court of Appeals quoted the above statement from the 1984 ROD in finding the FAA's decision to approve the Airport Layout Plan was clearly reasonable and clearly supported by substantial evidence. The Court found that SOC's argument that a new airport should have been selected for construction presupposed that Chicago had some degree of control over transfer passengers, but set forth no effective means of separating those passengers from others. The Court stated, "Moving air traffic to Milwaukee or Rockford or anywhere else is simply not within the power of the City to accomplish. The decision to make O'Hare, or any

¹² FAA Record of Decision, Chicago O'Hare International Airport Master Plan, November 14, 1984.

other airport, a 'hub' airport, belongs to the airlines and not to the Government." (SOC v. Dole at 196).

In accordance with the ROD, development of another air carrier airport was studied and included in the State System Plan developed by the Illinois Department of Transportation. Several major studies were conducted regarding the need for an additional air carrier airport. These studies were conducted as part of the State System Plan and were funded in part by FAA Airport Improvement Program grants. The Chicago Airport Capacity Study (CACS) was sponsored by Illinois, Indiana and Wisconsin and conducted between 1986 and 1988. The CACS concluded that a new supplemental commercial air carrier airport should be constructed. Based on its findings the Illinois-Indiana Regional Airport Program (I-IRAP) was initiated in 1989, which evaluated various alternative sites for a new airport. During that same time period, Chicago conducted an independent study on constructing a supplemental airport at Lake Calumet. In 1990, Illinois, Indiana and Chicago agreed to include Lake Calumet in the I-IRAP site selection process. In 1992, the I-IRAP, which was charged with selecting a preferred supplemental airport site, selected the Lake Calumet site for development.

In 1992, Illinois, Indiana and Chicago agreed, in principal, to operate O'Hare, Midway and the new supplemental airport at Lake Calumet under a regional airport authority. However, enabling legislation was not passed by the Illinois State Legislature and Chicago withdrew the Lake Calumet site from consideration. Subsequent to this, Illinois continued planning for a supplemental airport.

The 1997 Illinois State Aviation System Plan stated: "The way for Chicago to remain a major transportation and commercial hub is to build another airport to increase capacity for the entire region. The Illinois Department of Transportation is currently planning for the proposed development of the South Suburban Airport which will be located in Will County." Further information on this planning effort is contained in **Section 1.3.2.5, Proposed South Suburban Airport**.

1.2.4.2 Recent O'Hare Planning and Federal/State Intervention

In 2000, O'Hare was ranked the third most delayed airport in the country.¹³ Overall, slightly more than six percent of all flights were delayed significantly (i.e., more than 15 minutes). The summer of 2000 was a particularly delay-prone period at O'Hare and throughout the nation due to weather and airline labor issues. Further information on historical delays at O'Hare is presented in **Section 2.2, Purpose and Need for the Proposed Action**.

In light of the growing aviation delays being experienced throughout the country and the effect of delays at O'Hare on the national airspace, the Senate Commerce, Energy, and Transportation Committee held hearings in Chicago during the summer of 2001 to discuss how redevelopment of O'Hare could potentially alleviate these delays. At the time these hearings were held, the Committee strongly encouraged the City of Chicago and the State of Illinois to reach agreement

¹³ Airport Capacity Benchmark Report 2001, U.S. Department of Transportation, Federal Aviation Administration, Website, <http://www.faa.gov/events/benchmarks/download.htm>.

on airport expansion before September 1, 2001 or, according to congressional leaders, run the risk of Congressional intervention.¹⁴

The terrorist attacks of September 11, 2001, military conflict in Afghanistan and Iraq, the outbreak of the Severe Acute Respiratory Syndrome (SARS), the formation of the Transportation Security Administration (TSA), and a weakened global economy had significant effects on the air transportation system. Airlines reduced their flight schedules as the number of passenger enplanements decreased substantially. Despite these recent events, however, enplanements have been recovering, and O'Hare continues to be the world's busiest airport in terms of operations. The City of Chicago continues to plan for the development of O'Hare to meet the current and future needs of passengers and the airlines.

Development of the O'Hare Modernization Program (OMP)

On June 29, 2001, the Mayor of Chicago announced a concept to enhance the capacity and efficiency of O'Hare and reduce delay, which later evolved into the OMP. Under the City's concept, O'Hare's existing seven-runway configuration would be replaced by an eight-runway configuration, in which six runways would be oriented generally in the east/west direction, the existing northeast/southwest-oriented Runways 4L/22R and 4R/22L would remain, and Runways 14L/32R and 14R/32L would be closed. The resulting airfield would resemble those at Hartsfield-Jackson Atlanta International and Dallas/Fort Worth International airports, where recent advances in air traffic control technology for parallel runway operations have been incorporated. See **Appendix A, Background**, for an exhibit of these airports.

On October 18, 2001, the Governor of the State of Illinois proposed an alternative version of a modernization plan. The Governor also proposed development of the South Suburban Airport near Peotone, Illinois; increased use of Rockford Airport; and continued operation of Meigs Field.

On December 5, 2001, the Mayor and the Governor announced that they had virtually reached agreement on the major components of a long-range conceptual plan to address delay and airfield congestion at O'Hare.¹⁵ The agreement in support of legislation included the substantive aspects of the Mayor's plan as well as development of the South Suburban Airport in Peotone and a delay in the closure of Meigs Field.¹⁶ Legislation to help implement this agreement was proposed in the United States Congress, but was not enacted.

State Legislation

Due to the importance of the O'Hare International Airport to the State of Illinois, a state law was enacted related to the proposed O'Hare development. Specifically, the O'Hare

¹⁴ Air Traffic Congestion and Capacity in the Chicago, Illinois Region and its effects on the National Air Traffic System, Field Hearing before the Committee on Commerce, Science, and Transportation, United States Senate, 107th Congress, First Session, June 15, 2001.

¹⁵ "One more time: Close the deal", Chicago Tribune article, pg. 26, December 5, 2001.

¹⁶ Meigs Field, once part of the Chicago Airport System, was closed in March 2003.

Modernization Act (OMA), related to the proposed expansion of O'Hare, was adopted by the Illinois legislature and signed into law by the Governor on August 6, 2003.¹⁷ The OMA states:

Section 5. Findings and purposes.

(a) The Illinois General Assembly finds and determines:

- (1) The reliability and efficiency of the State and national air transportation systems significantly depend on the efficiency of the Chicago O'Hare International Airport. O'Hare has an essential role in air transportation for the State of Illinois. The reliability and efficiency of air transportation for residents and businesses in Illinois and other States depend on efficient air traffic operations at O'Hare.
- (2) O'Hare cannot efficiently perform its role in the State and national air transportation systems unless it is reconfigured with multiple parallel runways.
- (3) The O'Hare Modernization Program will enhance the economic welfare of the State of Illinois and its residents by creating thousands of jobs and business opportunities.
- (4) O'Hare provides, and will continue to provide, unique air transportation functions that cannot be replaced by any other airport in Illinois
- (5) Public roadway access through the existing western boundary of O'Hare to passenger terminal and parking facilities located inside the boundary of O'Hare and reasonably accessible to that western access is an essential element of the O'Hare Modernization Program. That western access to O'Hare is needed to realize the full economic opportunities created by the O'Hare Modernization Program and to improve ground transportation in the O'Hare area. It is important to the State that the western access be constructed not later than the time existing runway 14R-32L is removed from service.
- (6) For the reasons stated in paragraphs (1), (2), (3), (4), and (5), it is essential that the O'Hare Modernization Program be completed efficiently and without unnecessary delay.
- (7) For the reasons stated in paragraphs (1), (2), (3), (4), and (5), it is essential that acquisition of property as required for the O'Hare Modernization Program be completed as expeditiously as practicable.
- (8) The General Assembly recognizes that the planning, construction, and use of O'Hare and the planning, construction, and use of the O'Hare Modernization Program will be subject to intensive regulatory scrutiny by the United States and that no purpose would be served by duplicative or redundant regulation of the safety and impacts of the airport or the O'Hare Modernization Program...

(b) It is the intent of the General Assembly that all agencies of this State and its subdivisions shall facilitate the efficient and expeditious completion of the O'Hare Modernization Program to the extent not specifically prohibited by law, and that legal impediments to the completion of the project be eliminated. ...

A brief description of the City's current proposal is presented in **Section 1.6, Description of the Sponsor's Proposed Projects**.

World Gateway Program

In 1999, the City of Chicago developed a plan, known as the World Gateway Program (WGP), to upgrade O'Hare's terminal facilities. An Environmental Assessment (EA) was prepared to

¹⁷ O'Hare Modernization Act, Illinois Public Act 93-0450, August 6, 2003.

address the environmental impacts of the WGP, which included development of two new passenger terminals, redevelopment of an existing terminal, expansion of another existing terminal, and relocation of several existing facilities. Several other projects planned for the same time that were independent of the WGP and could be built regardless of the terminal development were also evaluated in the EA. The purpose of the WGP was to improve: (1) gate availability and efficiency in the terminal area, (2) connecting passenger convenience, and (3) local passenger convenience. The need for the WGP was determined to be independent of any airfield improvements or other delay reduction measures. A Finding of No Significant Impact/Record of Decision (FONSI/ROD) for the proposed projects was issued by the FAA on June 21, 2002.¹⁸ Several independent projects were also environmentally approved in the WGP FONSI/ROD. These independent projects are underway or are proposed for implementation in the near-term. These "independent utility projects"¹⁹ are being or would be developed with or without the proposed OMP, and no new approvals are being sought for those projects in this EIS.

In the WGP EA, it was concluded, based on airfield demand-capacity analysis, that the existing O'Hare airfield could support forecast growth in aviation demand through the 2012 planning horizon. At the same time, it was acknowledged that there were studies underway to evaluate in more detail the future need for new airfield capacity at O'Hare, and it was disclosed that the City had plans for redevelopment of the O'Hare airfield.

In evaluating the need for airfield redevelopment at O'Hare in connection with this EIS, more recent demand forecasts and airfield demand-capacity analyses have been prepared as presented in **Appendix B, Aviation Demand Forecast**. The primary reasons that the more recent analyses indicate a need for new airfield capacity at O'Hare sooner than was reported in the WGP EA are:

- Existing and forecast aircraft operations levels at O'Hare are now higher than were forecast in the WGP EA.
- Current airline scheduling practices and airfield use at O'Hare result in higher delays at a given level of operations compared to the experience at the time the WGP EA was prepared. See **Appendix A, Background**, for a description of these changes.

Since completion of the WGP EA, the airlines at O'Hare have also indicated their support for the ongoing effort to expand the airport's capacity through the OMP. An example of this support, contained in **Appendix A**, is the testimony from United Airlines.²⁰ Because of changing needs, the City does not propose to implement the WGP,²¹ as such; rather some of the improvements incorporated in the WGP (with some modifications) are included in the City's

¹⁸ Final Environmental Assessment, World Gateway Program, June 2002; Finding of No Significant Impact/Record of Decision, Federal Aviation Administration, June 21, 2002.

¹⁹ Section 2.4, Final Environmental Assessment, World Gateway Program, June 2002.

²⁰ United Airlines' testimony before the U.S. Department of Transportation Federal Aviation Administration Hearing concerning Operating Limitations at Chicago O'Hare International Airport, Docket FAA-2004-16944, August 13, 2004.

²¹ Letter from City of Chicago to FAA, September 11, 2002.

proposed projects and will be assessed as part of this EIS. A brief description of those items originally included in the WGP which are still relevant to this EIS, is presented in **Section 1.6, Description of the Sponsor's Proposed Projects.**

Chicago Terminal Airspace Project

In the Chicago Terminal Airspace Project (CTAP), modifications to aircraft routes and air traffic control (ATC) procedures in the Chicago area were considered to reduce the overall en route time for aircraft using O'Hare, Midway, General Mitchell International Airport (Milwaukee), and their relievers. The CTAP changes would primarily take place 40 to 60 miles from O'Hare at high altitudes. The CTAP routes take advantage of recent advances in aircraft and ATC technology, particularly for high-altitude arrival routes, and would not affect the operational capacity or demand at any of the Chicago area airports. CTAP did not include any physical changes to airport facilities. A Final EIS for this project was issued on August 31, 2001,²² and the FAA issued its Record of Decision on November 2, 2001.²³

O'Hare Delay Task Force

The causes of both national and O'Hare-specific delays have been the topic of considerable analysis. In 1991, the Chicago Delay Task Force, co-chaired by the City of Chicago and the FAA, recommended a number of measures to reduce delays, including the addition of runways.²⁴ Many of the Chicago Delay Task Force recommendations have been implemented, but others, including new runways, were not. The 2001 O'Hare Delay Task Force was initiated to identify near-, mid-, and long-term solutions to reduce delays at O'Hare. Also co-chaired by the City of Chicago and the FAA, the 2001 Task Force invited local and national stakeholders from 28 organizations in the aviation industry to participate in the technical working groups to provide a wide-range of resources and expertise to the process.

The O'Hare Task Force convened its first meeting on June 5, 2001, and publicly released the final report with its findings on June 21, 2002.²⁵ The Task Force identified 47 options that may help to improve the operating efficiency and reduce delays at O'Hare. Twenty-two (22) of the options apply specifically to O'Hare, and 25 options link to national aviation programs that aim to improve the efficiency of the entire NAS. **Chapter 2, Purpose and Need** includes further information on the status of the Delay Task Force recommendations.

1.2.4.3 Other Studies

In the last decade, FAA and the City of Chicago have conducted several other studies, as outlined in the following sections, addressing the issue of airport capacity and delay at O'Hare

²² Final Environmental Impact Statement for the Proposed Chicago Terminal Airspace Project (CTAP) U.S. Department of Transportation, Federal Aviation Administration, August 2001.

²³ Record of Decision for the Proposed Chicago Terminal Airspace Project (CTAP), U.S. Department of Transportation, Federal Aviation Administration, November 2, 2001.

²⁴ Delay Reduction Efficiency Enhancement Final Report, Chicago Delay Task Force, April 1991.

²⁵ 2001 O'Hare Delay Task Force, Final Reports, April 2002, and Executive Summary, June 21, 2002.

and within the NAS. These studies illustrate the long-standing and ongoing need for delay reduction at O'Hare.

Airport Capacity Benchmark Reports

On April 25, 2001, the FAA released its *Airport Capacity Benchmark Report 2001*.²⁶ In the report, the FAA sets forth benchmarks for 31 of the nation's busiest airports during good and poor weather conditions. These benchmarks help to frame discussions regarding capacity and delay, but do not provide a substitute for more detailed analysis that should precede major projects and policy decisions. The FAA intended that the capacity benchmarks be used to determine action plans for airports. In October 2004, the FAA issued an update of the 2001 Benchmark Report, *Airport Capacity Benchmark Report 2004*.²⁷ Further discussion of these reports is contained in **Chapter Two, Purpose and Need**.

National Airspace Redesign

The National Airspace Redesign (NAR) is a multi-year initiative to review, redesign, and restructure the nation's airspace to meet the rapidly changing and increasing operational demands on the NAS.

NAR is expected to restructure the current route system to create additional departure routes for airports where departure delays are high, match airspace capacity with airport capacity by developing more efficient arrival routes and procedures, and streamline en route airspace to allow for more efficient service at higher traffic volumes while maintaining safety. Benefits are expected to be realized through reduction of restrictions, decreased delays, increased en route access, increased throughput at major airports, and reduced airspace complexity. Further discussion on NAR is included in **Section 2.2, FAA Initiatives**.

1.3 GREATER CHICAGO MARKET AREA

As the primary airport for the greater Chicago Market Area, O'Hare serves passengers from the Chicago metropolitan area, northeastern Illinois, southeastern Wisconsin, and northwestern Indiana. In this role, O'Hare serves as the major air transportation center for local and connecting passengers to domestic and international destinations. As noted earlier, O'Hare is also a major connecting hub serving the entire NAS.

Airport facilities have evolved in response to changes in the air transportation industry, as well as growth in the greater Chicago Market Area. To place the changes at O'Hare in the proper context, changes in the greater Chicago Market Area as well as other proposed aviation actions are discussed in the following sections. **Chapter 6, Cumulative Impacts**, provides a detailed

²⁶ Airport Capacity Benchmark Report 2001, U.S. Department of Transportation, Federal Aviation Administration, Website, <http://www.faa.gov/events/benchmarks/download.htm>.

²⁷ Airport Capacity Benchmark Report, U.S. Department of Transportation, Federal Aviation Administration, The MITRE Corporation Center for Advanced Aviation System Development, October 2004.

discussion of the cumulative environmental effects of past, present, and reasonably foreseeable future actions not associated with the City's proposal.

1.3.1 Chicago's Historic Role as a Transportation Hub

"O'Hare is the busiest airport in the world because airlines and air travelers find O'Hare to be the most convenient or necessary place to travel to and away from and to make transfers to connecting flights."²⁸

Chicago has historically been a major transportation hub within the United States. The following quotation from the "Lake Calumet Airport – Crossroads of the nation...future of the region" states:

Communities from the smallest towns to the largest cities have traditionally originated at the crossroads of transportation, and have grown only as large or as great as those crossroads allowed. Airports, roadways, railroads, rivers, and harbors have all made their contribution to this pattern of development.

In the early 1800s, the Chicago area was established as a transportation crossroads. By 1900, the city had developed an elevated mass transit system, added subways to this network, and developed the largest railroad network in the country. This made Chicago the premier transportation hub of the nation, and development evolved along these access corridors.

As the nation continued its westward expansion, most new roadways and railroads passed through Chicago. These transportation elements helped Chicago grow into a major commercial, industrial, financial, and cultural center. As a fledgling airline industry began to emerge, Chicago responded by developing Municipal Airport (later known as Midway), the first municipally owned commercial airport.

In the 1950s, development of an extensive expressway and tollway system spurred postwar suburbanization. The system encouraged the relocation of jobs and commerce to the suburbs. The Chicago region has experienced the effects of shifts in population to the suburbs. As a result, contrary to earlier models in which a central city is a single hub, the region today contains a sprawling series of suburban hubs and corridors, linked by highways and rails, around the primary downtown hub. Each of these suburban hubs, centered around major traffic generators like O'Hare, office complexes, shopping centers, and entertainment and convention facilities, generates its own local development, but each is tied to one comprehensive network.²⁹

1.3.2 Other Airports Serving the Chicago Region

Multiple airport systems are a feature of nearly all metropolitan areas that generate high levels of originating traffic.³⁰ The definition of a multi-airport system is that set of significant airports that serve commercial transport in a metropolitan region without regard to ownership or political control of the individual airports.³¹ The Chicago Airport System, as defined by the City of Chicago Department of Aviation, consists of O'Hare and Midway. However, a number of

²⁸ United States Court of Appeals, Seventh Circuit, Suburban O'Hare Commission, et al., Petitioners, v. Elizabeth Hanford Dole, Secretary of the Department of Transportation, et al., Respondents. No 85-1073.

²⁹ Lake Calumet Airport – Crossroads of the nation...future of the region. (11"x17" Report) Summary document of the Lake Calumet Feasibility Study Update, Undated.

³⁰ Airport systems, planning, design, and management, R. de Neufville and A Odoni, McGraw-Hill 2003, page 134.

³¹ Airport systems, planning, design, and management, R. de Neufville and A Odoni, McGraw-Hill 2003, page 132.

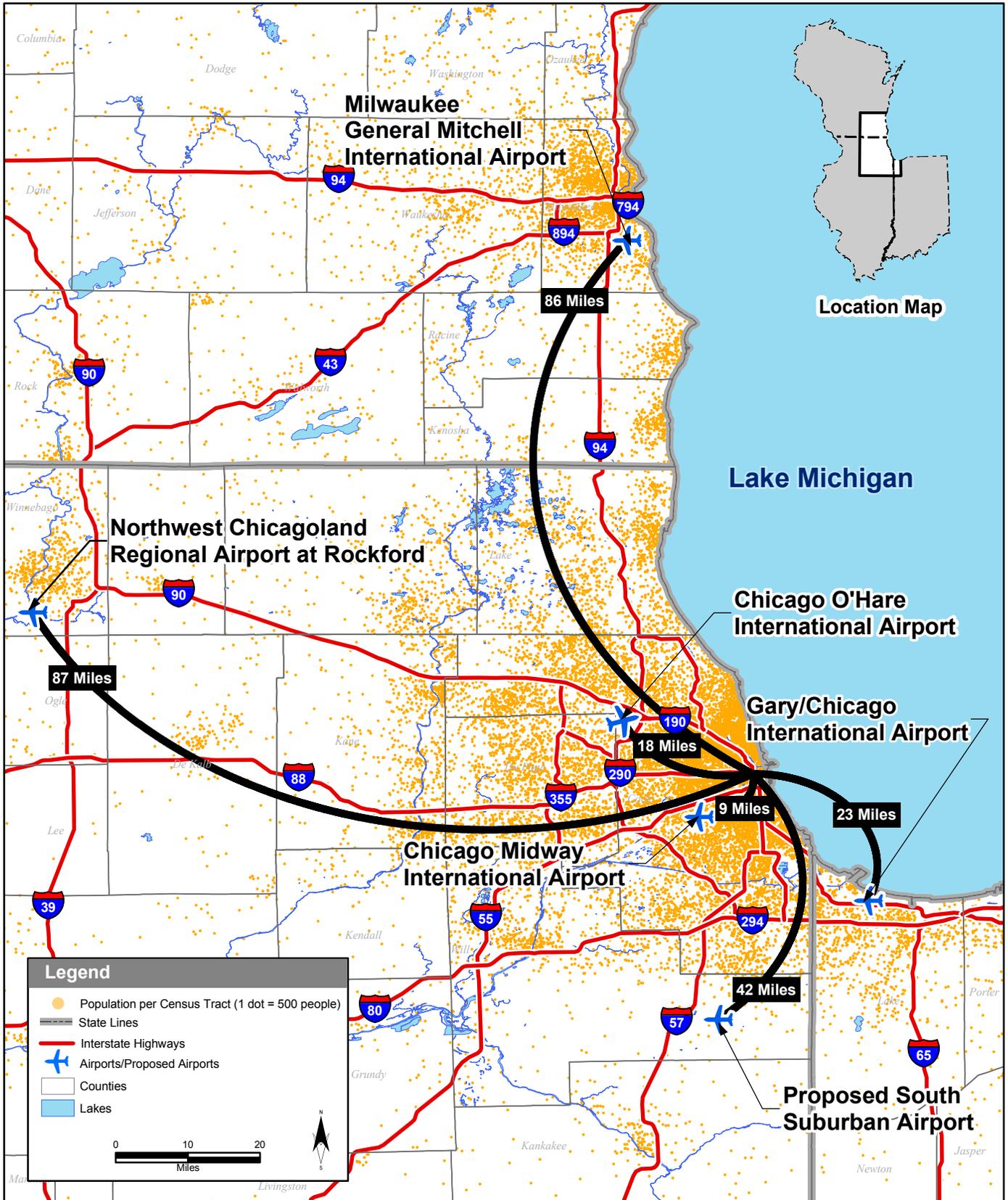
commercial service airports in neighboring communities, including Milwaukee's General Mitchell International Airport, the Greater Rockford Airport, and Gary/Chicago International Airport, maintain service areas³² that at least partially overlap those of O'Hare and Midway (i.e., north suburbs for Milwaukee, northwestern suburbs for Rockford, northwestern Indiana for Gary). In addition, it should be noted that both Milwaukee and Rockford aggressively market themselves as regional alternatives to O'Hare within their respective service areas. Thus, these facilities combine to serve part of the total air transportation needs of the Chicago region. Each of these airports serves a distinct role as described in the following sections. In addition, the State of Illinois is proposing to build a new commercial service airport, known as the South Suburban Airport (SSA), near Peotone, Illinois. **Exhibit 1-3** shows the location of O'Hare relative to these other airports, as well as the regional surface transportation network and population densities. The following sections describe the other commercial service airports in the Chicago Airport System.

1.3.2.1 Chicago Midway International Airport

Midway, owned by the City of Chicago, is one of the fastest growing commercial service airports in the nation and is classified by the FAA as a large hub. Midway complements O'Hare by providing service by low-fare airlines that offer point-to-point service to local passengers. International service has also been provided.

As a result of the recent significant growth in activity, improvements at Midway have included the recently completed two-level terminal facility on the east side of Cicero Avenue, opposite the airfield. In conjunction with the development of the new terminal, a new access roadway system with separate curb fronts for arriving and departing passengers has been constructed. A new two-level concourse and gate facility is connected to the terminal by a pedestrian bridge that crosses Cicero Avenue. The original terminal plan called for 41 gates (old terminal had 29), however a change occurred during construction with two gates being added with construction of the "banana" concourse annex. This resulted in 43 gates being available from the Concourse facility on the west side of Cicero Avenue. The Concourse facility also includes a Federal Inspection Service (FIS) area.

³² Commonly accepted as a one-hour drive time.



Chicago O'Hare International Airport

Regional Airports with Population Density & Interstate Network



**Modernization Program
Environmental Impact Statement**

► Exhibit 1-3

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1.3.2.2 Gary/Chicago International Airport

In 1995, the City of Chicago and the City of Gary, Indiana, signed an agreement establishing the Chicago/Gary Regional Airport Authority. This agreement provides for certain coordination in development and operation between O'Hare, Midway, and the Gary/Chicago Airport. The Gary/Chicago International Airport is situated in Lake County, Indiana, about 25 miles southeast of the Chicago Central Business District. Gary/Chicago International Airport has had commercial service intermittently in recent years and is actively pursuing air carriers to establish and expand service. The Airport currently provides commercial service to several locations. A notice of availability of the Record of Decision (ROD) for proposed improvements at the Gary/Chicago International Airport was published on March 24, 2005.³³ When completed, the primary Runway 12/30 will be 8,900 feet in length. For more information on the proposed improvements addressed in the ROD, see **Appendix A, Background**.

1.3.2.3 Greater Rockford Airport

The Greater Rockford Airport is located approximately 80 miles northwest of the Chicago Central Business District. Rockford currently provides commercial service to several locations. Rockford is also home to United Parcel Service's (UPS) second largest air hub sorting facility and currently ranks 23rd in the nation in terms of cargo landed weight. Rockford currently has two intersecting runways, the longest of which is 10,000 feet with a Category III instrument landing system. Because of these capabilities, aircraft are sometimes diverted from O'Hare to Rockford during poor weather conditions. FAA has supported the sponsor's requests for improvements at Rockford through the provision of airport development funds. For example, over the last 10 years, FAA has provided Federal funds in the amount of approximately \$50 million to the Greater Rockford Airport.

1.3.2.4 General Mitchell International Airport

General Mitchell International Airport, owned and operated by Milwaukee County, is located in Milwaukee, Wisconsin, approximately 85 miles north of the Chicago Central Business District. General Mitchell is a medium-hub commercial service airport that provides non-stop or direct service to over 90 cities. The Airport currently has five runways, including two sets of parallels and a passenger terminal facility with 42 gates. General Mitchell is currently in the process of completing an Airport Master Plan for the expansion of the airport. The current proposal includes the extension of two existing runways and construction of a new 7,000-foot third parallel runway.

³³ The Notice of Availability for the Gary/Chicago International Airport Record of Decision, FAA, Federal Register, Volume 70, Number 56, March 24, 2005.

1.3.2.5 Proposed South Suburban Airport

The State of Illinois is proposing to build a new commercial service airport, known as the South Suburban Airport (SSA), near Peotone, Illinois. On July 28, 2000, the FAA published a Notice of Intent (NOI) to prepare a tiered EIS for FAA site approval and the proposed acquisition of land by the State of Illinois. The proposed action reviewed in the SSA Tier 1 EIS was FAA's site approval to preserve the option of developing a potential, future air carrier airport to serve the greater Chicago Market Area as determined necessary and appropriate to meet future aviation capacity needs. Site approval for the future option allowed for land acquisition by the State of Illinois prior to the site undergoing suburban development. At a later date, it will be determined how market demands would be met. The FAA's proposed site approval was based upon the continuing need to protect the airspace and preserve a technically feasible site from encroachment by suburban development. On July 12, 2002, the FAA issued a Record of Decision on the SSA Tier 1 EIS.³⁴

On October 28, 2003, the FAA issued a NOI to prepare a Tier 2 EIS for the first phase of construction and operation of Inaugural Airport Facilities.³⁵ Environmental scoping meetings were held in December 2003. The proposed Federal action under consideration in this Tier 2 EIS is approval of an ALP for development of an inaugural air carrier airport at the FAA approved site. It is the State of Illinois' intent that this airport serves the forecast needs of air carrier passengers, cargo, and general aviation within the south suburban area.

The State has proceeded to acquire property that would be contained in the inaugural site proposed to consist of approximately 4,200 acres, which would be consistent with a one-runway facility, as currently contemplated. The State has not commenced purchase of property outside of the footprint of the inaugural site, with the exception of hardship cases. The proposed full build site would consist of approximately 24,000 acres. Development of the full build site, when determined necessary and appropriate, would be subject to environmental reviews subsequent to the Tier 2 EIS.

1.4 HISTORICAL AND CURRENT AVIATION ACTIVITY

Over the last 30 years, O'Hare consistently has been one of the world's busiest airports in terms of passengers, operations, and cargo. In 2002, O'Hare accommodated over 31 million enplaned passengers, ranking second only to Hartsfield-Jackson Atlanta International Airport; also in 2002, O'Hare accommodated 922,787 operations ranking first in the world.³⁶ Additionally,

³⁴ Record of Decision for Tier 1: FAA Site Approval and Land Acquisition by the State of Illinois, Proposed South Suburban Airport, U.S. Department of Transportation, Federal Aviation Administration, July 12, 2002.

³⁵ Notice of Intent to Prepare a Tiered Environmental Impact Statement and Conduct Environmental Scoping for the Construction and Operation of Inaugural Airport Facilities by the State of Illinois for the South Suburban Airport, Federal Register, Volume 68, Number 208, October 28, 2003.

³⁶ FAA 2002 CY Air Carrier Activity Information System (ACAIS), Enplanements by Individual Carriers for Calendar Year 2002, Chicago O'Hare International Airport (ORD), Report Date: 12/01/2004; FAA 2002 CY Air Traffic Activity Data System (ATADS), Report Date 12/02/2004.

O'Hare accommodated over 1.4 million metric tons of cargo, ranking 13th in the world.³⁷

O'Hare provides the following passenger services:

- **Origin and destination (O-D) passengers** either begin or end their travel in O'Hare's service area.
- **Connecting passengers** take advantage of the frequency of service through O'Hare to travel between other markets.
- **International passengers** use O'Hare as a gateway to and from cities outside of the United States because airlines can draw on large originating and connecting markets in the Chicago region.

Historically, O'Hare has played a major role in each of these markets and will be discussed in further detail in the following sections. In addition to historical and current passenger activity at O'Hare and at other regional airports, a discussion of the aircraft operations and activity trends at O'Hare and other representative airports is also presented.

1.4.1 Origin and Destination Passenger Activity

Table 1-1 summarizes departing O-D passengers for selected airports in the region since 1991. During this period, O'Hare's share of O-D enplanements within the region ranged from a high of 77.9 percent to a low of 66.3 percent, averaging 70.2 percent.

In 2002, about 49 percent of total enplanements (domestic plus international) at O'Hare were O-D passengers, with the remaining 51 percent representing connecting activity. Annual growth in departing O-D passengers averaged 1.5 percent annually between 1991 and 2002. It should be noted that overall passenger traffic levels decreased in both 2001 and 2002 due to the effects of the September 11, 2001 terrorist attacks and deteriorating economic conditions. If these years are excluded from analysis, growth in departing O-D passengers averaged a more robust 3.2 percent annually between 1991 and 2000.

³⁷ Airports Council International Website, http://sezame.aci.aero/cda/aci/display/main/aci_content.jsp?zn=aci&cp=1-5-54-57-201_9_25, July 2004.

**TABLE 1-1
HISTORICAL DEPARTING ORIGIN AND DESTINATION PASSENGERS AT
REGIONAL AIRPORTS (1991-2002)**

Year	Airports					Total	O'Hare as Percentage of Total
	O'Hare	Midway	Gary- Chicago	Milwaukee General Mitchell	Rockford		
1991	13,169,160	2,206,835	4,364	1,793,018	191,046	17,364,423	75.8%
1992	14,100,420	1,902,253	4,197	1,972,231	129,864	18,108,965	77.9%
1993	13,872,205	2,886,498	3,197	2,156,151	125,380	19,043,431	72.8%
1994	13,728,774	4,248,649	240	2,327,505	120,393	20,425,561	67.2%
1995	14,709,397	4,322,154	1,380	2,430,992	88,419	21,552,342	68.2%
1996	15,698,159	4,217,851	1,520	2,509,731	71,172	22,498,433	69.8%
1997	16,492,418	4,066,738	1,935	2,539,571	53,884	23,154,546	71.2%
1998	16,961,052	4,542,349	1,600	2,488,315	32,490	24,025,806	70.6%
1999	17,138,548	5,437,189	1,650	2,553,995	29,215	25,160,597	68.1%
2000	17,557,040	5,975,342	18,030	2,705,290	23,555	26,279,257	66.8%
2001	16,189,715	5,501,598	14,615	2,410,554	8,125	24,124,607	67.1%
2002	15,555,603	5,574,496	8,550	2,329,740	648	23,469,037	66.3%
Average Annual Growth Rate							
1991-2000	3.2%	11.7%	17.1%	4.7%	-20.8%	4.7%	
1991-2002	1.5%	8.8%	6.3%	2.4%	-40.4%	2.8%	
Note:	Passenger volumes are Leigh Fisher Associates [TPC] estimates based on analysis of listed sources.						
Sources:	USDOT Passenger Origin and Destination Survey USDOT T-100 Onboard Database USDOT 298(c) Enplanement Database						

1.4.2 Connecting Passenger Activity

O'Hare serves as a major connecting point, or connecting hub, for two of the world's largest airlines—American and United. As mentioned in **Section 1.3.1, Chicago's Historic Role as a Transportation Hub**, Chicago has historically been a transportation hub. In 2002, O'Hare ranked second highest in numbers of connecting passengers in the nation.³⁸ However, many other large hub airports experienced a connecting passenger percentage (connecting passengers as a percent of total passengers) at or above that of O'Hare.³⁹ This is indicative of the large local market served by O'Hare. By serving as an airline connecting hub, O'Hare not only provides a vital link in the nation's air transportation system, but also increases the airline service available to residents and businesses in the greater Chicago Market Area. A connecting hub airport provides opportunities for passengers arriving from many cities to connect to flights departing to a wide range of destinations. Airlines generally create and attempt to maintain their hubs at locations with a large population base, competitive labor market, and a strong local demand for air travel. An airline providing point-to-point service with 10 aircraft can only connect 10 pairs of cities. Using the "hub and spoke" concept, these same 10 aircraft can connect up to 120 markets because these aircraft connect each spoke city to 10 other spoke cities as well as

³⁸ Estimated using U.S. DOT Bureau of Transportation Statistics T-100 data for calendar year 2002.

³⁹ Figure 6 of the NPIAS is included in Appendix A, Background.

connecting all 20 cities to the hub.⁴⁰ **Exhibit 1-4** demonstrates the efficiencies experienced by hubbing carriers where traffic in selected markets may not be strong enough to support non-stop service. Airlines at O'Hare currently provide direct service to 175 U.S. and international destinations. At the same time, delay at a hub airport can impair service to many or all of these markets.

To provide the highest level of passenger service, airlines must provide connections within a reasonably short timeframe. **Exhibit 1-5** shows the pattern of arrival and departure activity at representative connecting hub airports. At connecting hub airports, aircraft arrive at the hub in a concentrated period of activity called an arrival bank. After aircraft arrive, connecting passengers transfer through the terminal to their connecting flights. Depending on the size and configuration of the terminal and the congestion within the terminal, this process typically requires about 30 minutes after the last aircraft in the arrival bank reaches the gate, permitting passengers on the last flight in the arrival bank to connect with the first and any subsequent departing flight. After the passengers have boarded their connecting flights, aircraft begin departing in a departure bank that typically occurs over a period of approximately 30 minutes. The resulting pattern of departure peaks about 1 hour after arrival peaks is seen at all four airports shown in **Exhibit 1-5**.

1.4.3 International Passenger Activity

O'Hare serves as the premier Midwestern gateway for international passengers. During 2002, O'Hare was the fourth busiest international gateway in the nation in terms of total international enplanements, ranking after John F. Kennedy International, Miami International, and Los Angeles International. The Airport's percentage of international enplanements to total enplaned passengers was approximately 13.2 percent in 2002.⁴¹

1.4.4 Aircraft Operations

Table 1-2 presents the historical operations by type of activity from 1990 through 2004. Since 1990, total aircraft operations at O'Hare have increased an average of 1.5 percent per year. Between 95 percent and 98 percent of this activity was related to commercial (passenger and cargo) service. Accordingly, growth in aircraft operations has generally mirrored growth in commercial activity. As one of the nation's largest and most important O-D, connecting, and international gateway airports, O'Hare has been the busiest airport in the nation in terms of aircraft operations every year since 2001.⁴²

⁴⁰ For a graphical depiction of the hub and spoke concept see **Appendix A, Background**.

⁴¹ U.S. Department of Transportation T-100 Onboard Database.

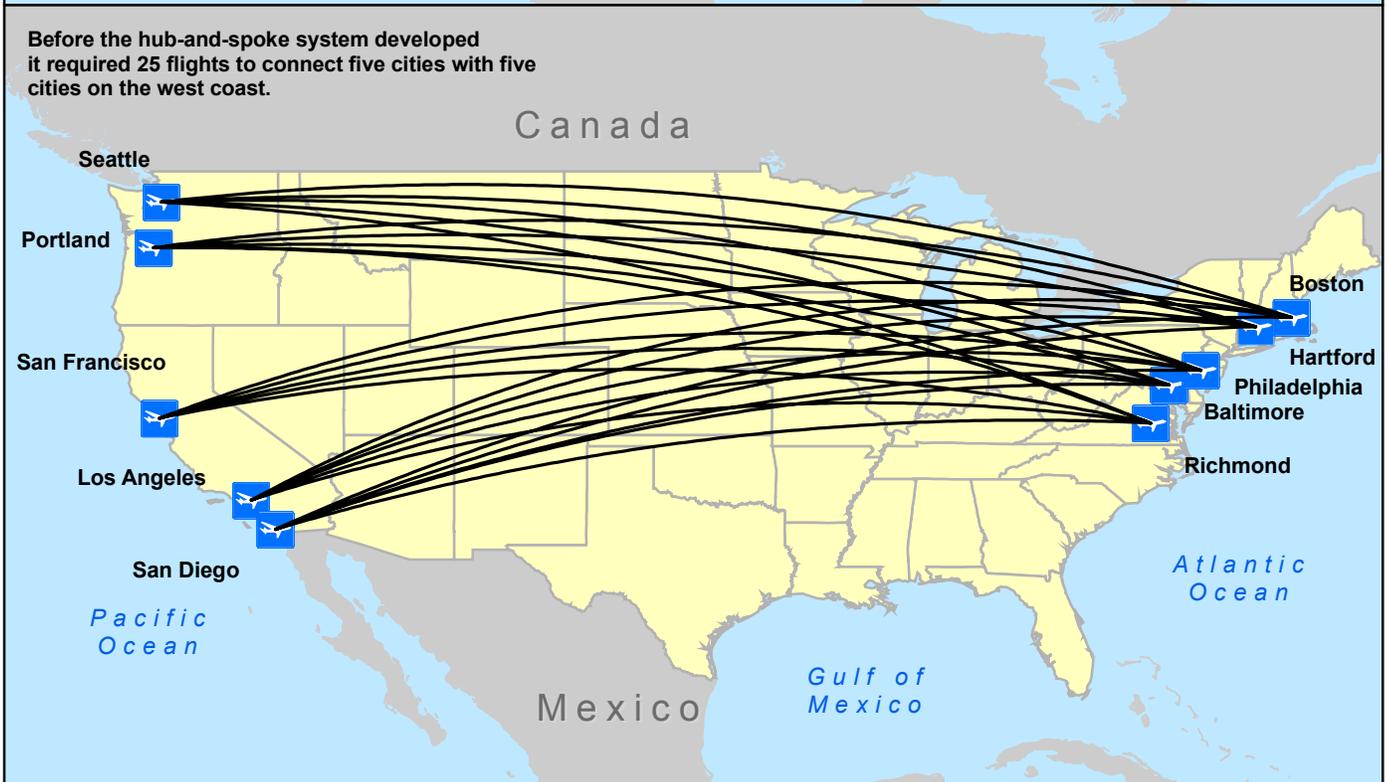
⁴² FAA Air Traffic Activity Data System (ATADS), May 25, 2005.

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With the development of the hub-and-spoke system, five cities can be connected to five cities on the west coast with 10 flights instead of 25.



Before the hub-and-spoke system developed it required 25 flights to connect five cities with five cities on the west coast.



Airports — Airline Routes States Countries

Source: Airports, States, Countries, and Water Bodies, ESRI 2004. Airplane Routes, TPC Analysis, 2004.



Chicago O'Hare International Airport

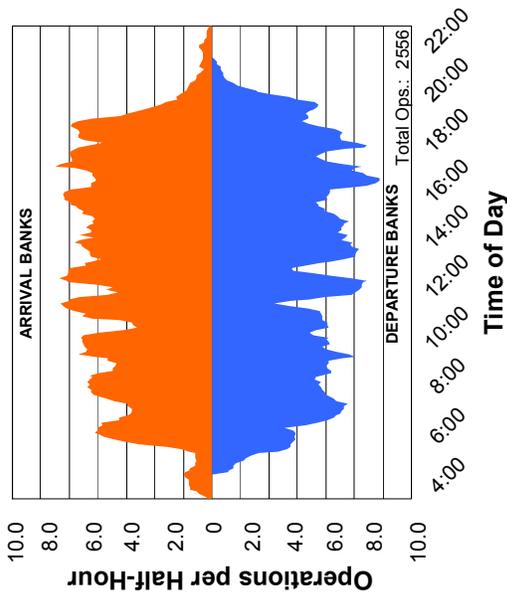
**O'Hare Modernization
Environmental Impact Statement**

**Hub-and-Spoke vs.
Point-to-Point**

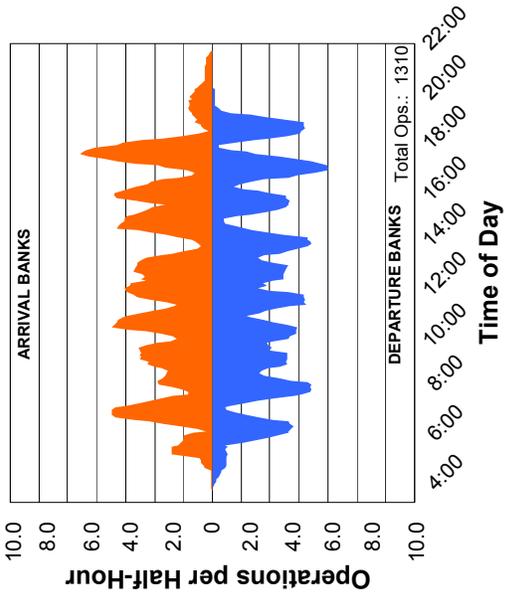
► Exhibit 1-4

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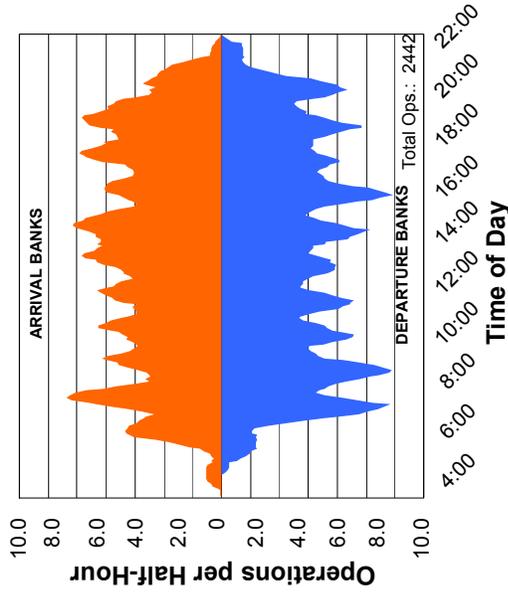
O'Hare International Airport



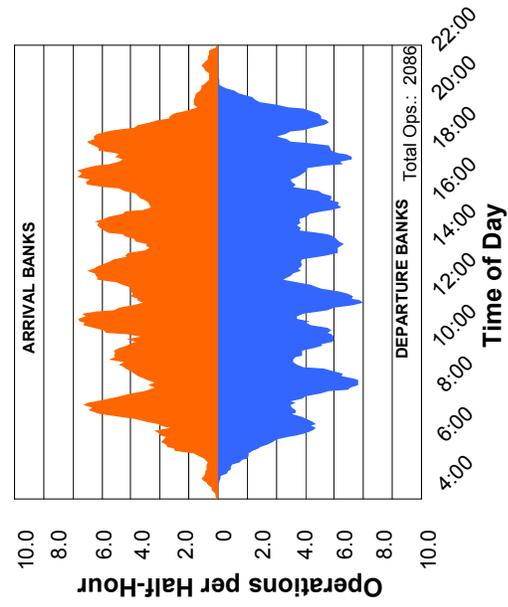
George Bush Intercontinental Airport/Houston



Hartsfield-Jackson International Airport



Dallas/Fort Worth International Airport



Note: Arrival/Departure Activity for July 14, 2003.

Source: Analysis of BAK Aviation Solutions OAG Database by Leigh Fisher Associates [LFC], 2003.



Chicago O'Hare International Airport

**O'Hare Modernization
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**Arrival/Departure Activity at
Typical Hub Airports, 2003**

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**TABLE 1-2
CHICAGO O'HARE HISTORICAL AIRCRAFT OPERATIONS AT O'HARE**

Calendar Year	Air carrier (Domestic and International)		Air Taxi and Commuter		General aviation		Military		Total	
	Operations	% of total	Operations	% of total	Operations	% of total	Operations	% of total	Operations	% of total
1990	629,159	77.6%	151,023	18.6%	27,074	3.3%	3,090	0.4%	810,346	100.0%
1991	610,148	75.0%	166,135	20.4%	34,426	4.2%	2,764	0.3%	813,473	100.0%
1992	620,992	73.5%	181,906	21.5%	39,111	4.6%	3,202	0.4%	845,211	100.0%
1993	714,625	83.2%	107,311	12.5%	33,938	3.9%	3,334	0.4%	859,208	100.0%
1994	748,918	84.9%	95,429	10.8%	34,728	3.9%	3,037	0.3%	882,112	100.0%
1995	744,853	82.7%	116,068	12.9%	36,347	4.0%	3,034	0.3%	900,302	100.0%
1996	748,435	82.3%	120,432	13.2%	37,920	4.2%	2,808	0.3%	909,595	100.0%
1997	742,264	84.0%	102,606	11.6%	37,204	4.2%	1,687	0.2%	883,761	100.0%
1998	745,804	83.1%	113,975	12.7%	35,902	4.0%	1,655	0.2%	897,336	100.0%
1999	714,328	79.6%	153,284	17.1%	28,880	3.2%	798	0.1%	897,290	100.0%
2000	687,894	75.7%	193,645	21.3%	27,233	3.0%	205	0.0%	908,977	100.0%
2001	650,019	71.3%	237,229	26.0%	24,017	2.6%	596	0.1%	911,861	100.0%
2002	624,564	67.7%	273,668	29.7%	24,345	2.6%	210	0.0%	922,787	100.0%
2003	546,483	58.7%	360,344	38.7%	24,331	2.6%	264	0.0%	931,422	100.0%
2004	616,468	62.1%	351,557	35.4%	24,196	2.4%	250	0.0%	992,471	100.0%
Average annual growth rates:										
1990-2000	0.9%		2.5%		0.1%		-23.8%		1.2%	
1990-2004	-0.1%		6.2%		-0.8%		-16.4%		1.5%	

Source: FAA Air Traffic Activity Data System (ATADS), May 25, 2005.

Air cargo is generally transported either in the cargo area of passenger aircraft (belly cargo) or in aircraft that carry only air cargo (all-cargo operations). Between 1990 and 2000, cargo carried in all-cargo aircraft grew at a greater annual rate (about 10 percent) than belly cargo (about 1 percent). Growth in international bound air cargo outpaced the growth in domestic cargo in both the belly and all-cargo categories. For 2001, the security restrictions imposed on cargo carried in passenger aircraft after September 11th resulted in a sharp drop-off in enplaned belly cargo. Meanwhile, despite economic weakness in the United States and worldwide, the volume handled by all-cargo aircraft actually increased in 2001 due in part to shippers shifting from the restricted belly operations to the all-cargo mode of transport. It is anticipated that enplaned belly cargo activity levels will recover as the security procedures for processing belly cargo are enhanced and the U.S. and world economies recover.⁴³

Consistent with the growth in the volume of cargo transported on all-cargo aircraft, there has been a corresponding increase in this category of aircraft operations. Between 1990 and 2000, all-cargo flight operations at O'Hare grew an average of 5.1 percent per year. As a result of the general slowdown of the national and world economies over the last few years, all-cargo operations at the Airport decreased 11.9 percent in 2001 from 2000 levels, and decreased an additional 1.5 percent in 2002 from 2001 levels.

General aviation operations (which include corporate activity) have remained relatively constant over the past several years and represent approximately 3 percent of the total operations at O'Hare. Much of the general aviation traffic that remains at O'Hare is made up of business jet traffic.

Military operations at O'Hare have dropped significantly. This substantial reduction in activity is the result of actions taken by the Defense Base Realignment and Closure (BRAC) Commission to deactivate the 126th Air Refueling Wing and relocate the unit to Scott Air Force Base in St. Clair County, Illinois.

Relative to connecting hubs, some airlines have reconsidered their hubbing and banking practices, including reconsidering the traditional emphasis on minimizing the time required for passengers to connect between flights. Sometimes described as a "rolling hub," spreading connecting activity over longer periods theoretically reduces peak demand on airline resources, but would increase the average time required to accommodate passenger connections. Similar to other connecting hub airports, O'Hare accommodates a series of arrival and departure peaks or "banks" over a 24-hour period as previously shown in **Exhibit 1-5**. **Exhibit 1-6** shows the patterns of arrivals and departures at O'Hare in 1990, 1995, 2001, 2002, and 2003.

⁴³ O'Hare Modernization Program - Concept Refinement Report, Ricondo & Associates, Inc., [CCT] February 2003; Appendix A - Cargo Forecasts.



Chicago
O'Hare
International
Airport

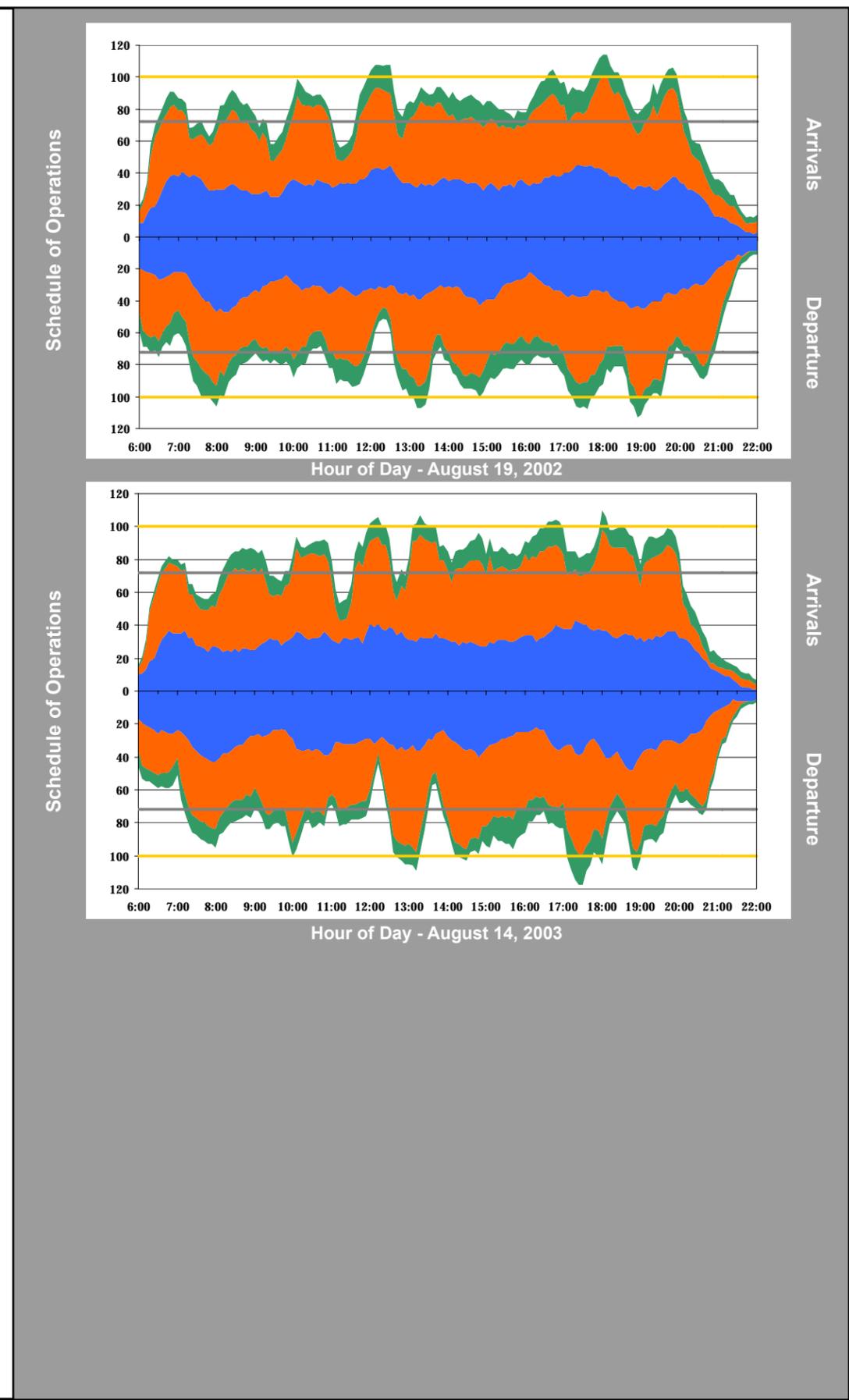
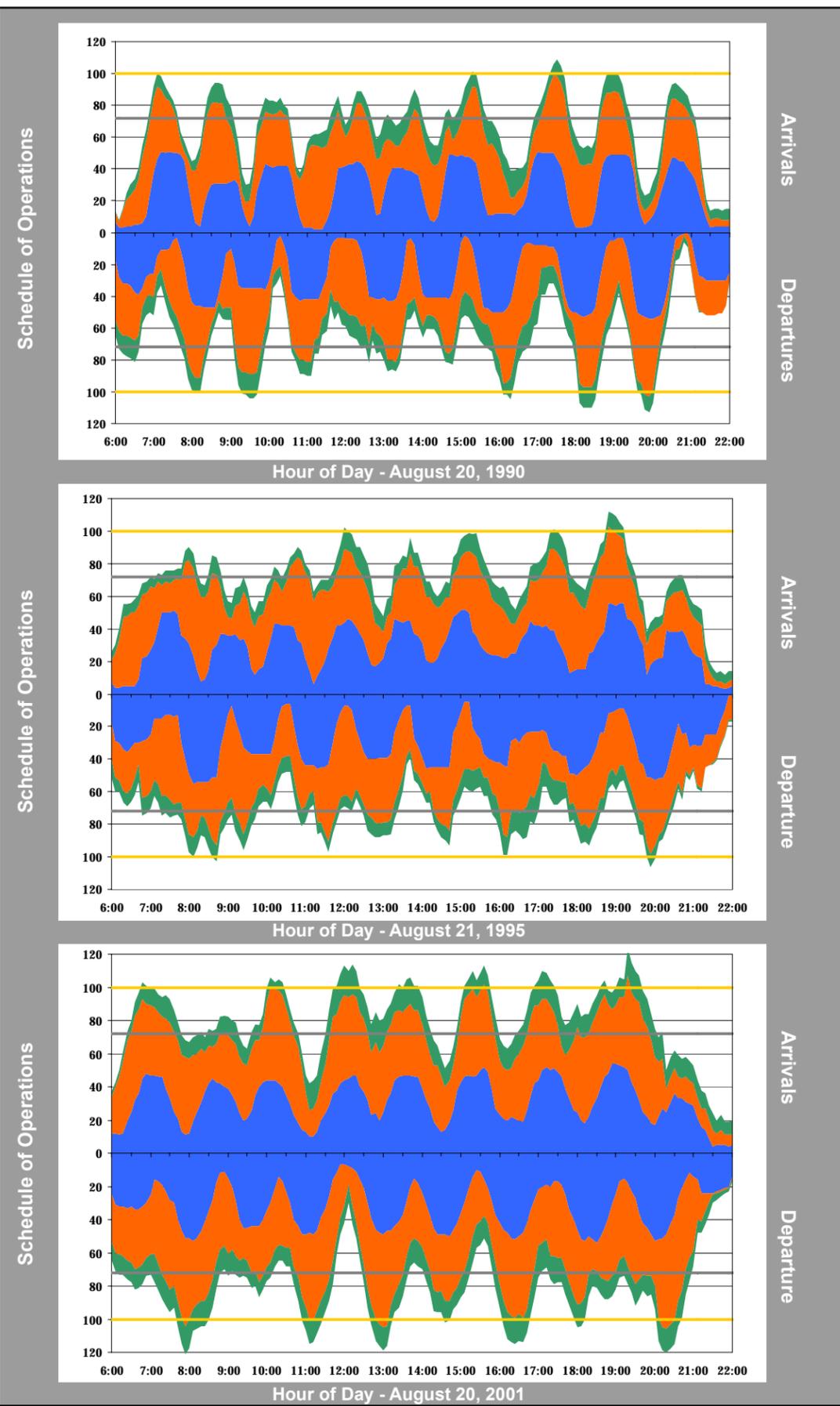
**O'Hare Modernization
Environmental Impact Statement**

- VFR Capacity Benchmark
- IFR Capacity Benchmark
- American Airlines*
- United Airlines*
- Others Airlines

*Note: Airlines include commuter numbers.

**O'Hare Daily Activity Profiles:
1990, 1995, 2001, 2002, 2003**

► Exhibit 1-6



Source: Analysis of BACK Aviation Solutions OAG Database by Leigh Fisher Associates [TPC], 2004; Airport Capacity Benchmark Report, 2004.

1.5 FORECASTS OF AVIATION DEMAND

This section summarizes the forecasts of aviation demand used to estimate (1) the need for improvements at O'Hare and (2) the impacts of the proposed projects. Although aviation demand forecasts are based on established relationships between demand for aviation services and general economic indicators, many additional factors are also involved. Recent developments in the aviation industry illustrate that many of these additional factors are not easily predictable. A more detailed discussion of the forecasts of aviation demand, including the assumptions used to develop the forecasts, is included in **Appendix B, Aviation Demand Forecast**.

In the aviation field, as elsewhere, forecasts by definition are projections of future estimated activity rather than goals or targets to be achieved. The FAA updates its forecasts annually using the most recent information available and the application of reasonable scientific, industry-accepted methodology. Although short-term forecasts (up to five years) may not exactly match actual experience from year to year, in most cases the differences are relatively small. Longer-term forecasts beyond a five-year period, however, are typically less certain due to the dynamic, fluid nature of aviation activities. This is especially true in today's aviation environment that is highly sensitive to even slight market shifts, competitive factors, national economic trends, and strategic decisions by airline management. For the purposes of this EIS, the FAA utilized the published 2002 Terminal Area Forecast (TAF).⁴⁴ The FAA TAF represents the official FAA outlook for each airport and is the industry standard.

1.5.1 Terminal Area Forecast

For over 30 years, the FAA has developed the TAF each year consisting of projected traffic forecasts for all airports with air traffic control towers. These forecasts assist the agency in defining its long-range spending and staffing needs. In addition, numerous Federal, state, and local government agencies use the TAF for various types of aviation planning tasks. For many planning and environmental analyses, the TAFs themselves have insufficient detail, and additional forecasting data and analysis are required. As the TAF only projects total operations and enplanements within larger categories of aviation activity types, additional detailed information is needed to supplement the TAF concerning aircraft fleet mix, lengths of flights, day/night split of aircraft operations, and peak day and peak hour passengers and operations. For purposes of this EIS, more detailed information was developed for use in conducting the detailed environmental analysis. Specifically, the breakdown of the TAF projections into more specific categories was conducted using historical O'Hare data. The detailed forecast results and the assumptions used to develop them are included in **Appendix B**.

In addition, the FAA's TAF does not always reflect existing facility constraints since the TAF assumes an unconstrained demand. Plans for major infrastructure development are based on

⁴⁴ Terminal Area Forecast Summary - Fiscal Years 2002-2020, FAA, April 2003.

forecasts of future demand, or in the case of O'Hare, immediate need. Nevertheless, such forecasts frequently change during the planning process. It is not possible or feasible to continually redirect the planning process in response to constantly evolving economic conditions. Rather, the planning process must be flexible enough to accommodate changing conditions.

The FAA 2002 TAF was established as the basis for all O'Hare demand forecasts used in this EIS.⁴⁵ The 2002 TAF provides forecasts for both passenger enplanements and operation and is presented in **Table 1-3**.

⁴⁵ Letter from FAA to City of Chicago re: Use of FAA's 2002 Terminal Area Forecast for Planning Purposes and Reaffirmation of Derivative Forecast Methodology, August 21, 2003.

**TABLE 1-3
FAA - 2002 TERMINAL AREA FORECAST
CHICAGO O'HARE INTERNATIONAL AIRPORT**

Fiscal Year	Enplanements		Operations	
	Historical	Projected	Historical	Projected
1990	27,948,463		810,911	
1991	27,683,681		808,759	
1992	29,737,701		838,093	
1993	30,329,179		851,865	
1994	30,920,837		883,480	
1995	31,611,635		892,330	
1996	32,058,869		909,186	
1997	32,653,838		890,383	
1998	34,275,979		888,333	
1999	34,339,327		898,855	
2000	34,386,718		906,326	
2001	32,861,463		927,896	
2002		31,026,878		901,703
2003		32,279,532		942,961
2004		33,355,660		956,478
2005		34,436,637		974,893
2006		35,482,484		990,853
2007		36,538,578		1,005,759
2008		37,616,027		1,020,212
2009		38,707,538		1,035,207
2010		39,838,460		1,050,072
2011		41,009,473		1,065,814
2012		42,193,590		1,081,429
2013		43,396,118		1,096,905
2014		44,595,908		1,111,865
2015		45,847,959		1,126,284
2016		47,128,724		1,141,590
2017		48,432,974		1,156,013
2018		49,759,252		1,170,635
2019		51,067,731		1,183,948
2020		52,404,871		1,198,192

Source: FAA 2002 TAF

Overall forecast levels of activity in the 2002 TAF were not significantly different than those found in the 2001 TAF because both were based on 20 to 30 years of historical data, which did not change. However, the 2002 TAF was used principally because it was the most current when the EIS modeling began.

The 2002 TAF was developed taking into consideration the following trends:

- Conversion of mainline air carrier operations to regional “code-share”⁴⁶ partners using regional jets;
- The de-peaking of the American Airlines hub at O'Hare; and
- The elimination of United Airlines' last bank of arrivals and departures in the evening at O'Hare.

As a result, the 2002 TAF was adopted as the “baseline” demand forecast for this EIS. Subsequently, the detailed derivative forecasts were developed using the 2002 TAF, as described further in **Appendix B, Aviation Demand Forecast**. As stated in the August 21, 2003 letter, “It is anticipated that subsequent forecasts will be issued during the [this] EIS. Should there be significant changes in the forecasts or fleet mix beyond the 2002 TAF, the FAA would expect the EIS to include a sensitivity analysis of the differing forecasts.” The FAA does not believe the changes since the 2002 TAF are significant. The sensitivity analysis contained in **Appendix R, Alternate Considerations** demonstrates that the use of any of the recent TAFs (2002, 2003, or 2004) for purposes of this EIS would not be expected to produce significantly different conclusions.

1.5.2 Other Forecasts

Listed below are other recent forecasts of demand in the Chicago region. These forecasts are presented for background information purposes and are referenced further in **Chapter 2, Purpose and Need, Chapter 3, Alternatives, and Appendix C, Use of Other Airports** as a part of the alternatives discussion.

- State and Regional Planning Forecasts
- City of Chicago Forecasts for World Gateway Program Environmental Assessment
- State of Illinois Forecasts for South Suburban Airport
- Master Plan Forecasts for Gary/Chicago International Airport
- FAA - Terminal Area Forecasts (2002)
 - Midway International Airport
 - Milwaukee General Mitchell
 - Greater Rockford Airport
 - Gary/Chicago International Airport

⁴⁶ According to the Air Transport Association (ATA), code sharing is “a marketing practice in which two airlines share the same two-letter code used to identify carriers in the computer reservation systems used by travel agents.” For example, at ORD, United Express regional jets are not operated by United, but by one of several regional carriers that partner with United to provide small jet capacity. These code-sharing carriers include Air Wisconsin, Chautauqua, Mesa, Skywest, and Trans States.

1.5.2.1 State and Regional Planning Forecasts

In November 2002, the IDOT and the City of Chicago, Department of Aviation agreed upon an allotment of enplanements among airports for northeastern Illinois in the year 2030.⁴⁷ IDOT provided the enplanement breakdown for O'Hare, Midway, and the proposed South Suburban Airport to the Northeastern Illinois Planning Commission (NIPC) to enable the NIPC to develop the 2030 Regional Transportation Plan (surface traffic plan). This forecast enplanement information is presented in **Table 1-4**. At the time, both IDOT and the City of Chicago stated that the enplanement numbers were to be used for surface transportation planning only, and that both the City and the State reserved the right to use different forecasts for airport planning purposes. The FAA has concluded that the projected enplanements described in **Table 1-4** for surface transportation planning purposes do not present a realistic projection of aviation demand in the Chicago region. For example, although the projections in **Table 1-4** may be appropriate for long-term surface transportation needs attendant to these airports, the information contained in **Table 1-6** presents what the FAA and the State of Illinois believe to be more realistic projections for aviation demand at the South Suburban Airport.

**TABLE 1-4
PROJECTED 2030 ENPLANEMENTS FOR SURFACE TRANSPORTATION
PLANNING**

Type	Enplaned Passengers in millions		
	O'Hare	Midway	South Suburban
Originating Domestic	28.5	9.0	14.5
Originating Connecting	30.0	2.5	7.5
International	16.5	0.5	3.0
Total	75.0	12.0	25.0

Sources: Letter from IDOT and City of Chicago to Northeast Illinois Planning Commission, November 4, 2002.

1.5.2.2 City of Chicago Forecasts for World Gateway Program Environmental Assessment

Planning for the WGP was based on air traffic forecasts prepared by the City of Chicago in June 1998. These forecasts were accepted for use in the WGP EA by the FAA in October 2001.⁴⁸ The assumptions, methodology, and major results are documented in the report entitled Chicago Airport System Forecast.⁴⁹

The WGP forecasts are summarized in **Table 1-5**. Total enplaned passengers were forecast to increase an average of 2.0 percent per year between 2000 and 2012, from 35.7 million to 45.1 million. International enplanements were forecast to grow an average of 4.5 percent per year, while domestic enplanements were forecast to increase an average of 1.3 percent per year

⁴⁷ Letter from M. Williamsen, IDOT and K. Freidheim, City of Chicago to Northeast Illinois Planning Commission, November 4, 2002.

⁴⁸ Letter from P. Smithmeyer, FAA to K. Freidheim, City of Chicago. October 24, 2001.

⁴⁹ Chicago Airport System Forecast, City of Chicago Department of Aviation, June 1998.

during the same period. Total aircraft operations were forecast to increase an average of 0.6 percent during the period, from 909,011 to 982,500 operations. As shown in **Table 1-5**, the WGP EA enplanement forecasts were greater than the 2002 TAF, while the operations were less than the 2002 TAF. Because the WGP EA forecasts were prepared in 1998, and do not reflect more recent economic and system conditions, they were not used in the preparation of this EIS.

**TABLE 1-5
COMPARISON OF WGP FORECAST TO FAA 2002 TAF**

Year	WGP		TAF		% Difference
	Actual	Forecast	Actual	Forecast	
Enplaned Passengers					
2000	35,723,854		34,317,849		
2002		38,061,000		31,026,878	18.5%
2007		41,432,000		36,538,578	11.8%
2012		45,102,000		42,193,590	6.6%
Total Operations					
2000	909,011		906,326		
2002		919,600		901,703	1.9%
2007		949,300		1,005,759	5.9%
2012		982,500		1,081,429	10.2%

Notes: (a) Chicago Airport System Forecast based on calendar year
(b) FAA Terminal Area Forecast based on fiscal year
Sources: Chicago Airport System Forecast, City of Chicago – Department of Aviation, June 1998; FAA 2002 TAF

1.5.2.3 State of Illinois Forecasts for South Suburban Airport

The State of Illinois' Projections of Aeronautical Activity for the Inaugural Airport Program: South Suburban Airport contains a range of forecasts, which identified potential users and airport activity that could occur during the Inaugural Airport Program (IAP) being planned by IDOT.⁵⁰ **Table 1-6** summarizes the low and high range forecast of air passenger activity at SSA. FAA does not develop TAF data for proposed airports, therefore, no TAF data are available for SSA.

⁵⁰ Letter from P. Smithmeyer, FAA to C. Cochrane, IDOT re: SSA Forecasts, June 4, 2004.

**TABLE 1-6
SUMMARY OF AIR PASSENGER AERONAUTICAL ACTIVITY AT SSA
LONG RANGE PROJECTIONS**

Air Passenger Activity	DBO + 1(a)		DBO + 5(a)		DBO + 10(a)		DBO + 20(a)	
	Enplaned Passengers	Air Carrier Operations						
Low Range								
Domestic	19,600	360	471,000	9,800	1,265,000	27,600	2,226,000	56,200
International	0	0	0	0	0	0	0	0
Total	19,600	360	471,000	9,800	1,265,000	27,600	2,226,000	56,200
High Range								
Domestic	169,400	3,400	968,000	23,500	2,308,000	50,900	6,139,000	140,300
International	0	0	0	0	166,000	4,500	540,000	9,800
Total	169,400	3,400	968,000	23,500	2,474,000	55,400	6,679,000	150,100

Notes: (a) DBO = Date of Beneficial Occupancy
Source: Projections of Aeronautical Activity for the Inaugural Airport Program: South Suburban Airport, Prepared by TAMS, and Earth Tech Company, The al Chalabi Group, Ltd., Global Insight, Inc., L.E.K. Consulting, Preliminary Draft, May 11, 2004.

1.5.2.4 EIS for Gary/Chicago International Airport

Table 1-7 presents the Master Plan forecasts that were used in the environmental analysis for the Final EIS for Gary/Chicago International Airport. These forecasts were developed during the preparation of the Airport Master Plan for the Airport.

**TABLE 1-7
GARY/CHICAGO INTERNATIONAL AIRPORT
PROJECTED PASSENGER ENPLANEMENTS AND OPERATIONS**

Year (a)	Enplaned Passengers	Air Carrier Operations
2002	11,382	701
2005	57,680	1,550
2010	68,175	1,832
2020	95,242	2,558

Note: (a) Enplanements and operations shown for 2002 are historic numbers from FAA 2003 TAF.
Source: Gary/Chicago International Final EIS, Exhibit 1-8, FAA, October 2004.

1.5.2.5 Terminal Area Forecast (2002)

Table 1-8 presents the 2002 TAF forecast numbers for the commercial service airports within the greater Chicago Market Area.

**TABLE 1-8
TERMINAL AREA FORECASTS FOR 2002**

Airport	Enplaned Passengers				Operations (a)			
	2007	2009	2013	2018	2007	2009	2013	2018
Chicago Midway International Airport (MDW)	10,125,795	10,970,133	12,723,560	15,257,439	352,706	370,061	404,504	453,025
Gary/Chicago International Airport (GYI)	840	840	840	840	52,304	53,224	55,063	57,362
Greater Rockford Airport (RFD)	14,691	14,691	14,691	14,691	85,544	86,304	87,824	89,724
General Mitchell-Milwaukee (MKE)	3,102,070	3,360,840	3,878,382	4,525,309	237,664	248,129	269,063	295,228

Note: (a) Operations include general aviation, air carrier, and military operations.
Source: 2002 FAA TAF

1.6 DESCRIPTION OF THE SPONSOR'S PROPOSED PROJECTS

The City of Chicago has identified and recommended a number of Airport improvements, referred to as the OMP. The City's proposed Airport Layout Plan (ALP) depicts the OMP. A reduced-scale copy of the "one-sheet" ALP (Sheet 3 of 50) is included as **Exhibit 1-7**. The proposed projects are shown in greater detail on **Exhibit 1-8** and **Exhibit 1-9**. A comprehensive list of projects and anticipated development phasing is contained in **Appendix E, Alternatives**. The following sections briefly describe the proposed projects.

1.6.1 Airfield Projects

The Sponsor's proposed airfield projects include the realignment of three runways, and the construction of one new runway. For FAA purposes, realignment involves decommissioning of existing runways and construction of replacement runways. The four replacement runways include Runway 9L/27R, 9C/27C, 10C/28C, and 10R/28L. The three existing runways to be decommissioned include 18/36, 14L/32R and 14R/32L. In addition, two existing runways (Runway 9L/27R and 9R/27L), whose future designations would be 9R/27L and 10L/28R, respectively, would be extended. Further, existing Runways 4L/22R and 4R/22L would remain for additional operational flexibility. This airfield layout results in a total of eight runways, including six parallel runways in an east - west orientation and two crosswind runways.⁵¹ See **Exhibit 1-10** for a schematic layout of the existing runways and the Sponsor's proposed future runways.

⁵¹ The Federal Register description of the proposed airfield differs from the description herein. Although there is no change in the actual projects described, the FAA clarifies the term realignment of runways to include decommissioning and construction of replacement runways.

1.6.2 Terminal Area Improvements

The proposed projects include improvements to the existing Terminal Core Area and development of new eastern and western terminal facilities. In developing the proposed projects, it was assumed that planned terminal development in the approved WGP EA on the east side of the Airport would be implemented with modifications, with the exception of Terminal 2.⁵² On the west side of the Airport, the proposed projects would include a new satellite concourse and terminal facility (Terminal 7) with associated gates and a new ground access point of entry from York Road. The new western access could operate in conjunction with the possible extension of the Elgin-O'Hare Expressway (EOE) and/or construction of a Western By-Pass (WB) connecting I-90 and I-294. However, western access to the Airport is neither dependent on the EOE or the WB. The new west side terminal would be developed on existing Airport property west of existing Runway 14R/32L, which would ultimately be closed and decommissioned. The improvements would provide a total of 232 gates and approximately 38,460 linear feet of total apron frontage.

⁵² Under the WGP EA, Terminal 2 was to be reconfigured to include FIS facilities. However, with the proposed terminal improvements in the west airfield, the facilities are no longer needed in Terminal 2.

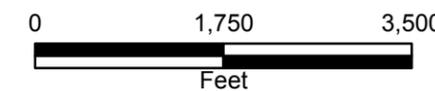
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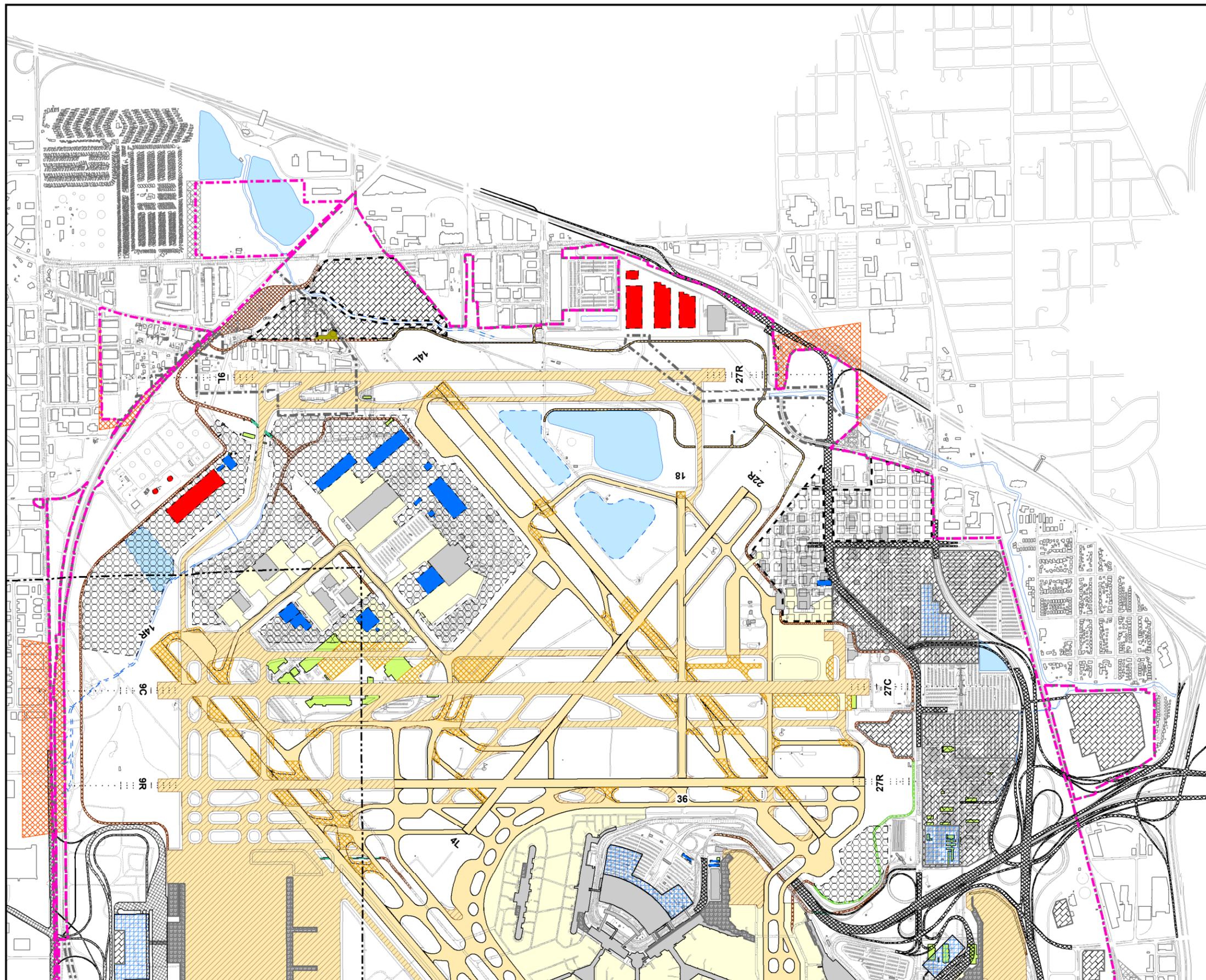
**O'Hare Modernization
Environmental Impact Statement**

- Future Airport Property Line
- Existing Airport Property Line
- County Line
- Creeks
- Future Creeks
- Existing Airfield Pavement
- Future Airfield Pavement
- Airfield Pavement Demolition
- Existing Apron Pavement
- Existing Airport Building
- Future Terminal Building
- Existing Airport Building in AOA to be Relocated
- Relocated Airport Buildings Previously in AOA
- Future Airport Buildings
- Future Aviation Development Areas
- Future Collateral Development
- Future Roadways
- Future Structured Parking
- Future Surface Parking
- Future Detention Basins
- Existing Detention Basins
- Existing Avigation Easment
- Future Avigation Easment
- Future Tunnel
- Future Service Roadways
- Service Road Upgrade
- Future NAVAID/ARFF Access Roads



**Sponsor's Proposed Project
North Airfield**

► Exhibit 1-8

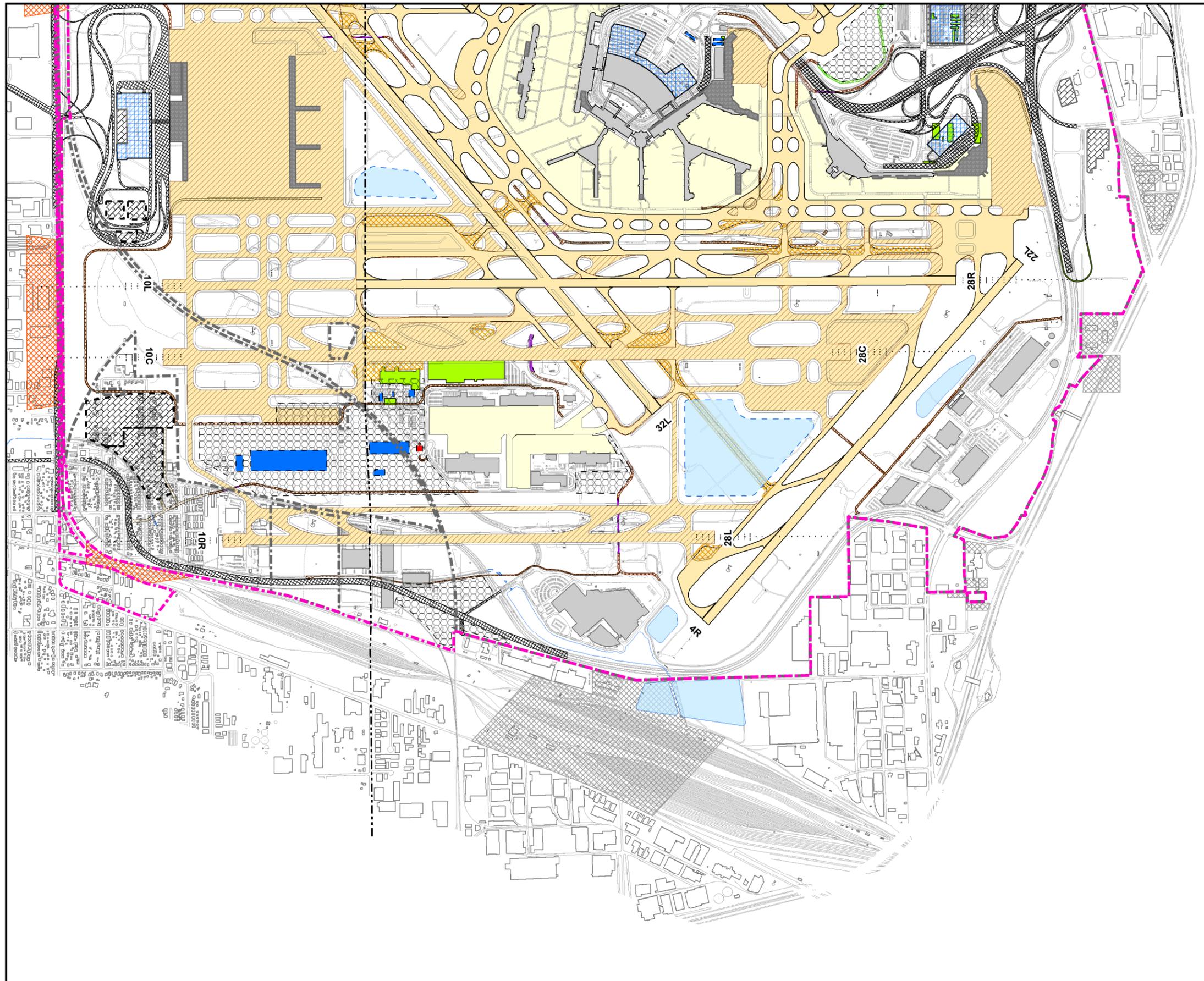


Source: ALP Drawing Set, Ricord and Associates, Inc. [CCT], 2004.

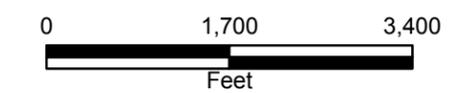


Chicago
O'Hare
International
Airport

**O'Hare Modernization
Environmental Impact Statement**



- Future Airport Property Line
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- Future Avigation Easement
- Future Tunnel
- Future Service Roadways
- Service Road Upgrade
- Future NAVAID/ARFF Access Roads



**Sponsor's Proposed Project
South Airfield**

► Exhibit 1-9

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1.6.3 Support Facilities

The facilities needed to support the operation of the Airport generally include the following:

- Cargo terminals and warehouses,
- Maintenance of aircraft and ground service equipment facilities,
- Flight kitchens,
- Department of Aviation maintenance, and
- General Aviation and fixed based operators (FBO).

A number of existing support facilities would be affected by the airfield development proposed. Hence, the proposed land use plan for support facilities provides for:

- "In-kind" replacement of existing facilities that would be displaced by the proposed airfield development,
- Area for those facilities previously identified for future development; and
- Area to accommodate projected growth.

Relocation of existing support facilities and future development would be accommodated through expansion of the Northwest Maintenance Area and South Cargo Area. The Northwest Maintenance Area would be expanded in the east and west directions through proposed decommissioning of Runways 14L/32R and 14R/32L. The Southwest Cargo Area would be reconfigured to the west with the proposed relocation of the Union Pacific Railroad, and to the east with proposed decommissioning of Runway 14R/32L. The plan provides that affected facilities in each of the support facility areas (Northwest Maintenance Area and South Cargo Area) would be redeveloped within the area in which they currently exist. In this manner, operational characteristics, such as airfield access and ground access, associated with the facilities would remain consistent with current activities. Furthermore, each of these areas would have additional land available for projected growth needs of other aviation development. More detailed descriptions of the proposed support facilities are provided in **Appendix E, Alternatives, Table E-19**.

1.6.4 Ground Access and Parking

As noted previously, some elements of the proposed surface transportation projects were previously approved as part of the WGP EA, other previously approved elements were modified or refined to accommodate the current proposal, and others are newly planned projects.

Table 1-9 identifies the on-Airport and off-airport roads being considered in the EIS and denotes the projects that were previously approved by the WGP EA or are being considered in the I-190 Environmental Assessment (I-190 EA) being undertaken by IDOT.

**TABLE 1-9
GROUND ACCESS PROJECTS**

No.	Project Description	On Airport	Off - Airport - East	Off - Airport - West	Previously Approved by WGP EA	Considered within I-190 EA
1	Terminal 6 curbside roadways and new Terminal 5/6 access and egress roadways,	X			X	
2	New ramps and intersections at Bessie Coleman Drive and I-190	X			X	
3	Upgrade of I-190 west of Bessie Coleman Drive (Airport portion of I-190)	X			X	
4	Westerly relocation and widening of the northern portion of Bessie Coleman Drive to Higgins Road	X			X	
5	Westerly extension of Zemke Road to relocated Bessie Coleman Drive	X			X	
6	Fly-over ramps from Bessie Coleman Drive to southbound Mannheim Road	X			X	
7	Closing of the East Cargo Road and the northern part of Spine Road	X			X	
8	Reallocation of Terminal Core roadways/curbside between Terminals 3 and 4 to provide curbside at new Terminal 4	X			X	
9	Roadway changes in the Southwest Cargo Area as a result of the realignment of Irving Park Road and the Construction of Runway 10R/28L	X				
10	Roadway changes in the Northwest Maintenance Area as a result of the construction of Runway 9L/27R	X				
11	Access and egress roadway connections between the Thorndale Avenue/York Road Intersection area and the arrival and departure level curbs	X				
12	Roadway connections to the West Terminal landside support facilities, including the parking garage, taxi staging area, bus/limo staging area, rental car area, terminal services area, and recirculation roadway	X				
13	I-90 upgrade from Bessie Coleman Drive to Cumberland Avenue		X			X
14	Extension of Balmoral Avenue to Bessie Coleman Drive		X		X	
15	Widen Mannheim Road between Higgins Road and Irving Park Road		X			X
16	New ramp and intersections at Mannheim Road and I-190		X			X
17	New ramp and intersections at I-190 and I-294		X			X
18	New ramps between Mannheim Road and I-294		X			X
19	Expansion of the I-90/Lee Street interchange		X		X	
20	Southerly realignment of Irving Park Road between York Road and the U.S. Postal Service building			X		
21	Preservation of a corridor for a future West O'Hare Bypass (by others)			X		

Note: More detailed descriptions of the on-Airport surface transportation projects are provided in **Appendix E, Alternatives, Table E-19.**

Source: Federal Aviation Administration, November 5, 2004.

Areas dedicated to both short- and long-term parking are provided on the east side of the Airport supporting the Terminal Core Area and the East Terminal Area, and on the west side supporting the new West Terminal Area.

Parking for flight crews and for employees working in the terminal area would be provided in three facilities: the existing surface lot in the Southeast Service Area, immediately west of the AMC Building; a new Northwest employee lot; and a new surface lot located in the Northeast Quadrant, in the southern portion of what is currently Lot E, immediately south of the Runway 9C/27C extended object free area (OFA).

Parking for Terminal 7 employees and flight crews would be provided in a surface lot to the north of the proposed long-term public parking lot supporting the terminal in the southwest corner of the Airport. A new access road to this lot would be provided from the new service road entrance to the Southwest Cargo Area off realigned Irving Park Road, following the eastern boundary of the long-term public parking lot. Parking for employees working in areas of the Airport other than the terminals and the Northwest Maintenance Area would be provided onsite at each facility.

1.6.5 Airport Transit System Improvements

The proposed projects include the following improvements to the nonsecure landside ATS previously approved in the WGP EA:

- The addition of ATS stations at Terminal 6, the Metra Transfer Station, and the proposed consolidated rental car facility
- Relocation of the Operations and Maintenance (O&M) test track facility to an area in the Northeast Quadrant to accommodate the development of Terminal 6 and the track extension necessary to serve this facility

A minor modification to the alignment of the ATS extension guideway (as approved in the WGP EA) may be necessary to avoid conflict with the Federal Aviation Regulations (FAR) Part 77 surfaces of future Runway 9C/27C. This modification would involve shifting the alignment to the west so that the guideway would pass over the planned flyover between Bessie Coleman Drive and Mannheim Road at a lower elevation, thereby lowering the height of the guideway within the runway protection zone for Runway 9C/27C. The location of the Lot E ATS station (as approved in the WGP EA) would penetrate the FAR Part 77 surfaces of the future Runway 9C/27C and, thus when that project is undertaken, the station would be closed.

1.6.6 Secure Automated People Mover

As noted previously, a new secure automated people mover (APM) system is proposed between the West Terminal and the Terminal Core Area, connecting at the bases of Terminals 1 and 2, in the secure area of the Terminals. This system includes proposed station locations at the main West Terminal facility, the satellite West Terminal concourse, and a single station serving Terminals 1 and 2 with pedestrian walkways. The O&M facility for the new secure

APM system would be located in the infield area of the West Terminal roadway system, north of the short-term public parking structure.

1.6.7 Rental Car Facilities

The east side locations for the rental car facilities proposed are similar to those depicted in the approved WGP EA. The two proposed elements include a core facility where all major rental car companies would be located for passengers to pick up and drop off rental cars and a rental car storage and maintenance area. The core rental car facility would be located in the southern portion of the Northeast Quadrant and would be served by a new ATS station. However, in the proposed projects, the footprint of the site has been expanded into the existing rental car area to better accommodate forecast demand. The core facility would consist of a four-level structure that would occupy approximately nine acres, and surface parking on about 30 acres. The second element would be the rental car storage and maintenance lot, which would be located on a 30-acre parcel at the northeast corner of I-190 and the Canadian National Railway. The two sites would be linked by a dedicated nonpublic road and bridge over Mannheim Road.

The West Terminal area is proposed to have a separate rental car operation on the ground floor of the parking garage. This rental car ready and return area would be supported by a quick-turn around maintenance facility located at the surface level immediately west of the parking structure.

1.6.8 Commercial Vehicle Holding Area

Holding areas for commercial vehicles would be provided on both the east and west sides of the Airport. On the east side of the Airport, the Commercial Vehicle Holding Area (CVHA) would be maintained in its current location. The previously approved return-to-terminal roadway would also be provided for commercial vehicles destined for the CVHA after they drop off passengers at the Upper Level Roadway in the Terminal Core. Staging for other commercial vehicles on the east side of the Airport would be provided along the west side of Bessie Coleman Drive, just north of Runway 27C. These vehicles would access the terminals via the on-Airport roadway system.

On the west side of the Airport, staging for commercial vehicles would be provided within the proposed terminal loop roadway. Access to and from the main terminal circulation roadways would be provided in a manner that facilitates quick response times to the terminal curbs.

1.6.9 Railroad Realignment

To accommodate the extension of Runway 10L/28R, and the construction of Runways 10C/28C and 10R-28L, and allow for sufficient land area for airport support facilities, relocation of the Union Pacific Railroad would be necessary from its current westerly alignment to an alignment similar to that of the Canadian Pacific Railroad. The realigned Union Pacific rail corridor would be grade-separated over Irving Park Road near the interchange with York Road. This rail corridor would continue to cross the existing rail yard on the south side of the airfield via a bridge section.

1.6.10 Other Facilities

Additional facilities included in the proposed projects have undergone separate analysis to determine the proposed requirements. These facilities and their associated studies include:

- **Service Roads** – *The O'Hare Modernization Program Airfield Service Road Traffic Study Draft Report*⁵³ – November 2003.
- **Utilities and Drainage Infrastructure** – *The O'Hare Modernization Program [Drainage and Utility Infrastructure Study] Final Draft*⁵⁴ – December 15, 2002.

1.6.11 Proposed Land Acquisition

Both fee-simple and avigation easement acquisitions are proposed by the City of Chicago. Their proposed land acquisition consists of:

- **Proposed Northwest Acquisition Area:** The northwest acquisition area is approximately 135.8 acres and would accommodate the construction of proposed Runway 9L/27R, the relocation of Mount Prospect Road, and the runway protection zone for Runway 9L/27R. The northwest acquisition area currently consists of commercial, industrial, and six residential properties.
- **Proposed Southwest Acquisition Area:** The southwest acquisition area is approximately 297.8 acres in size and would be necessary to accommodate the development of proposed Runways 10R/28L and 10C/28C as well as the runway protection zones for these runways. The southwest acquisition area would also be used to relocate the Union Pacific Railroad and Irving Park Road. The southwest acquisition area currently consists primarily of residential areas (533 housing units), some commercial properties, and vacant land.
- **Proposed Cemetery Acquisition Areas:** There are two cemeteries within the proposed acquisition areas: St. Johannes Cemetery and Rest Haven Cemetery, which have approximately 1,400 and 200 graves respectively, and are approximately 6.2 acres in size. These cemeteries would need to be relocated to accommodate the construction of Runway 10C/28C and ancillary airfield operating areas.
- **Proposed Avigation Easements:** A total of approximately 108 acres of avigation easements are proposed for the protection of the airspace above the runway protection zones. This acreage was calculated from the areas as depicted on the O'Hare Airport Layout Plan.

⁵³ The O'Hare Modernization Program Airfield Service Road Traffic Study Draft Report, Ricondo & Associates, Inc. [CCT] November 2003.

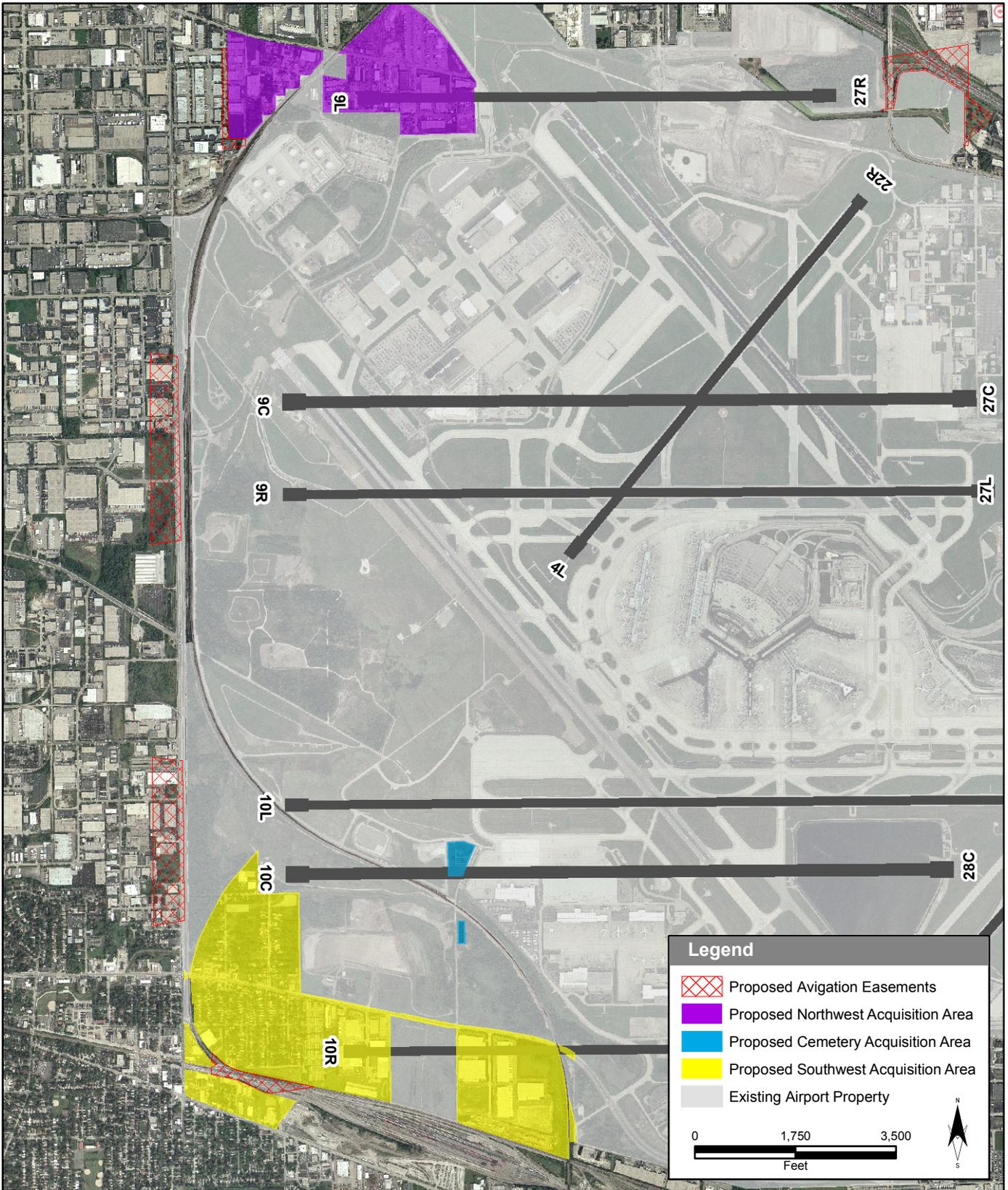
⁵⁴ The O'Hare Modernization Program [Drainage and Utility Infrastructure Study] Final Draft, Consoer Townsend Envirodine Engineers, [CCT] December 15, 2002.

The proposed land acquisition and aviation easements can be seen on **Exhibit 1-11**. See **Appendix H, Social Impacts** for more detail on the proposed land acquisition.

1.6.11.1 Related Federal Facilities and Actions

- **North Airport Air Traffic Control Tower (ATCT)** – The O'Hare Modernization Program North Airport Traffic Control Tower Site Selection Study Final Report⁵⁵ – September 12, 2003.
- **FAA Navigational Aid Facilities:** Navigational aid facilities, including approach lights, and outer markers, would be needed for the proposed development. Property for these facilities would be leased. There are approximately 11 new facilities identified for the City's proposal.
- **Airspace Improvements** – See **Appendix E, Alternatives** for a detailed discussion of the OMP airspace related improvements.
- **South Airport Air Traffic Control Tower** – A potential site for a south airport air traffic control tower is identified on the proposed ALP.

⁵⁵ The O'Hare Modernization Program North Airport Traffic Control Tower Site Selection Study Final Report, Ricondo & Associates, Inc. [CCT] September 12, 2003.



Source: Aerial; Aerial Express, September, 2000; OMP Land Acquisition Coverage; Ricondo ALP Drawing set, 2004.



Chicago O'Hare International Airport

**O'Hare Modernization
Environmental Impact Statement**

**Proposed Land Acquisition
and Easements**

► Exhibit 1-11

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1.7 ANTICIPATED PROJECT TIMING, ESTIMATED COST AND FUNDING

In February 2004, the City submitted the O'Hare International Airport Master Plan. This submittal to the FAA included a three-volume set of documents that set forth the detailed project components for the implementation of the O'Hare Modernization Program and a proposed Airport Layout Plan (ALP) set of drawings. In Volume 2 of the Master Plan, the City specifically provided information on the anticipated project timing, estimated cost, and financial feasibility of the projects described therein. Key components of Section VII of the Master Plan are summarized below. **Attachment A-2 in Appendix A, Background** includes Section 7.3 of the Master Plan.

In response to comments, the FAA has broadened the discussion in this Final EIS of the financial feasibility, which includes an analysis of the City's estimated costs for this proposal. This analysis is not intended to prejudge the outcome of any separate process involving the City on other matters, for example the Letter of Intent application or requests for PFC authorization.

1.7.1 Project Timing

Table 1-10 outlines the major components of the O'Hare Modernization Program and their proposed first full year of operation. More detailed information about the specific projects proposed and their timing are contained within **Appendix A**.

**TABLE 1-10
MASTER PLAN PRELIMINARY IMPLEMENTATION SCHEDULE**

Master Plan Project Component	First Full Year of Operation
O'Hare Modernization Program (OMP) Runway Components	
Construction of Future Runway 9L/27R	2007
Extension of Existing Runway 9R/27L (Future Runway 10L/28R)	2009
Construction of Future Runway 10C/28C	2009
Extension of Existing Runway 9L/27R (Future Runway 9R/27L)	2013
Construction of Future Runway 9C/27C	2013
Construction of Future Runway 10R/28L	2013
World Gateway Program (WGP) Terminal Components	
Concourse K	2009
Terminal 4	2013
Terminal 6	2013
West Terminal Complex Components	
Satellite Concourse	2009
Terminal Building/Concourse	2013
West Terminal Ground Access	2013

Source: O'Hare International Airport Master Plan, City of Chicago, February 2004.

1.7.2 Estimated Project Costs

Listed in **Table 1-11** is a summary of the project costs estimated by the City associated with the City's O'Hare Modernization Program as presented in Volume 2 of the Master Plan. The total costs in **Table 1-11** are in billions of dollars, rounded to the nearest million and escalated to 2004 dollars from the original costs presented in the City's Master Plan. The Draft EIS cost estimate was based upon a uniform cost escalator of 2.4%. For the Final EIS, the FAA has utilized escalation indicators which are appropriate for the specific types of construction work. These industry specific escalators were utilized based on whether the construction was Heavy Construction or Building Square Foot Cost for historical cost indexes for the City of Chicago. In addition, the Capital Improvement Projects (CIP) costs associated with the Subsequent Years (2008-2022) were also adjusted to 2004 dollars to make the entire **Table 1-11** reflective of 2004.

Table 1-11 has been updated since the Draft EIS by the FAA to reflect more detailed construction related inflation factors.⁵⁶ The Master Plan indicated that the proposed costs are consistent when compared to costs of other airport improvement programs as presented in **Appendix A, Background, Attachment A-1**.

⁵⁶ The FAA conservatively assumed a 2 percent escalation factor for the subsequent years (2008-2022) in the CIP which would equate to 15 years of projects at approximately \$146 million per year. The resulting 15 year total for the CIP would be \$2.197 billion in 2004 dollars. The difference between the CIP costs presented in the City's Master Plan and the dollars presented for this same line item on Table 1-11 is approximately \$545 million. If a 4 percent escalation factor had been applied as the City used in WGP, the resulting value for CIP (2008-2022) in 2004 dollars would have been approximately \$1.756 billion. FAA has chosen a more conservative approach.

TABLE 1-11
ESTIMATED COSTS IN BILLIONS OF DOLLARS (f)

Project Description	Original Cost Estimate(a)	Estimate Year(b)	Type of Work(c)	Escalation Multiplier(d)	Estimated Cost in 2004 Dollars
O'Hare Modernization Program (OMP)					
Program Wide Requirements	0.909	2001	BSF	1.1324	1.029
Other Program Costs	0.321	2001	BSF	1.1324	0.364
Airfield	3.211	2001	HC	1.1446	3.675
West Terminal	1.727	2001	BSF	1.1324	1.956
On-Airport Circulation	0.432	2001	HC	1.1446	0.495
Subtotal	6.600				7.519
Capital Improvement Projects (CIP)					
Five-Year (2003-2007)	1.386	2003-2007	HC	1.0000	1.386
Subsequent Years (2008-2022)	2.742	2008-2022	HC	0.8012(e)	2.197
Subtotal	4.128				3.583
World Gateway Program (WGP)					
Airport-wide, Airfield and Airside	0.244	1999	HC	1.2319	0.301
Terminal 2 FIS Facilities	0.079	1999	BSF	1.2028	0.095
Terminal 4	0.968	1999	BSF	1.2028	1.164
Terminal 6	1.353	1999	BSF	1.2028	1.628
Subtotal	2.644	1999			3.188
Total Costs					\$14.290

Notes: (a) Total costs are in billions of dollars, rounded to the nearest million.
 (b) Estimates were prepared/published by the City of Chicago and are based on construction costs for the year listed.
 (c) HC = Heavy Construction Cost Index ; BSF = Building Square Foot Cost Index
 (d) Escalation multipliers were developed using RS Means Square Foot Costs from 1999, 2001, 2004, and Heavy Construction Cost Data from 1999, 2001, 2004 for historical cost indexes for the City of Chicago.
 (e) The O'Hare International Airport Master Plan (page VII-24) notes that this amount is in escalated dollar values for subsequent years (2008-2022). A 2 percent construction escalation factor was used to determine this multiplier.
 (f) The FAA conservatively assumed a 2 percent escalation factor for the subsequent years (2008-2022) in the CIP which would equate to 15 years of projects at approximately \$146 million per year. The resulting 15 year total for the CIP would be \$2.197 billion in 2004 dollars. The difference between the CIP costs presented in the City's Master Plan and the dollars presented for this same line item on Table 1-11 is approximately \$545 million. If a 4 percent escalation factor had been applied as the City used in WGP, the resulting value for CIP (2008-2022) in 2004 dollars would have been approximately \$1.756 billion. FAA has chosen a more conservative approach.

Source: Original Cost Estimate: O'Hare International Airport Master Plan, City of Chicago, February 2004.
 Escalation Multipliers: R.S. Means Square Foot Costs, 1999, 2001, 2004, and Heavy Construction Cost Data, 1999, 2001, 2004, except as noted in footnote (e).

1.7.3 Project Funding

The City of Chicago has developed a financial plan for OMP that includes consideration of investments required for OMP and anticipated for other capital improvements. In particular, the City has considered the required funding and sources of funding for (1) O'Hare Modernization Program, (2) World Gateway Program, and (3) other Capital Improvement Program projects. The City's financial plan is summarized in the February 2004 ORD Master Plan report. See **Appendix A, Background, Attachment A-2**.

The amount of funding required for the combined OMP, WGP, and CIP projects at O'Hare is large—a total of about \$14.29 billion in escalated dollars, as presented above in **Table 1-11**. However, O'Hare is one of the largest airports in the United States, and one of the major

connecting hubs for the national transportation system. Therefore, it is not considered unusual or unreasonable that required investments would be significant in order to accommodate future growth in activity.

1.7.4 Sources of Funding

In preparing the financial plan for OMP and other capital improvements, the City estimated the potential availability of funds from various sources. The City has identified four funding sources to carry out the projects set forth in the O'Hare International Airport Master Plan.

- Federal grants-in-aid under the Airport Improvement Program (AIP)
- Passenger facility charges (PFCs)
- General airport revenue bonds (GARBs)
- Third-party financing

In presenting these funding sources, the City indicated that,

The actual amount of funding available from certain [...] sources will depend primarily on future levels of aviation activity at the Airport, future federal reauthorizations, and future airline approvals.⁵⁷

Table 1-12 shows the best estimate of funding by source.

**TABLE 1-12
ESTIMATED SOURCES OF FUNDS**

Sources of Funds (Percentages)							
Program	FAA AIP Grants		Passenger Facility Charge		Airport Revenue Bonds	Third-Party Financing (b)	Total (c)
	Entitlement	Discretionary (a)	Pay-As-You-Go	Bond Funds			
OMP	1%	8%	2%	20%	59%	10%	100%
CIP	0%	6%	11%	30%	54%	0%	100%
WGP	0%	0%	0%	0%	78%	22%	100%

Notes: (a) Includes discretionary LOI funds, discretionary noise funds, and assumed funding for safety and security projects.
 (b) Assumes that 33.3 percent of terminal project costs are eligible for third-party financing resulting in 10 percent of OMP total project cost and 22 percent of WGP total project cost.
 (c) Totals may not add due to rounding.

Source: O'Hare International Airport Master Plan, Section VII, February 2004.

FAA has reviewed the sources of funds assumed by the City to be available to fund improvements at O'Hare, and believes that these funding sources are appropriate for this type of airport development program, and reasonably consistent with the sources of funds that are used for large hub airport capital programs at other U.S. airports. In particular, the largest sources of funds are in the form of borrowing—PFC bonds and airport revenue bonds—which are typical of large hub airport finance plans.

⁵⁷ O'Hare International Airport Master Plan, Page VII-28, February 2004.

In February 2005, the City submitted an amended request to obtain a Letter of Intent (LOI)⁵⁸ from the FAA for a multi-year commitment of Airport Improvement Program (AIP) funding for Phase 1⁵⁹ of the O'Hare Modernization Program. Consistent with the original LOI application submitted in March 2003, the amended request is for \$300 million in AIP discretionary grants over a ten-year period, with the City committing \$55.8 million of its entitlement grants to the implementation of the project. The amended LOI request includes a Benefit-Cost Analysis (BCA), as required by FAA, to support the request.

It should be noted that the review and approval of a LOI request is undertaken separately from the necessary environmental review. As is the case with any project requesting AIP funding, an approved Airport Layout Plan (ALP) depicting the project and an environmental determination approving implementation of the ALP through a Record of Decision are prerequisites to issuing LOI(s) or grant(s) for use of Federal airport development funds for projects involving a new airport, a new runway, or a major runway extension.

The City's financing plan for OMP and related capital investments includes a significant amount of borrowing in the form of airport revenue bonds, as is typical for large hub airports. Thus, an important consideration in evaluating the financing plan is the anticipated "reaction" or "acceptance" of the financial community; e.g., the ability to obtain an investment-grade bond rating and attract investors in bonds and insurers of bonds.

Bond rating agencies (i.e., Standard & Poors, Moody's, Fitch) evaluate the potential of airports to generate sufficient revenues to repay bond debt service, and on this basis assign ratings to bond issuers. These ratings are key considerations for investors in the bonds and insurers of the bonds, and in turn influence the cost of capital (i.e., the interest rate on debt that is issued).

The City of Chicago has initiated planning and design work associated with the \$2.9 Billion Phase 1⁶⁰ of the OMP. Significant projects associated with Phase 1 include:

- New Runway 9L
- New Runway 10C
- Runway 10L Extension
- South Detention Basin Relocation
- Union Pacific Railroad Relocation

This bond issue required the financial commitment of the airlines. The mix of funding sources proposed by the City at this stage of the project is included in the financial plan within the LOI request. In connection with the recent issuance of bonds by the City, bond rating agencies have

⁵⁸ Multi-Year Commitment of Airport Improvement Program Grant-in Aid Funding, March 1, 2004, Updated February 2005.

⁵⁹ The projects in this LOI request include the following: New future Runway 9L/27R; Extension of Future Runway 10L-28R (Existing Runway 9R-27L); Future Runway 10C-28C (Relocation of Existing Runway 18/36); and associated runway enabling projects, generally including associated taxiway systems, navigation aids installation and upgrades, site utilities construction, and existing facilities relocation.

⁶⁰ Press Release: City of Chicago Selects Lead Engineering Design Task Order Teams for Phase One - O'Hare Modernization Program, November 12, 2003.

chosen to assign investment-grade ratings to these bonds. Most recently, Moody's has rated the City's bonds "A2," Standard & Poor's has rated the City's bonds "A-", and Fitch has rated the City's bonds "A." These investment-grade ratings are an indication that the financial community has accepted the City's financial plan as reasonable, in relation to the benefits of such investment.

As previously noted, the City has, to date, only issued bonds for preliminary phases of OMP. It is typical that large, long-term capital programs are implemented and financed in phases. It is not necessary, and not financially prudent, to borrow money significantly in advance of the need for such money for construction—to do so would result in undue interest costs. Thus, the City has developed a financial plan that assumes issuance of bonds in phases consistent with the need to have funds available to finance construction. The financial community will evaluate each proposed new series of bonds at the time these bonds are required to be issued, and in the context of the then-current set of circumstances.

On the basis of the information presented herein, the review of the City's financial plan, and an understanding of airport financing in general, FAA has no reason to believe that the City's financial plan cannot be implemented as generally presented in the ORD Master Plan. Further, FAA has no reason to believe that the resulting costs to airport users (most significantly, major airlines serving O'Hare) will significantly adversely affect the ability to finance the capital projects and realize the projected aviation demand, particularly in the context of future investments that will be required at other large hub airports in the United States. All projections and forecasts are subject to uncertainty, and future events may result in changes or adjustments to the FAA conclusions.

For purposes of satisfying the FAA's obligations under NEPA, FAA has concluded that it is reasonable to assume that, based upon the impact O'Hare has on the Chicago region, as well as the NAS, and the benefits to the regional economy, there will be sufficient funds to complete the City's proposal, if approved. Further, in response to comments on the Draft EIS, FAA has reviewed additional cost-related information applicable to the project. For purposes of this review under NEPA, the FAA has concluded that the estimated costs of the project are reasonable. In addition, FAA believes that with a project of this magnitude and importance, the availability of projected funding sources is sufficiently reasonable and capable of being obtained. Accordingly, the FAA has decided it is both appropriate and necessary under NEPA to subject the Sponsor's full build proposal and alternatives thereto to this environmental analysis because the entirety of the proposed action is reasonably foreseeable. This determination is made without prejudice to evaluation of the City's pending Letter of Intent request, which is a separate process from this environmental analysis.