



KANSAS CITY INTERNATIONAL AIRPORT

# Airport Master Plan Study

**Executive Summary**  
January 2009

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HEART OF THE NATION



KANSAS CITY  
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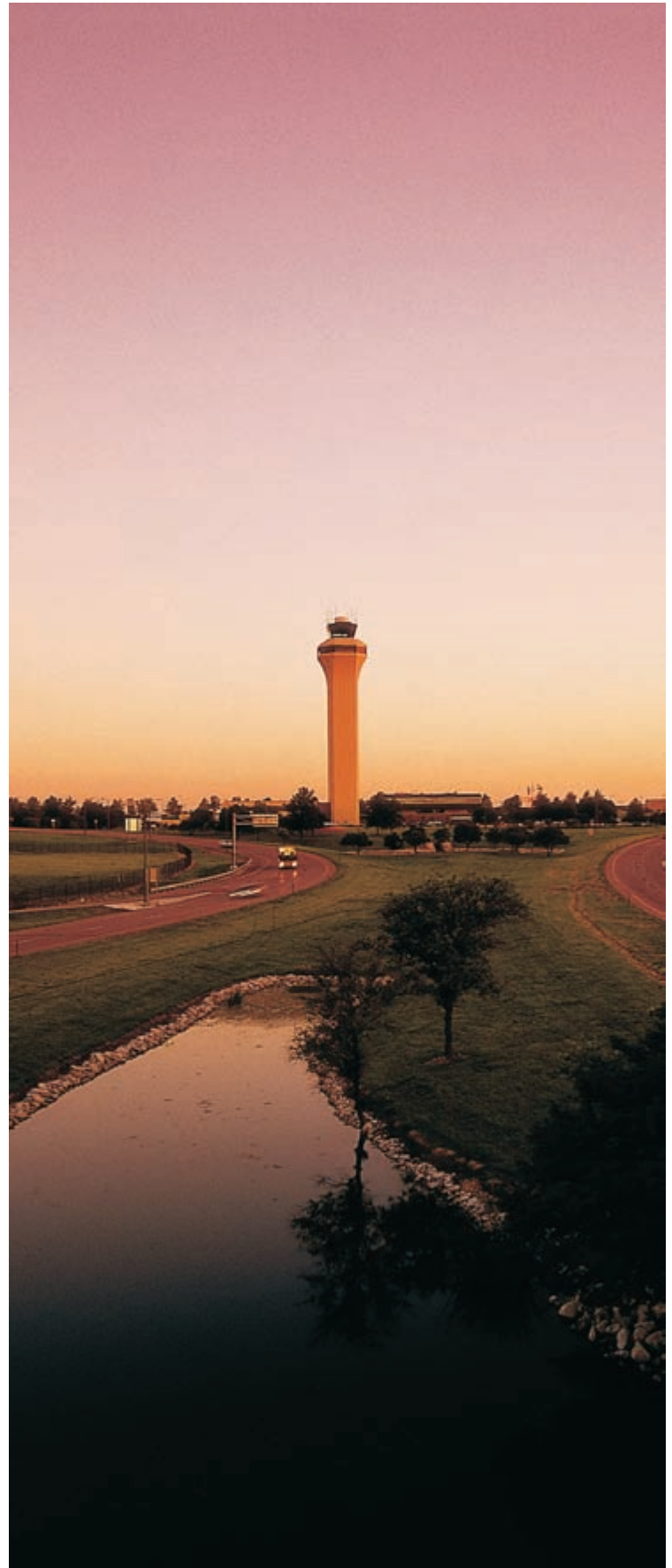
**Aviation Department  
City of Kansas City, Missouri**

Prepared By:  
Landrum & Brown



*Aviation Planning at the Leading Edge*

**January 2009**



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## Introduction

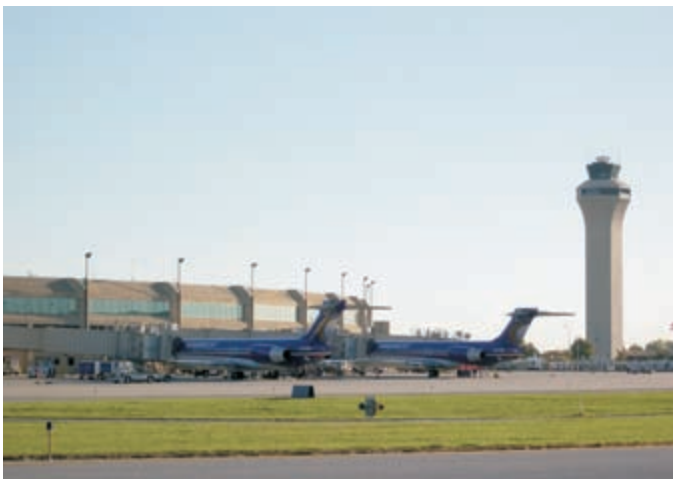
Kansas City International Airport (KCI) has served the needs of travelers to the Midwest for over 25 years. Its 10,000-plus acres of land make it one of the largest airports in the U.S., serving over ten million travelers annually.

KCI is located on major highways I-29 to the east and I-435 to the west. It is approximately 15 miles from downtown Kansas City, located in Platte County. As residential, commercial, and industrial areas realize their potential, KCI is uniquely situated as a major asset in the future development of Kansas City's Northland.

As the Northland of Kansas City grows, KCI will consider issues relating directly to its future as well as its role in the greater planning area. In order to do this, the Airport has undertaken this Master Plan Study to meet forecasted transportation needs and to continue to drive the region's economic engine.

The KCI Master Plan Study will provide a vision for the growth and development of the Airport over the next 20 years. It will establish a framework for the development of airport facilities and guide long-term on-airport land use and development decisions.

One action will be to satisfy the need for runways of sufficient length to support existing and forecasted air cargo and passenger flights. While striving to have the least negative affect on the surrounding communities, the primary goals of this Master Plan are revisions to the ground transportation access links, improve airline and passenger efficiencies, and provide guidance on the highest and best use of the on-airport land areas.



## Visioning Workshops

A series of seven Visioning Workshops were held in the fall of 2006 to learn what aviation officials, airlines, tenants, regional and local civic leadership, planning agencies, neighborhoods, and other key stakeholders believed KCI and the surrounding land areas should be in the future. A list of questions was presented during each visioning workshop to solicit a response that would help to define the goals and objectives of the Airport Master Plan Study.

- What are the current strengths of the KCI Airport?
- What are the current weaknesses of the KCI Airport?
- What are the constraints at the KCI Airport?
- What are the opportunities at the KCI Airport?
- What uses has this area served in the past ten years?
- What purposes can it serve in the future that no other part of the city can or should serve?
- What are the unique assets of the area that could attract or retain employers?
- What are the perceptions of the area, in terms of assets and liabilities, as a place to raise a family?



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## Goals and Objectives

The results of the visioning workshops became the basis for determining the goals and objectives of the Airport Master Plan Study.

- Goal #1** Improve airfield performance
- Goal #2** Preserve high level of passenger and community approval
- Goal #3** Improve internal access and external connections
- Goal #4** Increase revenue from on-airport economic development
- Goal #5** Improve compatible land use and community partnership
- Goal #6** Improve all-weather reliability and reduce operational delays
- Goal #7** Reduce airport operating costs and enhance revenues



## Current Airport Facilities

Kansas City International Airport opened in November 1972 and is owned and operated by the City of Kansas City, Missouri. The Airport provides commercial, cargo and general aviation service to the Kansas City metropolitan area.

### Airfield

KCI has three runways capable of serving large commercial aircraft operations. Two are parallel runways oriented in a north-south direction and one runway oriented in a east-west direction. Runway 1L/19R is 10,801 feet long, Runway 1R/19L is 9,500 feet long, and Runway 9/27 is 9,500 feet long.



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## Passenger Terminals

There are three semi-circular (“C” shaped) passenger terminal buildings (Terminal A, B and C). Each terminal is 85 feet wide and approximately 2,300 feet long. Each terminal has three levels (apron level, passenger service level, and a mezzanine level). The three terminals were extensively renovated as part of the Terminal Improvement Program (TIP) that was completed in November 2004. The three terminals combined provide approximately 1.1 million square feet of space. The TIP included all new mechanical and electrical systems, and finish upgrades. The majority of the TIP included the expansion of certain hold room areas (10 feet towards the apron), reconfiguration of security checkpoint, and addition of restroom facilities inside the hold room areas. There is a single level roadway that loops between the parking garages and terminals.



## Roadway Access and Parking

All routes leading to KCI flow into 4-lane Cookingham Drive for access to the terminals and parking facilities. Cookingham Drive merges into International Circle, which is a one-way circular roadway connecting each of the individual terminal curbside roadways (Amsterdam Circle, Rome Circle, and Beirut Circle). A secondary roadway network provides access to other Airport support facilities.

KCI has a total of 23,305 public parking spaces. Each of the three terminals has a parking garage with approximately 2,000 spaces. Between each terminal curbside and International Circle are four connected surface lots (Circle Lot E) with 1,750 spaces. In addition, there are three remote Economy Lots A, B and C that are located along Cookingham Drive with a total of 15,263 parking spaces.

## Air Cargo Facilities

There are four (three multi-tenant and one single tenant) cargo terminals at KCI with a total of 251,345 square feet of warehouse space and 1.27 million square feet of aircraft apron space. In addition, the US Postal Service has 66,048 square feet of warehouse space. All of the cargo facilities are located between Mexico City Avenue and Runway 1L/19R.



## Consolidated Rental Car Facility

A new 70 acre Consolidated Rental Car Facility (CONRAC) was opened in April 2007 and is located on Nassau Circle. All rental car operators are located at this facility inside a two-level 134,686 square foot Customer Service Building. There is also a CONRAC Bus Maintenance facility located between Brasilia Avenue and Mexico City Avenue.



## Other Support Facilities

The Airport has a full complement of support facilities that include; 6,360 square foot General Aviation terminal, hotel, airfield maintenance, fleet maintenance, catering, and air traffic control tower and TRACON facility. There is also a 204 acre airline maintenance facility that is leased by American Airlines in the northeast corner of Runways 9/27 and 1R/19L.

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## Aviation Demand Forecasts

Prior to initiating this Master Plan Study, the FAA and KCI decided to use the Draft FAA 2006 Terminal Area Forecast (TAF) as the basis for future facility planning. An independent study was conducted to validate the reasonableness of the Draft TAF. As a result, some changes were made to the 2006 TAF based on the reclassification of passenger data between air carrier and commuter categories.

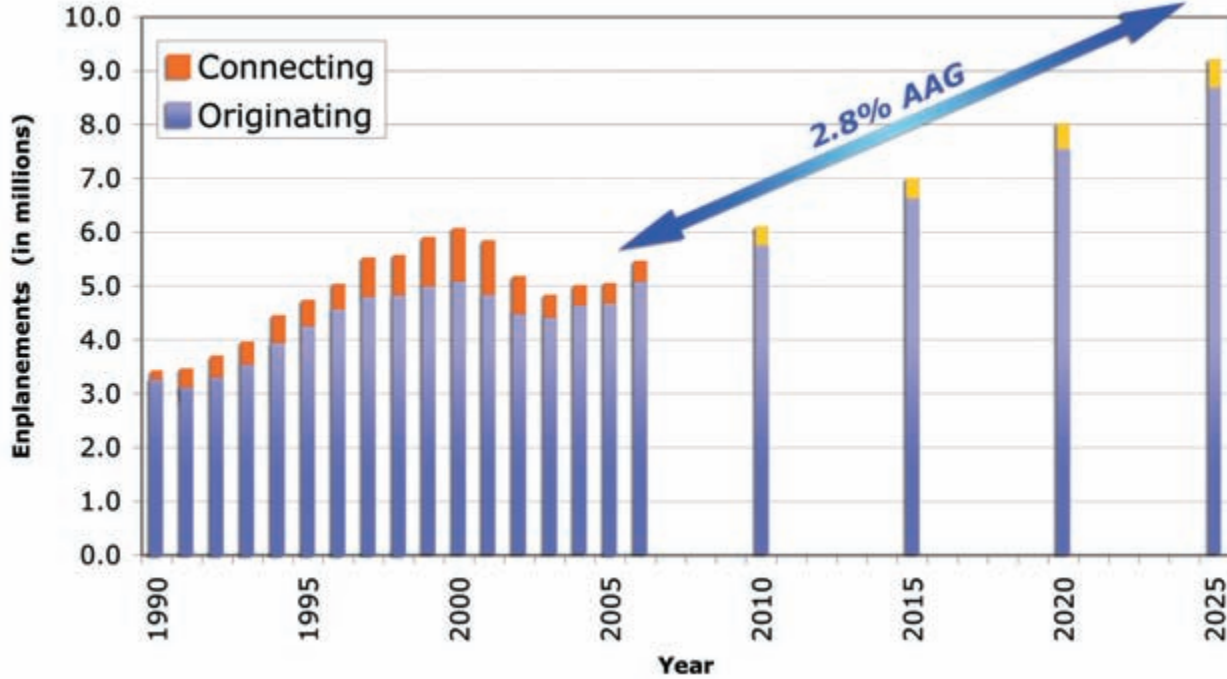
Currently originating passenger enplanements make up 92.5 percent of total enplanements at KCI. This will increase to 95 percent in year 2025. Connecting passenger traffic is expected to grow at a slower rate of 0.8 percent annually. Total passenger enplanements are forecast to increase from 5.5 million in 2006 to 9.2 million in 2025, for a 2.8 percent average annual growth rate.

Narrow body aircraft are expected to account for the predominant share of domestic passenger operations at KCI. Aircraft load factors will continue to increase slightly to 70 percent for air carrier aircraft and 78 percent for commuter aircraft operations. Total aircraft operations at KCI are expected to grow at an average of 2.4 percent annually over the forecast period, increasing from 178,400 operation in 2006 to 280,347 operations in 2025.

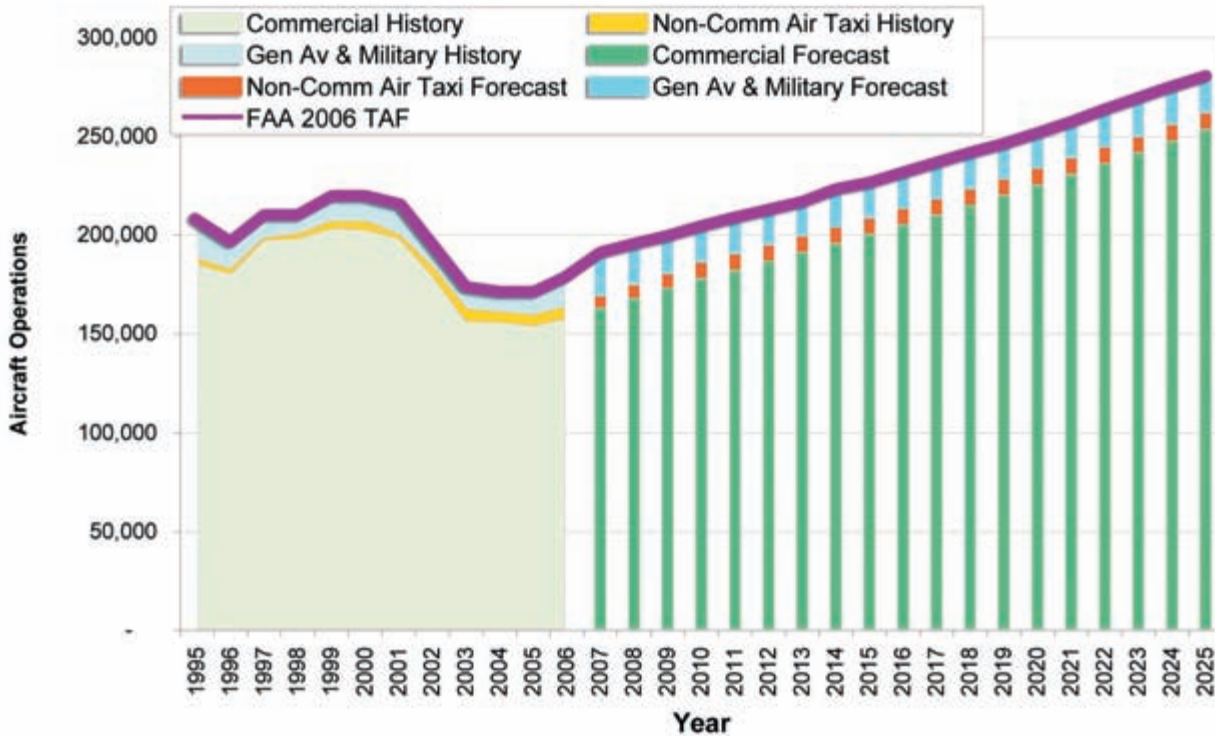
The growth in air cargo tonnage is linked to economic activity, both locally and nationally. Between 2000 and 2006, there has been a 2 percent decrease in total cargo tonnage at KCI. Based on current conditions in the cargo market, an annual growth rate of 2.3 percent is projected between 2006 and 2025.



## Enplaned Passenger Forecast



## Forecast of Total Aircraft Operations



## Facility Requirements

The purpose of the Airport facility requirements analysis is to determine what type and quantity of facilities (airfield, terminal, cargo, roadway, auto parking, etc.) will be needed to accommodate the future 2025 demand at KCI. The following is a list of major development projects that will be needed within this time frame:

### Phase 1 (2010-2015)

- Acquire 477 acres for noise mitigation (2008 Update to 14 CFR Part 150 Noise Compatibility Program)
- Acquire 95 acres for future aviation development

### Phase 2 (2016-2020)

- New 59 gate terminal south of Runway 9/27
- New terminal curbside and loop roadway system
- New south access roadway from Rte. 152
- Upgrade of I-435 and I-29 ramps with Rte. 152
- Cookingham Drive extension to the south
- Runway 1L extension (2,000')
- Miscellaneous support facility expansion projects

### Phase 3 (2012-2025)

- Runway 1R/19L and 9/27 parallel taxiways
- General aviation hangar expansion

### Post 20 Years

- 3<sup>rd</sup> parallel west runway and taxiway system
- South terminal expansion to 93 gates
- New ARFF station

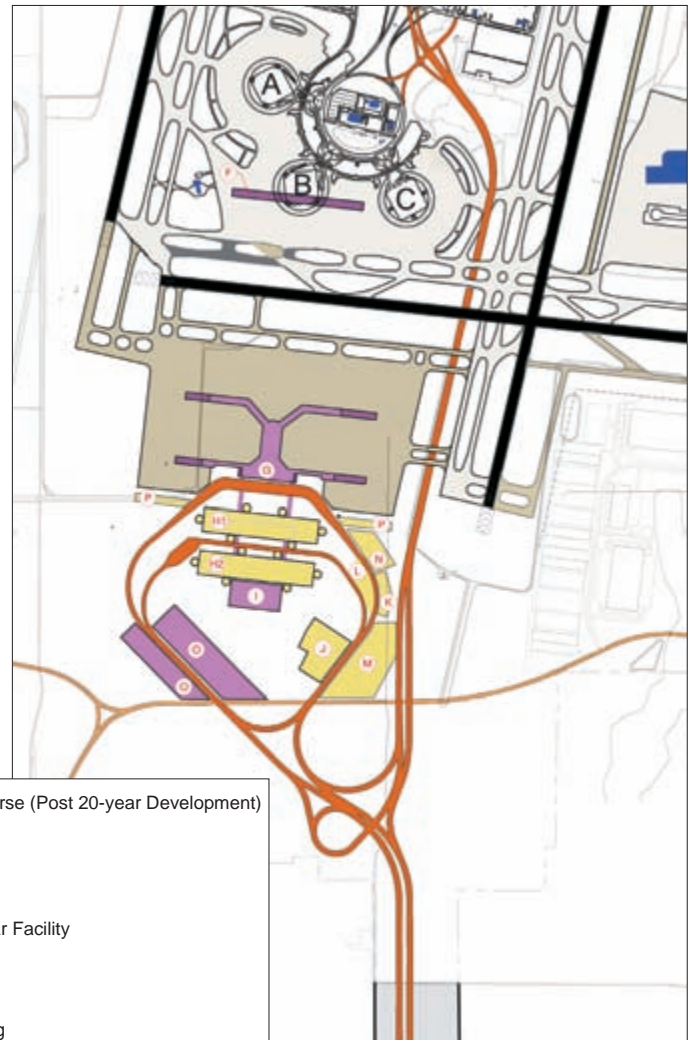
## Financial Planning

The 20-year Master Plan Capital Development Program (CDP) for KCI is \$2.9 billion (\$2008).

CDP Phase	Cost (\$M)
Phase 1	\$4.8
Phase 2	\$2,830.4
Phase 3	\$101.6
Total	\$2,935.8

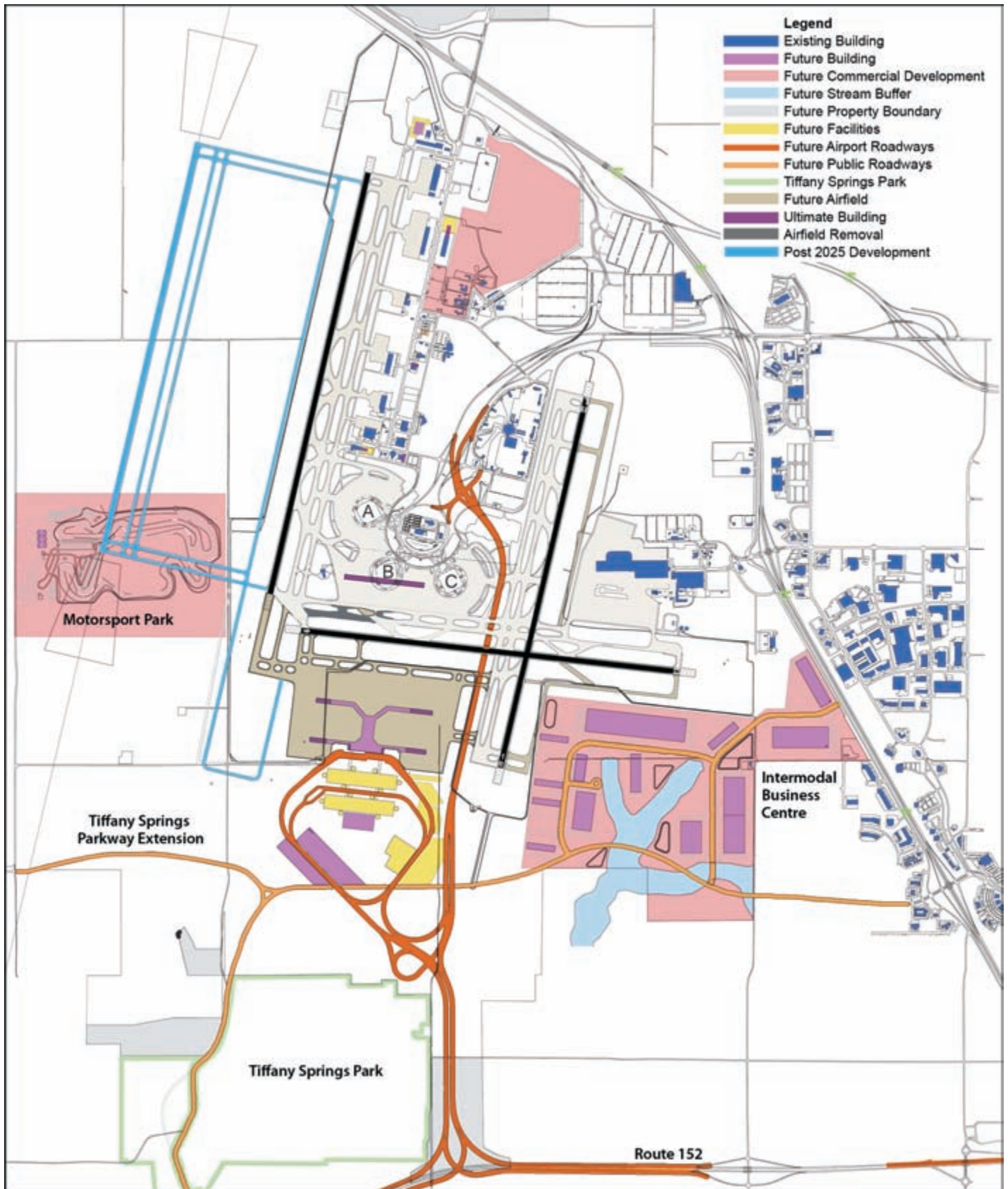
Airport expansion has been typically funded through a combination of Federal funds, bonds, airport user charges, including airline landing fees, passenger facility charges (PFC), and customer facility charges (CFC). Other sources of revenue will need to be identified to fund the CDP, such as on-airport commercial, retail and industrial development.

## South Terminal Expansion



Legend			
	Existing Building		Future Satellite Concourse (Post 20-year Development)
	Future Building		Future Terminal
	Future Property Boundary		Future Parking Garage
	Future Facilities		Future Parking Garage
	Future Airport Roadways		Future Airport Hotel
	Tiffany Springs Parkway		Consolidated Rental Car Facility
	Future Airfield		Taxi/Limo Staging Area
	Ultimate Building		Cell Phone Lot
	Airfield Removal		Employee Parking Lot
			Delivery Vehicle Staging
			Commercial Development
			Ground Service Equipment Staging

# Future Airport Layout Plan



# Airport Land Use

