Working Paper #1 Introduction

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1. Introduction

The Fresno Yosemite International Airport is a vital transportation hub connecting the people and businesses of Central California to the world.

Located in the heart of Central California, Fresno is the fifth largest city in the state with a diverse population of over half a million people (U.S. Census Bureau 2016). It is within a three-hour drive from San Francisco and three-and-a-half hours from Los Angeles. According to the Brookings Institution’s Metropolitan Policy Program, the Fresno metropolitan area, which consists of Fresno and Madera counties, was ranked as one of the world’s fastest growing economies for 2013-2014. The area was ranked the fourth fastest growing U.S. metropolitan area preceded only by Austin and Houston, TX and Raleigh, NC (Fresno County Economic Development Corporation 2016).

With its central location, large regional population, and a growing local economy, 1.54 million passengers flew into and out of Fresno Yosemite International Airport (Airport or FAT) in 2016. Passengers traveled through 12 non-stop domestic and international destinations to locations throughout the world. Additionally, the Airport handled over 26 million tons of air cargo and accommodated over 105,000 operations by commercial, military, emergency services, business, and personal aircraft (HMMH 2016). In serving the air transportation needs of Central California, beyond just the Fresno metropolitan area, the Airport is a major contributor to the region’s economic health. The City of Fresno Airports Department, which operates and maintains the Airport, prepared an economic impact study that estimated FAT supported over 9,000 jobs and generated over $857 million of economic benefit in 2004 (City of Fresno 2004). The Airports Department is planning to prepare an updated economic impact study for FAT to reflect current regional market conditions recognizing the tremendous growth that has occurred since the prior study.

To ensure that the Airport can continue serving the air transportation and economic development needs of Central California, the Airports Department began preparing this Airport Master Plan Update (MPU) in late 2016. This update provides a strategic vision for the growth and operation of the Airport over the next 20 years and establishes an updated framework to help guide land use and development decisions on and near the Airport.

The previous master plan was completed in 2006, and most recommendations arising from that plan have been implemented. To identify the infrastructure improvements that may be needed in the future, this update accounts for several changes in the aviation industry that have occurred over the last 10 years, including airline consolidation, shifting business strategies, changing route structures, new low-cost carriers, aircraft fleet changes, improved navigational technologies, and updated Federal Aviation Administration (FAA) programs and guidance. Over this time, the economy and oil and gas prices have fluctuated, which has also affected the habits of commercial and general aviation travelers. The goals of this MPU are to address those changes and ensure that regional aviation needs are met in a feasible and fiscally responsible manner. The update will also ensure that ongoing Airport development maintains the safe and efficient movement of passengers and products while being wholly compatible with the surrounding community and environment.

1.1. The Importance of Airports

Airports are vital infrastructure assets because they:

- Serve as gateways to the world by connecting people and cargo to the global air transportation network
- Contribute to a productive national economy and international competitiveness
• Support economic growth and vitality at the local, regional, and national levels through job creation, business activity, and tourism
• Provide access to emergency and public safety services such as law enforcement, fire and rescue, and medical transport
• Serve national defense by accommodating the various missions of all branches of the military.

The 2017-2021 National Plan of Integrated Airport Systems (NPIAS) includes 509 public-use airports that provide commercial airline service in the United States (U.S.) (Federal Aviation Administration 2016). According to Airports Council International – North America (ACI – NA), these airports accommodate 738 million passengers annually and connect to 10,500 global destinations (CDM Smith 2014). Approximately 58 billion pounds of air cargo are also processed at these airports. Commercial service airports are estimated to directly employ 1.2 million people with a total of 9.6 million jobs and $358 billion of payroll generated by airport activity. Despite the recent economic downturn, commercial airport employment grew 42 percent between 2001 and 2013. Combined, these airports generate $1.1 trillion of economic activity and represent seven percent of the U.S. Gross Domestic Product (GDP). As described previously, FAT’s contribution to this activity includes approximately 1.54 million annual passengers, 26 million tons of air cargo, thousands of jobs, and millions of dollars of economic output.

1.2. Airport Master Planning

To preserve and maximize the public benefit generated by an individual airport, focused local planning is needed to reflect the market conditions and community environment at that specific airport. An airport master plan is a comprehensive study that evaluates an airport’s existing facilities and current market trends, forecasts future activity levels, and assesses facility requirements to accommodate those needs. The results of the study provide the airport owner, stakeholders, government officials, and regulatory agencies with an organized and rational plan for maintaining and developing airport facilities over near-, mid-, and long-term planning horizons (typically 20 years), with the earlier periods providing more specific detail and the latter periods providing broader guidance. To respond to changing market conditions and regulatory programs, as well as changing local and regional priorities, master plans are typically updated every five to seven years. Ultimately, these plans support and justify investment in specific capital improvement projects at the airport.

1.2.1. Study Goals and Objectives

The overarching goal of the FAT MPU is to ensure the long-term operational sustainability of the Airport by meeting aviation needs in a feasible and fiscally responsible manner in concert with the surrounding community and environment. To accomplish this goal, the following specific objectives were established:

• Integrate other recent and related local area studies into the planning for FAT.
• Obtain new aerial mapping and FAA Airports Geographical Information System (AGIS) safety-critical data, including airfield coordinates and elevations, navigational-aid locations, and airspace-obstacle information
• Prepare realistic and FAA-approvable activity forecasts that includes a regional system perspective of general aviation demands
• Engage stakeholders, tenants, customers, and the public in the planning process to ensure their interests and concerns are taken into consideration
• Identify an airport land use strategy that promotes safety and compatibility while balancing aviation and non-aeronautical uses
• Create a comprehensive, contemporary, and implementable development plan for FAT that satisfies future aviation needs, meets FAA design standards, and enhances safety with specific focuses on:
  − The need for, timing, and configuration of any future passenger terminal expansion and modernization programs
  − Landside access, including the capacity and future expansion of public parking facilities
  − Airfield geometry with consideration of the latest FAA design principles
  − Evaluate the development potential of airport property for aviation and non-aviation uses

1.2.2. Planning Process

The scope of work for this MPU was developed in cooperation with the FAA, and the work elements are consistent with guidance provided in FAA Advisory Circular (AC) 150/5070-6B, Airport Master Plans. The planning process involves several key elements as identified in Exhibit 1-1. These elements include defining the study goals, inventorying existing conditions, forecasting future activity levels, identifying user needs and facility requirements, evaluating alternative development scenarios, selecting the preferred concept, and preparing an implementation/capital improvement plan (CIP). The results of the study are documented in a technical report and a set of Airport Layout Plan (ALP) drawings that depict the existing airport facilities and environs along with the proposed future improvements.

Exhibit 1-1 Master Planning Process

While coordination with the FAA occurs throughout the process, the two elements of a master plan study that are officially approved by the FAA are the activity forecasts and ALP drawings. These two items are used by the FAA to justify and support funding assistance for eligible projects under the FAA’s Airport Improvement Program (AIP).

1.2.3. Stakeholder and Public Engagement

Master plans are local planning efforts that must address the needs of the airport sponsor (i.e., City of Fresno), as well as the various users and stakeholders that rely on the airport and its facilities. For that reason, and to ensure that future development is in concert in with the community and other local initiatives, outreach and public involvement will be performed at several points during the study process. A Planning Advisory Committee (PAC or Committee) was established to provide insight into Airport operational matters and local/regional activities and concerns. The Committee also functions as an information conduit to their respective organizations’ constituencies. The Committee will meet five times during the study and will be given the
opportunity to review and comment on draft report chapters as they are prepared. The Committee consists of the following organizations:

- FAA San Francisco Airports District Office
- FAA Air Traffic Control (FAT Tower)
- California Department of Transportation (CALTRANS)
- California Air National Guard (144th Fighter Wing)
- California Army National Guard (1106th TASMG)
- U.S. Forest Service (Fresno Air Attack Base)
- U.S. Customs and Border Protection (CBP)
- U.S. Transportation Security Administration (TSA)
- City of Fresno
- City of Clovis
- Fresno Chamber of Commerce
- Fresno County Council of Governments (Fresno COG)
- Fresno County Economic Development Corporation
- California State University
- Aeromexico Airlines
- Alaska Airlines
- Allegiant Airlines
- American Airlines
- Delta Airlines
- Sky West Airlines
- United Airlines
- Volaris Airlines
- Federal Express (FedEx)
- United Parcel Service (UPS)
- Signature Flight Support
- Ross Aviation
- Avis/Budget Rental Cars
- Enterprise Rent-A-Car
- Hertz Rental Car
- SP+ Parking

In addition to the Committee meetings, three public informational workshops will be held to present the study and gain input from the general public and neighboring communities. The first meeting will be during the inventory of existing conditions and provides an introduction and overview of the study findings to that point. The second meeting will be during the selection of the preferred development concept to gain community support and confirm there will be no major public conflicts. The third meeting will be towards the end of the study to present the final plan and implementation program. To help coordinate the dissemination of study materials and keep the public engaged, a project website is also being maintained at www.fresnoairportsmasterplan.com.

1.3. General Airport Information

The following provides a general overview of the Airport, including its management structure, development history, and ongoing planned improvements.

1.3.1. Location

The City is valued by many residents and businesses for its extensive roadway access and centralized location within the state. As depicted in Exhibit 1-2, FAT is located within the San Joaquin Valley of Central California approximately five miles northeast of downtown Fresno in Fresno County. The City is intersected by California State Routes (CA) 99 and 41 running north-south and 180 running east-west. Quick access to Interstate 5 (I-5), which runs the length of California, is provided by these highways. FAT is also the closest commercial service airport to Yosemite, Kings Canyon, and Sequoia national parks (NP). Located approximately 65 miles from the
southern entrance of Yosemite NP along CA-41 and 50 miles from the northern entrance to Kings Canyon/Sequoia NPs along CA-180, FAT provides key tourism access to these natural wonders.

Exhibit 1-2 Airport Location

Prepared by Kimley-Horn and Associates, February 2017
1.3.2. Ownership and Management

The City of Fresno owns and operates FAT and Fresno Chandler Executive Airport (FCH) under the Airports Department within the City’s administration. Airport staff are led by the Director of Aviation (Director) who reports to the City Manager. The Director represents the City in all matters concerning FAT and FCH, including setting policy and general guidelines and approving development and maintenance programs. The Director is supported by a staff of approximately 115 people across the various organizational divisions as depicted in Exhibit 1-3. This includes FAT’s own police but does not include the Aircraft Rescue and Fire Fighting (ARFF) personnel as they are part of the City of Fresno Fire Department.

Exhibit 1-3 Fresno Airports Department Organization Chart

Source: Airports Department, January 2017

1.3.3. History

The Airport was officially activated in June 1942 by the U.S. Army Air Force during World War II as Hammer Field. It had a single northwest/southeast-oriented runway with a length of 7,200 feet (now Runway 11L-29R). Hammer Field was a sub-base to Camp Pinedale and was used for military flight training purposes. In 1946, following the end of the war, the military airfield was inactivated and the property was reallocated through the War Assets Administration (WAA) to the City and other individual landowners. The City took on the responsibility of developing and operating the Airport as a publicly owned, public-use, civil airport facility. Commercial airline service began in 1948 out of the original terminal located on the northeast side of the airfield with Trans World Airlines (TWA) and United Airlines offering flights to San Francisco/Oakland and Los Angeles. At that time, the Airport was renamed the Fresno Air Terminal, which corresponds with the FAA’s three-letter identifier, FAT. Following its inception, other significant events and improvements that have occurred at FAT include:

- **1950s.** The California Air National Guard began leasing property at FAT and developing facilities in the southeast portion of the property. Parallel Runway 11R-29L was constructed.
• **1960s.** Runway 11L-29R was extended to 9,200 feet and became the primary runway. A new passenger terminal was constructed at the current location consisting of a one-story building for ticketing and baggage claim with an open-air remote-gate concourse that passengers accessed via an underground tunnel. The current Air Traffic Control Tower was also constructed.

• **1970s.** The passenger terminal was expanded and remodeled.

• **1980s.** The baggage claim area was enclosed and modernized. Runway 11R-29L was extended to 7,200 feet.

• **1990s.** The main terminal was remodeled and expanded, and concourse access tunnel was converted to the current enclosed, above-ground walkway. The Airport’s name was changed to Fresno Yosemite International Airport to reflect its proximity to the nearby national parks. While commonly referred to as FYI due to this name change, the Airport is still officially identified as FAT. Community noise mitigation efforts, including building insulation and land acquisition, were pursued.

• **2000-2009.** Roadways and curbfronts in the terminal area were expanded and reconfigured, and public parking facilities were expanded. The current two-level terminal concourse was opened, and passenger boarding bridges were installed. The U.S. Customs and Border Protection Flight Inspection Station (FIS) was constructed, and the first direct international flights took place to Guadalajara, Mexico. A 2.4 megawatt solar power system was installed—the largest system at a U.S. airport at the time. A consolidated rental car facility (CONRAC) was constructed. Community noise mitigation efforts continued.

• **2010-2016.** Runway 11R-29L extended and widened to its current configuration of 8,008 feet by 150 feet. Community noise mitigation efforts continued. The rental car counters and ready/return lot were renovated. A new employee parking, cell phone waiting lot, taxi staging area, and air-cargo/overnight staging apron were constructed.

### 1.3.4. Current and Planned Development

The previous master plan for FAT was completed in 2006 by the URS Corporation and utilized a planning horizon through 2025. While many of the early-horizon recommendations of that plan have been completed, the longer-term recommendations that have not yet been pursued include:

• Extension of Runway 11R-29L to 8,600 feet to provide redundancy for cargo aircraft such as the B767, MD-11, and B747-200C in the event that primary Runway 11L-29R is closed due to maintenance or an incident.

• Extension of Runway 11L-29R from 9,500 feet to 10,300 feet and ultimately to 12,000 feet to increase aircraft payload and/or range capability, as warranted by air carrier demands.
• Construction of a public parking garage to accommodate user demand and enhanced customer experience
• Installation of a taxiway guidance system (also known as a Surface Movement Guidance and Control System [SMGCS]) with enabling infrastructure (i.e., electrical conduits and fixtures) for this system installed in conjunction with ongoing taxiway pavement rehabilitation projects
• Expansion of general aviation area, as warranted by user demand and operational needs
• Expansion of the passenger terminal and concourse to accommodate anticipated passenger activity
• Rehabilitation of the ARFF facilities

These projects may not have occurred due to unrealized activity forecasts, were reprioritized in support of other facility maintenance and rehabilitation projects, or are long-term placeholders to preserve the ability to develop in the future as needed. This MPU will reevaluate the validity and/or need for these projects in consideration of industry, market, and regulatory trends.

Focusing on the 2017 to 2021 timeframe, the City’s CIP for the Airport is presented in Table 1-1. The projects follow the standard process of environmental approval, preliminary and final design, and construction. The City began design of the Taxiway C reconstruction in 2016 with construction programmed for 2017. It should be noted that this five-year plan can change to accommodate shifting priorities and other opportunities. The City is not obligated to complete any projects, nor are any supporting funding agencies (e.g., FAA) obligated to allocate funds.

Table 1-1 – 2017 to 2021 FAT Airport Capital Improvement Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Construction</td>
<td>1. Reconstruct Taxiway C - Phase 1 (including storm drain system completion)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Part 150 noise mitigation program</td>
</tr>
<tr>
<td>2018</td>
<td>Construction</td>
<td>3. Reconstruct Taxiway C – Phase 2 (including storm drain system completion)</td>
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<tr>
<td></td>
<td></td>
<td>4. Airfield Lighting Control System Upgrade</td>
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<tr>
<td></td>
<td></td>
<td>5. Part 150 noise mitigation program</td>
</tr>
<tr>
<td>2019</td>
<td>Design</td>
<td>6. ARFF Station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Reconstruct Taxiways B3/B4, Demolish B7</td>
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<tr>
<td></td>
<td></td>
<td>8. SMGCS Implementation</td>
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<tr>
<td></td>
<td></td>
<td>9. Part 150 noise mitigation program</td>
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<tr>
<td>2020</td>
<td>Design</td>
<td>10. Reconstruct Runway 11L-29R</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>11. SMGCS implementation</td>
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<tr>
<td></td>
<td>Design</td>
<td>12. Reconstruct Taxiway A</td>
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<tr>
<td></td>
<td>Construction</td>
<td>13. ARFF Station</td>
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<tr>
<td></td>
<td>Ongoing</td>
<td>14. Part 150 Noise Mitigation Program</td>
</tr>
<tr>
<td>2021</td>
<td>Construction</td>
<td>15. Reconstruct Runway 11L-29R</td>
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<tr>
<td></td>
<td>Ongoing</td>
<td>16. Part 150 noise mitigation program</td>
</tr>
</tbody>
</table>

Source: City of Fresno, February 2017