Board of Supervisors Memorandum

June 4, 2013

Tucson Airport Authority Support of the County Economic Development Plan and County Support for the Tucson Airport Authority Master Plan

Background

The Tucson Airport Authority (TAA) has been involved in a Master Plan Update for the Tucson International Airport (TIA) and environs for some time. The updated Master Plan will guide future capital improvements at the airport, and the process is governed by Federal Aviation Administration (FAA) rules and requirements. Included in the approved Master Plan is the County Economic Development Plan associated with protecting and buffering Raytheon, the largest private employer in our region, as well as development of a future aerospace/defense research and business park to attract additional aerospace related employers to the County. The TAA has been a positive influence on economic development activities within our region, including supporting and encouraging employment centers in the vicinity of TIA.

Attached is the May 7, 2013 letter I received from the TAA regarding their Master Plan Update and their support of the Pima County Economic Development Plan.

Recommendation

I recommend the Board of Supervisors approve and adopt the attached resolution that:

1. Calls on the Federal Aviation Administration to support and quickly approve the TAA Master Plan Update; and

2. Calls on the United States Air Force and Raytheon, as well as the Tucson Airport Authority, to agree upon suitable terms for the acquisition and exchange of real property or easements to facilitate relocation and expansion of the TIA parallel runway, as well as buffer Raytheon and the Arizona Air National Guard 162nd Fighter Wing's logistics activities; and

3. Calls on the Federal Aviation Administration to support any funding request by the Tucson Airport Authority for the relocation and expansion of the TIA parallel runway, consistent with the Master Plan Update; and

4. Calls on the Federal Aviation Administration, consistent with Federal Aviation Administration regulations, to support development of collateral lands surrounding the airport for interim and long-term commercial, industrial, energy and specialty uses.

Respectfully submitted,

C.H. Huckelberry
County Administrator

CHH/dph – May 24, 2013

Attachments

c: Lisa Israel, Chairman, Tucson Airport Authority Board of Directors
Bonnie Allin, President/CEO, Tucson Airport Authority
Dr. John Moffatt, Director, Pima County Strategic Planning Office

RESOLUTION NO. 2013 - _____

A RESOLUTION OF THE PIMA COUNTY BOARD OF SUPERVISORS; REQUESTING THE FEDERAL AVIATION ADMINISTRATION'S APPROVAL OF AND SUPPORT FOR THE TUCSON AIRPORT AUTHORITY'S UPDATED MASTER PLAN; AND REQUESTING THAT THE UNITED STATES AIR FORCE, THE FAA, RAYTHEON, AND THE TUCSON AIRPORT AUTHORITY FACILITATE IMPLEMENTATION OF THE AEROSPACE DEFENSE CORRIDOR INITIATIVE.

WHEREAS, the Tucson Airport Authority (TAA) has been a positive influence on economic development activities within our region, including supporting and encouraging employment centers in the vicinity of Tucson International Airport (TIA); and

WHEREAS, the TAA has recently completed and approved a Master Plan Update for the TIA and environs; and

WHEREAS, the TIA Master Plan Update will guide future facility improvements at the airport, including an updated Airport Layout Plan and the modernization of the airfield through strategic development, including relocation and expansion of TIA's parallel runway; and

WHEREAS, Federal Aviation Administration (FAA) rules require that the FAA review and approve the Master Plan Update in order for the TAA to begin implementation of planned improvements; and

WHEREAS, the TIA Master Plan Update references the Pima County Economic Development Action Plan – 2012 to 2014, which includes protecting and buffering Raytheon, the largest private employer in our region; as well as development of a future aerospace/defense research and business park to attract additional aerospace-related employers to the County; and

WHEREAS, the TAA has expressed its support of the Aerospace and Defense Corridor Initiative and proposed surface transportation improvements serving TIA and the surrounding employment region, as described in the Pima County Economic Development Action Plan – 2012 to 2014; and

WHEREAS, the development of this Corridor will bring with it critical transportation improvements and development of a logistics network that will attract major manufacturing, including the aerospace and defense, research and technology industries, as well as enhance the airport employment region.

NOW, THEREFORE, BE IT RESOLVED that the Pima County Board of Supervisors supports and recognizes the economic development contributions of the TAA, the United States

Air Force, the 162nd Fighter Wing of the Arizona Air National Guard, and Raytheon, and requests that:

1. The Federal Aviation Administration support and quickly approve the Tucson International Airport Master Plan Update.

2. The United States Air Force, Raytheon, and the Tucson Airport Authority agree upon suitable terms for the acquisition and exchange of real property or easements to facilitate relocation and expansion of the Tucson International Airport parallel runway and to buffer Raytheon and the Arizona Air National Guard 162nd Fighter Wing logistics activities.

3. The Federal Aviation Administration support any funding requests by the Tucson Airport Authority for the relocation and expansion of the Tucson International Airport parallel runway, consistent with the Master Plan Update.

4. The Federal Aviation Administration, consistent with Federal Aviation Administration regulations, support development of collateral lands surrounding the airport for interim and long-term commercial, industrial, energy and specialty uses.

PASSED AND ADOPTED this 4th day of June, 2013 by the Board of Supervisors of Pima County, Arizona.

PIMA COUNTY BOARD OF SUPERVISORS

_____
Ramón O. Valadez, Chairman

ATTEST:

_____
Clerk of the Board of Supervisors

APPROVED AS TO FORM:

_____
Deputy County Attorney

TUCSON
AIRPORT AUTHORITY
TUCSON INTERNATIONAL AIRPORT • RYAN AIRFIELD

May 7, 2013

Pima County Board of Supervisors
130 W. Congress, 11th Floor
Tucson, AZ 85701

Dear Board of Supervisors:

The Tucson Airport Authority (TAA) Board of Directors discussed and adopted the attached Statement of Support for Pima County's economic development plan. TAA is committed to a focused strategy for future job growth, which we understand is important to the economic prosperity of Southern Arizona.

Tucson International Airport (TIA) is one of the primary drivers of the region's economic growth and future prosperity. UA Eller College recently completed an economic impact study that determined TIA has a $3.2 billion impact and supports 35,000 jobs in our region.

TAA recognizes the significant role Tucson International Airport has and must continue to play in providing vital aviation services and stimulating economic growth. To that end, attached for your reference is the TIA Master Plan update recently adopted by the TAA Board of Directors. The plan includes a comprehensive redevelopment plan for the airfield, which greatly enhances safety and efficiency and provides for growth of the region's aviation users. Development of the relocated Runway 11R/29L will provide increased operational efficiencies for all aviation users, including airlines, general aviation, and ANG; enhance safety of the airfield; provide for redundancy; and provide capability for future growth. A major component of the planned improvements is the ability to support the current and future mission of the ANG.

The Master Plan also includes the most comprehensive land use planning ever completed for TIA. TAA's management has worked extensively with the region's stakeholders to ensure TIA continues to be a catalyst for the economic growth and prosperity of the region. Included in the land use plan is Pima County's planned southern parkway connecting Old Nogales Highway to I-10 and the proposed aerospace and defense corridor. Please note that in addition to planning for the future, TAA has invested heavily in infrastructure on numerous parcels to support immediate job growth. A number of parcels with and without airfield access on TIA are "shovel ready" and TAA is aggressively marketing those parcels to help grow the region's economy.

7005 South Plumer Avenue, Tucson, Arizona 85756 TEL 520-573-8100 FAX 520-573-8008 www.flytucsonairport.com

Pima County's participation and support of the TIA Master Plan incorporating both the airfield redevelopment program, relocated Runway 11R/29L, and the land use plan to support economic growth is critical. The TAA looks forward to continuing to work on these economic initiatives with Pima County and the major stakeholders in the region.

Sincerely,

Lisa Israel, Chairman
TAA Board of Directors

Attachment

XC: TAA Board of Directors
Chuck Huckelberry, Pima County Administrator

RESOLUTION OF THE BOARD OF DIRECTORS
OF
TUCSON AIRPORT AUTHORITY

IN SUPPORT OF THE PIMA COUNTY ECONOMIC DEVELOPMENT PLAN
AEROSPACE AND DEFENSE CORRIDOR

BE IT RESOLVED by the Board of Directors of the Tucson Airport Authority (TAA) that the Tucson Airport Authority supports Pima County's Aerospace and Defense Corridor Initiative and proposed surface transportation improvements serving Tucson International Airport (TIA) and surrounding employment region, as described in the Pima County Economic Development Plan 2012-2014. Development of this Corridor will bring with it critical transportation and infrastructure investment to the region's industrial base and further leverage opportunities to develop a logistics network, major manufacturing, including aerospace and defense, and attraction of research and technology industries. TAA additionally supports enhancement of the airport employment region and development of an aerospace and defense manufacturing corridor.

Adopted this 7th day of May, 2013.

Lisa Israel, Chair of the Board
Tucson Airport Authority

Tucson International Airport
Master Plan Update

Executive Summary Prepared for the TAA Planning & Regional Relations Council

March, 2013

Introduction

First drafted in 1974, the Tucson International Airport (TIA) Master Plan guides the future development of the airport so it can accommodate long-term growth and the requirements for passenger airline service, air cargo, ground transportation, military, general aviation, industrial development, and other activities. This current effort is the sixth update of the original Master Plan. The successful completion of this update and the related airfield safety enhancement, terminal optimization and collateral land development programs, is the result of an intensive and successful collaborative effort among stakeholders, which included the Tucson Airport Authority (TAA), Federal Aviation Administration (FAA), Arizona Department of Transportation (ADOT), airport tenants, and the public.

While the Master Plan Update addresses traditional master planning elements, including updating the inventory, establishing future facility requirements and preparing an updated Airport Layout Plan, the study's key focus areas relate to modernization of the airfield through strategic development, including relocation and expansion of the TIA's parallel runway. The Master Plan Update documents the various safety, operational and efficiency needs of the airfield and analyzes several distinct alternatives for addressing airfield development goals. The Update also focuses on opportunities for developing airport land that has been reserved for compatibility or capacity expansion purposes. TIA contains nearly 6,000 acres of collateral land that can be developed with interim and long-term commercial, industrial, energy and specialty uses.

The potential for this development indicates the significant role TIA will continue to serve as a regional economic catalyst. The findings of the Master Plan Update confirm the need to relocate and upgrade Runway 11R-29L to ensure operational efficiency is maintained through the 20-year planning horizon. The study identifies a series of improvements needed over the next 20 years to ensure the airport is positioned to accommodate anticipated demand as well as adjust effectively to variation in demand.

Planning Goals

Overall, the Master Plan Update endeavors to provide a guiding policy document that provides an environmentally conscious and strategic tool for managing facility and land use implementation plans; further, planning objectives seek to accommodate forecasted aviation demand and development trends; maximize revenue potential in consideration of benefits to residents and businesses surrounding TIA; align strategic economic development resources and positively contribute to the quality of life and economic health of our region.

Aeronautical Objectives

- Accommodate the forecast aircraft fleet mix.
- Accommodate forecast passengers and aircraft operations.
- Accommodate the needs of general aviation, military and cargo activities.
- Provide for airport growth beyond the planning horizon, as appropriate.
- Maintain or improve efficiency in airport operations.
- Plan facilities that meet or exceed airport design and operational standards.

Safety Objectives

- Plan facilities that meet or exceed airfield design standards.
- Use airfield design and land use planning to enhance safety and efficiency.
- Use airfield design, as possible, to reduce the potential for human error.
- Consider facility security requirements and accommodate emerging technologies.

Financial Objectives

- Realize the revenue potential of airport land development for long-term fiscal benefit.
- Maximize eligibility for FAA funding on proposed improvements.
- Minimize TAA liabilities and financial risk.
- Encourage diverse revenue streams to promote TAA's financial sustainability.
- Promote physical development of the airport that provides operational and maintenance efficiency.

Community Objectives

- Enhance airport access for all users.
- Promote on-airport land uses that benefit the surrounding community.
- Identify opportunities to integrate TIA into the larger intermodal transportation network.
- Promote an intermodal business and transportation "campus" within a user-friendly environment.
- Seek out opportunities to further mitigate community noise impacts.

Environmental Objectives

- Coordinate TIA development with regional environmental preservation and mitigation efforts.
- Incorporate "green" solutions in both building and site planning.
- Reuse or re-purpose facilities where feasible, and promote modular or flexible planning.

Land Use Objectives

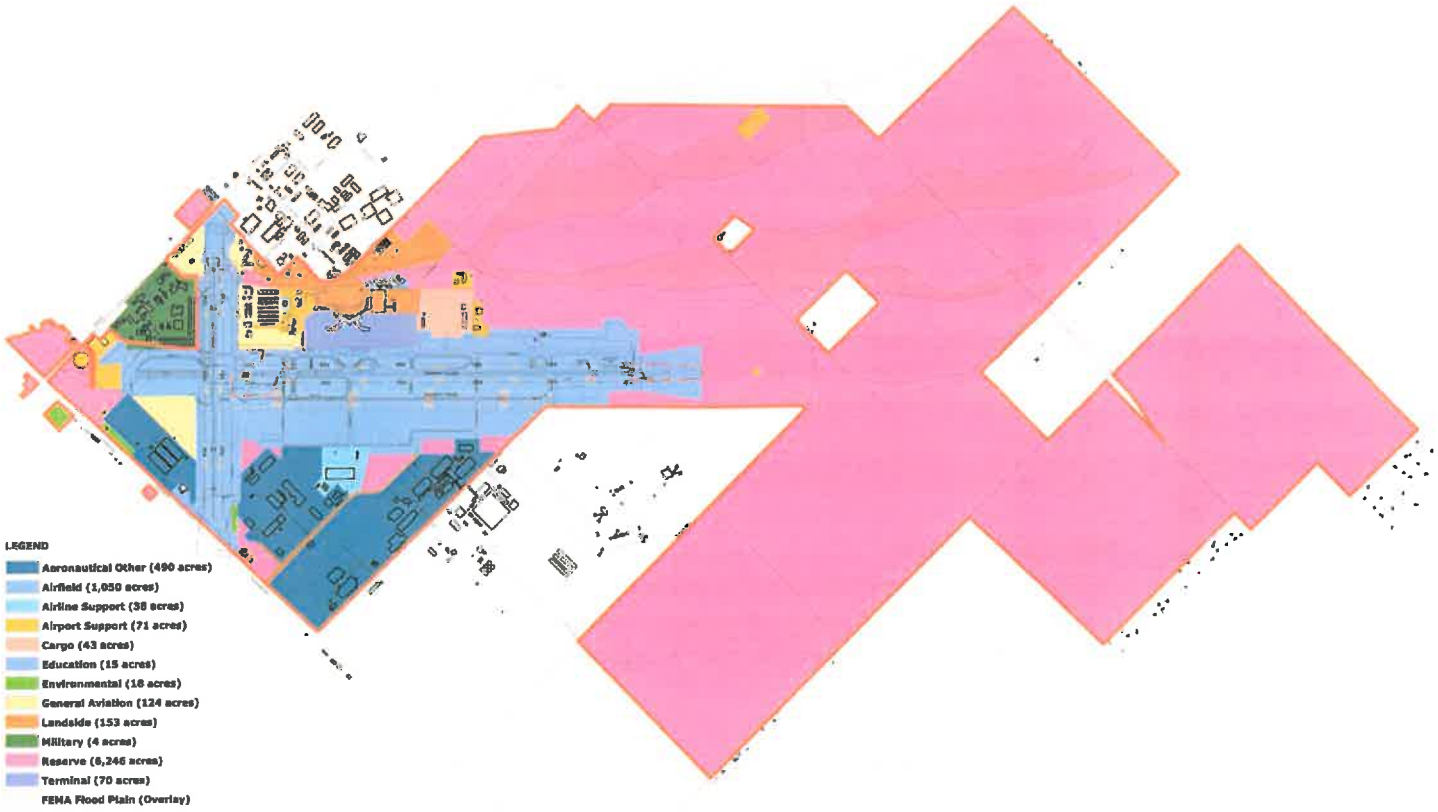
- Ensure appropriate reservation of airport land for long-term aeronautical growth.
- Leverage TIA assets as a catalyst and center for industrial preservation and growth.
- Promote the highest and best use of on-airport property.
- Integrate and align airport development with regional transportation and infrastructure planning.
- Promote urban design improvements which establish clear gateways to the airport.

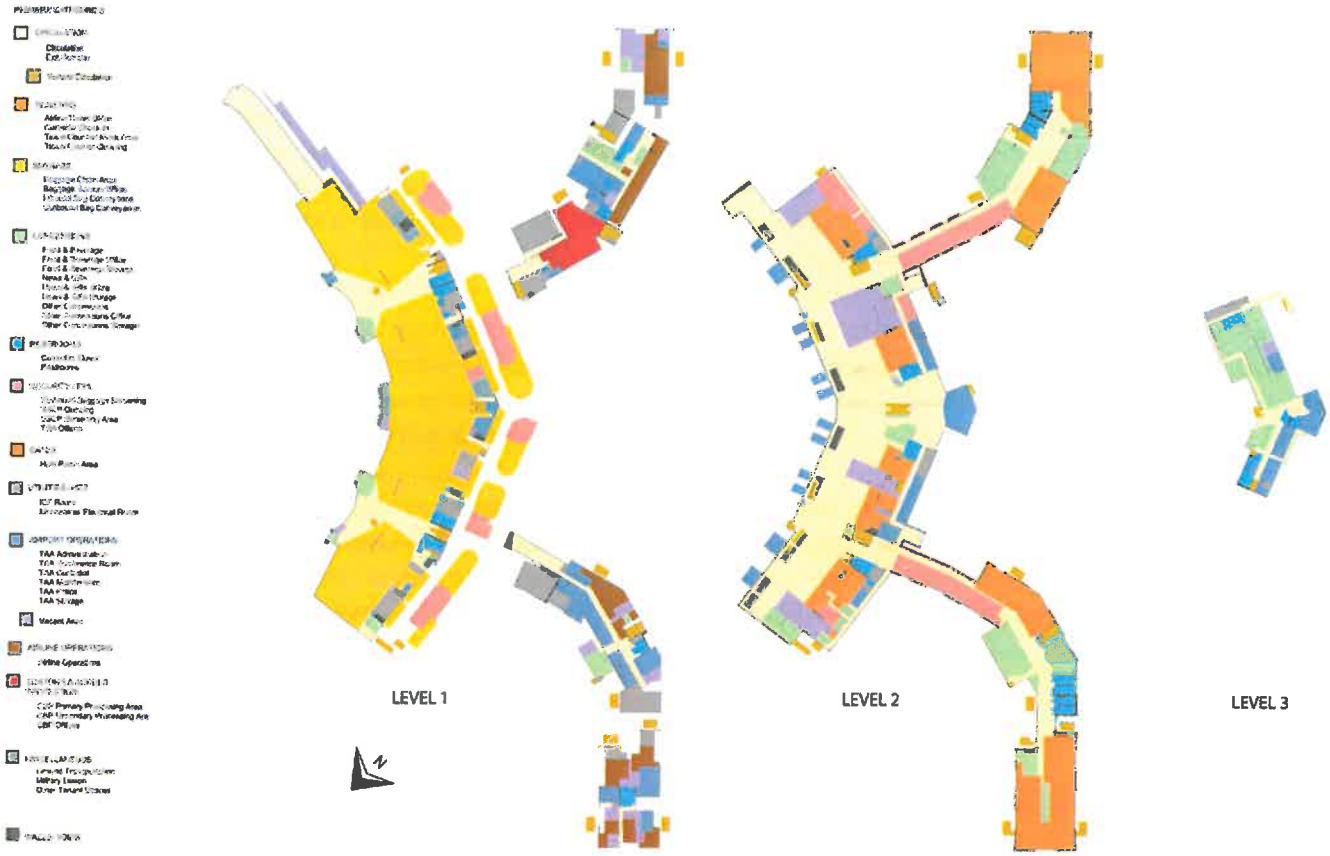
Planning Context

Tucson International Airport operates three runways, Runways 11L-29R, 11R-29L, and 3-21. The two parallel runways measure 10,996 feet long by 150 feet wide (Runway 11L-29R) and 8,408 feet long by 75 feet wide (Runway 11R-29L). Runway 11R has a displaced arrivals threshold of 1,410 feet, resulting in an available landing length of 6,998 feet. The parallel runways are separated by a distance of 706.5 feet. Runway 11L-29R is the primary runway and generally used by commercial air-carrier service, cargo, and military operations. Runway 11R-29L is used primarily for general aviation aircraft. A third crosswind runway runs perpendicular to, but does not intersect the two parallel runways and measures 7,000 feet long by 150 feet wide. It is used by all aircraft when wind and weather conditions dictate. The Runway 3 arrivals threshold is displaced by 840 feet resulting in an available landing length of 6,160 feet.

Airfield capacity and safety/operational enhancement considerations are used to determine airside facility requirements, which include runway requirements. Runway design is based on the critical aircraft—the most demanding aircraft in terms of approach speed and wing span with 500 or more existing or forecast annual itinerant operations. The critical aircraft at TIA is the Airbus A300-600 flown by FedEx. It is a C-IV aircraft with an approach speed category of 135 knots and a wingspan of 147.1 feet. For runway length, approach categories C and D typically have the same standards. Runway 11L-29R and Runway 3-21 are currently designated as D-IV (established with a blend of approach category D aircraft [Boeing 737-800W] and aircraft design group IV aircraft [Airbus A300, Boeing 757]) and Runway 11R-29L is B-II (e.g. Beechcraft King Air).

Existing Airfield System and Land Use





The three-level passenger terminal is approximately 430,000 square-feet and contains the passenger processor and baggage processing functions. Level 1 is the baggage level within the processor and airport operations and maintenance offices within the concourses. Level 2 is the ticketing level within the processor and aircraft gate level within the concourses where passengers board and deplane aircraft. Level 3 is the mezzanine in the processor consisting of concessions, utilities, offices, and conference rooms. Connected to the terminal processor are two two-level concourses, Concourse A to the East and Concourse B to the West, where passengers wait for, enplane and deplane aircraft.

General Aviation facilities comprise approximately 124 acres of airport property. Aircraft storage and parking areas include tie-down positions, conventional hangar parking, T-hangar parking, and covered aircraft / ramada parking areas. TIA has more than 350 tie-down positions. Hangars include private individual hangars accommodating more than 240 aircraft, common fixed base operator (FBO) hangars, and corporate hangars. The Executive Terminal and several FBOs offer a total of approximately 61 shade hangars. TIA has four FBOs which provide a variety of general aviation services including flight training, flight charters, fuel sales, aircraft rentals and sales, aircraft maintenance, and aircraft storage and parking.

The majority of the passengers who utilize TIA originate their vehicular trips from the Tucson metropolitan area north of TIA and access is achieved via surface streets. Tucson Boulevard, with its access to the passenger terminal, is designated a National Highway System intermodal connector. Transit service to TIA is provided by Sun Tran, which operates two bus routes every half-hour on weekdays and every hour on weekends to and from TIA. The land use program considers and incorporates several ongoing regional planning efforts that seek to improve on the need for additional high capacity roadway and transit systems in the airport environs; these include efforts being led by Pima County and the City of Tucson towards enhanced industrial corridors south of the airfield as well as efforts led by ADOT and PAG in planning for intercity passenger and freight rail interconnectivity with TIA. Demand for access to airport services from throughout Southern Arizona and northern Mexico is expected to grow significantly during the planning horizon.

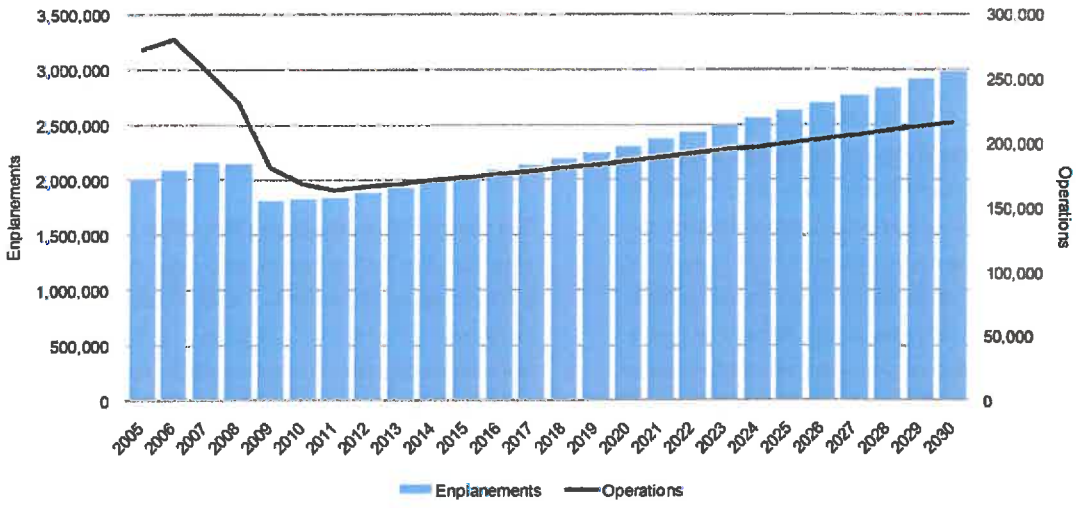
Forecast

TIA currently serves approximately 3.7 Million Annual Passengers (MAP) and supports approximately 165,000 operations compared to 3.8 MAP and 254,000 operations in 2004 when the previous Master Plan Update was completed. Historically, the peak month for passengers is March. Of total operations, in 2004, almost 60% were general aviation (GA). The remaining operations were split nearly equally between air carrier, air taxi, and military. The current share of operations from GA activity is still high at 47%, however GA aircraft operations have decreased by approximately 50% since 2004. Air carrier operations have also decreased, from 40,000 in 2004 to 35,000 operations currently. TIA currently has a modest volume of air cargo activity accommodating approximately 69 million pounds of freight annually.

The TIA Master Plan Update forecast of aviation activity was approved by the FAA in July 2012. The forecast projects air carrier passenger enplanements and air carrier, general aviation and military aircraft operations throughout the forecast horizon. The baseline forecast is accompanied by high and low scenario forecasts for sensitivity purposes. Additionally, average week day of the peak month (AWDPM) data, representative of a typical day from which forecasting and facility requirements are based upon, were used to develop design day schedules; these schedules provide airline activity in detail, including destination markets, carriers, equipment types, and seats along with additional pertinent information for the forecast years of 2015 (Planning Activity Level 1), 2020 (PAL 2), 2025 (PAL 3) and 2030 (PAL 4).

The forecast for TIA has air carrier enplaned passengers projected to increase from 1.8 million currently to just shy of 3.0 million in 2030 at an average annual compound growth rate of 2.5 percent. The forecast assumes an increase in Gross Domestic Product (GDP) output and the slow but positive economic recovery keeping TIA's growth rate steady throughout the forecast horizon. Air carrier operations are projected to grow at an average annual compound growth rate of 2.1 percent, and general aviation at a rate of 1.0 percent, for a total operations growth of 1.2 percent throughout the forecast horizon at TIA.

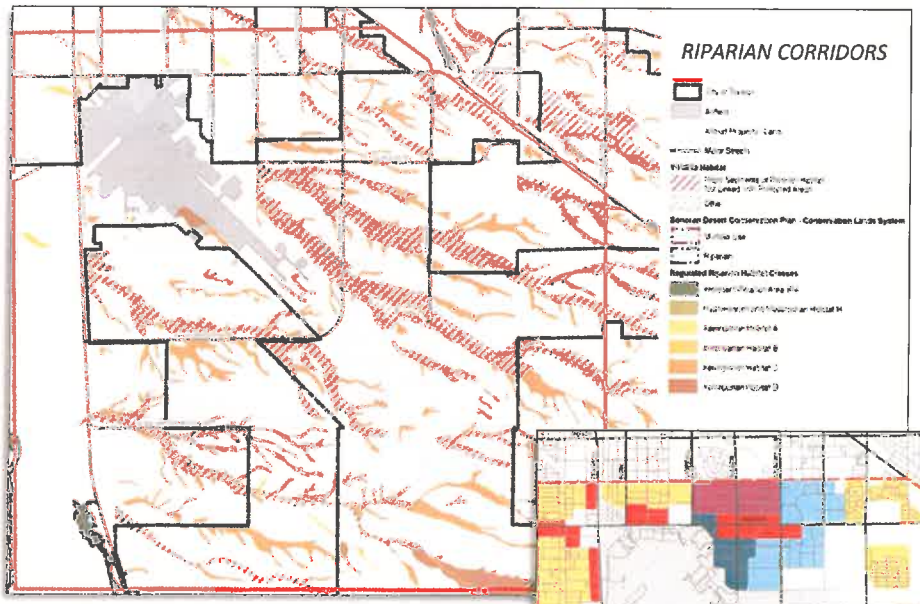
Forecast of Aviation Activity



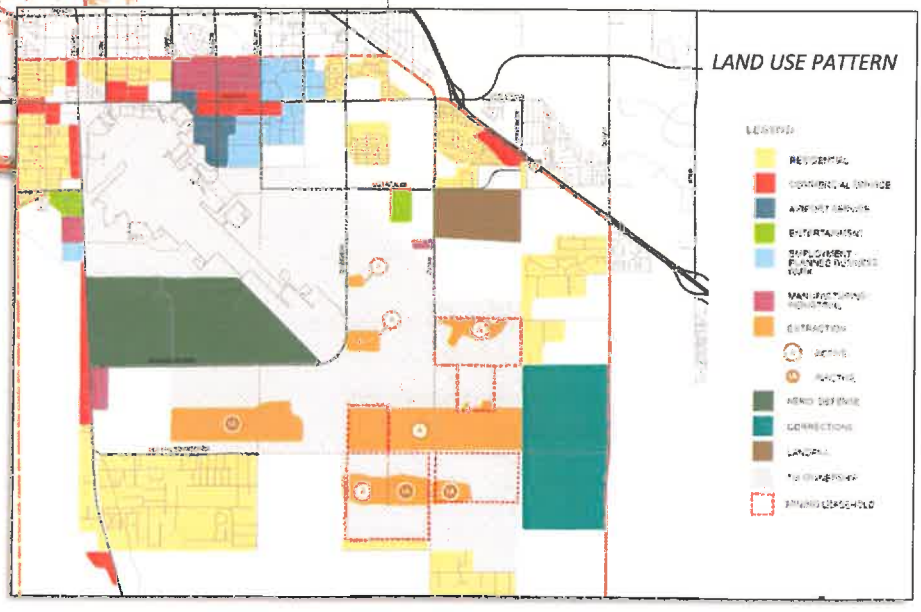
The Master Plan Update reviewed all of the facility requirements for TIA; with additional focus and analysis being conducted for airfield redevelopment, collateral land development, and terminal space optimization. The needs for airfield redevelopment reflect the objectives of safety enhancement, operational efficiency, capacity development, noise reduction, maintenance efficiency, and operational redundancy. Facility analysis and requirements were determined for airspace factors, general and military aviation, terminal processors, cargo needs, support and parking functions as well as various specialized landside facilities. In all, the vast majority of existing TIA functions and processes can be served through the first half of the planning horizon, if not the through the entire 20-year outlook. There are some exceptions to this however as the dynamic general aviation market will require flexibility over time and possibly the need for facility space expansion depending on the type of GA facilities that become more in demand. The table below notes when deficiencies in certain systems are anticipated to occur and at what level of significance (note that Level of Service is a measure of a roadway's congestion). TAA will be updating the General Aviation Strategic Plan for TIA to further analyze specific needs and programming requirements to best serve future GA growth. The Terminal Optimization Study identified several areas of the terminal concession, security, administrative and baggage functions and facility needs that could potentially benefit from modification or expansion as well. The Land Use Program, from a facility needs perspective, emphasizes the role of existing land use mix, riparian corridors in the airport environs, and the condition of infrastructure and utilities as major factors influencing collateral land development requirements.

Of the numerous facility needs reviewed, only a handful revealed capacity related deficiencies during the planning horizon

	Today	2015	2020	2025	2030
Covered Economy Parking Space (Stalls)	303	-50	-95	-155	-215
Terminal Access Roadway (Level of Service)	A	A	A	B	C
Baggage Make-Up Area (Square Feet)	12,728	-1,645	-5,330	-7,020	-8,870
Terminal Concessions Area (Square Feet)	33,386	-3,655	-8,715	-14,475	-21,025
General Aviation Hangar Area (Acres)	9.2	---	---	-0.02	-0.66



The presence of regulatory floodplains and habitat areas, the condition or absence of infrastructure and the market conditions associated with the airport environs land use capacity influence the collateral land development needs



Runway Program

Runway 11L-29R regularly accommodates a diverse fleet mix of commercial air-carrier, light general aviation, corporate general aviation, military, and cargo arrivals and departures. As a primary commercial airport within the National Airspace System, TIA's commercial operations can often be impacted with delays as a result of other airport users. The highly variable aircraft approach speeds of the different types of aircraft using TIA increase controller workload and require controllers to provide greater in-trail separation of aircraft.

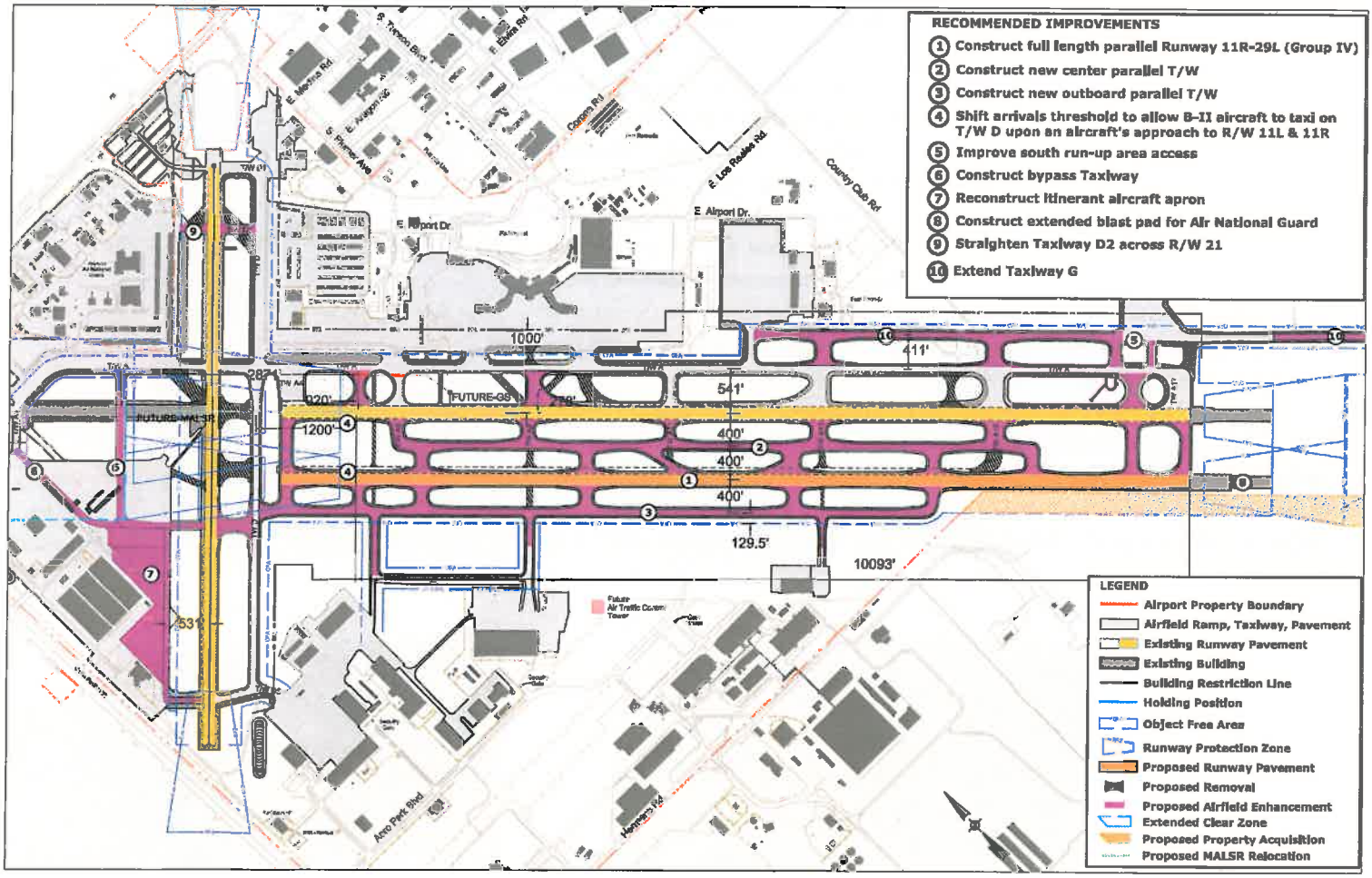
A second parallel air-carrier runway would nearly double large aircraft capacity, including performance aircraft with large aircraft characteristics (e.g. F-16s) at TIA in visual operating conditions by enabling Air Traffic Control to segregate arriving and departing aircraft on different runways. Segregating arriving and departing aircraft also enhances safety by minimizing mixed-mode operations on a single runway. Upgrade of the parallel runway would also provide Air Traffic Control with greater flexibility in sequencing departures and arrivals throughout the day as well as provide a dedicated touch-and-go runway for TIA industrial, general aviation and military users during less busy times of the day. Upgrading Runway 11R-29L to a full D-IV runway will also minimize potential pilot confusion as the new runway would have its threshold aligned with Runway 11L-29R and have the same width which would clearly differentiate it from a parallel taxiway.

The Master Plan Update analyzes several alternative airfield development scenarios that respond to the airfield safety, operational efficiency, and capacity goals. Airfield alternatives were evaluated for effectiveness and feasibility and specifically analyzed for the following objectives:

- Supports eliminating, reducing, or mitigating safety risk
- Enhances capacity without producing a negative impact on safety
- Provides operational efficiency / addresses operational issues (e.g. congestion)
- Provides for redundancy during runway closure for maintenance or emergencies
- Accommodates changes in fleet mix and design group or other operational changes
- Conforms with design standards and considers impacts to navigational aids
- Creates potential for on-airport land development and accounts for off-airport land compatibility

Through ongoing stakeholder input and analysis and evaluation of the airfield alternatives, a preferred runway plan was developed with the Master Plan Update. The runway plan doubles large aircraft capacity at TIA; provides a dedicated arrival and departure runway or a preferred military aircraft runway during periods of peak military activity; provides an 800 foot separation between the parallel runways which allows for the construction of a center parallel taxiway; provides more efficient and safer access to Runway 11R-29L and facilities on the south side of the airport via the new outboard parallel taxiway; and enables Taxiway D to function as an end around taxiway for B-II aircraft and thereby minimize runway crossings by GA aircraft. Moreover, the preferred runway will promote better identification of airfield signage, lights, pavement markings, and nomenclature; aligns runway thresholds for ease of identifying runways and significantly reduces the complexity of key airfield intersections.

Preferred Runway Plan

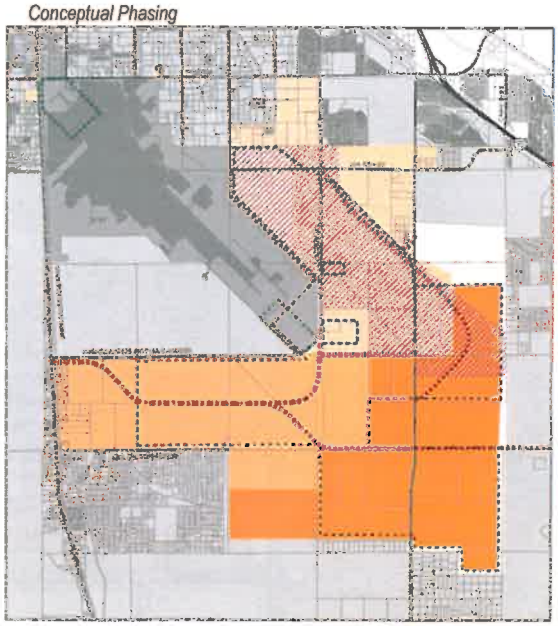


Land Use Program

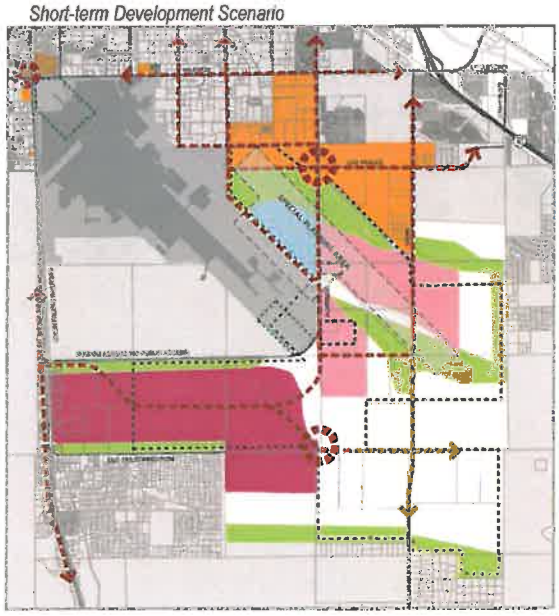
The land use program fundamentally recognizes TIA's key geographic position for supporting industrial development and serving as the hub facility for intermodal logistics in Southern Arizona. Approximately ¾ of TIA's land is suitable for collateral land development or redevelopment. Limiting factors in the airport environs include availability of infrastructure, the presence of floodways and riparian resources and long-term reclamation costs for certain sites. These factors, as well as other development criteria, were analyzed for cost feasibility implications in the land use program. This analysis drove the development of land use phasing and highest and best use determinations.

Several of the major infrastructure development concepts assumed in the land use program will require continued regional coordination and planning with ADOT, PAG, Pima County and the City of Tucson, as well as many other stakeholders. Accommodation of future multi-modal improvements will also be an important proactive consideration; for example, establishing appropriately sized rights-of-way to enable future connectivity for pedestrian, bicycle, bus/shuttle and light rail routes in the airport area. The land use program phasing strategy promotes sites that are readily developable with minimal mitigation and drainage needs or has the capability to address these issues on-site. Over the longer term, properties requiring a more coordinated and engineered approach to mitigation and drainage requirements should be considered, in conjunction with a strategy to provide a mitigation "bank" area to the south. This area can potentially serve as an effective buffer between traditional employment uses and industrial activities. A coordinated "branding" effort that ties development opportunities in the airport area to the advantages of proximity to the airport will be important. Development marketing and subsequent approval processes will need to be straightforward, predictable and timely to ensure that properties can be marketed to their full potential. A coordinated effort with the City of Tucson and Pima County towards implementing a new Airport Development Overlay Zone will be necessary to ensure that a cohesive land use mix and appropriate development standards are implemented over time, reflective of the future development plan map. Finally, all existing development incentive programs should be pursued for development in the airport environs as should regional collaboration towards new incentives to support airport area development.

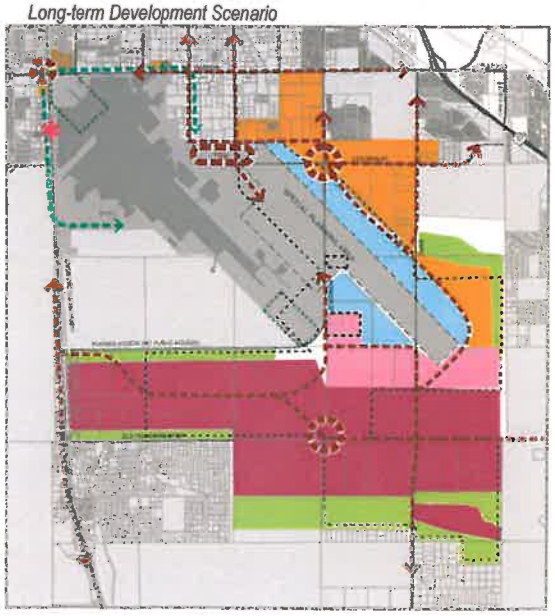
Conceptual Phasing



Short-term Development Scenario



Long-term Development Scenario



Future Development Plan Map Land Use Categories

General Aviation – Areas that provide for a range of commercial and specialty aviation-related development. Specific uses typical to GA include small and large and corporate hangars; fixed base and specialty operators, minor aircraft repair, self-serve facilities, pilot support facilities, and flight schools.

Industrial Aviation – Sites capable of supporting a range of moderate to intense industrial and major commercial aviation-related development. Specific uses typical to IA include major aircraft, airframe, avionics, and power plant repair; parting, storage, refurbishing and manufacturing of aircraft and aerospace components; air cargo and related operations, freight and logistics, distribution, warehousing and multi-modal facilities. Airfield-related uses that require special infrastructure, facilities or compatible design are also appropriate IA development.

Mixed Use Aviation – Areas that may support a balance of general and industrial aviation activity in close proximity, provide transition between use intensity, or contain other site factors that allow for a mix of uses to occur on a single parcel, including accessory commercial uses.

Extended Clear Zone – Areas beyond the runway protection zone that are kept clear of development, per TAA Policy.

Commercial Node – Areas surrounding key intersections that are anticipated to support demand for retail activity, auto-oriented commercial services or professional services; where feasible, commercial nodes also support mixed use development.

Employment – Sites that have potential infrastructure access or could support major long term employee-intense commercial and compatible industrial development.

Industrial / Logistics – Sites that provide for compatible light industrial and transportation-related development activities, including logistics and freight intermediary operations.

Large Scale Industrial – Large sites that can accommodate aerospace and defense manufacturing, research and development, technology, biosciences uses, and other similar intense industrial activities. This area will typically reflect master planned, large scale single tenant facilities.

Natural Corridor / Mitigation – Corridors that can safely support riparian habitat enhancement to offset site development impacts to locally delineated riparian habitat. This designation is intended to support a development strategy that cost-effectively and sustainably addresses ecological impacts and off-airport compatibility functions.

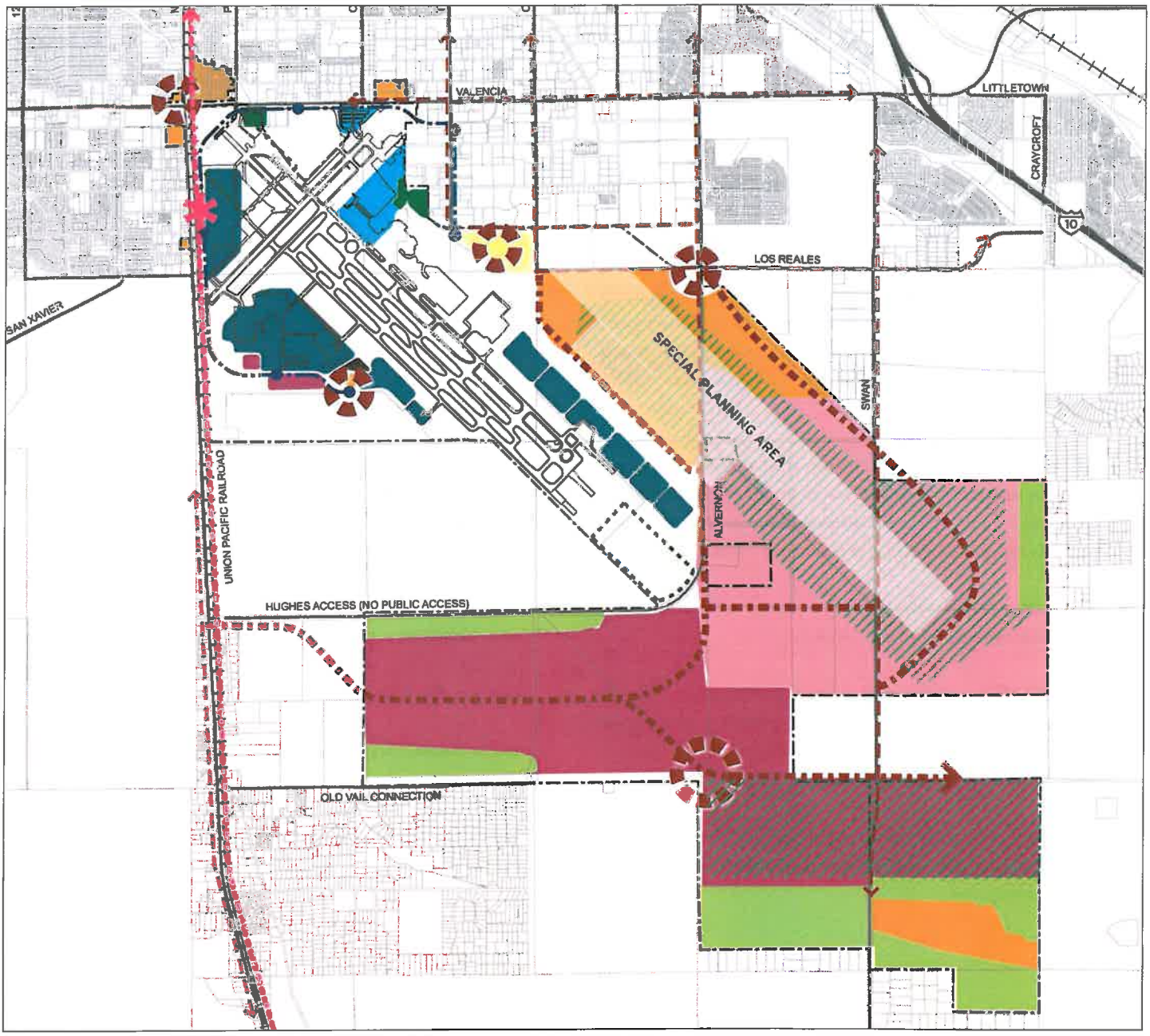
Airport Village – The Airport Village concept is intended to guide future development of a mixed use lifestyle center to support customers and employees of TIA as well as the surrounding community. The Airport Village is anticipated to support a multi-modal transit center and intense, transit-oriented development themes.

Large Scale Solar – This overlay designation is intended to show areas that could support utility-scale solar energy development, either in the near-term or long-term.

Special Planning Area – This overlay designation is intended to show areas that could support interim collateral land development through the planning horizon but carries special planning considerations because the land may be needed for airfield expansion beyond the planning horizon.

The land use program incorporates opportunities for all forms of new development; including general and industrial growth as well non-aeronautical growth on lands previously reserved for noise or long-term airfield expansion purposes. The land use program demonstrates the potential for facilitating industrial and solar farm development of reserve areas capable of supporting interim land uses. **The summary map for the land use program is the Future Development Plan Map (FDPM).** The map identifies and focuses on existing development areas and infrastructure, opportunity sites and planned surface transportation facilities, to ensure that a comprehensive yet concise and functional single reference can be utilized for marketing and implementing future development initiatives.

Future Development Plan Map



LEGEND

- EXISTING ROAD NETWORK
- PROGRAMMED ROAD (APPROXIMATE)
- EXISTING UNION PACIFIC RAILROAD
- FUTURE LOCAL TRANSIT CIRCULATOR (APPROXIMATE)
- FUTURE HIGH SPEED RAIL (HSR)
- LOCAL TRANSIT STATION
- HIGH SPEED RAIL STATION
- COMMERCIAL NODE
- AIRPORT PROPERTY BOUNDARY
- EXTENDED CLEAR ZONE POLICY AREA
- EMPLOYMENT (OFFICE / INDUSTRIAL)
- INDUSTRIAL / LOGISTICS
- LARGE SCALE INDUSTRIAL
- NATURAL CORRIDOR / MITIGATION
- GENERAL AVIATION
- MIXED USE AVIATION
- AIRPORT VILLAGE
- FUTURE ATCT
- AVIATION INDUSTRIAL
- LARGE SCALE SOLAR

Phasing and Financial Strategy

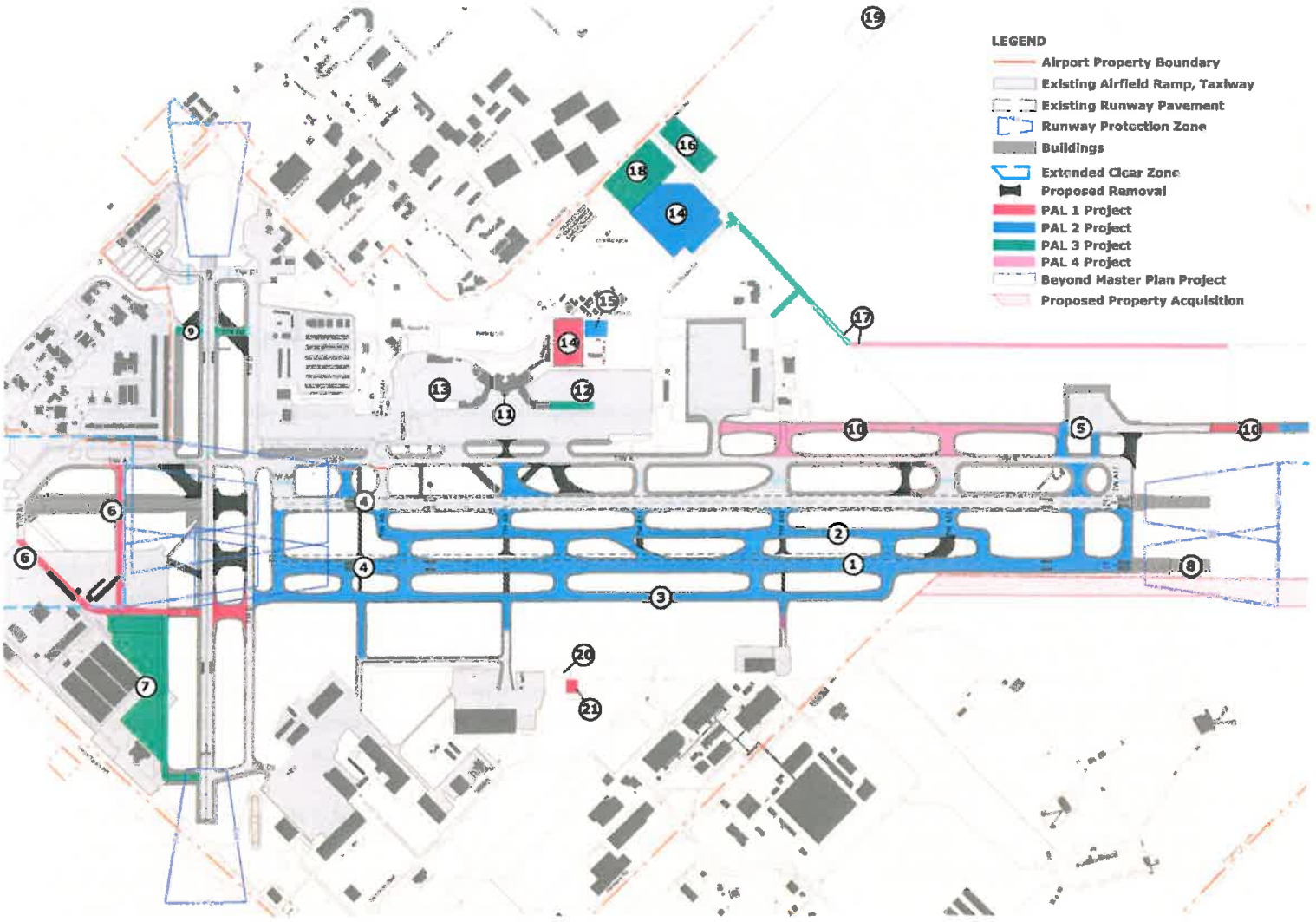
Components of the Preferred Comprehensive Development Plan were grouped by PAL according to the time period and aviation activity level that the project is anticipated to be required. Estimates of the airside, terminal, landside, general aviation, cargo, and support facilities required to accommodate forecast levels of air passengers and aircraft operations as well as non-forecast related needs were developed in the context of the planning objectives. As economic conditions change passenger levels may grow faster or slower than anticipated, and for planning purposes, the forecasts were assigned to planning activity levels (PALs) which represent the level of passengers and operations at four milestones and will act as trigger points, or guides, for programming new development and facilities.

The Preferred Development Plan Costs by PAL table shows projects developed through the Master Plan Update, the table does not show existing major maintenance or capital projects already programmed (such as the terminal apron reconstruction).

Based on phasing requirements, a financial strategy was prepared with the intent of showing the accessible sources of capital – Airport Improvement Program grants, etc. – available to fund the projects recommended during the planning period. The financial plan assumes the use of a number of different funds including federal AIP grants, ADOT grants, TAA revenues, and tenant funding. The financial plan also assumes the application of Passenger Facility Charge revenues and Letter of Intent proceeds as direct offsets to the eligible portion of the annual debt service requirements on proposed future airport revenue bonds. As the airport operates in a very dynamic industry, specific financing of future year projects would be revisited when the decision to move forward is considered. Federal and state funding will be sought for all eligible project costs. The costs presented include design, construction, contingency and administrative fees for each project with the exception of the Runway 11R-29L Relocation which is presented separately for design and construction. All costs are presented in 2013 dollars.

Planning Activity Level 1 includes airfield projects in support of and preceding the construction of the Runway 11R-29L Relocation including the EIS, Airports GIS Survey and Obstructions analysis, Runway 11R-29L Design, and relocation of the Raytheon bunkers. The re-designation of all runways based on the current magnetic heading, the renovation of the main Terminal to relocate and expand security checkpoints and concessions, and continued extension of Taxiway G to support aircraft maintenance development are all included PAL 1. Planning Activity Level 2 primarily includes construction of the major components of the Runway 11R-29L program including the runway, center and outboard taxiways along with an expansion of the rental car service area and continued extension of Taxiway G. Planning Activity Level 3 airfield projects are comprised of secondary airfield enhancement projects after completion of the Runway 11R-29L Relocation Program. The first phase of the Country Club Road extension would be completed during PAL 3 to support maintenance repair and overhaul (MRO) development sites. The terminal Concourse A expansion is also included in PAL 3. Planning Activity Level 4 includes the second phase of the Country Club Road enhancements, extending to Aeronautical Way, and would be completed along with an extension of Taxiway G to the north Future Industrial Aviation Complex.

Preferred Development Plan Phasing



RECOMMENDED IMPROVEMENTS

1. Construct full length parallel Runway 11R-29L (Group IV)
2. Construct new center parallel T/W
3. Construct new outboard parallel T/W
4. Shift arrivals threshold
5. Improve south run-up area access
6. Construct bypass Taxiway
7. Reconstruct itinerant aircraft apron
8. Construct extended blast pad for Air National Guard
9. Straighten Taxiway D2 across R/W 21
10. Extend Taxiway G
11. Terminal Renovation
12. Expand Concourse to the East
13. Expand Consourse to the West
14. Install Solar Canopies
15. Expand Rental Car fueling and wash rack
16. Construct Rental Car storage area
17. Expand Country Club Drive
18. Expand Economy Parking Lot
19. Construct Fuel Farm
20. Construct ARFF Station
21. Future Air Traffic Control Tower

Preferred Development Plan Costs by Planning Activity Level

Planning Activity Level 1 (Years 1 through 5)		
EIS for Runway 11R-29L Relocation		$1,400,000
Airports GIS Survey and Obstruction Analysis		$700,000
Redesignate All Runways Based on Current Magnetic Heading		$2,900,000
Reassign and Clarify Taxiway Nomenclature		$2,200,000
Airport Wide Drainage Basin Study in Support of Runway 11R-29L Relocation		$230,000
Runway 11R-29L Design		$6,100,000
Relocate Raytheon Bunkers and Barriers in Support of Runway 11R-29L Relocation		TBD
Construct New Bypass Taxiway Around Runway11L and 11R Future RPZs		$9,400,000
Terminal Renovation - Security, Ticketing, Concessions		$5,200,000
Terminal Renovation - Administrative Space		$1,900,000
Install Solar Canopies on Top Level of RAC Garage		$7,400,000
Taxiway G Phase II Extension south to MRO2		$2,300,000
	TOTAL PAL 1	***$39,800,000***
Planning Activity Level 2 (Years 6 through 10)		
Demolish Raytheon Bunkers in Support of Runway 11R-29L Relocation		$530,000
New Perimeter Road and Fencing Around Future Relocated Runway 11R-29L		$1,420,000
Displace Runway 11L Threshold and Relocate MALSR and Glideslope		$3,600,000
Construct New Access for South Run-Up Area Including Taxiway A Enhancements		$1,600,000
Construct Taxiway Connecting West Ramp to Taxiway A5, Widen TW A5 to Taxiway C		$6,400,000
Construct Taxiway A4 and A17 Bypass		$8,200,000
Remove TWs A7&A9 and Extend TW A8 to Intersect TW A, Provide High-speed Exit		$4,500,000
Construct Outboard Taxiway Between Taxiways A5 and A8		$6,100,000
Construct Drainage Detention Basin in Support of Runway 11R-29L Relocation		$1,200,000
Runway 11R-29L Construction		$43,000,000
Construct New Outboard Taxiway from Taxiway A8 to Property Boundary		$12,000,000
Construct New Center Parallel Taxiway		$26,000,000
Install Solar Canopies in Economy Parking Lot		TBD
Taxiway G Phase III Extension south from MRO 2 to MRO3		$2,300,000
	TOTAL PAL 2	***$116,800,000***
Planning Activity Level 3 (Years 11 through 15)		
Close Taxiway A2		$185,000
Remove Taxiways T and A14		$156,000
Straighten Taxiway D2 and ANG B Perpendicular to Runway 3-21		$831,000
Expand Concourse to the East		$41,500,000
Country Club Road Extension Phase 1 south to ARFF Access Road		$735,000
Construct Rental Car Storage Area Along Corona		$1,415,000
Build Out North Portion of the Economy Parking Lot		$3,100,000
Reconstruct West Apron - Itinerant Aircraft Apron		$8,240,000
	TOTAL PAL 3	***$56,200,000***
Planning Activity Level 4 (Years 16 through 20)		
Country Club Road Extension Phase 2 south to Aeronautical Way		$1,010,000
Taxiway G Phase III Extension North to Future Industrial Aviation Complex		$5,600,000
Land Acquisition - Stewart Title		$970,000
Land Acquisition - Griggs / Ameron		$550,000
Land Acquisition - Hughes Sand and Gravel / AAA		$2,400,000
Remote Fuel Farm		$30,800,000
	TOTAL PAL 4	***$40,830,000***

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