

Marana Regional Airport

Airport Master Plan

Technical Advisory Committee (TAC)

Meeting No. 2

January 27, 2016



GENESIS
CONSULTING GROUP


ARMSTRONG

Agenda



- Introductions
- Master planning process overview
- Overview of Working Papers
- Overview of Forecasts
- Next steps
- Q&A



Airport master plan goal



Prepare a master plan that meets Federal Aviation Administration (FAA) design standards and provides for a safe and efficient airport to accommodate existing and future demand



What is a master plan?



- A twenty year plan of development
 - Forecast of expected demand
 - Identification of assets and deficiencies
 - Consideration of development alternatives
 - Preparation of a financial development Plan
- Airport Layout Plan (ALP)
 - Consolidated plan of development
 - Approved by Federal Aviation Administration (FAA)
 - Funding tool



Technical Advisory Committee role



- Review and provide comments on each interim and draft final document
- Provide guidance on the development of alternatives
- Guide the selection of a preferred alternative
- Meet at scheduled intervals during the study



Working Paper No. 1 & 2 Overview



- Working Paper No. 1
 - Master Plan Process
 - Inventory of Airport Assets
 - Forecasts of Aviation Demand
- Working Paper No. 2
 - Facility Requirements



Working Paper No. 1 Overview



- Airport Service Levels and ASSET Category
 - Federal Level
 - AVQ is included in the NPIAS; classified as a **reliever** airport (one of 8 in AZ)
 - Relieve congestion at commercial service airport; comprise a special category of general aviation (GA) airports and are generally located within a relatively short distance of primary airports (e.g. Tucson International Airport)
 - In 2010, the FAA began examining the roles general aviation plays in our national airport system
 - Result = ASSET categories; AVQ is classified as a **regional** GA airport
 - Definition: Supports regional economies by connecting communities to statewide and interstate markets



Working Paper No. 1 Overview



- Airport Service Levels and ASSET Category Contd.
 - Regional Level
 - Determined by Pima Association of Governments (PAG); found in Regional Aviation System Plan (RASP) (2002)
 - AVQ is classified as Level I airport; should be able to accommodate a full range of business/corporate general aviation aircraft
 - State Level
 - Determined by Arizona Department of Transportation Multi-modal Planning Division – Aeronautics Group; found in the Arizona State Aviation System Plan (SASP) (2008)
 - Also classified as a Reliever Airport; same definition as FAA's



Working Paper No. 1 Overview



- Design Standards
 - Design Aircraft
 - Runway 12-30: Canadair/Bombardier Challenger 600
 - Runway 3-21: Beechcraft King Air 100
 - Runway Design Code (RDC)/Airport Reference Code (ARC)
 - RDC: Runways 12 is C/II/5000, Runway 30 is C/II/VIS, Runways 3 and 21 are B/I/5000
 - ARC: C-II
 - Taxiway Design Group (TDG) & Airplane Design Group (ADG) drive the widths and the imaginary surface and separation standards of taxiways/taxilanes on the airfield



Working Paper No. 1 Overview



- Runway Wind Coverage
 - Historical wind data from Tucson International Airport was used to create a wind rose and corresponding wind coverage data
 - The existing runway configuration provides a combined 99.24 percent crosswind coverage for 10.5 knots, 99.83 percent for 13.0 knots, and 99.97 percent for 16.0 knots.
 - This is more than the recommended 95 percent coverage for A-I through C-II aircraft.

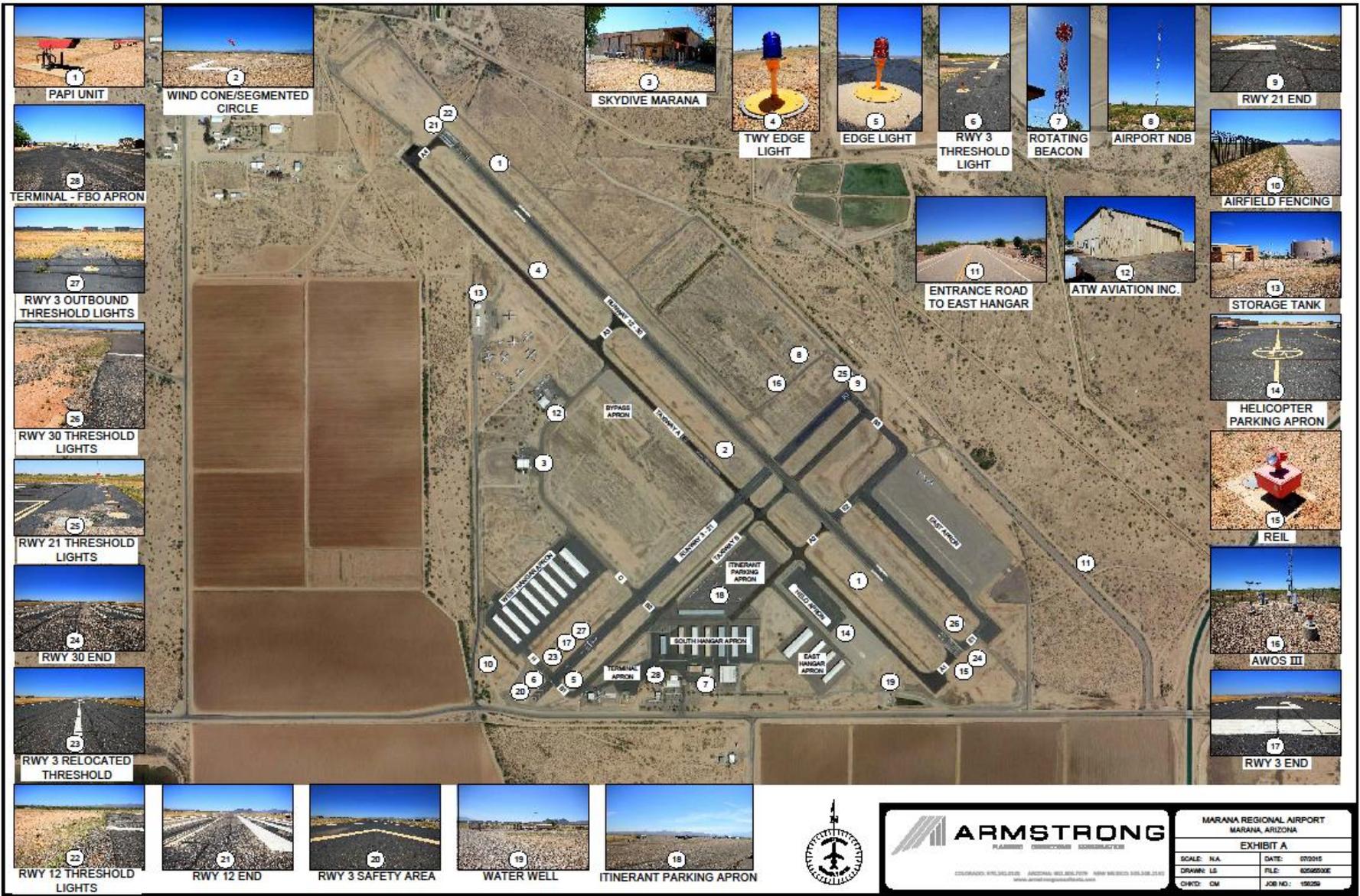


Working Paper No. 1 Overview



- Airside Facility Inventory
 - Runways
 - Taxiway System
 - Aprons
 - Airfield pavements: Pavement Condition Index (PCI)/Pavement Classification Number (PCN)
 - Airfield Lighting, Signage, and Visual Aids
 - Weather Reporting System (AWOS-III)
 - Radio Navigational Aid (NDB)





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MARANA REGIONAL AIRPORT MARANA, ARIZONA	
EXHIBIT A	
SCALE: N/A	DATE: 07/2015
DRAWN: LS	FILE: 000605006
CHKD: CM	JOB NO.: 150258



Working Paper No. 1 Overview



- Landside Facility Inventory
 - Terminal building/FBO
 - Hangars
 - Misc. buildings (restaurant, electrical building)
 - Access roads
 - Automobile parking
 - Fencing
 - Aviation fuel facilities
 - Utilities





1 AIRPORT RESTAURANT



2 EAST HANGAR APRON T-HANGAR



3 ELECTRICAL BUILDING



4 FBO MAINTENANCE HANGAR 1



5 AIRCRAFT SHADE STRUCTURE



6 NORTH ACCESS ROAD



7 WEST HANGAR APRON T-HANGARS



8 TERMINAL - FBO FACILITY



9 SELF-SERVE FUEL ISLAND



10 FBO AVIONICS SHOP, HANGAR AND AIRPORT ADMINISTRATION OFFICE



11 AIRPORT VEHICLE PARKING LOT



12 AIRPORT ENTRANCE SIGN



13 SOUTH HANGAR APRON T-HANGARS



14 OUTDOOR SEATING AREA



15 FUEL STORAGE TANKS



16 FBO HANGAR 2



17 PACIFIC AERO VENTURES



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MARANA REGIONAL AIRPORT MARANA, ARIZONA	
EXHIBIT B	
SCALE: N/A	DATE: 07/2015
DRAWN: LS	FILE: 02062006
CHVD: CM	JOB NO.: 19028



Aviation Demand Forecast Overview



Forecasts of Aviation Demand are prime elements in all airport planning activities and key to determining type, size, and timing of future aviation facility development. Considerations include:

- Historical Aviation Activity
- Regional and Industry Trends
- Comparison with other forecasts; TAF's, SASP and Local Plans
- Analysis of based aircraft and operations
- Local factors driving demand
- Evaluate forecast platforms and identify preferred forecast
- Preferred Forecast Summary includes:
 - Operations,
 - Based Aircraft
 - and Related Factors



Aviation Demand Forecasts



The Process

Resources

- Historical based aircraft
- Historical operations
- Transient user data
- FAA terminal area forecast
- FAA form 5010
- Aviation system plans
- US Census Socioeconomic data

Evaluation

- ▶ Local trends
- ▶ Regional trends
- ▶ National trends
- ▶ Relationship to other airports
- ▶ Reasonableness of past forecast strategies

Results

- ▶ Based aircraft with fleet mix
- ▶ Annual operations by type
- ▶ Peak operations
- ▶ Instrument operations
- ▶ *FAA approval required*

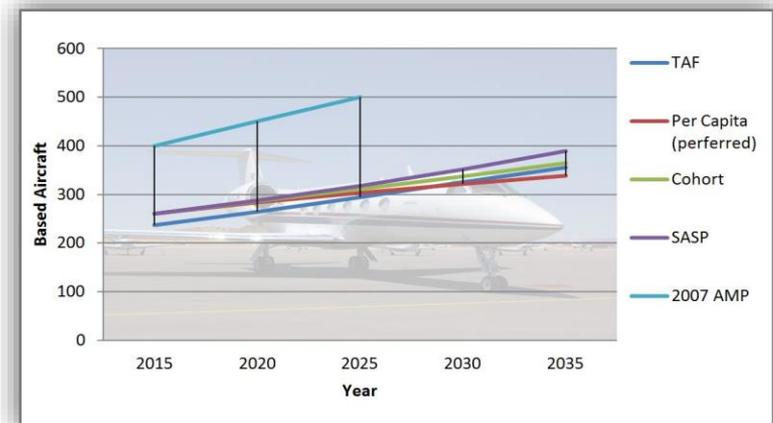


Based Aircraft Forecast Overview



Methodology - utilized historical and forecast information from five different sources to determine appropriate based aircraft forecast for Marana Regional Airport

- 2007 AVQ Master Plan Projections
- Arizona SASP forecasts
- FAA Terminal Area Forecasts (TAF)
- Cohort Forecast Platform
- Per Capita Forecast Platform



Selected the Per Capita Forecast Platform as the appropriate Preferred Forecast for AVQ indicating conservative growth over 20 year horizon

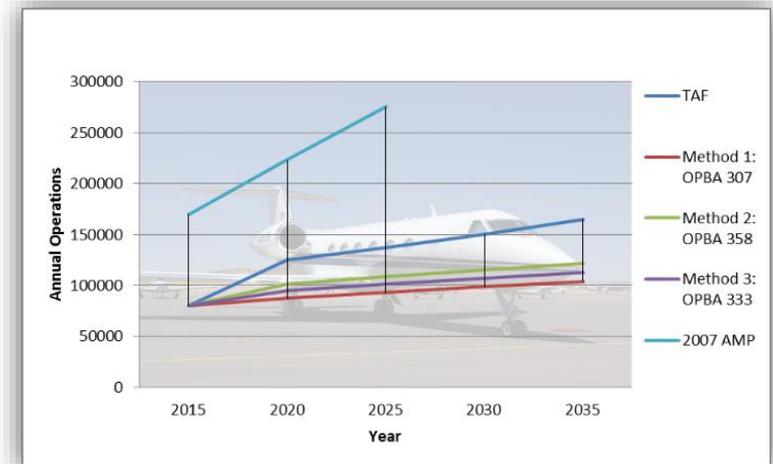


Operations Forecast Overview



Methodology - Utilized historical and forecast information from five different sources to determine appropriate future operations forecast for Marana Regional Airport

- 2007 Marana Airport Master Plan
- Arizona SASP forecasts
- Method 1 - OPBA
- Method 2 - OPBA
- Method 3 – OPBA



Selected the Method 3–OPBA forecast as most appropriate Preferred Forecast for Marana Regional Airport showing conservative growth over 20 years



Current Forecast Status



The completed Aviation Demand Forecast has been submitted to FAA. Net Results:

- Preferred Forecast supports conservative growth
 - Operations 80,000 to 112,000 by 2035
 - Based Aircraft 260 to 339 by 2035
 - Aircraft Mix trends towards increased use of heavier jets
- Aviation Demand Forecasts have been submitted to the FAA-ADO
 - Initial review completed, minor adjustments being applied to final document
- Forecast Data Provides Development Basis to:
 - Facility Requirements
 - Development Plan
 - Airport Strategic Business Plan



Working Paper No. 2 Overview



- Facility Requirements
 - Identifies the requirements for airfield and landside facilities to accommodate the forecast demand levels at the Marana Regional Airport
 - The facility requirements were based on:
 - Information derived from capacity and demand calculations
 - Design standards from FAA Advisory Circulars
 - Sponsor’s vision for the future of the airport
 - Condition and functionality of existing facilities



Working Paper No. 2 Overview



ITEM	BASE YEAR (2015)	SHORT-TERM	MEDIUM-TERM	LONG-TERM
RUNWAYS				
12-30				
Runway Design Code (RDC)	Rwy 12: C-II/5000; Rwy 30: C-II/VIS	Same as existing		
Length (ft)	6,901	C-II/5000		
Width (ft)	100	Maintain		
Pavement Strength (lbs)	75,000 S, 100,000 D, 300,000 DT	Verify per PCN report; strengthen where needed ¹		Maintain
Lighting	MIRL	Same as existing	Replace with LED	Maintain
Markings	Non-precision	Repaint	Maintain	
3-21				
Runway Design Code (RDC)	B-I/5000	Same as existing		
Length (ft)	3,892	Same as existing		
Width (ft)	75	Same as existing		
Pavement Strength (lbs)	75,000 S, 100,000 D 150,000 DT	Same as existing; maintain		
Lighting	MIRL	Same as existing	Replace with LED	Maintain
Markings	Basic	Repaint; Non-precision	Maintain	
TAXIWAYS				
Taxiway A, E, & H				
Taxiway Design Group (TDG)	TDG 3 ²	Maintain existing ²		
Width (ft)	50	Maintain existing		
Lighting	MITL	Same as existing	Replace with LED	Maintain
Markings	Existing	Repaint	Maintain	
Taxiway B				
Taxiway Design Group (TDG)	TDG 2 ²	Maintain existing ²		
Width (ft)	Varies (35'-50')	Maintain existing		
Lighting	MITL	Same as existing	Replace with LED	Maintain
Markings	Existing	Repaint	Maintain	
Taxiway C				
Taxiway Design Group (TDG)	N/A	Reconstruct to TDG-1 ²		Maintain
Width (ft)	40	Reconstruct to 25		Maintain
Lighting	None	Install MITL	Maintain	
Markings	Existing	Repaint	Maintain	
Connector Taxiways A-2 & B-2				
	Non-standard; provide direct access from apron to runway	Relocate/ Reconstruct	Maintain	



Working Paper No. 2 Overview



ITEM	BASE YEAR (2015)	SHORT-TERM	MEDIUM-TERM	LONG-TERM
NAVIGATIONAL AND WEATHER AIDS				
AWOS-3	Yes		Maintain existing	
Rotating Beacon	Yes	Maintain	Replace	
NDB	Yes		Maintain existing	
Approaches	Rwy 3-21: GPS Rwy 12: GPS & NDB	Add RNAV/GPS Runway 30	Maintain	
VISUAL AIDS				
REIL	12-30: Yes 3-21: No	Install on Runway 3-21	Maintain	Replace
PAPI	12-30: 4-light 3-21: 2-light	Maintain		Replace
Wind cone/segmented circle	Yes	Maintain	Replace	
TERMINAL				
General Aviation (sf)	9,500	17,000	21,000	25,000
HANGARS (sf)³				
Conventional (approx. sf)	52,000	80,000	90,000	100,000
T-hangars/shade (approx. sf)	317,000	Maintain existing		10,000
APRONS²				
Tie-down/transient (approx. sy)	150,000	Maintain existing		
VEHICLE PARKING				
Total (spaces/appox. sy)	40/2,500	183-195/ 6,500-7,000	207/7,500	219/8,000
FUEL FACILITY				
Jet A (gal)	12,500	Same as existing		
AvGAS (100LL) (gal)	12,500	Same as existing		
Total (gal)	25,000	Same as existing		
Self-fueling/Credit card reader	Yes; AvGas Only	Maintain existing		
FENCING				
Perimeter	Yes	Maintain existing		
Access Controls	Yes	Maintain existing		Replace

Abbreviations: S = Single-wheel landing gear, D = Dual-wheel landing gear, DT = Dual-tandem landing gear, NDB = Non-directional beacon
 Note. ¹ This also applies to certain taxiways and aprons mentioned in this Chapter; the Airport should also verify and strengthen where needed.
² According to the existing design aircraft for the Airport, the taxiways should conform to the standards of TDG 1; the Airport is advised to maintain the existing pavement as is, however it should be noted that the FAA may require that any future reconstruction of taxiways should be designed and built to TDG 1 (or whichever TDG corresponds to the existing design aircraft). ³ Hangar and apron development will depend on actual demand.
 Source: ACI, 2016



Public involvement



Dedicated Master Plan and Strategic Business Plan reporting site at flymarana.com

- Technical Advisory Committee
- Planning Advisory Committee
- Strategic Business Plan Committee
- Working Papers published January 2016

Documents include presentations, meeting reports and working papers.



Master Plan Elements



Master Plan Elements	Working Papers and Final Document	Meetings
Committee Meeting No 1		
Airport Inventory		
Aviation Forecasts	Working Paper No 1	
Facility Requirements		
Development Alternatives	Working Paper No 2	
Committee Meeting No 2		
Airport Layout Plans		
Environmental Overview		
Implementation and Financial Plan	Working Paper No 3	
Committee Meeting No 3 and Public Informational Meeting		
Final Document Preparation	Final Document	



Master Plan Timeline



- Notice to Proceed (NTP) – July 2015
- **Committee meeting no. 1 – August 2015**
- Working paper no. 1 – November 2015
- Working paper no. 2 – January 2016
- **Committee meeting no. 2 – January 2016**
- Working paper no. 3 – May 2016
- **Committee meeting no. 3 – June 2016**
- Draft final report – August 2016
- Final report – third quarter of 2016
- Entire process should take about one year



Next Steps



- Obtain feedback from the committees
- Prepare development alternatives
- Submit Working Paper No. 3 to the committees
- Hold committee meeting no. 3



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Marana Regional Airport

