

Phoenix-Mesa Gateway Airport Master Plan – Stakeholder Working Group Meeting

July 31, 2018



Phoenix-Mesa
Gateway
Airport Master Plan

Acrojets – The Fighter School @ Williams AFB





Agenda

- ✓ **Introductions and Opening Comments**
- ✓ **Expected Outcomes for Master Planning Process**
- ✓ **Project Approach and Schedule**
- ✓ **Role of the Stakeholder Working Group**
- ✓ **Inventory of Existing Conditions**
- ✓ **Key Planning Issues Identification**
- ✓ **Forecasts of Aviation Activity**
- ✓ **Questions & Comments**
- ✓ **Next Steps**



Project Team

- ✓ **Phoenix-Mesa Gateway Airport Authority and Staff**
- ✓ **Federal Aviation Administration/Arizona Department of Transportation**
- ✓ **Consultants**
 - **Mead & Hunt**
 - **PSM²**
 - **Unison Consulting**
 - **Intervistas**

Master Plan

✓ **Statement of Policy**

- **Anticipate What We Think Will Happen**
- **Influence What We Want to Happen**



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Expected Outcomes

- ✓ **Comprehensive Recommendations for Layout of Future Airport Facilities**
- ✓ **Reasonable Long-Term Capital Improvement Plan**
- ✓ **Appropriate Documentation of Considerations and Influences**
- ✓ **FAA Approved Airport Layout Plan**



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Public Outreach

- ✓ Airport Authority Briefings (as requested)
- ✓ Stakeholder Committee Meetings
- ✓ Technical Committee Meetings
- ✓ Public Outreach Workshops



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Mead&Hunt



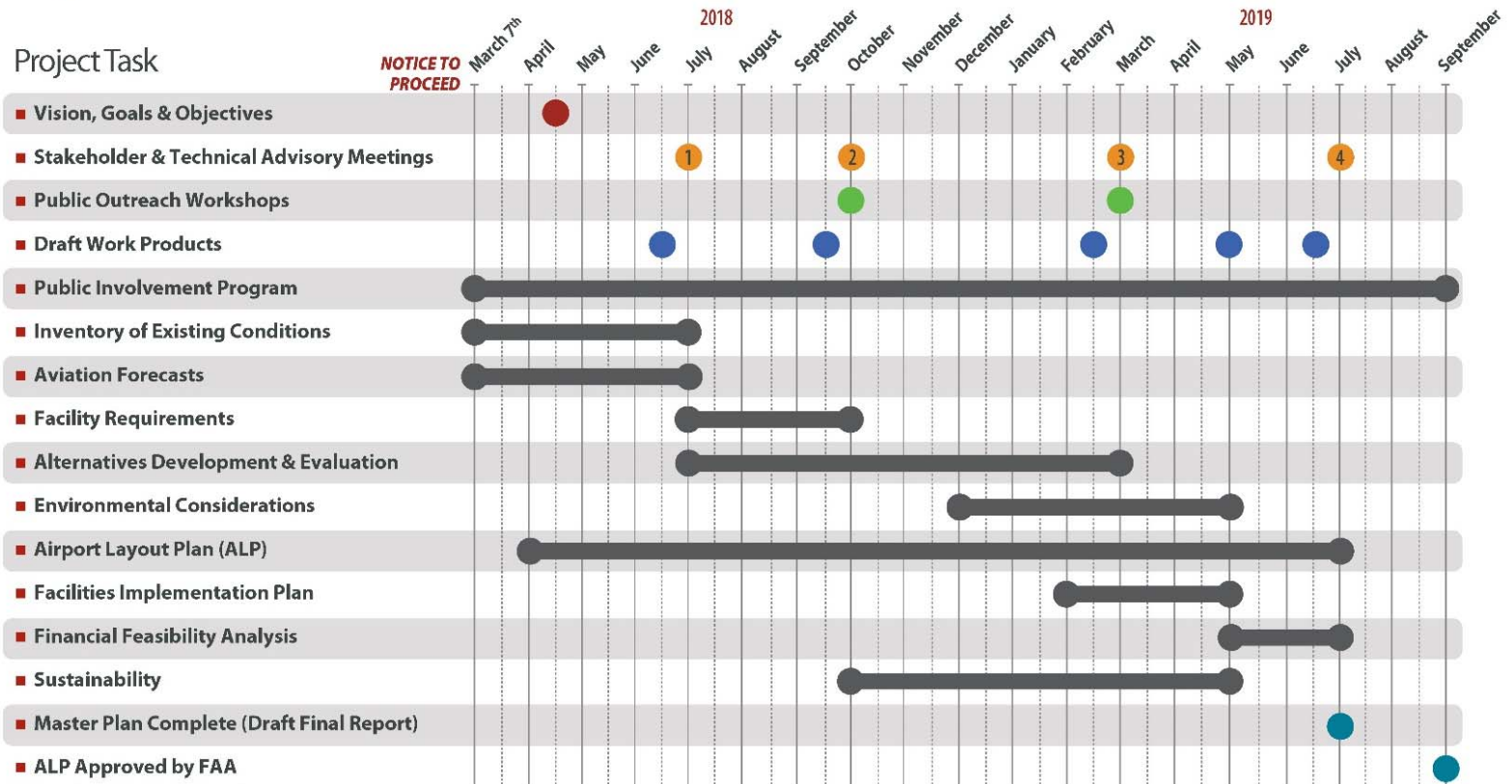
Project Approach

- ✓ **Follow FAA Guidance**
- ✓ **Building Block Process**
 - **Inventory**
 - **Forecasts**
 - **Facilities Needs Determination**
 - **Alternatives and Development Plan Formulation**
 - **Financial Plan**



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Project Schedule Airport Master Plan



NOTE: Schedule updated February 2, 2018. Subject to change.





Role of Stakeholder Working Group

- ✓ Committee is made up of a variety of interest groups with interests in local and regional influences associated with the airport, many with government expertise and knowledge which will help to direct the airport's future development
- ✓ Provide feedback on draft work products from your perspective
- ✓ Not a voting group, consensus is not required, but your **INPUT** is **CRITICAL** !





Inventory of Existing Conditions

- ✓ **Airport Role**
- ✓ **Airport Background**
- ✓ **Airport Facilities Inventory**
 - **Airside Facilities**
 - **Landside Facilities**
 - **Airspace System and Naviads**
- ✓ **Airport Environs**
- ✓ **Issues Summary**

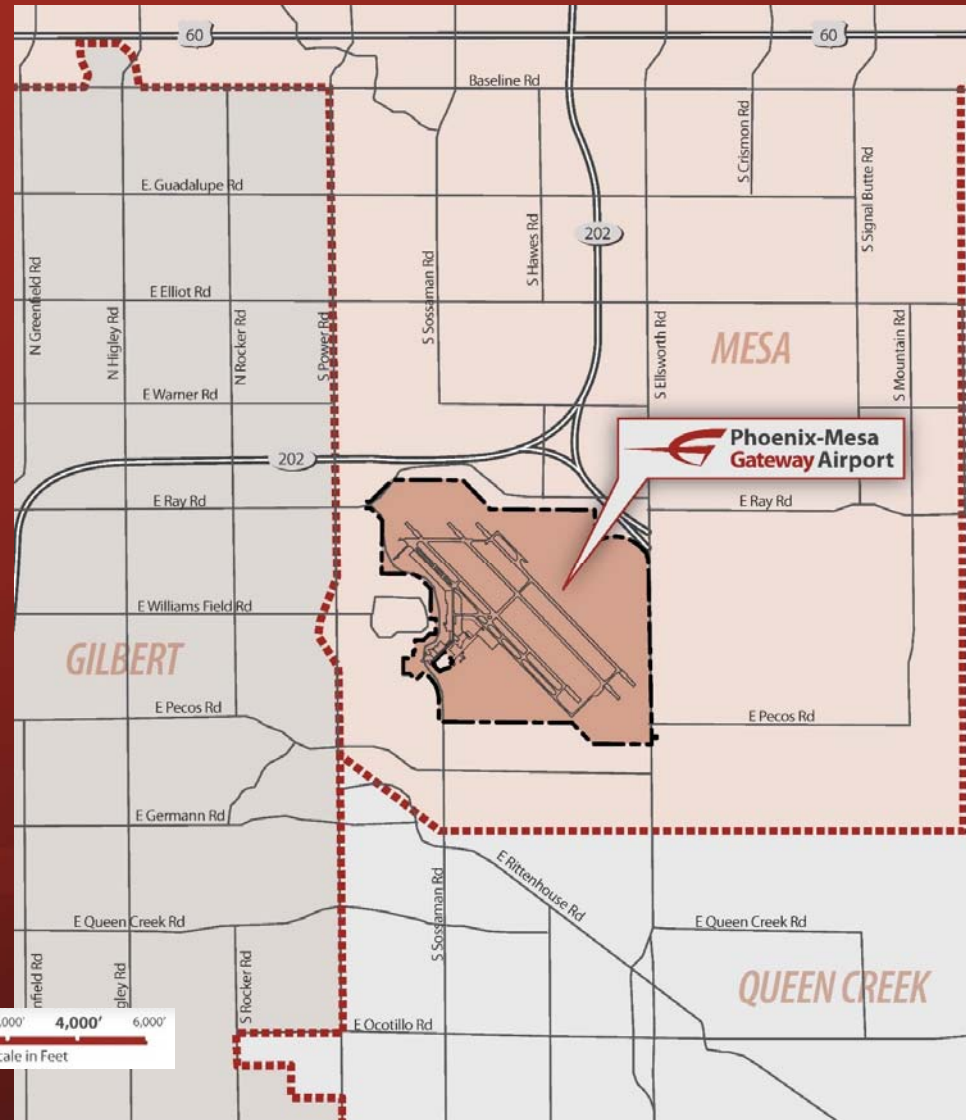


Airport Role – Location

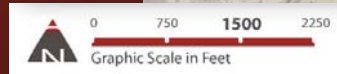
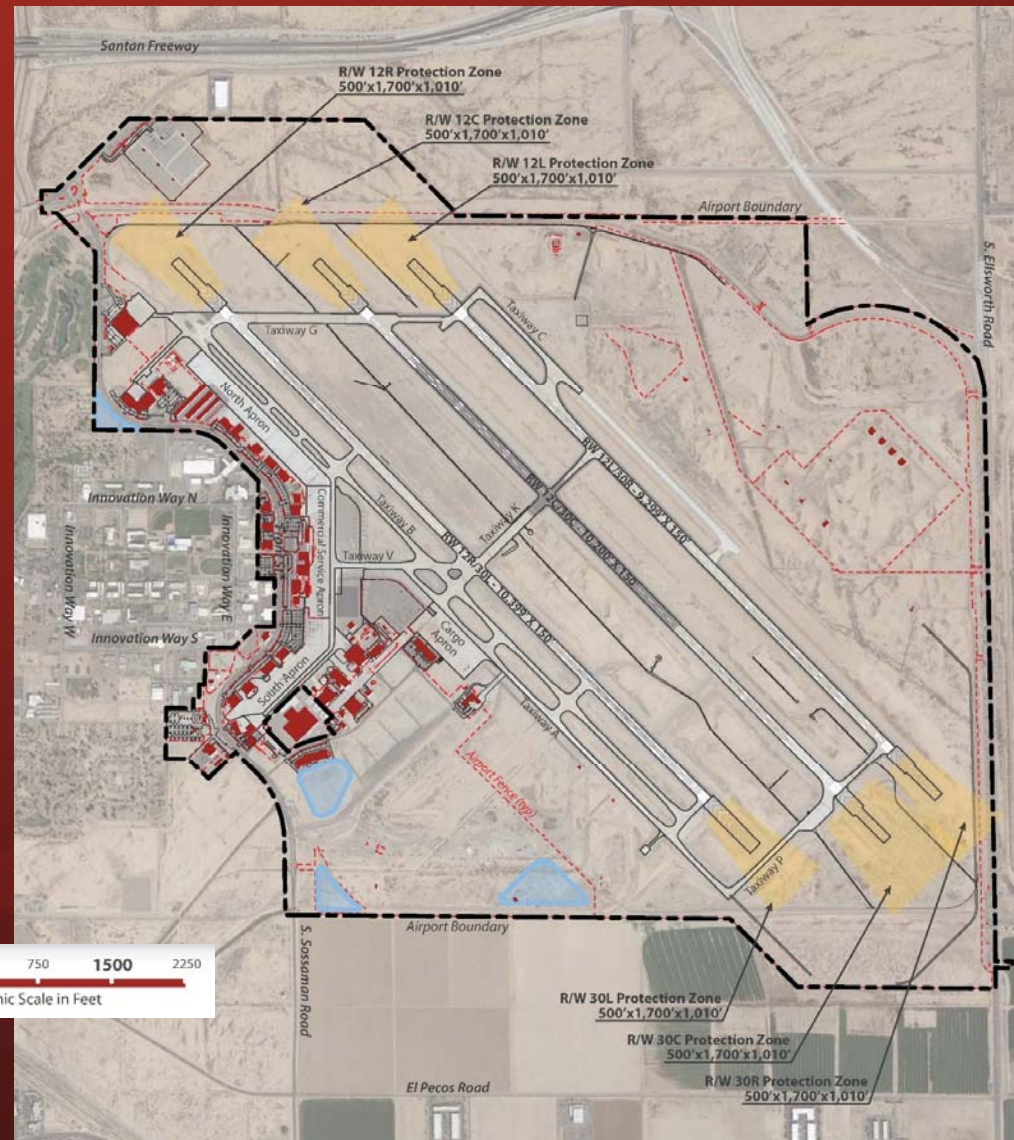


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Airport Role – Local Government Relationships



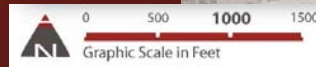
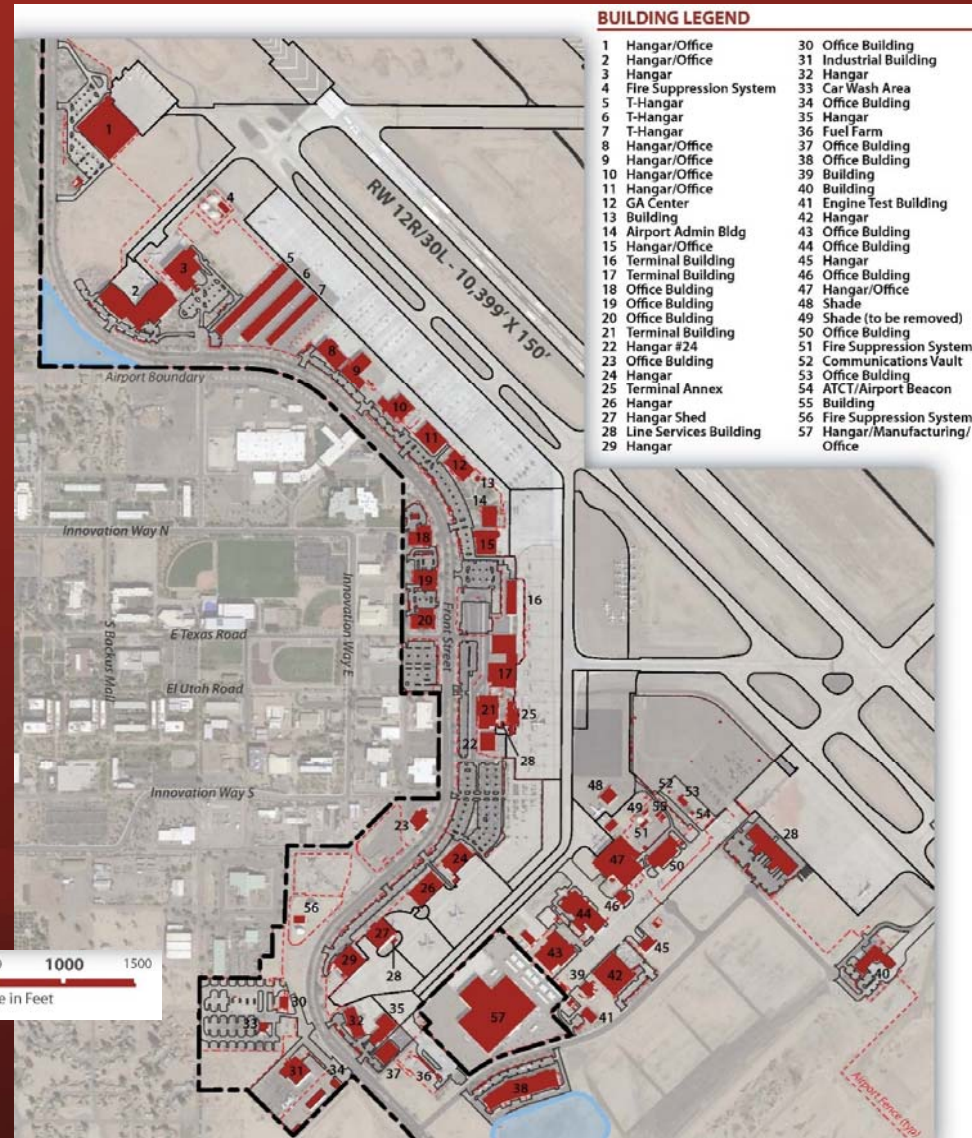
Airport Role – Airport Facilities



Airport Role – Terminal Area Facilities

BUILDING LEGEND

1	Hangar/Office	30	Office Building
2	Hangar/Office	31	Industrial Building
3	Hangar	32	Hangar
4	Fire Suppression System	33	Car Wash Area
5	T-Hangar	34	Office Building
6	T-Hangar	35	Hangar
7	T-Hangar	36	Fuel Farm
8	Hangar/Office	37	Office Building
9	Hangar/Office	38	Office Building
10	Hangar/Office	39	Building
11	Hangar/Office	40	Building
12	GA Center	41	Engine Test Building
13	Building	42	Hangar
14	Airport Admin Bldg	43	Office Building
15	Hangar/Office	44	Office Building
16	Terminal Building	45	Hangar
17	Terminal Building	46	Office Building
18	Office Building	47	Hangar/Office
19	Office Building	48	Shade
20	Office Building	49	Shade (to be removed)
21	Terminal Building	50	Office Building
22	Hangar #24	51	Fire Suppression System
23	Office Building	52	Communications Vault
24	Hangar	53	Office Building
25	Terminal Annex	54	ATCT/Airport Beacon
26	Hangar	55	Building
27	Hangar Shed	56	Fire Suppression System
28	Line Services Building	57	Hangar/Manufacturing/Office
29	Hangar		





Airport Role

- ✓ Within National System Plan (3,400 airports)
- ✓ Within State System Plan (83 airports)
- ✓ Commercial passenger activity center
- ✓ General aviation operational center
- ✓ Flight training operational center
- ✓ Military activity operational center
- ✓ Regional economic development support center



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Key Planning Issues Discussion

- ✓ Maximize safety and efficiency in layout of airport facilities.
- ✓ Consideration of the significant amount of marketable airport property.
- ✓ Consideration of demand by future critical aircraft types.
- ✓ Base recommendations for future passenger terminal facilities on reasonable expectation of demand, with scalable improvements associated with defined trigger points.
- ✓ Comprehensive landside improvement recommendation (ATCT, ARFF, fuel storage and delivery, storage hangars, air cargo facilities, etc.).
- ✓ Continue working with surrounding communities to support land use compatibility initiatives.
- ✓ Promote financially sustainable Capital Improvement Plan.
- ✓ Consider all passenger transportation modes in development of terminal improvement recommendations.
- ✓ Recognize environmental constraints.



Aviation Activity Forecast Development



Comprehensive Forecast Development Process

- ✓ Analysis of the airport's business environment
- ✓ Analysis of the airport's historical activity trends
- ✓ Assessment of future air service development possibilities
- ✓ Forecast development and risk assessment



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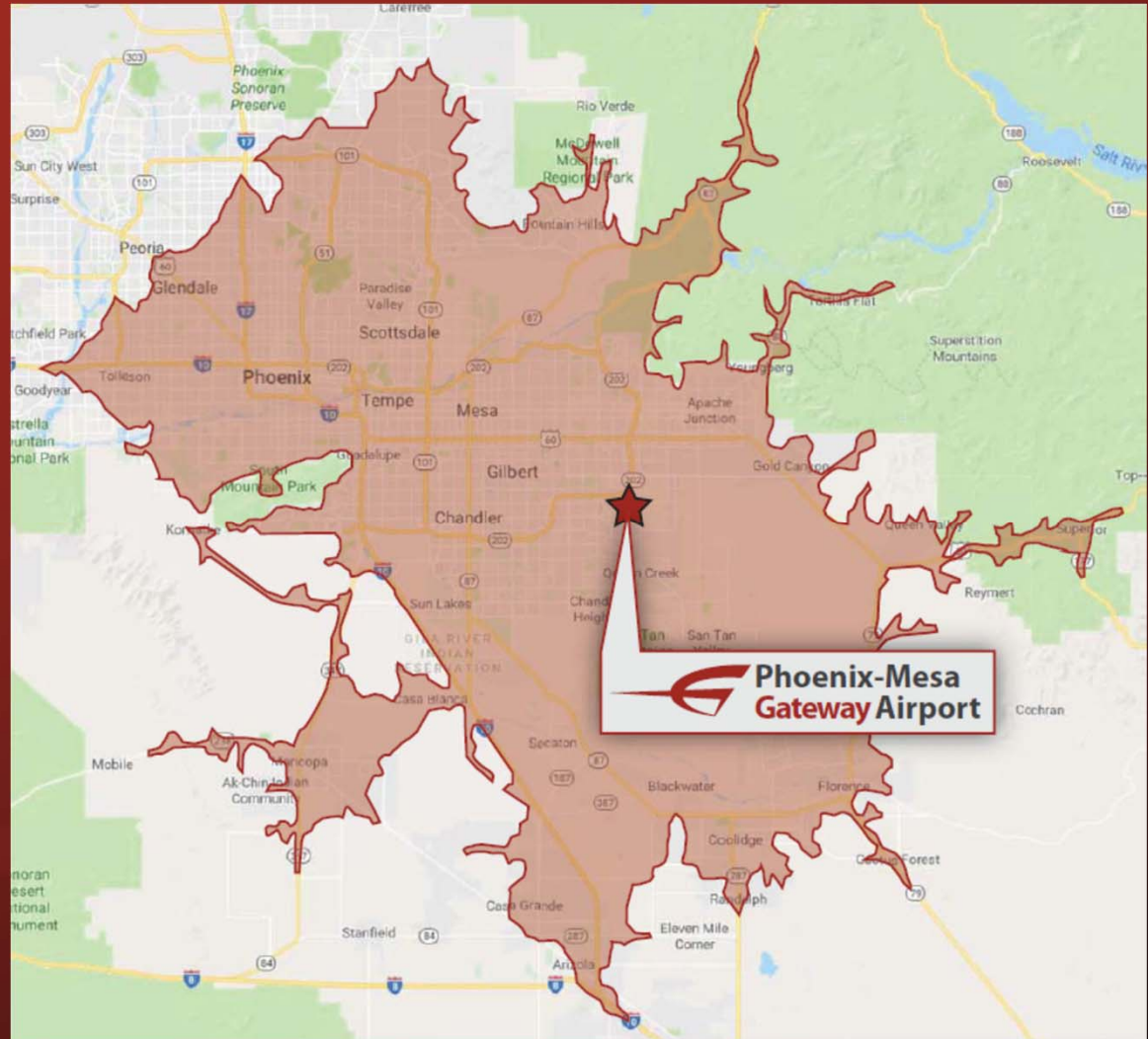
Mead&Hunt

The Airport Business Environment



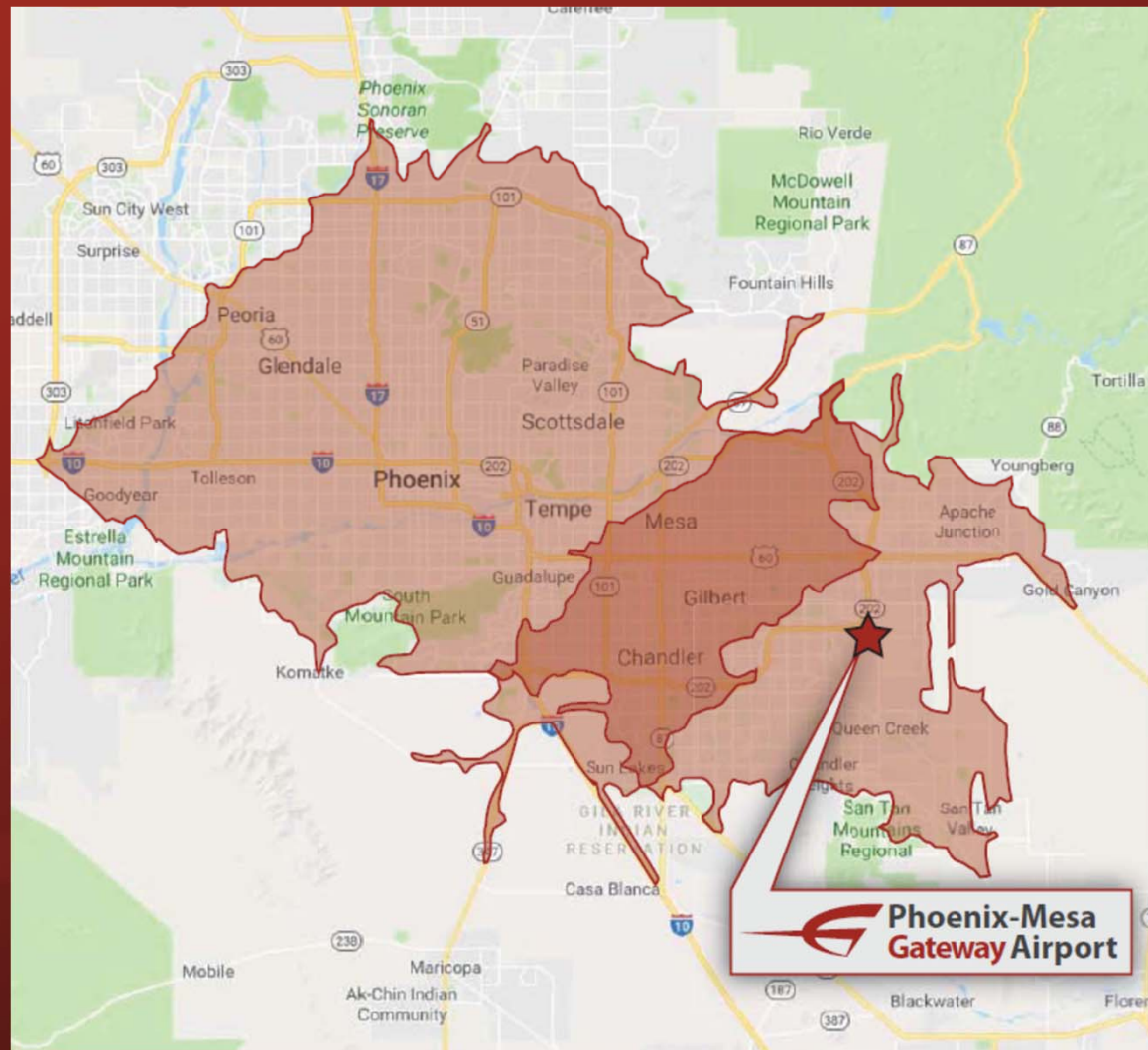
Airport Service Area

- 1-hour drive area covering most of the Phoenix-Mesa-Scottsdale, AZ, MSA



A Shared Airport Service Area

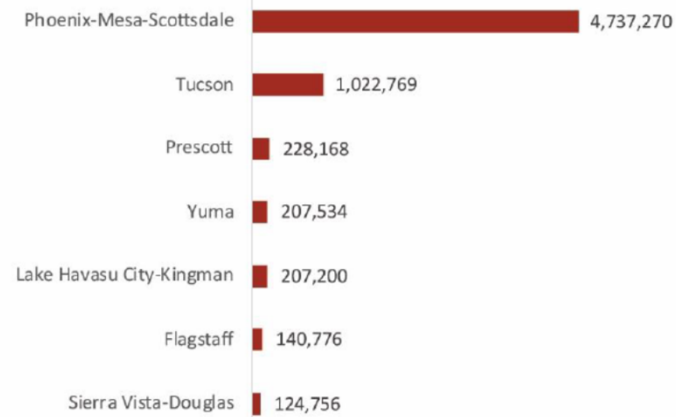
- 30-minute drive areas from IWA and PHX



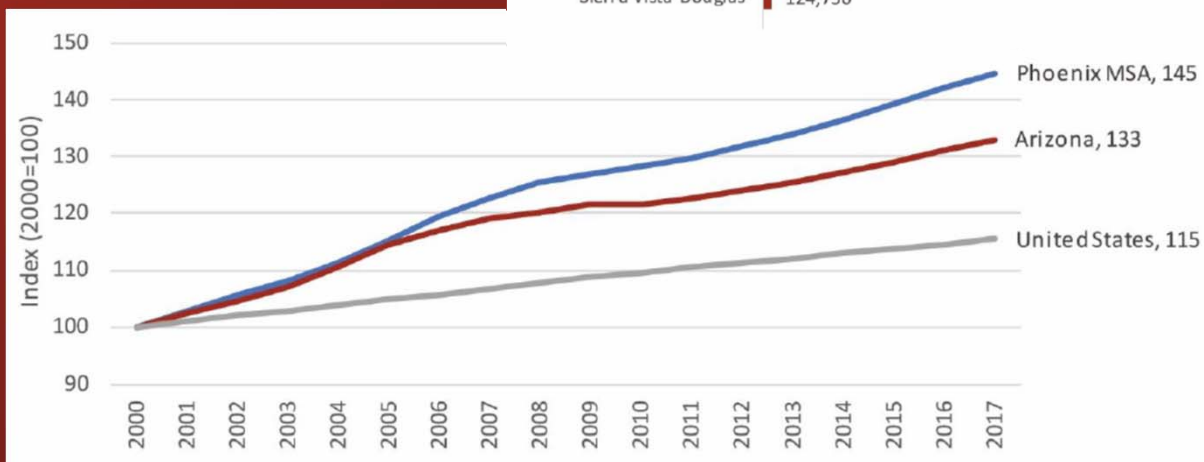
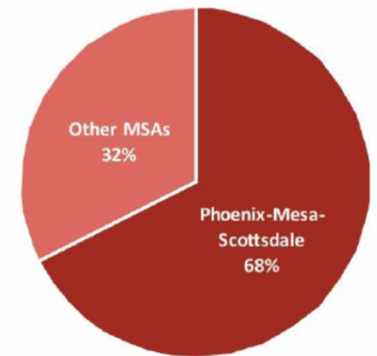


Socio-Economic Trends

Phoenix MSA Population

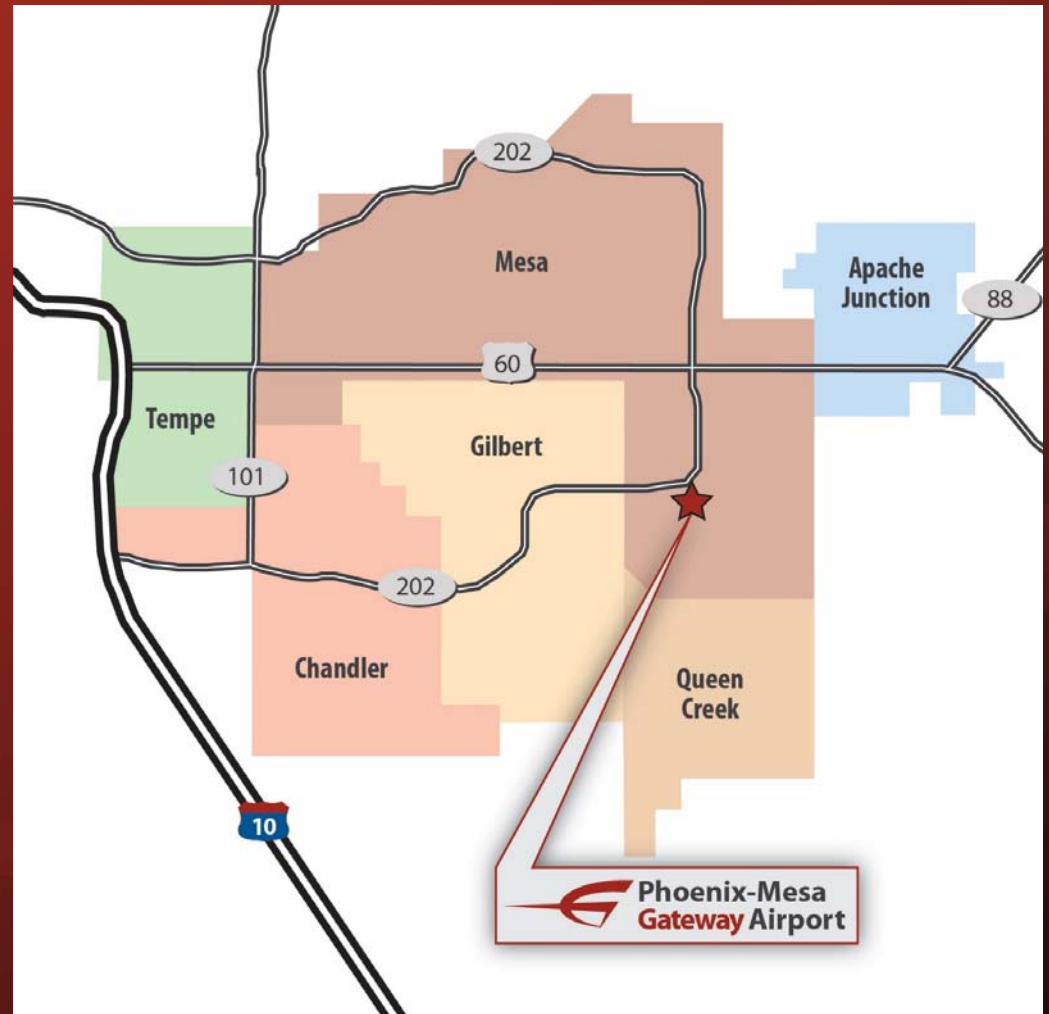


Share of Arizona State Population

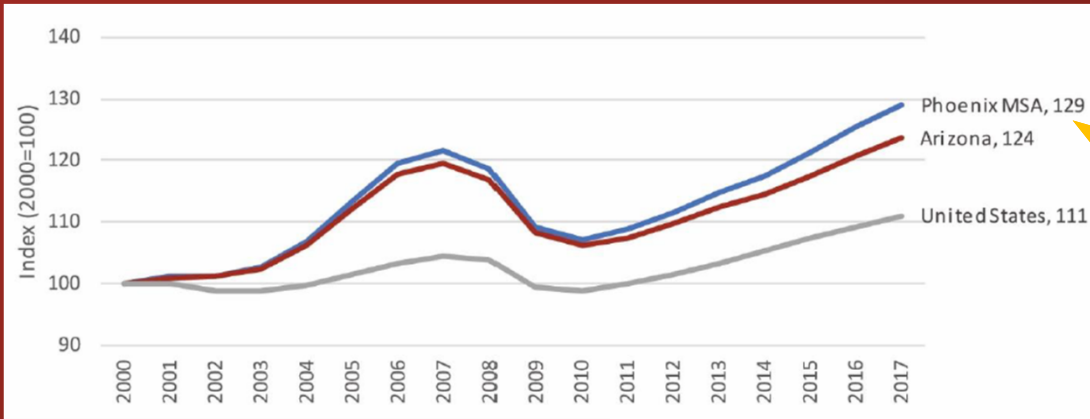


East Valley

- Rapidly growing area
- 1.3 million population in 2017
- >26% of Phoenix MSA population

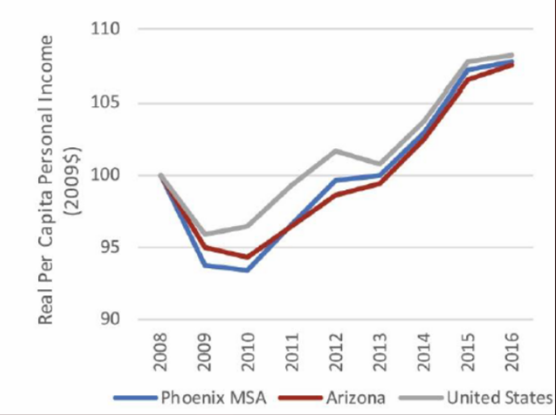
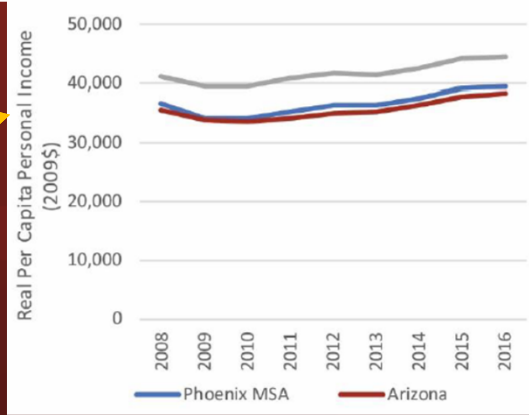


Employment and Income Growth Trends



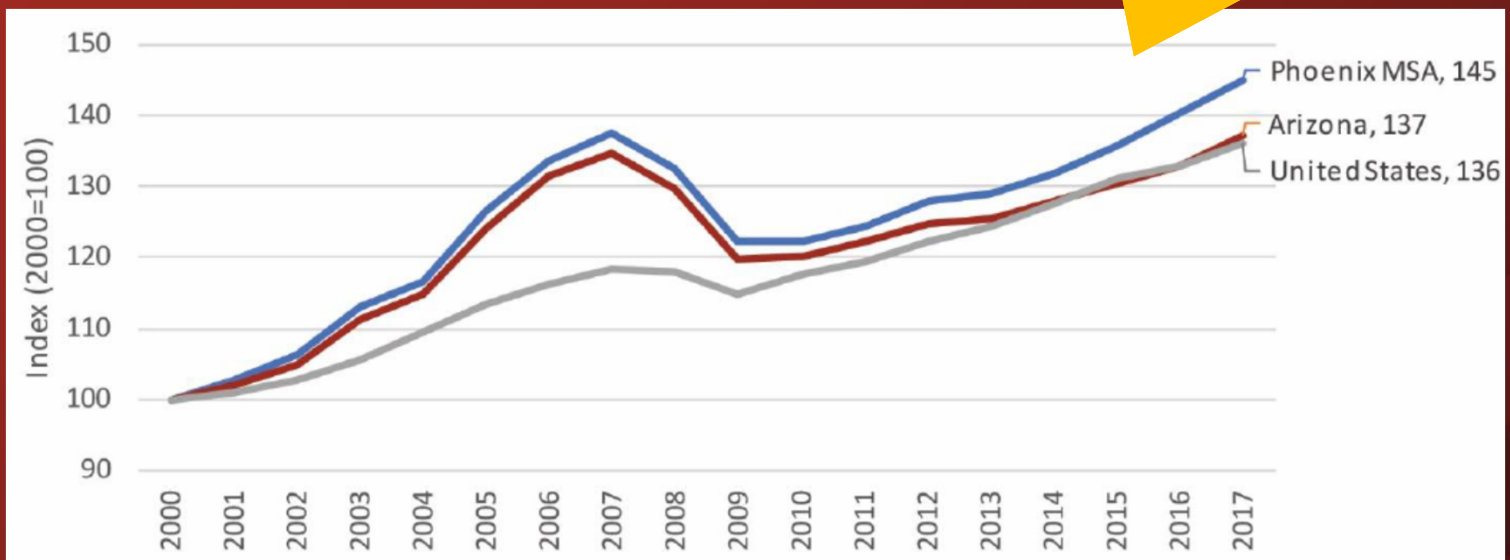
The Phoenix MSA is creating jobs faster than the nation.

The Phoenix MSA is catching up with the nation in income growth.



GDP Growth Trends

The Phoenix MSA economy outperforms the U.S. economy.

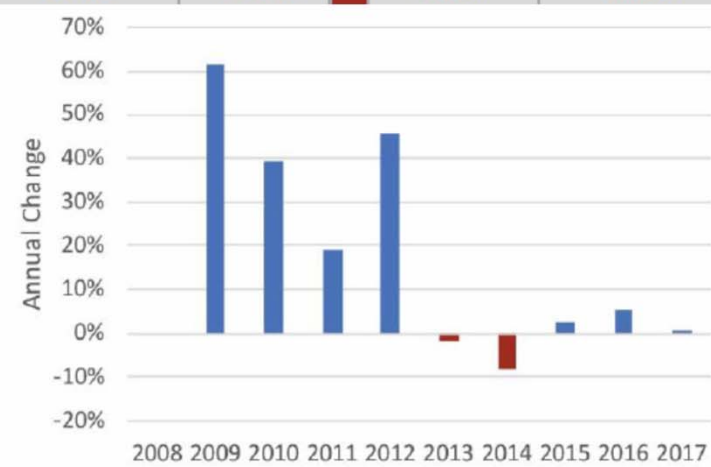
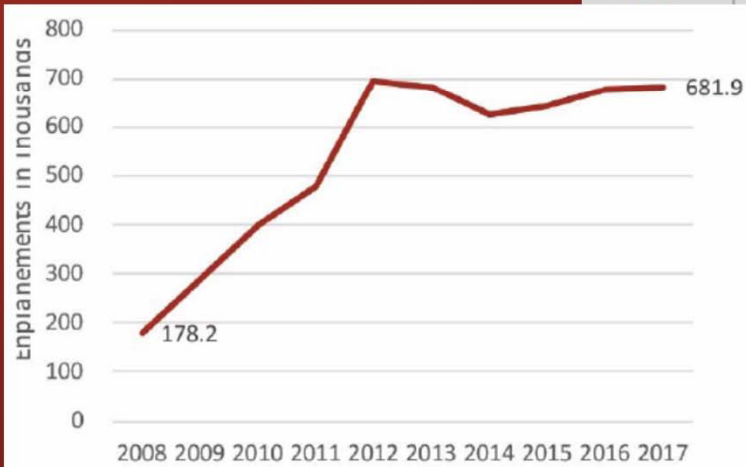


Commercial Passenger Traffic



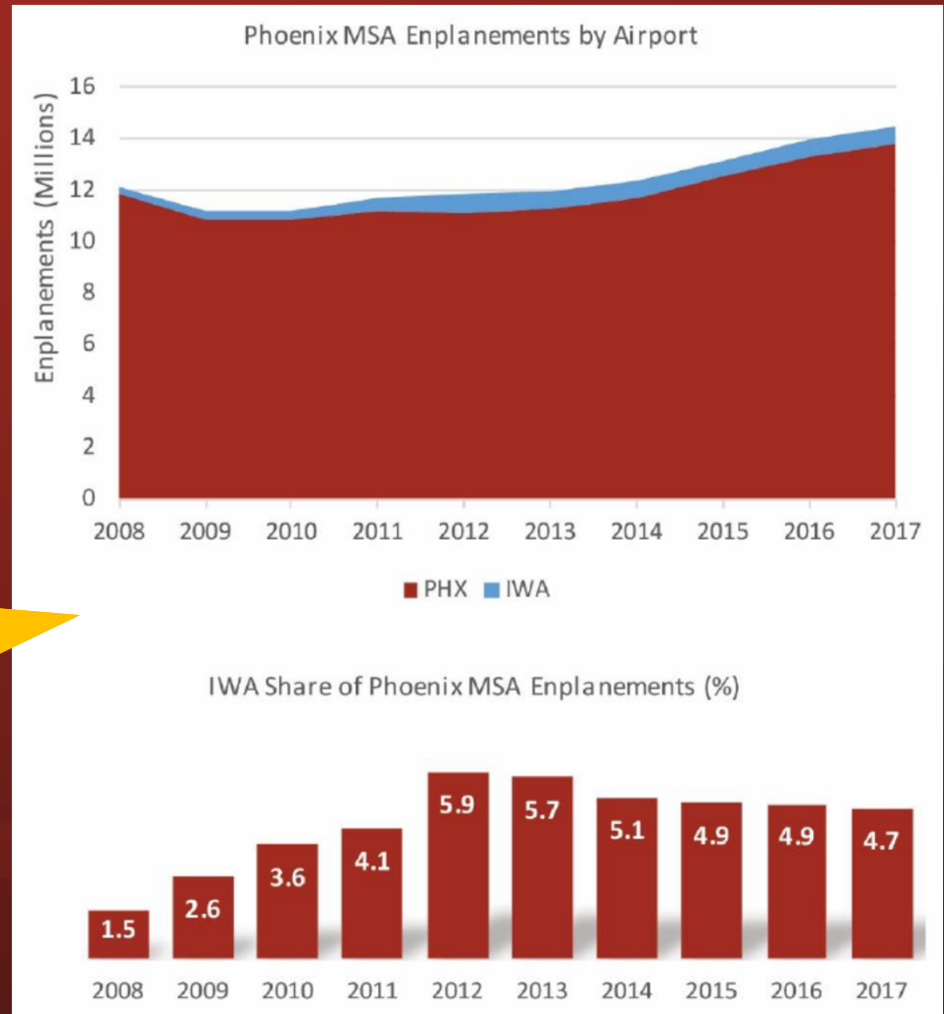
IWA Enplanement Trends

CY	EP (1,000s)	AGR	CY	EP (1,000s)	AGR
2008	178.2	626.1%	2013	680.2	-2.0%
2009	287.8	61.5%	2014	625.3	-8.1%
2010	401.4	39.4%	2015	641.3	2.5%
2011	477.5	19.0%	2016	677.1	5.6%
2012	694.3	45.4%	2017	681.9	0.7%

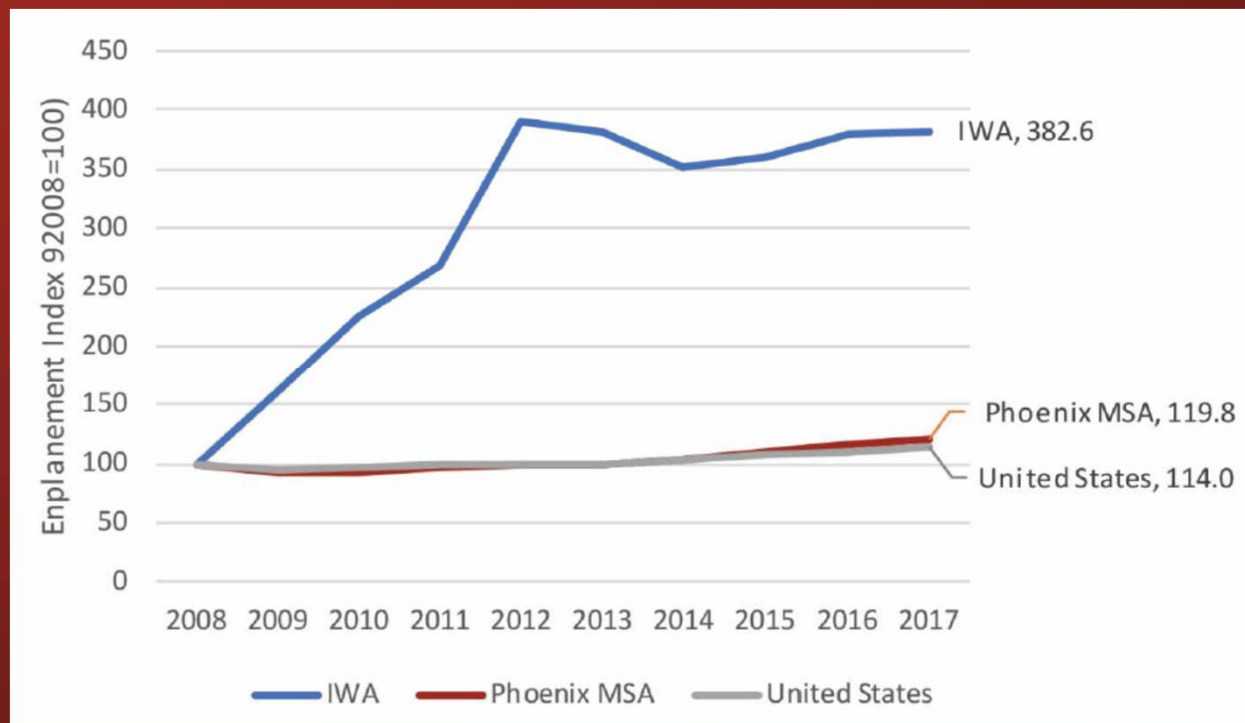


A Regional Demand Perspective

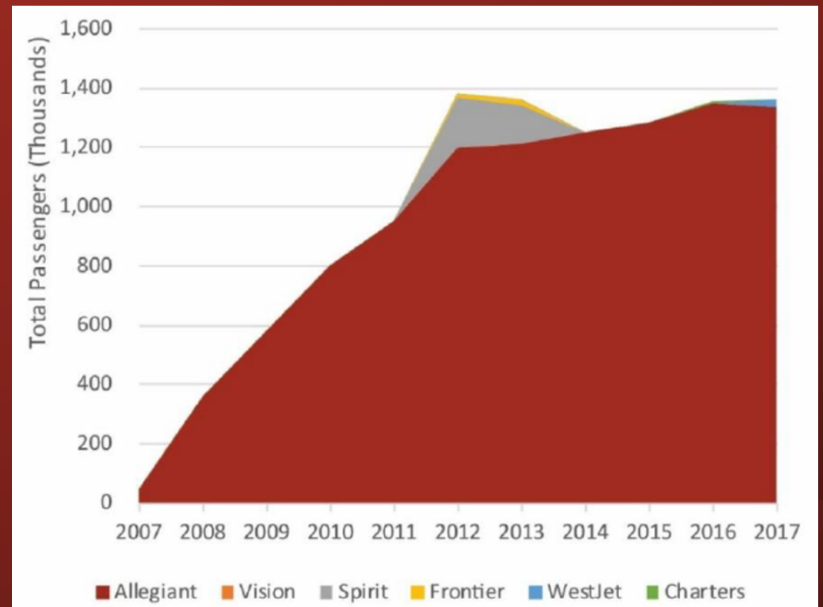
IWA captures a share of just under 5% in recent years.



IWA's Enplanement Growth Relative to Regional and National Trends



Air Carriers That Have Served IWA



Year	2008				2009				2010				2011				2012				2013				2014				2015				2016				2017			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Allegiant	[Solid red bar]																																							
Spirit	[Red bar from Q1 2012 to Q4 2013]																																							
Frontier	[Red bar from Q3 2012 to Q2 2013]																																							
WestJet	[Red bar from Q3 2016 to Q4 2017]																																							
Charters	[Red bar from Q1 2008 to Q4 2009, Q1 2014 to Q4 2015, Q1 2016 to Q4 2017]																																							



Hybrid Forecast Development Framework



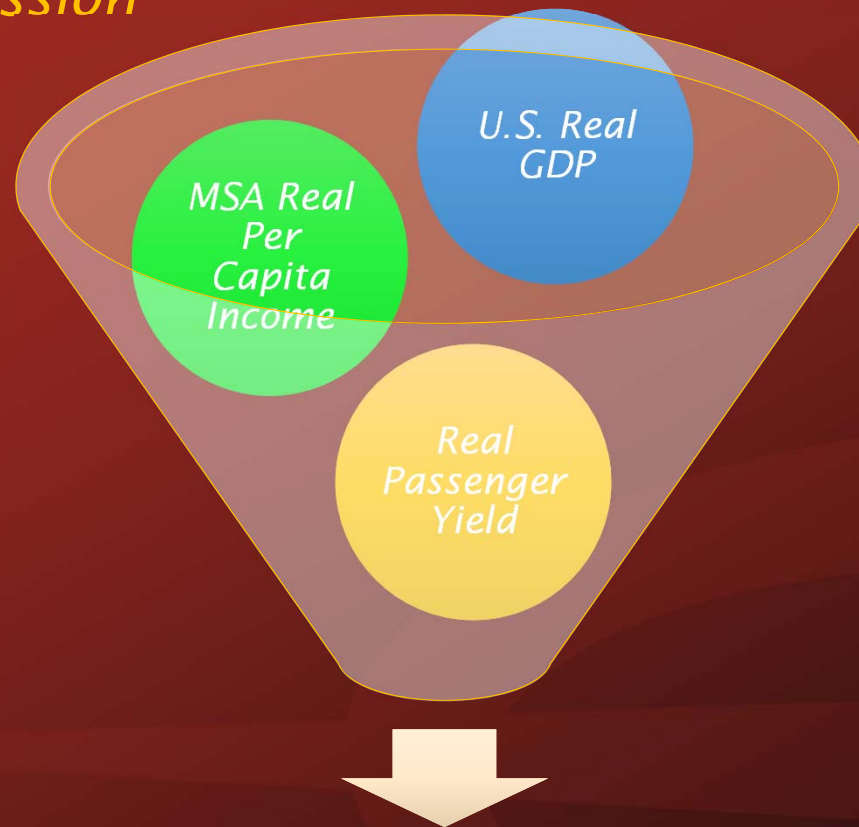
NEAR TERM: *Bottom-Up*

- Airline schedules for IWA

LONG-TERM: *Top-Down*

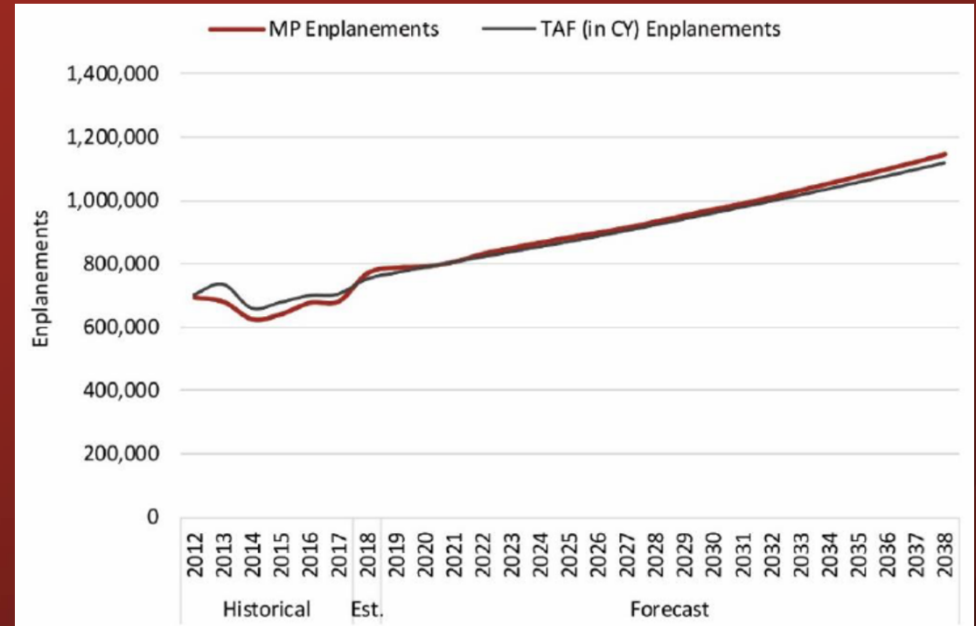
- Regional demand
- Market drivers
- Multivariate time series regression
- Share analysis

Multivariate Regression Model Variables



Regional Enplanements

Forecast Enplanements at IWA



Scenario	Actual	Est.	Forecast			Compound Annual Growth Rate			
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
Master Plan (MP)	681,892	770,526	849,894	933,157	1,145,806	13.0%	2.0%	1.9%	2.1%
TAF	690,071	746,858	834,370	919,037	1,115,554	8.2%	2.2%	2.0%	2.0%
TAF (in CY)	704,268	751,856	838,428	923,717	1,120,895	6.8%	2.2%	2.0%	2.0%
Ratio MP - TAF (in CY)	0.97	1.02	1.01	1.01	1.02				



Forecast Commercial Passenger Aircraft Operations

Scenario	Actual	Est.	Forecast			Compound Annual Growth Rate			
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
Master Plan (MP)	10,372	11,670	12,704	13,867	16,908	12.5%	1.7%	1.8%	2.0%
TAF	11,365	12,424	13,834	15,198	18,353	9.3%	2.2%	1.9%	1.9%
TAF (in CY)	11,630	12,505	13,899	15,273	18,439	7.5%	2.1%	1.9%	1.9%
Ratio MP - TAF (in CY)	0.89	0.93	0.91	0.91	0.92				

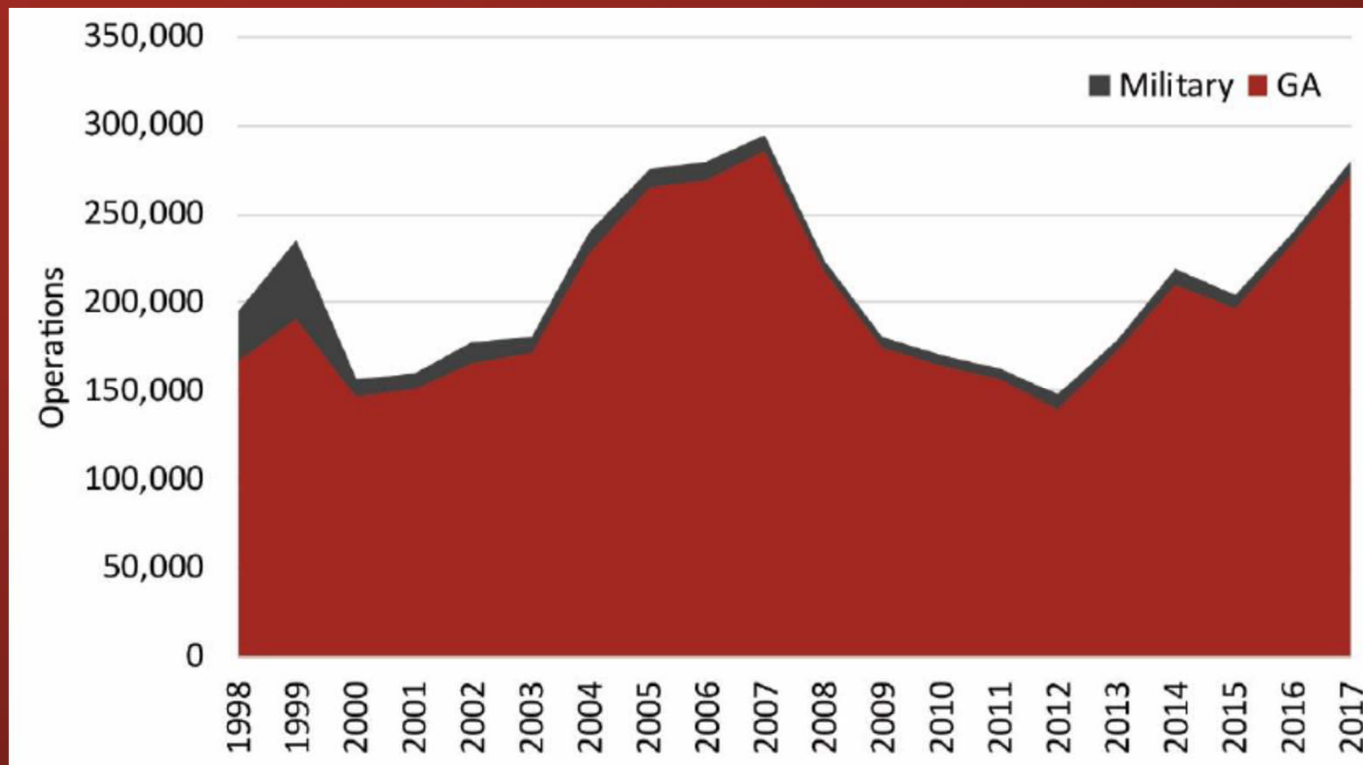
Forecast Commercial Passenger Aircraft Landed Weight In 1,000 lbs.

Scenario	Actual	Est.	Forecast			Compound Annual Growth Rate			
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
Master Plan (MP)	698,565	786,738	857,167	935,753	1,141,333	12.6%	1.7%	1.8%	2.0%

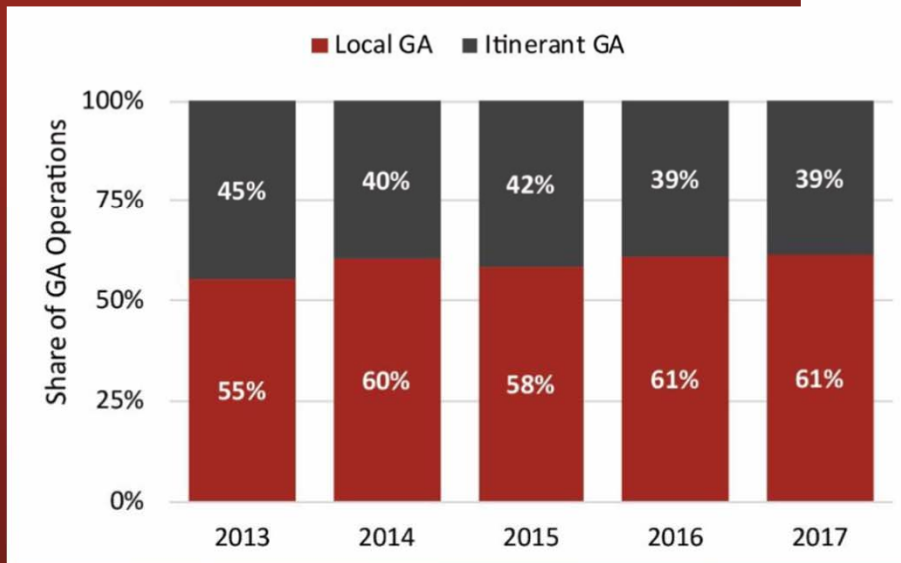
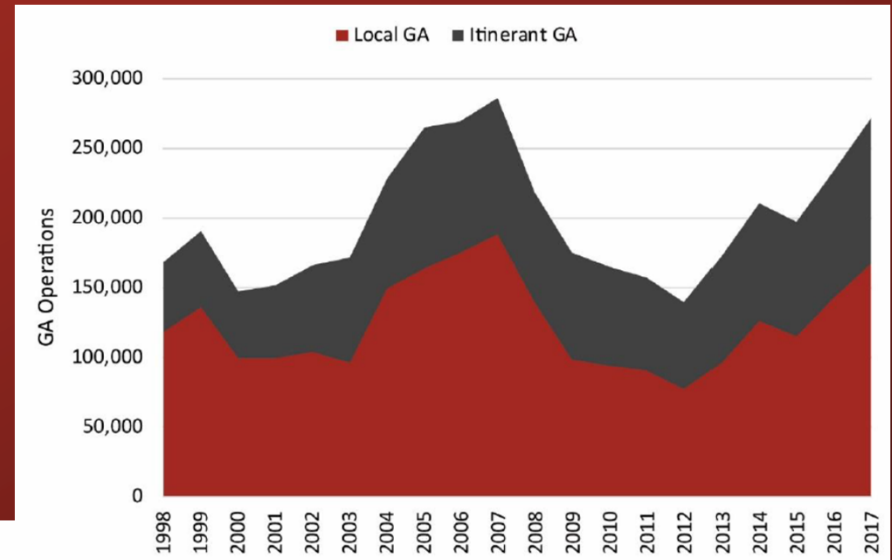


Non-Commercial Aviation Activity

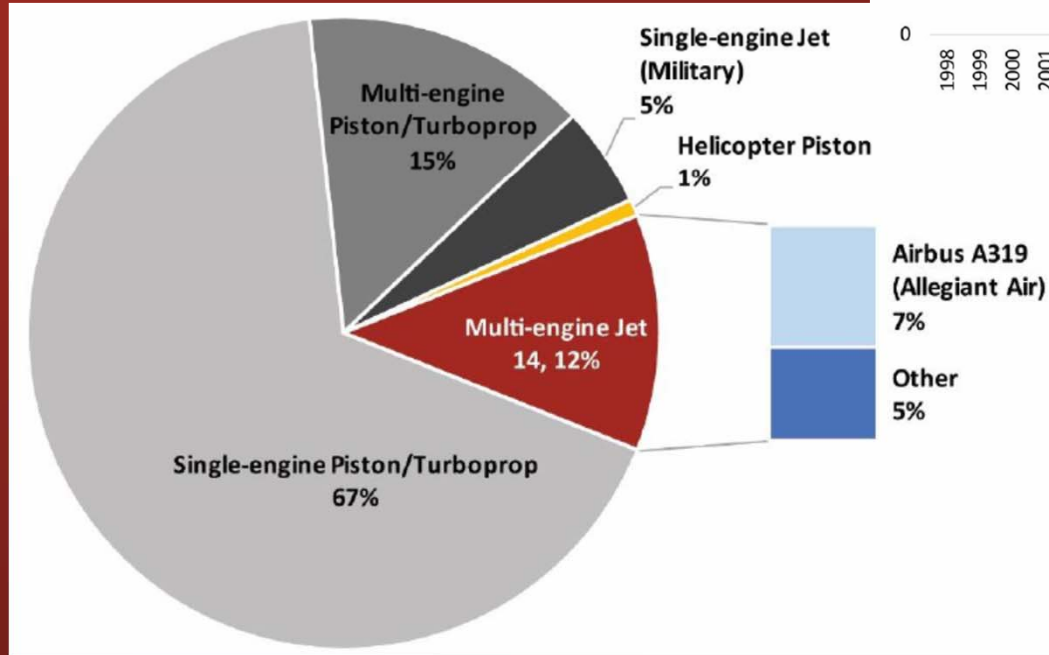
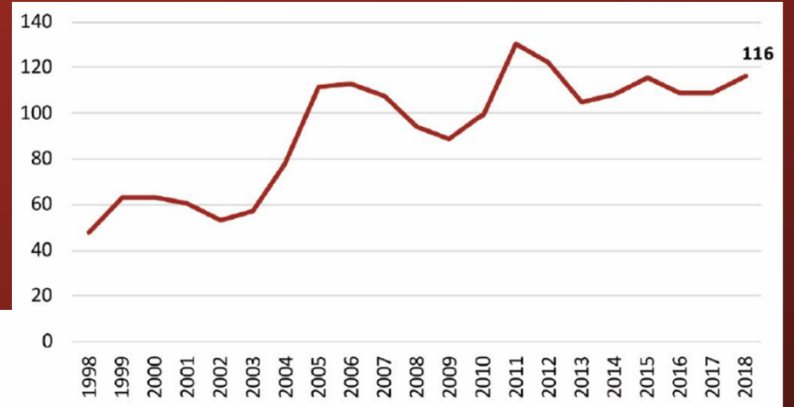
Trends in Noncommercial Aviation Activity at IWA



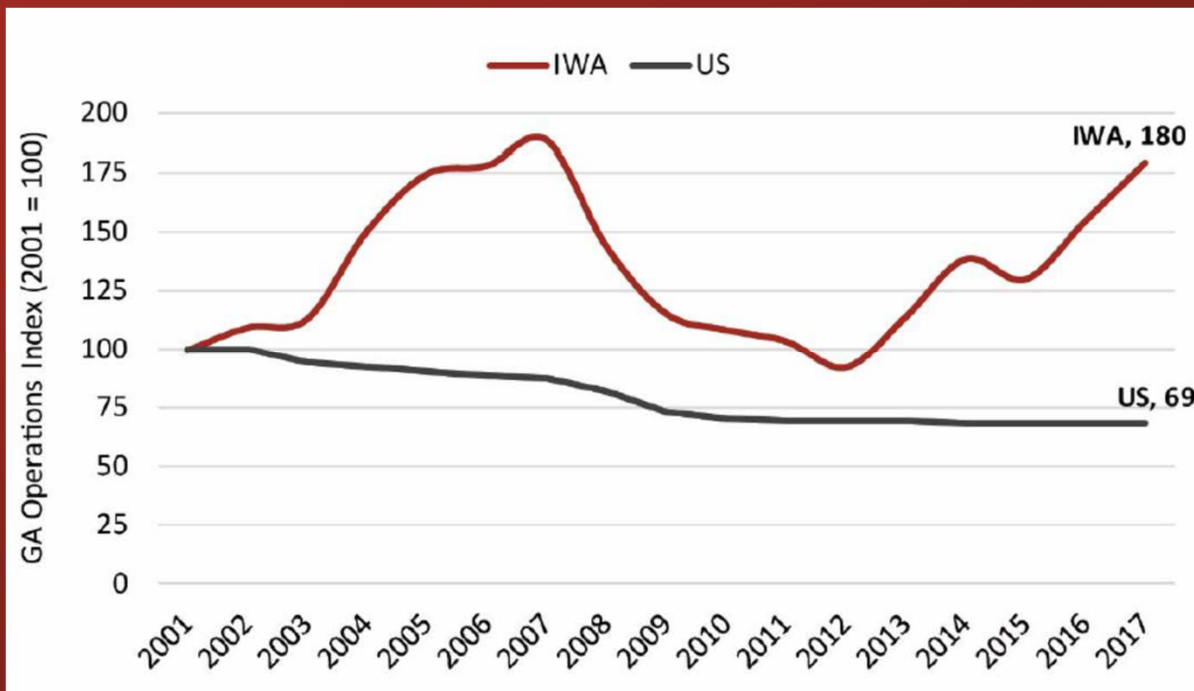
Local and Itinerant GA Operations at IWA



Based Aircraft at IWA



Trends in GA Operations at IWA and the U.S.



The Region's GA Airports

Airport	GA	Military	Based Aircraft	Market Share of Based Aircraft
DVT	378,631	134	934	38%
FFZ	287,374	4,074	635	26%
IWA	271,446	7,503	116	5%
CHD	193,859	348	154	6%
SDL	167,482	639	378	15%
GYR	107,567	3,397	192	8%
PHX	49,761	2,296	78	3%



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Top-Down Approach to GA Forecast Development


**Regional GA
Operations**



**IWA GA
Operations**

- **Regional GA Operations:**
*Multivariate Time Series
Regression Analysis*
- **IWA GA Operations:**
Share Analysis





Separate Models for Local & Itinerant Operations

- ✓ **Drivers of Local GA Operations**
 - Phoenix MSA population
 - Phoenix MSA nonfarm employment
- ✓ **Drivers of Itinerant GA Operations**
 - Phoenix MSA real per capita GDP
 - Jet fuel price

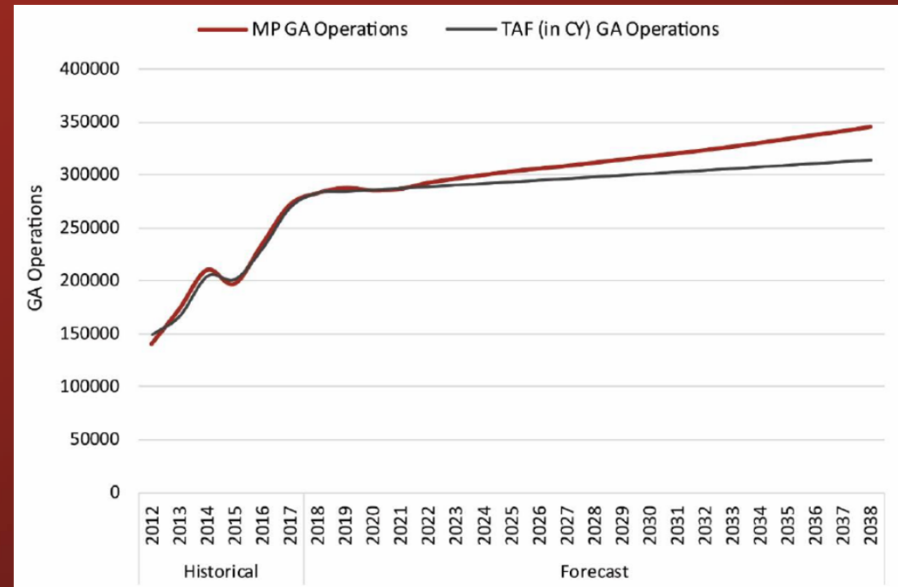


Forecast Non-Commercial Aviation Activity at IWA

Measure/Scenario	Actual	Est.	Forecast			Compound Annual Growth Rate			
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
General Aviation	271,446	282,596	296,256	311,455	345,401	4.1%	0.9%	1.0%	1.0%
Itinerant	104,927	114,236	115,835	119,407	128,625	8.9%	0.3%	0.6%	0.7%
Local	166,519	168,360	180,421	192,048	216,776	1.1%	1.4%	1.3%	1.2%
Military	7,503	7,503	7,503	7,503	7,503	0.0%	0.0%	0.0%	0.0%
Based Aircraft	109	116	121	126	139	6.4%	0.8%	0.9%	0.9%



Forecast GA Operations Compared with the TAF



Measure/Scenario	Actual	Est.	Forecast		Compound Annual Growth Rate				
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
GA Total	271,446	282,596	296,256	311,455	345,401	4.1%	0.9%	1.0%	1.0%
Itinerant	104,927	114,236	115,835	119,407	128,625	8.9%	0.3%	0.6%	0.7%
Local	166,519	168,360	180,421	192,048	216,776	1.1%	1.4%	1.3%	1.2%
TAF (in CY)	269,167	282,758	290,167	297,796	313,757	5.0%	0.5%	0.5%	0.5%
Ratio GA Total-TAF (in CY)	1.01	1.00	1.02	1.05	1.10				



Next Steps: Quantitative Forecast Risk Analysis

- ✓ Monte Carlo simulation
- ✓ Scenario analysis



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24 Miles Up, Felix Baumgartner Jumps!



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Master Plan = Spin Control

- ✓ Anticipate What We Think Will Happen
- ✓ Influence What We Want to Happen





Questions & Comments

Next Steps

- ✓ Monte Carlo forecast simulation analysis
- ✓ Forecast revisions
- ✓ Submission of forecasts to FAA for approval
- ✓ Facility needs documentation
- ✓ Identification of preliminary airport development alternatives
- ✓ Publication of Working Paper Two
- ✓ Technical Advisory Committee Meeting #2
- ✓ Stakeholder Working Group Meeting #2
- ✓ Public Outreach Workshop #1
- ✓ Next Meetings Late October or Early November 2018



Project Contact Information

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*Thank You Partners and Goodbye
for Now!*