

# Phoenix-Mesa Gateway Airport

## Master Plan – Technical Advisory Committee Meeting

*January 15, 2019*



Phoenix-Mesa  
**Gateway**  
Airport Master Plan



# Agenda

- ✓ **Introductory Remarks and Agenda Review**
- ✓ **Airfield Configuration Facility Findings Summary**
- ✓ **Passenger Terminal Facility Findings**
- ✓ **Terminal Area Parking Findings**
- ✓ **Westside Parking Options**
- ✓ **Other Landside Facility Findings**
- ✓ **Airside Alternatives Considerations**
- ✓ **Landside Development Considerations**
- ✓ **Next Steps**

# Master Plan Forecast Summary

Measure/Scenario	Actual	Estimate	Forecast			CAGR			
	2017	2018	2023	2028	2038	2017-2018	2018-2023	2023-2028	2028-2038
<b>Enplanements</b>									
<b>Master Plan</b>	<b>681,892</b>	<b>759,033</b>	<b>924,667</b>	<b>1,022,420</b>	<b>1,245,211</b>	11.3%	4.0%	2.0%	2.0%
High Growth	681,892	759,033	1,037,426	1,168,589	1,451,202	11.3%	6.4%	2.4%	2.2%
Low Growth	681,892	759,033	903,617	984,846	1,180,070	11.3%	3.5%	1.7%	1.8%
<b>Commercial Aircraft Operations</b>									
<b>Master Plan</b>	<b>10,372</b>	<b>10,920</b>	<b>12,953</b>	<b>14,070</b>	<b>16,840</b>	5.3%	3.5%	1.7%	1.8%
High Growth	10,372	10,920	14,463	16,020	19,570	5.3%	5.8%	2.1%	2.0%
High Growth*	10,372	10,920	16,795	22,184	31,482	5.3%	9.0%	5.7%	3.6%
Low Growth	10,372	10,920	12,662	13,558	15,967	5.3%	3.0%	1.4%	1.6%
<b>Noncommercial Aircraft Operations</b>									
General Aviation	271,446	282,596	296,256	311,455	345,401	4.1%	0.9%	1.0%	1.0%
Military	7,503	7,503	7,503	7,503	7,503	0.0%	0.0%	0.0%	0.0%
Subtotal	278,949	290,099	303,759	318,958	352,904	4.0%	0.9%	1.0%	1.0%
<b>Total Aircraft Operations</b>									
<b>Master Plan</b>	<b>289,321</b>	<b>301,019</b>	<b>316,712</b>	<b>333,028</b>	<b>369,744</b>	4.0%	1.0%	1.0%	1.1%
High Growth	289,321	301,019	318,222	334,978	372,474	4.0%	1.1%	1.0%	1.1%
High Growth*	289,321	301,019	320,554	341,142	384,386	4.0%	1.3%	1.3%	1.2%
Low Growth	289,321	301,019	316,421	332,516	368,871	4.0%	1.0%	1.0%	1.0%

# Airport Master Plan- FAA Approved Forecast

## Enplanement Forecast:

2018 Total= 763,000±

2023	2028	2038
924,667	1,022,420	1,245,211

## Total Operations Forecast:

2018 Total= 288,921

2023	2028	2038
316,712	333,028	369,744

## Total Based Aircraft Forecast:

2017 Actual = 109

2023	2028	2038
121	126	139



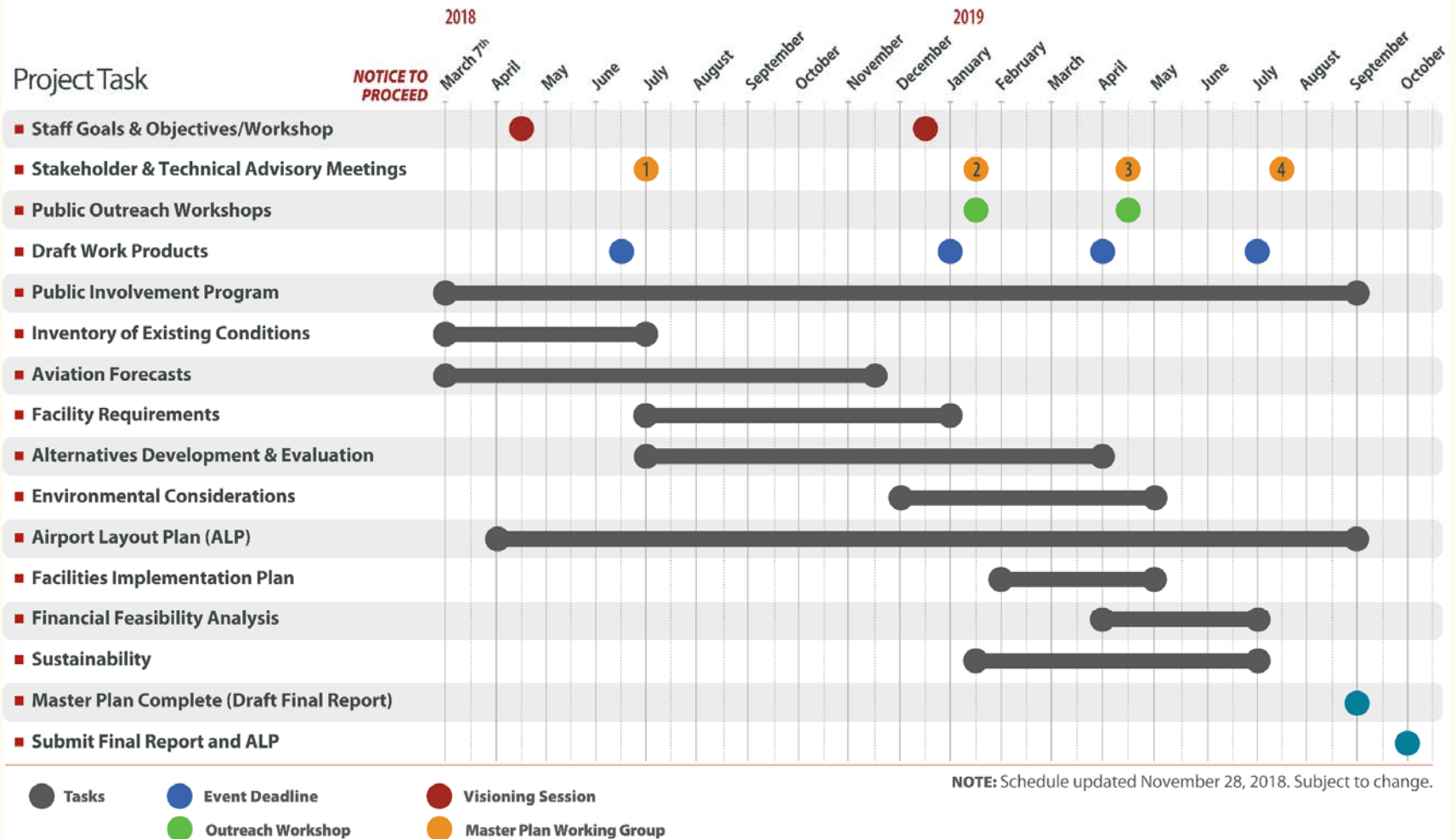


# Project Approach

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



# Project Schedule Airport Master Plan



# Master Plan- Statement of Policy

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



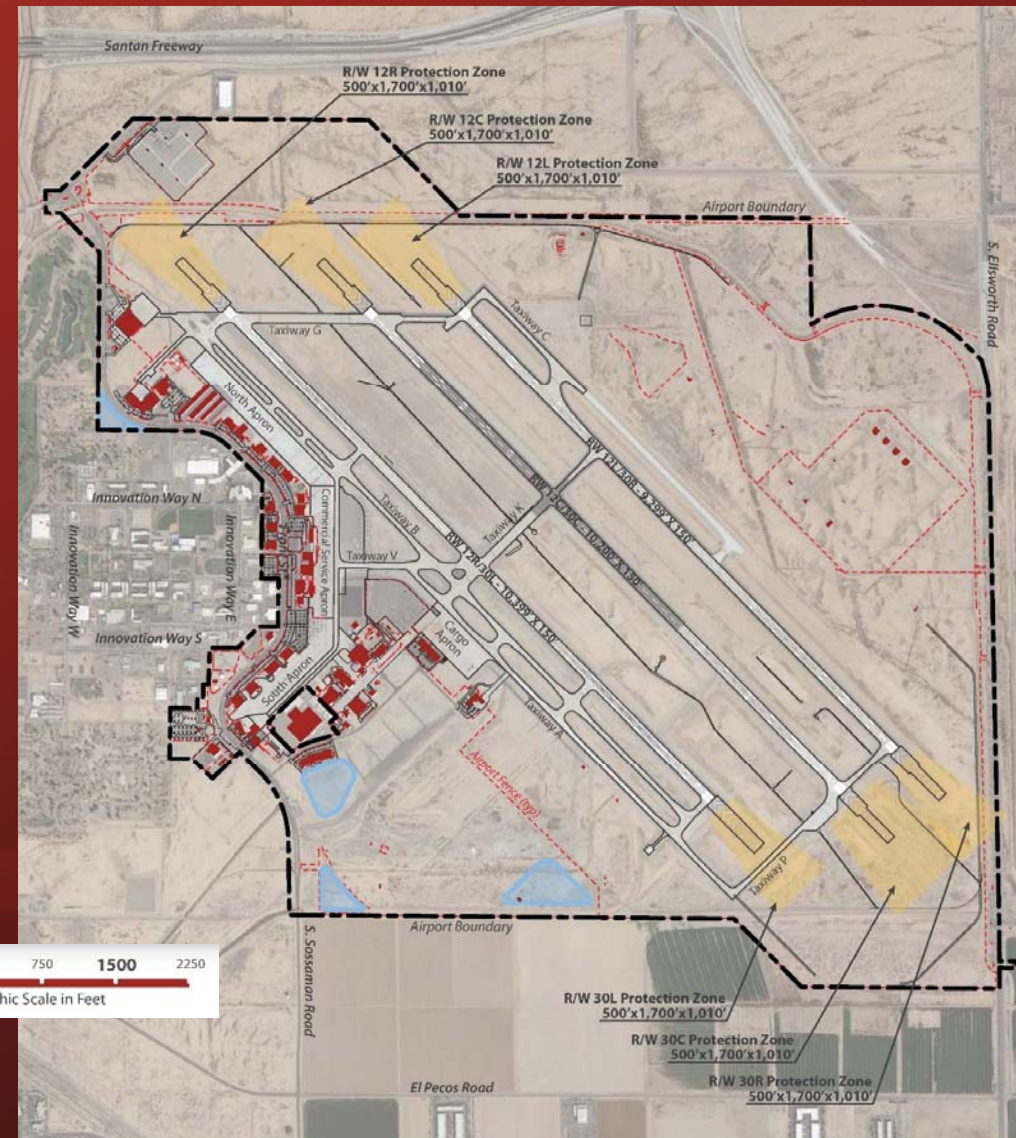


# Airfield Configuration

- ✓ Runway Orientation
- ✓ Airfield Operational Capacity
- ✓ Runway Length Analysis
- ✓ Runway Design and Dimensional Criteria
- ✓ Parallel Runway Separation
- ✓ Instrument Approach Capabilities
- ✓ Taxiway Design and Dimensional Criteria
- ✓ Parallel Taxiway Improvement Considerations
- ✓ Exit Taxiways



# Existing Airport Facilities



# Runway Length and Pavement Strength Requirement for B747-400 Operations

	Required Runway Length	Existing Runway Length	Required Pavement Strength	Existing DDTW Pavement Strength
<b>Runway 12R/30L</b>	9,500 ft.	10,401 ft.	740,000 lbs.	550,000
<b>Runway 12C/30C</b>	9,500 ft.	10,201 ft.	740,000 lbs.	550,000
<b>Runway 12L/30R</b>	9,500 ft.	<b>9,300 ft.</b>	740,000 lbs.	850,000





# Passenger Terminal Facilities

- ✓ Inbound and Outbound Baggage
- ✓ Concourse Holdroom (Gates)
- ✓ Aircraft Parking
- ✓ Security Checkpoint
- ✓ Check-In Lobby (Ticketing)

# Facility Requirements- Passenger Terminal

Functional Area	Existing (supply)	PAL 1 (2023)	PAL 2 (2028)	PAL 3 (2038)
<b>CHECK-IN (TICKETING)</b>				
Queue (sf)	4,500	3,550	3,700	4,350
Counters/Bag drops	32	26	27	31
<b>CHECKED BAGGAGE</b>				
EDS machines	2 CT-80	3 MS-EDS	4 MS-EDS	4 MS-EDS
Makeup area (sf)	11,500	11,400	12,800	15,700
<b>SECURITY SCREENING CHECKPOINT</b>				
Queue (sf)	1,725	1,700	1,900	2,625
Lanes	5	5	5	5
<b>PASSENGER HOLDROOM</b>				
Holdroom (sf)	15,260	13,000	15,300	19,700
Podium, queueing, egress (sf)	3,950	3,150	3,675	4,725
<b>APRON (GATES)</b>	10	8 (ADG III)	9	11
<b>BAGGAGE CLAIM (DEVICES)</b>	2	2	3	3

PAL = Planning Activity Level (tied to forecast)

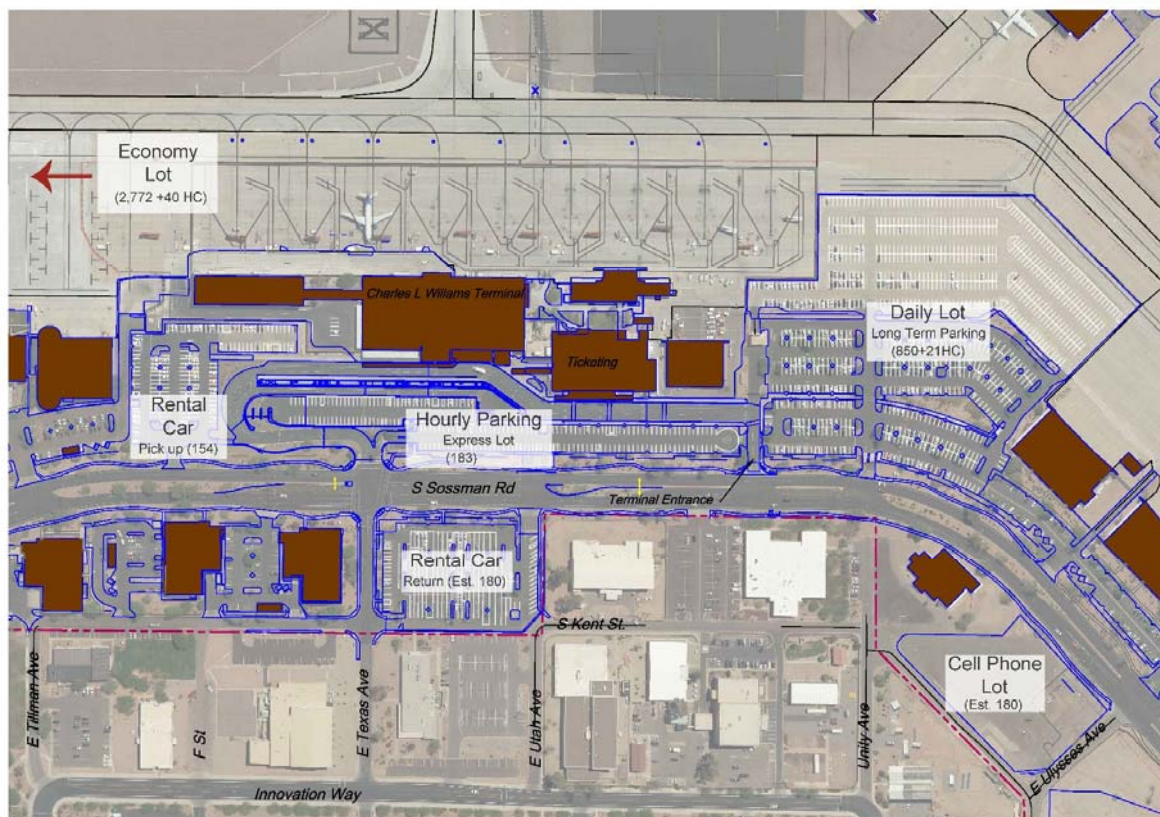


# Passenger Terminal Support Facilities

- ✓ Access Roadway System
- ✓ Passenger Parking System
- ✓ Rental Car Parking
- ✓ Employee Parking
- ✓ Temporary Parking (Cell Phone Lot)



# Existing Parking Facilities



Mead&Hunt



0 200' 400'  
Graphic Scale in Feet

Economy Parking Lot  
Location Map



1.8 Miles from terminal  
(free shuttle)

**LEGEND**

Existing Building

# Public Parking Demand Forecasts

(25)

(Master Plan Projected Growth Rate)

Lot		FY 2018 Peak	Short – Term	Mid – Term	Long – Term
Hourly Express Lot	Supply	183	183	183	183
	Effective Supply	156	156	156	156
	Demand	194	242	265	326
	Surplus/Deficit	-38	-86	-109	-170
Daily Lot	Supply	871	871	871	871
	Effective Supply	740	740	740	740
	Demand	717	894	982	1,205
	Surplus/Deficit	23	-154	-241	-465
Ray Road Economy Lot	Supply	2,812	2,812	2,812	2,812
	Effective Supply	2,390	2,390	2,390	2,390
	Demand	747	931	1022	1255
	Surplus/Deficit	1643	1459	1368	1135
Grand Total	Supply	3,866	3,866	3,866	3,866
	Effective Supply	3,286	3,286	3,286	3,286
	Demand	1,658	2,067	2,270	2,787
	Surplus/Deficit	1,628	1,219	1,017	499

## ✓ Effective Supply

- Best practices for managing parking supply suggest that parking supply is at capacity when the demand reaches 85% utilization

## ✓ Deficits

- Immediate**
  - Hourly Lot, based on observed condition. Lot should be considered at or near capacity.
- Short, Mid, Long-Term**
  - Hourly Express Lot
  - Daily Lot

## ✓ Surplus

- Immediate, Short, Mid, Long-Term**
  - Significant surplus in Economy Lot throughout planning horizon

Mead&Hunt





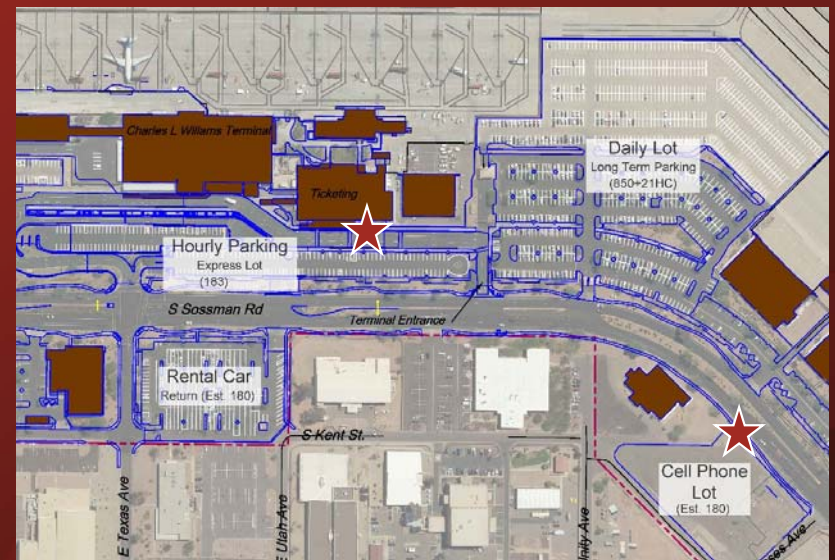


# Passenger Terminal Area Acres Comparison

- ✓ IWA Existing - 36 Acres/680 K Enplaned Pax 2017 (1.2 M Forecast)/10 aircraft parking positions
- ✓ IWA Future (existing ALP) - 275 Acres/60 aircraft parking positions
- ✓ Northwest Arkansas Regional Airport - 124 Acres/725 K Enplaned Pax 2017/15 aircraft parking positions
- ✓ Tulsa International Airport – 103 Acres/1.4 M Pax 2017/22 Aircraft Parking Positions

# Temporary Parking (Cell Phone Lot)

- ✓ **Proximity to Terminal**
  - **Should not be within walking distance of terminal**
    - According to Guidance documents for the evaluation of parking facilities at airports
  - **Approximately 1/4 mile from terminal**
- ✓ **Max (60) Spaces Needed**
  - **At 180 spaces, the Cell Phone Lot is out of scale with needs for the airport. If visitors intend to stay longer than one-hour, other parking facilities are provided by the airport**
    - According to Guidance documents for the evaluation of parking facilities at airports
- ✓ **Surplus**
  - **Functionally has surplus of 120 spaces**





# Summary Peak Parking Surplus/Deficit

(Master Plan Projected Growth Rate)

Lot	FY 2018 Peak	Short – Term	Mid – Term	Long – Term
<b>Public Parking Total</b>	<b>1,628</b>	<b>1,219</b>	<b>1,017</b>	<b>499</b>
Hourly Express Lot	-38	-86	-109	-170
Daily Lot	23	-154	-241	-465
Ray Road Economy Lot	1643	1459	1368	1135
<b>Rental Parking</b>	<b>0</b>	<b>-38</b>	<b>-57</b>	<b>-105</b>
<b>Employee Parking</b>	<b>0</b>	<b>-41</b>	<b>-62</b>	<b>-114</b>
<b>Temporary Parking</b>	<b>120</b>	<b>120</b>	<b>120</b>	<b>120</b>

## ✓ Deficits

### ▪ Immediate

- Hourly Lot, based on observed condition. Lot should be considered at or near capacity
- Employee Parking will continue to impact revenues and supply

### ▪ Short, Mid, Long-Term

- Hourly Express Lot
- Daily Lot
- Rental Parking Ready Lot

## ✓ Surplus

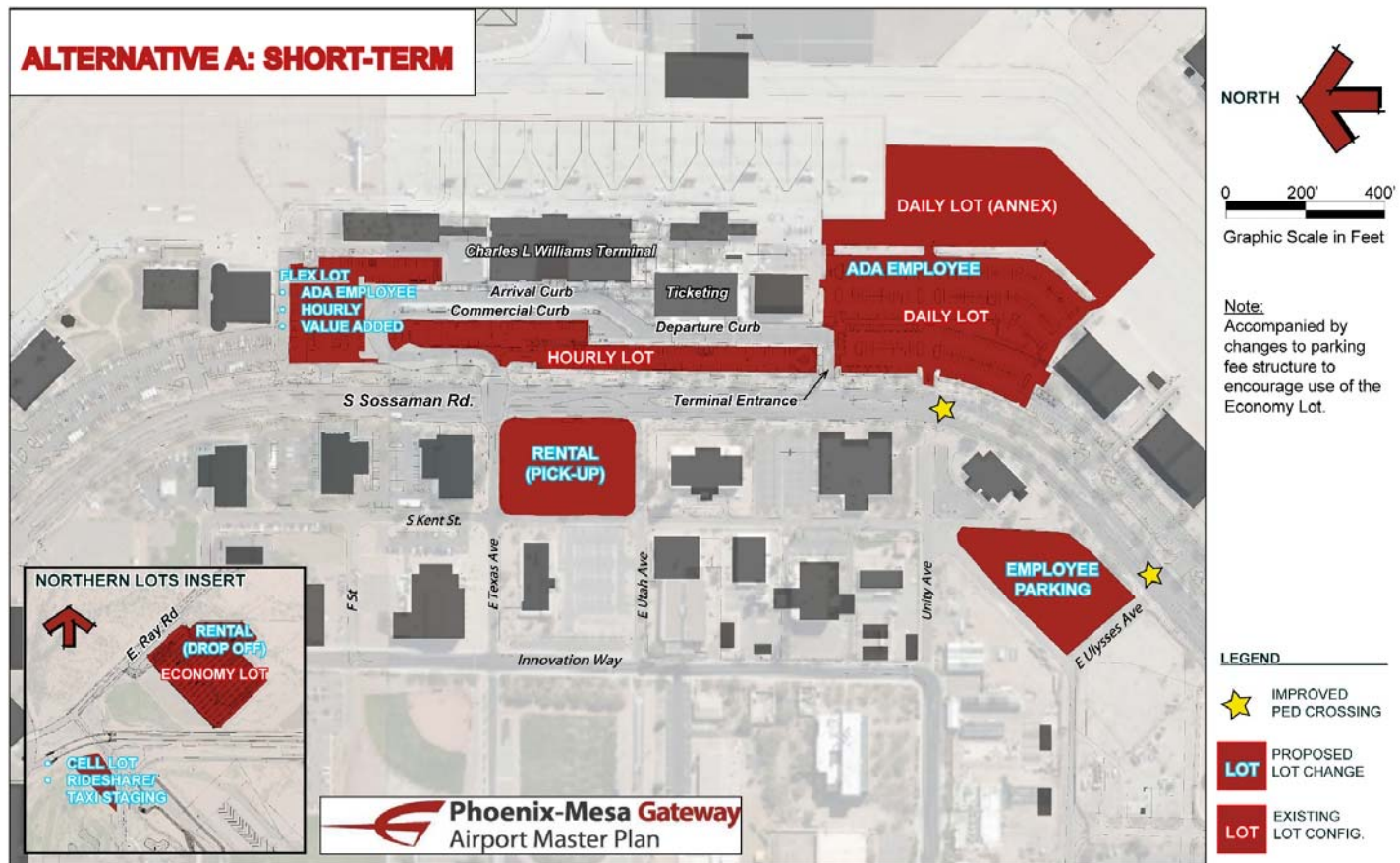
### ▪ Immediate

- Small surplus in Daily Lot

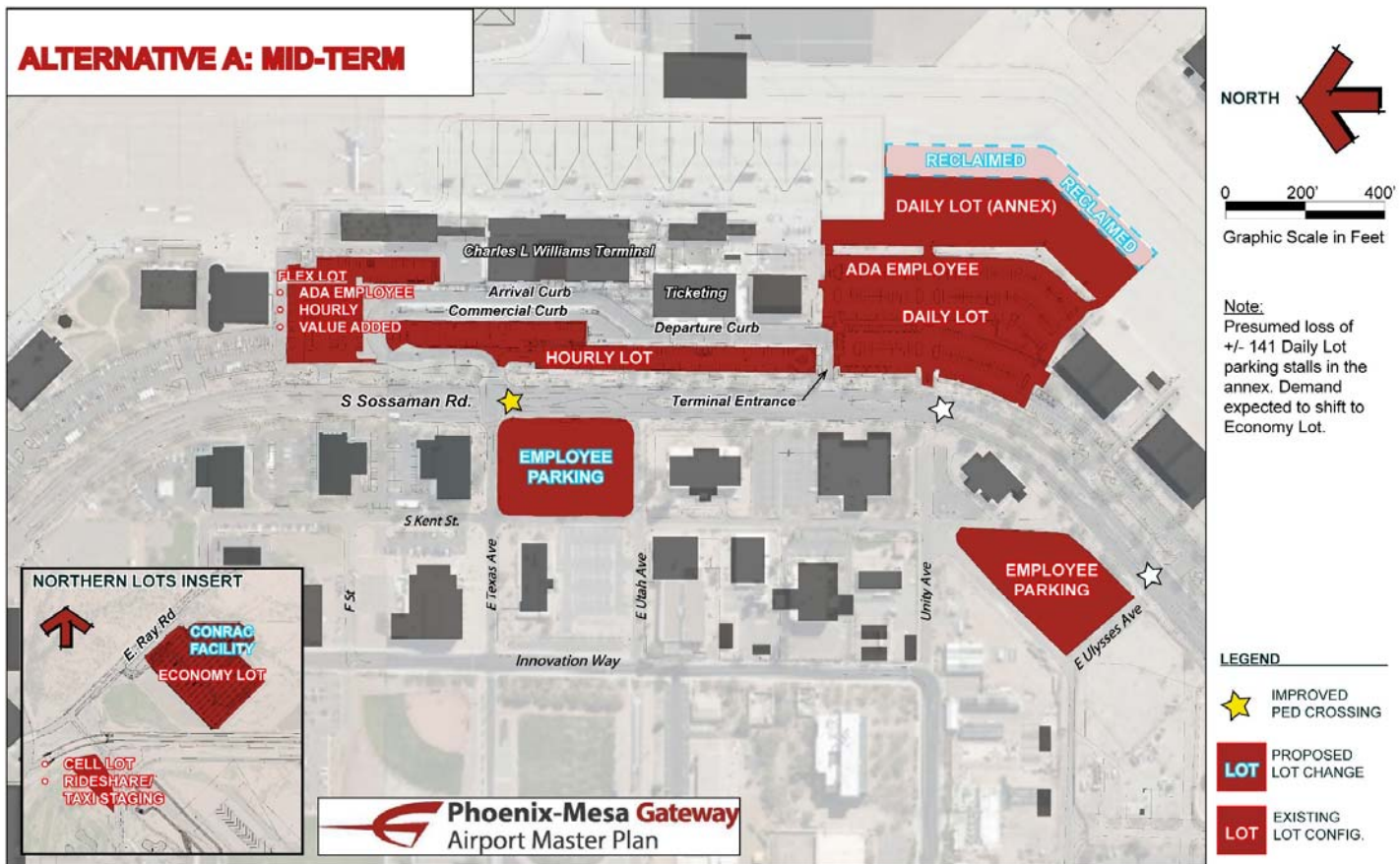
### ▪ Short, Mid, Long-Term

- Significant surplus in Economy Lot throughout planning horizon
- Temporary (Cell Phone) Parking Lot

# Westside Parking Improvement Options

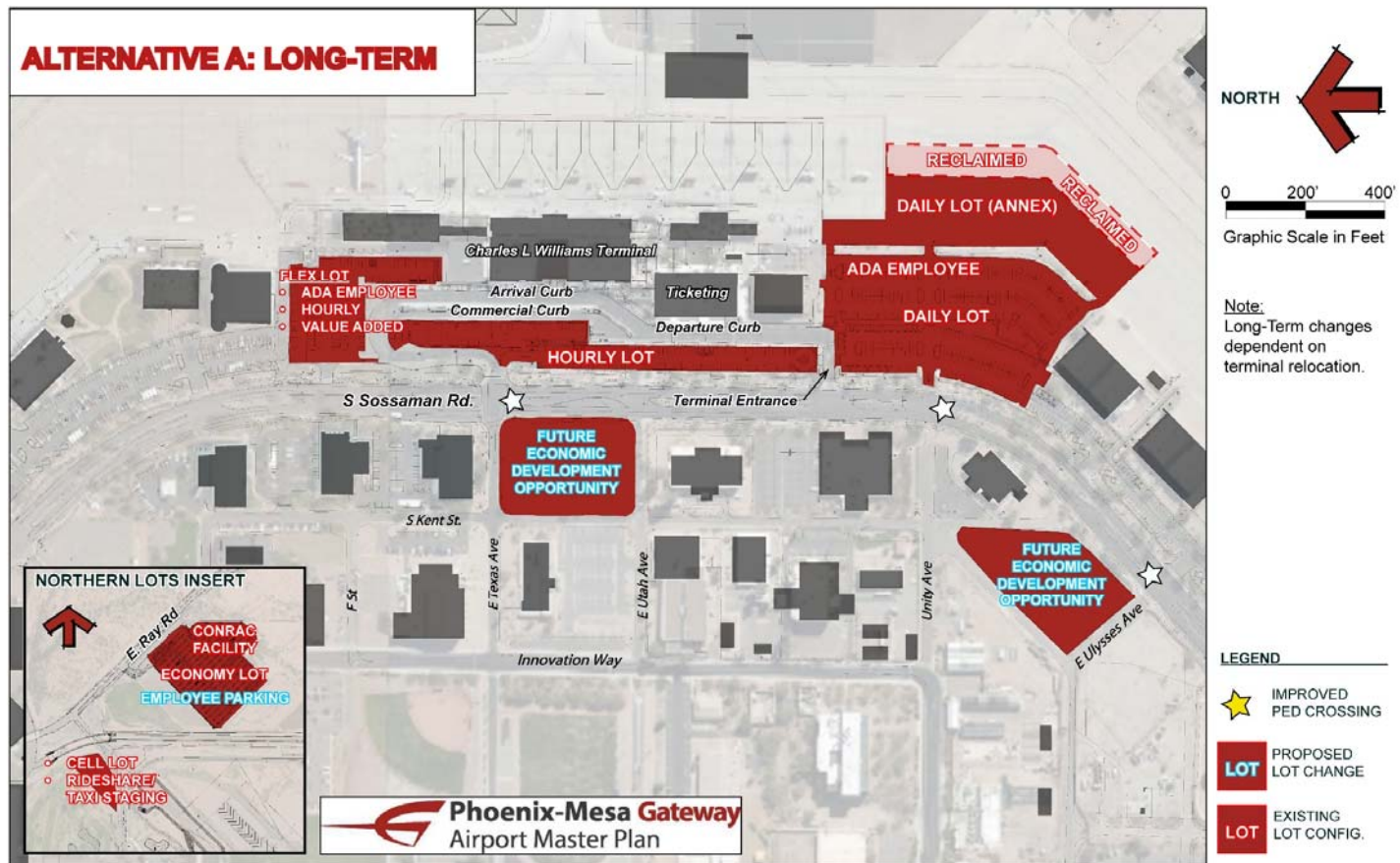


# Westside Parking Improvement Options





# Westside Parking Improvement Options





# Other Landside Facilities

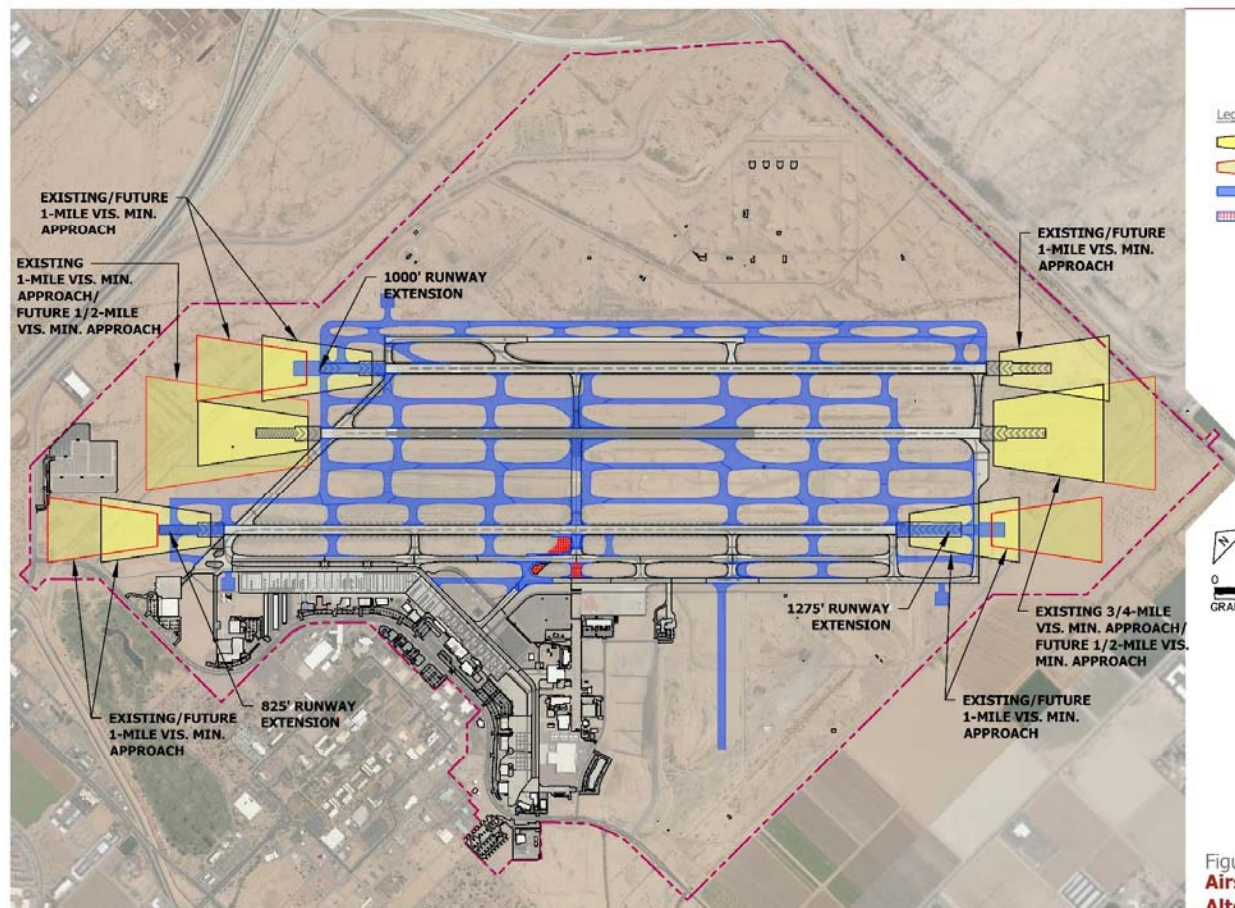
- ✓ General Aviation Storage Facilities
- ✓ Corporate/MRO Facilities
- ✓ Fixed Base Operator Facilities
- ✓ Air Cargo Facilities
- ✓ ARFF (Fire Fighting)/Airport Maintenance
- ✓ Airport Traffic Control Tower
- ✓ Fuel Storage





# Summary of Critical Facility Requirement Considerations

- ✓ Identify potential needs and benefits for runway extension(s)
- ✓ Identify benefits for placement of parallel taxiway improvements
- ✓ Consideration of benefits of improved instrument approach capabilities
- ✓ Passenger terminal
  - Short-term focus on demand driven improvements for existing terminal building
  - Long-term focus on relocated terminal
- ✓ Vehicular access and parking
  - Short-term focus on demand driven improvements for existing terminal area
  - Long-term focus on relocated terminal including support facilities
- ✓ SkyBridge Arizona - incorporate adopted recommendations into master plan
- ✓ General aviation and industrial aviation - continue to program for demand driven facility expansion and improvements



- Legend**
- Existing Runway Protection Zone
  - Future Runway Protection Zone
  - Future Runway/Taxiway Pavement
  - Future Taxiway Pavement Removed

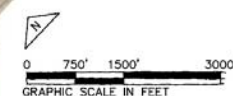


Figure x-x:  
**Airside Development  
 Alternative 2  
 Protect for Ultimate Potential  
 Airside Configuration**

**Phoenix-Mesa Gateway**  
 Airport Master Plan



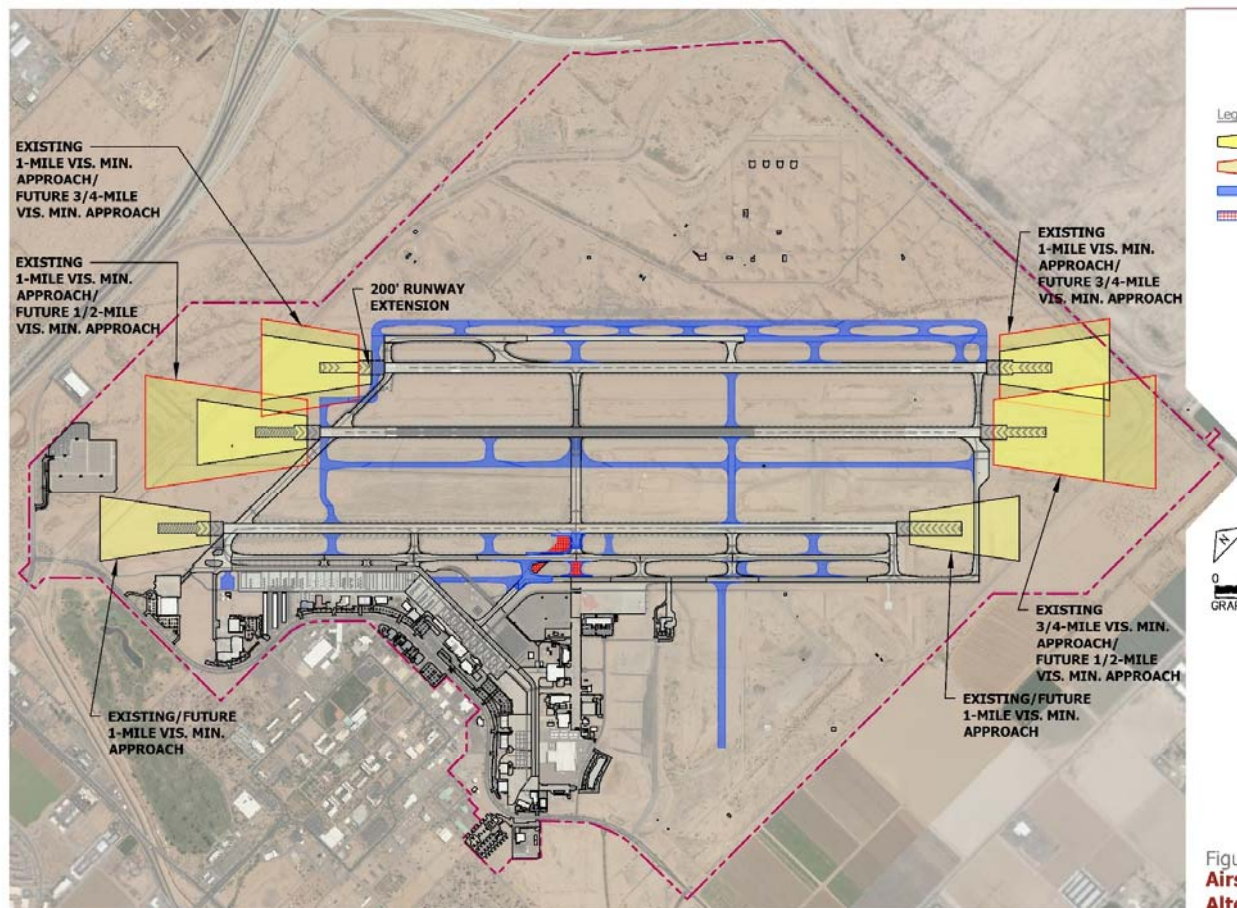
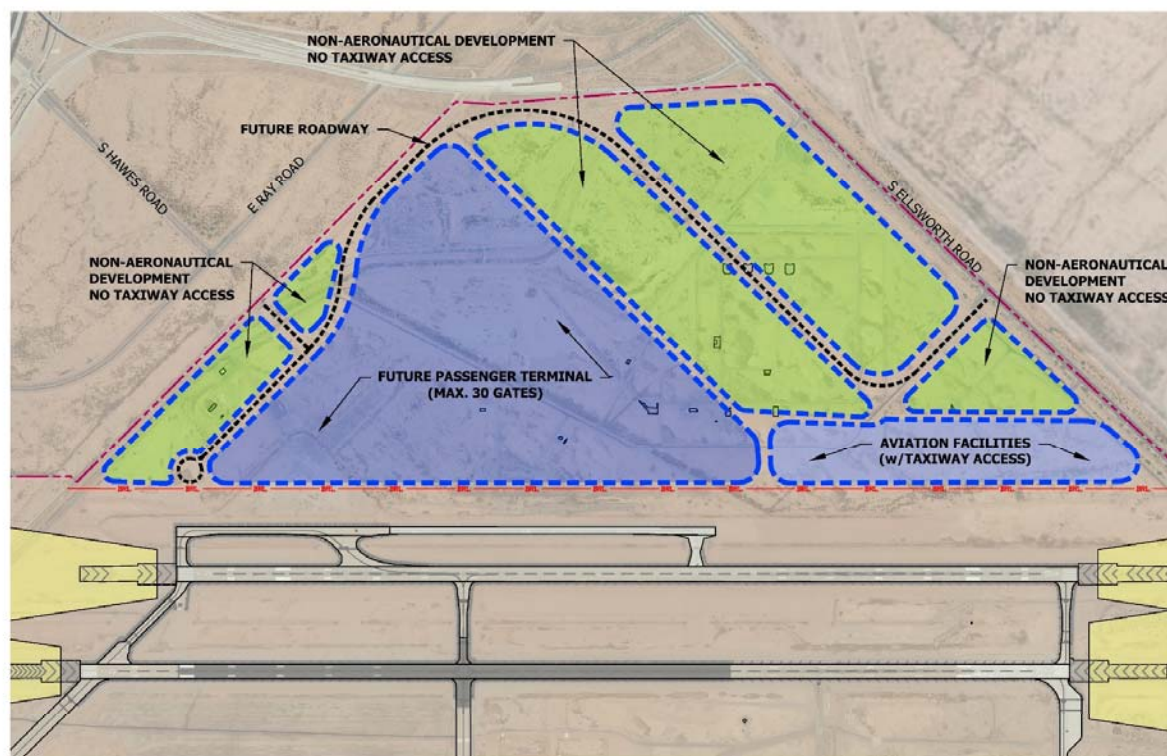


Figure x-x:  
**Airside Development  
Alternative 1  
Provision of Potential Demand  
Driven Improvements**

**Phoenix-Mesa Gateway**  
Airport Master Plan



Legend  
 Existing Runway Protection Zone

0 500' 1000' 2000'  
 GRAPHIC SCALE IN FEET

Figure x-x:  
**Landside Development  
 Eastside**



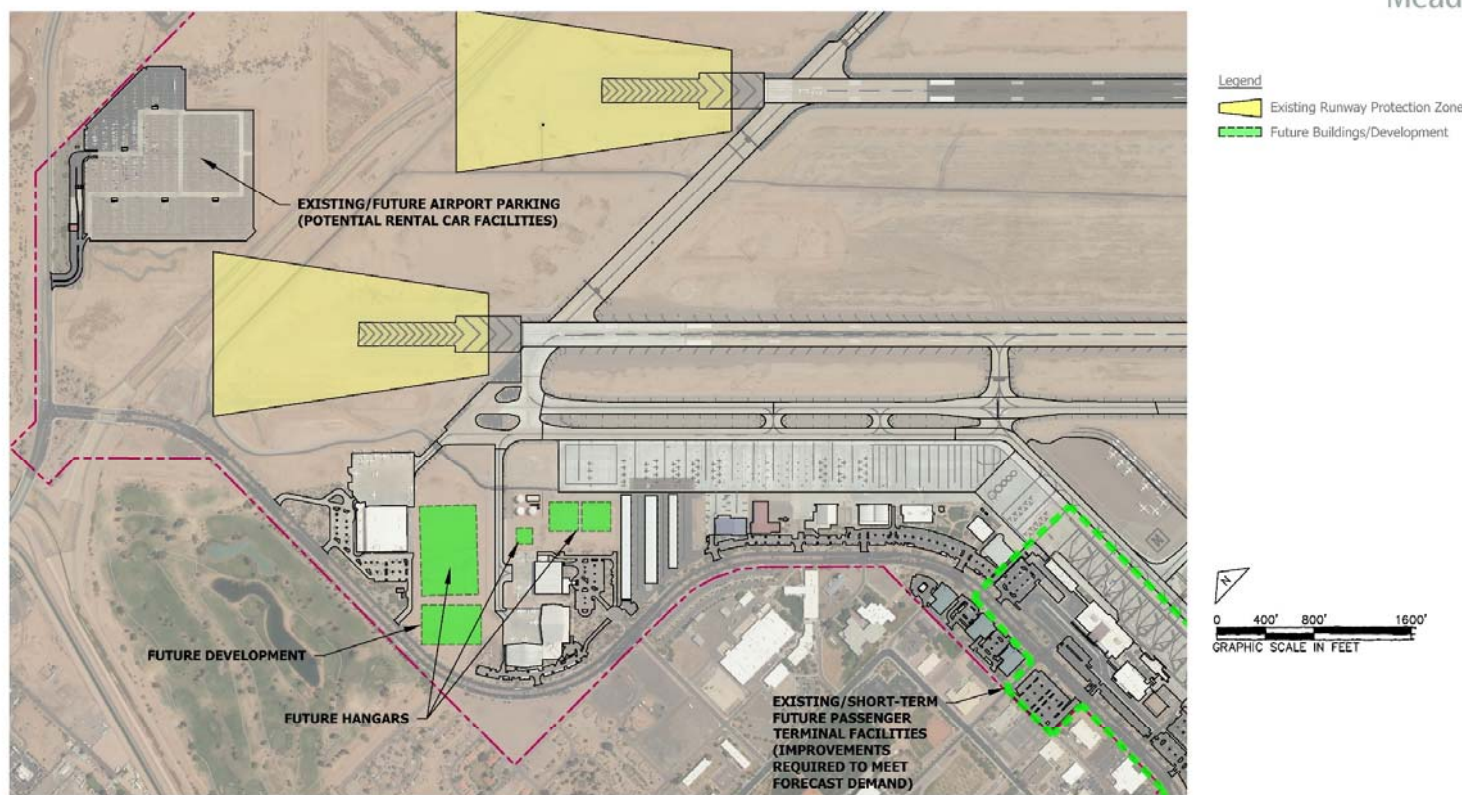
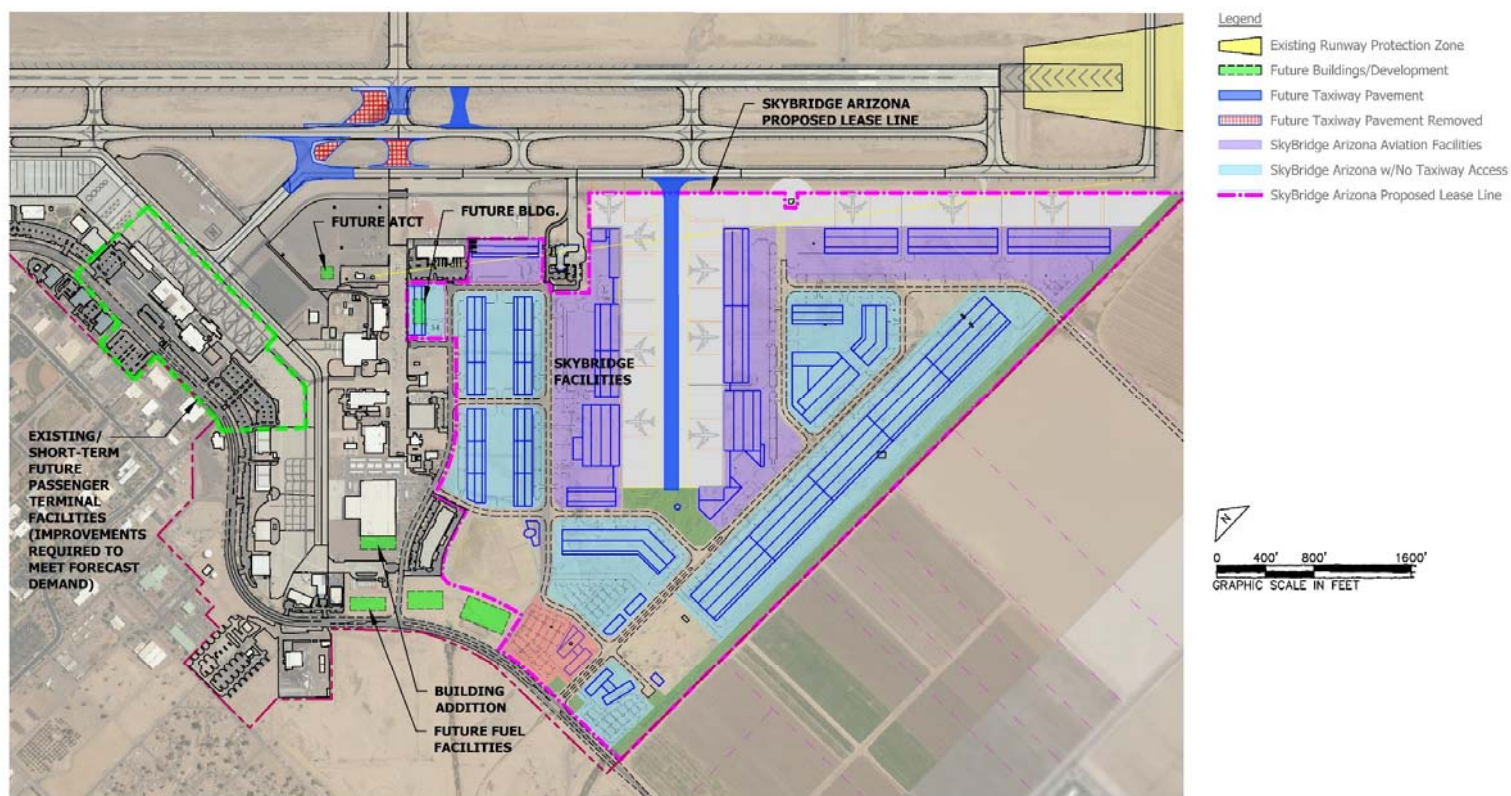


Figure x-x:  
**Landside Development  
Westside (North)**







# Next Steps

- ✓ **Advisory Committee Meetings #2 -January 15-16, 2019**
- ✓ **Public Information Meeting #1 - January 16, 2019**
- ✓ **Alternatives Evaluation and Development Plan Identification (Working Paper Three)**
- ✓ **Next Committee/Public Meetings April/May 2019**