



**New Smyrna Beach Airport  
Master Plan Update  
Technical Advisory Committee Meeting  
February 29, 2016**





# Meeting Agenda

- Introduction
- Recap of Planning Process
- Project Status
- Goals and Objectives
- Forecasts of Aviation Demand
- Overview of Facility Requirements
- Schedule
- Next Steps
- Public Feedback

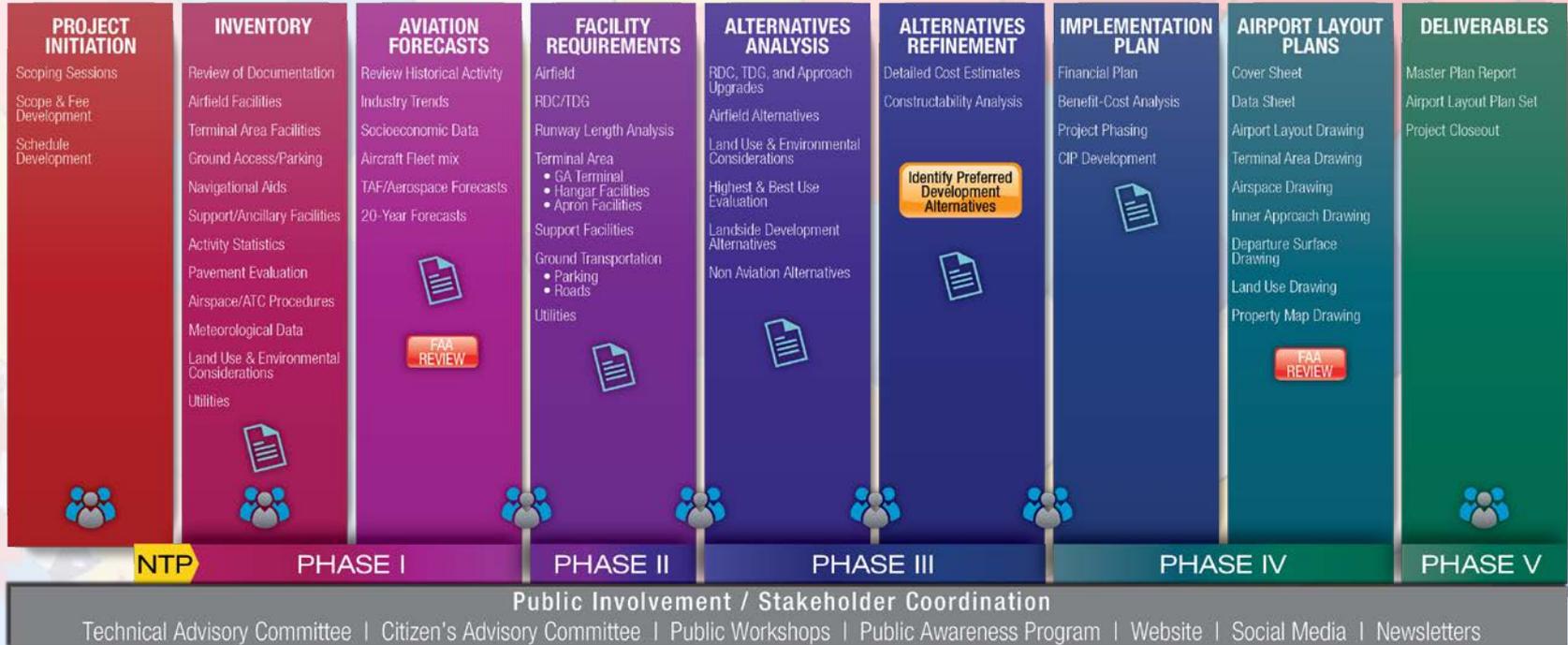


# Project Status

- Project started on 2015
- Estimated project duration – 18 months
- Project is currently 36% Complete
  - Inventory – 100%
  - Forecast - 100%
  - Aerial Photography, Mapping and Survey - 42%
  - Facility Requirements - 95%
  - Alternatives Analysis – 5%
  - Airport Layout Plan Set – 25%
  - Capital Improvement Program – 0%
  - Final Documentation – 0%



# Master Planning Process



 Meeting
  Draft Report



# Major Objectives

- Optimize the operational efficiency, effectiveness, capability and safety of the airport;
- Enhance the economic and social value of the airport;
- Meet the long-range aviation needs of the community;
- Ensure that current and future airport plans are environmentally compatible and in harmony with local and regional plans and objectives;
- Evaluate development options for future airport industrial park development; and
- Provide planning options that are consistent with these project goals.



# Vision Statement

- We will ***build an attractive City that offers exceptional opportunities*** for her citizens and lifestyles that embrace an enhanced quality of life.
- Our walking-friendly City with her ***beautiful waterways will engender diverse recreational and economic opportunities*** for people of all ages.
- ***Job opportunities will abound throughout our industrial centers and downtown areas.*** Beautifully landscaped corridors with attractive signage will refine our City with a ***well-maintained road system and a transportation network, including train and air transportation.***
- ***Our City will boast of sustainable business corridors and office parks.*** We will possess a hospital district and be a hub for educational enhancement through our schools and colleges.
- Through our diligence our City will grow and be a place in which people want to live. ***Our partnerships with educational institutions, governmental entities, community and cultural groups will further be a testament to being responsive to citizens' needs and proactive in making our vision a reality.***



# Vision Exercise

- Existing perceptions regarding EVB
- Target Areas of Economic Development
- Primary Resources to Foster Economic Development
- Assets and Constraints of EVB
- Vision for the Future (Future uses)



# Existing Perceptions

- “What comes to mind when you hear the term New Smyrna Beach Municipal Airport?”
- “What comes to mind when you hear the term economic development as it relates to your constituents or geographic location?”
- “Do you think there is any correlation between economic development and the New Smyrna Beach Municipal Airport and Industrial Park?”
- “In your opinion, to what extent does the local economy depend on the growth and development of the New Smyrna Beach Municipal Airport and Industrial Park?”



# Target Areas of Economic Development

- “What, in your opinion are the economic segments that have the greatest potential for long term growth (domestic or international) within Volusia County and the surrounding area?”



# Primary Resources to Foster Economic Development

- “What primary resources/infrastructure currently exist within the area to support the economic sectors you discussed earlier?”
- “What primary resources and/or infrastructure would be required within the area to support the economic sectors you discussed earlier?”



# Assets/Constraints of the Airport and/or Industrial Park

- “What do you think about the Air Service currently available at the New Smyrna Beach Municipal Airport?”
- “What do you think about the current land uses at the New Smyrna Beach Municipal Airport and Industrial Park?”
- “What, in your opinion, are the primary strengths or assets of the New Smyrna Beach Municipal Airport and Industrial Park?”
- “What, in your opinion, are the primary constraints with respect to the New Smyrna Beach Municipal Airport and Industrial Park?”



# The Vision (Future Uses)

- “How would you like the headlines to read about the New Smyrna Beach Municipal Airport and Industrial Park in the year 2035?”
- “What would you recommend to move the services here at New Smyrna Beach Municipal Airport to the next level?”
- “How might the New Smyrna Beach Municipal Airport and Industrial Park most compliment local economic development activities?”



## Other Comments

- “Are there other comments you would like to make regarding the future initiatives of the New Smyrna Beach Municipal Airport and Industrial Park?”

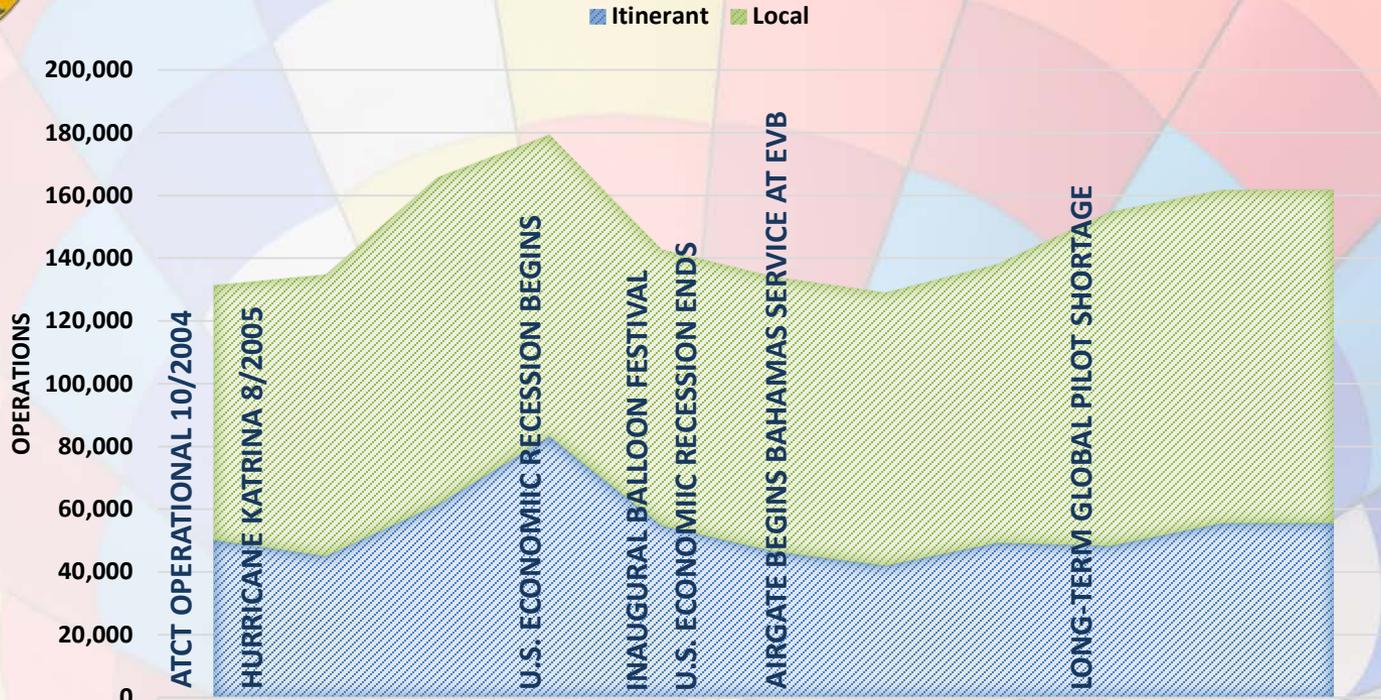


# Importance of Forecasts

- To develop a realistic assessment of market conditions and market performance.
- To address unique local conditions not fully considered in national, macro level forecast efforts.
- To provide a benchmark for comparing current facilities against a reasonable estimate of future demand to define potential future facility needs.



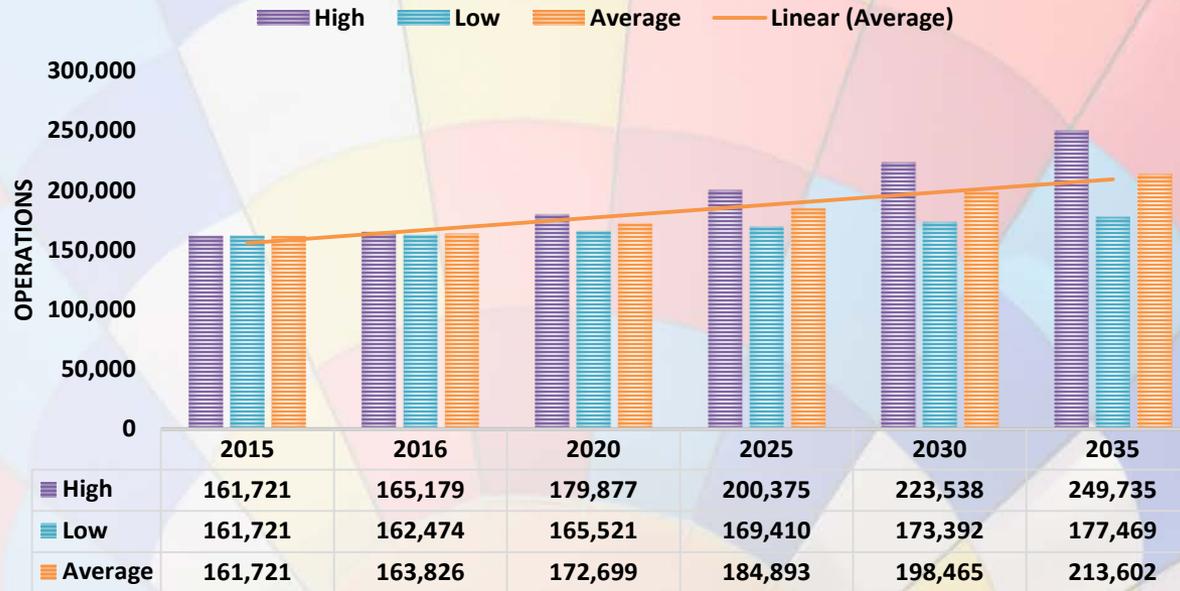
# Historical Activity Trends



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Local	81,057	89,684	104,129	96,030	87,806	87,410	86,866	88,646	106,249	106,025	106,025
Itinerant	50,279	45,138	61,619	83,271	54,919	46,676	42,179	49,447	48,425	55,696	55,696
Aircraft	159	159	159	129	114	114	74	83	83	83	90



# Operations Forecast



- High Forecast – Historical growth from 2005 to 2015 at EVB
- Low Forecast – FAA nationwide growth expectations
- Average Forecast (Recommended) – Average of high & low forecast



# Forecast Summary

<b>EVB Forecast Summary</b>			
<b>Forecast Variable</b>	<b>2015</b>	<b>2035</b>	<b>AAGR 2015-2035</b>
Itinerant Operations	55,696	64,332	0.72%
Itinerant %	34.44%	30.12%	-0.67%
Local Operations	106,025	149,270	1.73%
Local %	65.56%	69.88%	0.32%
Total Operations	161,721	213,602	1.40%
Single-Engine Piston	139,869	183,234	1.36%
Multi-Engine Piston	18,901	24,761	1.36%
Turboprop	413	722	2.83%
Jet	436	1,088	4.68%
Rotorcraft	2,102	3,797	3.00%
IFR Operations	7,646	8,967	0.80%
IFR %	4.73%	4.20%	-0.59%
Average Peak Month (APM)	16,927	22,358	1.40%
Average Day Peak Month (ADPM)	557	735	1.40%
Itinerant Peak Hour	26	34	1.40%
Local Peak Hour	84	111	1.40%
Single-Engine Piston	74	97	1.36%
Multi-Engine Piston	10	13	1.36%
Turboprop	2	3	2.83%
Jet	1	2	4.68%
Rotorcraft	3	5	3.00%
Total Based Aircraft	90	121	1.51%
Total Ops Per Based Aircraft	1,797	1,759	-0.11%
Local Ops Per Based Aircraft	1,178	1,229	0.21%
IFR Ops to Total Ops	4.73%	4.20%	-0.59%



# Facility Requirements

- Critical Aircraft Identification
- Runway Utilization and Wind Coverage
- Airfield Capacity and Configuration
- Airfield Design Standards
- Runway Length and Strength Analysis
- Taxiway and Taxilane System
- Airfield Lighting, Markings and Signage, and Navigational Aids
- Transient Apron and Based Aircraft Storage
- Airport Support Facilities
- Land Use Considerations
- Airport Security Analysis



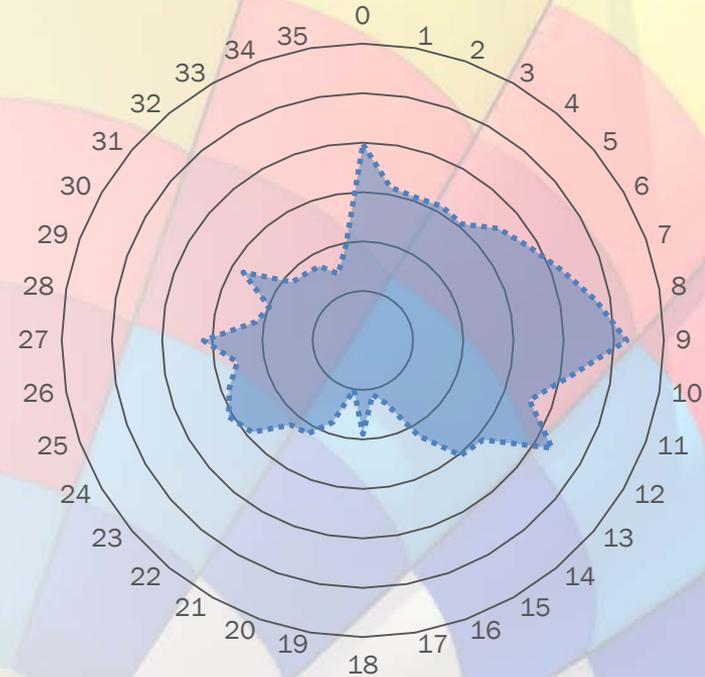
# Critical Aircraft

Aircraft Approach Category (AAC)		Airplane Design Group (ADG)		
Category	Approach Speed (Knots)	Group	Tail Height (Feet)	Wingspan (Feet)
A	<91	I	<20	<49
<b>B</b>	<b>91 to &lt;121</b>	<b>II</b>	<b>20 to &lt;30</b>	<b>49 to &lt;79</b>
C	121 to <141	III	30 to <45	79 to <118
D	141 to <166	IV	45 to <60	118 to <171
E	>166	V	60 to <66	171 to <214
		VI	66 to <80	214 to <262
<b>Critical Aircraft</b>		Cessna Citation 560XL		
<b>Aircraft Type</b>		Jet		
<b>Aircraft Approach Category/Approach Speed</b>		B / 117 Knots		
<b>Airplane Design Group/Wingspan</b>		II / 55.7 Feet		
<b>Runway Design Code (RDC)</b>		RDC B-II		
<b>Tail Height</b>		17.2 Feet		
<b>Main Gear Width</b>		14.9 Feet		
<b>Cockpit to Main Gear</b>		21.9 Feet		
<b>Taxiway Design Group (TDG)</b>		TDG-2		
<b>Max Takeoff Weight (MTOW)</b>		20,200 Pounds		
<b>Max Landing Weight (MLW)</b>		18,700 Pounds		
<b>Max Passengers</b>		11 Passengers + 2 Crew		





# Wind Coverage



**EVB Wind Coverage Analysis (2006-2016)**

Runway	True Heading	All Weather		IFR		VFR	
		10.5 knots	13 knots	10.5 knots	13 knots	10.5 knots	13 knots
7-25	61.60 / 241.61	88.58%	94.18%	81.65%	89.70%	88.88%	94.38%
2-20	16.60 / 196.61	88.20%	93.78%	90.28%	94.17%	88.08%	93.75%
11-29	106.62 / 286.62	88.67%	93.56%	79.63%	87.12%	89.11%	93.87%
Three Runway	Combined	99.46%	99.88%	98.80%	99.66%	99.49%	99.89%
7-25 / 11-29	Combined	94.63%	97.66%	86.97%	93.55%	94.99%	97.85%
7-25 / 2-20	Combined	94.70%	98.16%	95.03%	97.94%	94.66%	98.17%
2-20 / 11-29	Combined	98.80%	99.71%	98.80%	99.71%	98.87%	99.75%
<b>Conditions</b>		Ceiling = All Visibility = All 53,129 Observations		Ceiling < 1,000' ≥ 200' Visibility < 3 Miles ≥ ½-Mile 2,874 Observations		Ceiling ≥ 1,000' Visibility ≥ 3 Miles 50,168 Observations	

Source: Station 722361, New Smyrna Beach, Florida, 2006-2016.

Highlighted values are less than 95.00%.



# Airfield Capacity

Airfield Capacity Calculations

Configuration - Year	Annual		Hourly			
	Operations	% ASV	VFR Peak Hour	% VFR Capacity	IFR Peak Hour	% IFR Capacity
9 – 2015	161,721	70%	84	86%	26	44%
9 – 2035	213,602	93%	111	113%	34	58%
14 – 2015	161,721	60%	84	56%	26	44%
14 – 2035	213,602	79%	111	74%	34	58%
15 – 2015	161,721	62%	84	64%	26	44%
15 – 2035	213,602	82%	111	84%	34	58%

Source: Michael Baker International, Inc., 2016

- 60% Threshold – Plan Improvement
- 90% Threshold – Construct Improvements

Runway Use Configuration 9	Runway Use Configuration 14	Runway Use Configuration 15
<p>VFR - 98 IFR - 59 ASV - 230,000</p>	<p>VFR - 150 IFR - 59 ASV - 270,000</p>	<p>VFR - 132 IFR - 59 ASV - 260,000</p>



# Runway 2-20 Design Standards

## Evaluation of Existing Airfield Design Standards (Runway 2-20)

Design Standard	Required Dimension	Runway 2 Evaluation	Runway 20 Evaluation
Runway Design Code (RDC)		B-II	
RW Approach Visibility Minimums	Varied by end	1 Mile	Visual
Runway (RW) Width	75 Feet	75 Feet	
RW Safety Area (RSA) Width	150 Feet	<b>Runway 20 End RSA Overlaps Runway 25 RSA</b> <b>Runway 2 End ROFA Extends Over Turnbull Bay Road</b>	
RSA Length Beyond RW End	300 Feet		
RW Object Free Area (ROFA) Width	500 Feet	Meets Standards	
ROFA Length Beyond RW End	300 Feet	Meets Standards	
RW Obstacle Free Zone (ROFZ) Width	400 Feet		
ROFZ Length Beyond RW End	200 Feet	Meets Standards	
RW Protection Zone (RPZ) Inner Width	500 Feet	500 Feet	500 Feet
RPZ Outer Width	700 Feet	700 Feet	700 Feet
RPZ Length	1,000 Feet	1,000 Feet	1,000 Feet
RPZ Notes	N/A	<b>RPZs Extend Off Airport</b>	
RW Blast Pad Width	95 Feet	Meets Standards	
RW Blast Pad Length	150 Feet	Meets Standards	
RW Shoulder Width	10 Feet	Meets Standards	
Taxiway (TW) Width (TDG-2)	35 Feet	Meets Standards	
TW Safety Area (TSA) Width	79 Feet	Meets Standards	
TW Object Free Area (TOFA) Width	131 Feet	Meets Standards	
Taxilane (TL) Object Free Area Width	115 Feet	Meets Standards	
TW Shoulder Width	10 Feet	Meets Standards	
RW Centerline to Parallel TW Centerline	240 Feet	Meets Standards	
RW Centerline to Holdline	200 Feet	Meets Standards	
RW Centerline to Aircraft Parking Area	250 Feet	Meets Standards	
TW Centerline to Parallel TW/TL Centerline	105 Feet	Meets Standards	
TW Centerline to Fixed or Movable Object	65.5 Feet	Meets Standards	
TL Centerline to TL Centerline	97 Feet	Meets Standards	
TL Centerline to Fixed or Movable Object	57.5 Feet	Meets Standards	
RW Surface Gradient and Line of Sight	Maximum 2.0% Grade	Meets Standards	

Source: Michael Baker Jr., Inc., 2014.



# Runway 7-25 Design Standards

## Evaluation of Existing Airfield Design Standards (Runway 7-25)

Design Standard	Required Dimension	Runway 7 Evaluation	Runway 25 Evaluation
Runway Design Code (RDC)		B-II	
RW Approach Visibility Minimums	Varied by end	1 Mile	1 Mile
Runway (RW) Width	75 Feet	100 Feet	
RW Safety Area (RSA) Width	150 Feet	<b>Runway 20 End RSA Overlaps Runway 25 RSA RSAs and ROFAs Extend Over Roads</b>	
RSA Length Beyond RW End	300 Feet		
RW Object Free Area (ROFA) Width	500 Feet	Meets Standards	
ROFA Length Beyond RW End	300 Feet	Meets Standards	
RW Obstacle Free Zone (ROFZ) Width	400 Feet		
ROFZ Length Beyond RW End	200 Feet	Meets Standards	
RW Protection Zone (RPZ) Inner Width	500 Feet	500 Feet	500 Feet
RPZ Outer Width	700 Feet	700 Feet	700 Feet
RPZ Length	1,000 Feet	1,000 Feet	1,000 Feet
RPZ Notes	N/A	<b>RPZs Extend Off Airport</b>	
RW Blast Pad Width	95 Feet	Meets Standards	
RW Blast Pad Length	150 Feet	Meets Standards	
RW Shoulder Width	10 Feet	Meets Standards	
Taxiway (TW) Width (TDG-2)	35 Feet	Meets Standards	
TW Safety Area (TSA) Width	79 Feet	Meets Standards	
TW Object Free Area (TOFA) Width	131 Feet	Meets Standards	
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RW Centerline to Parallel TW Centerline	240 Feet	Meets Standards	
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TW Centerline to Parallel TW/TL Centerline	105 Feet	Meets Standards	
TW Centerline to Fixed or Movable Object	65.5 Feet	Meets Standards	
TL Centerline to TL Centerline	97 Feet	Meets Standards	
TL Centerline to Fixed or Movable Object	57.5 Feet	Meets Standards	
RW Surface Gradient and Line of Sight	Maximum 2.0% Grade	Meets Standards	

Source: Michael Baker Jr., Inc., 2014.



# Runway 11-29 Design Standards

## Evaluation of Existing Airfield Design Standards (Runway 11-29)

Design Standard	Required Dimension	Runway 11 Evaluation	Runway 29 Evaluation
Runway Design Code (RDC)		B-II	
RW Approach Visibility Minimums	Varied by end	Visual	1 Mile
Runway (RW) Width	75 Feet	100 Feet	
RW Safety Area (RSA) Width	150 Feet	Meets Standards	
RSA Length Beyond RW End	300 Feet		
RW Object Free Area (ROFA) Width	500 Feet	Meets Standards	
ROFA Length Beyond RW End	300 Feet		
RW Obstacle Free Zone (ROFZ) Width	400 Feet	Meets Standards	
ROFZ Length Beyond RW End	200 Feet		
RW Protection Zone (RPZ) Inner Width	500 Feet	500 Feet	500 Feet
RPZ Outer Width	700 Feet	700 Feet	700 Feet
RPZ Length	1,000 Feet	1,000 Feet	1,000 Feet
RPZ Notes	N/A	<b>RPZs Extend Off Airport</b>	
RW Blast Pad Width	95 Feet	Meets Standards	
RW Blast Pad Length	150 Feet	Meets Standards	
RW Shoulder Width	10 Feet	Meets Standards	
Taxiway (TW) Width (TDG-2)	35 Feet	Meets Standards	
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RW Centerline to Parallel TW Centerline	240 Feet	Meets Standards	
RW Centerline to Holdline	200 Feet	Meets Standards	
RW Centerline to Aircraft Parking Area	250 Feet	Meets Standards	
TW Centerline to Parallel TW/TL Centerline	105 Feet	Meets Standards	
TW Centerline to Fixed or Movable Object	65.5 Feet	Meets Standards	
TL Centerline to TL Centerline	97 Feet	Meets Standards	
TL Centerline to Fixed or Movable Object	57.5 Feet	Meets Standards	
RW Surface Gradient and Line of Sight	Maximum 2.0% Grade	Meets Standards	

Source: Michael Baker Jr., Inc., 2014.



# Runways

- Runway 11-29
  - 5,405 feet is recommended
  - Reserve potential to provide additional length and flexibility in future
  - Strength is sufficient
- Runway 2-20
  - 4,200 feet is recommended
  - Strength is sufficient
- Runway 7-25
  - 4,700 feet is recommended
  - Strength is sufficient



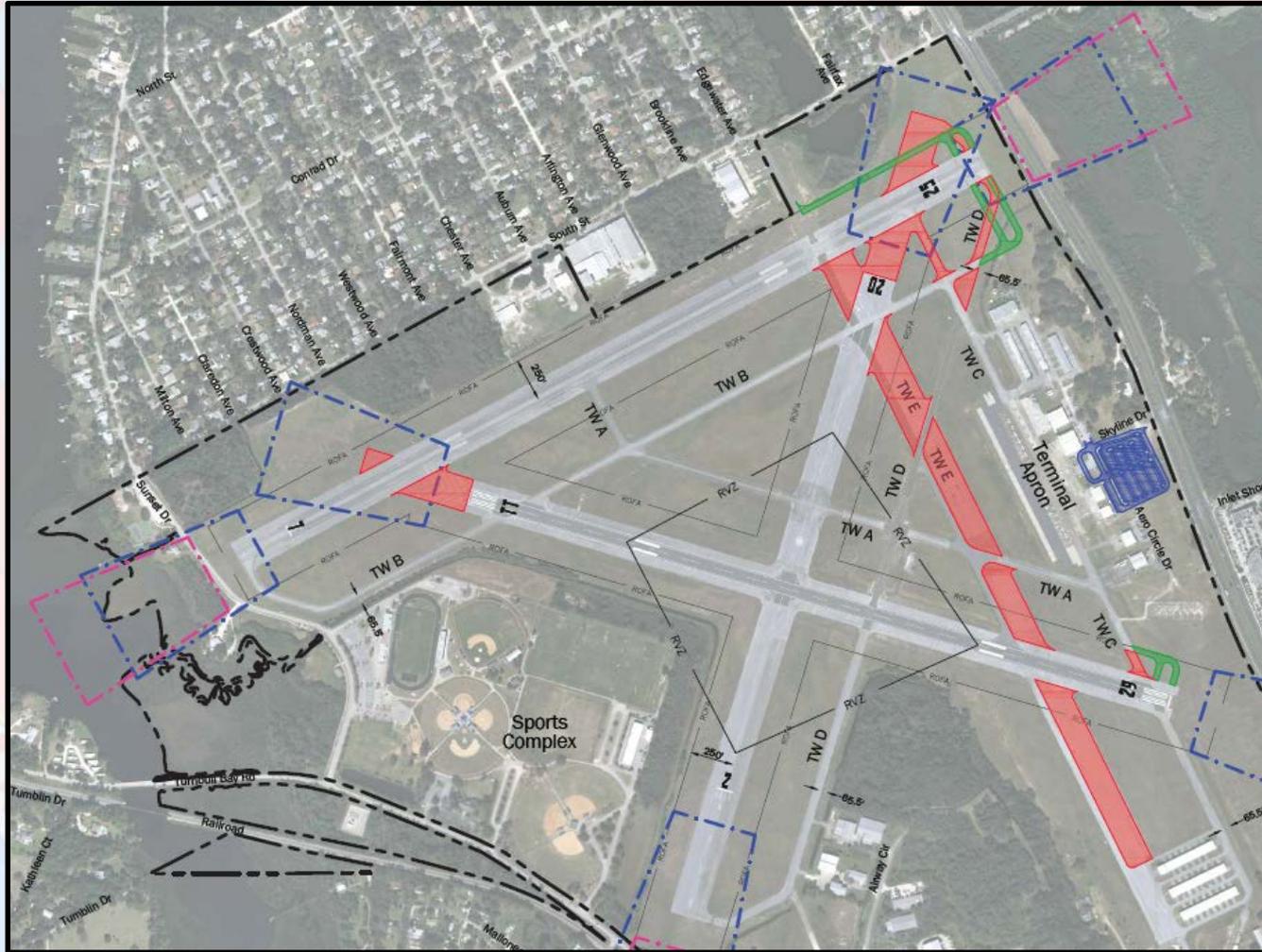


# Taxiway and Taxilane System

- Critical Aircraft - Cessna Citation 560XL
  - Taxiway Design Group (TDG) 2
  - 35 foot taxiway width required
- Limit the number of taxiway intersections at one location
  - FAA-identified hot spot at the intersection of Runway 20, Taxiway B, and Taxiway E
- Taxiway fillet geometry requirements



# Taxiway and Taxilane System





# Airfield Lighting and Markings

- Airfield Lighting
  - Runway 2-20 – MIRLs to supplement Runway 2 non-precision approach
  - Taxiway D – MITLs
- Airfield Markings
  - Refresh faded markings
  - Correct runway markings to meet standards
  - Taxiway edge markings
  - Markings near intersection of Taxiways B and Runways 2 and 11 to permit LAHSO



# Signage and Navigational Aids

- Airfield Signage
  - Needed in some locations
  - Near the intersection of Runway 20 and Taxiways B and E
- NAVAIDs
  - AWOS repair
  - Ability to provide non-precision instrument approaches to all runway ends is evaluated as part of the alternatives analysis



# Based Aircraft Storage Requirements

## Apron Tiedown

Aircraft	Piston	TP/Jet	Rotor
Requirement %	25%	0%	0%
2035 Requirement	6	0	0
<b>6 Apron Tiedowns Required by 2035</b>			

## T-Hangar

Aircraft	Piston	TP/Jet	Rotor
Requirement %	70%	0%	50%
2035 Requirement	18	0	1
<b>19 T-Hangar Bays Required by 2035</b>			





# Based Aircraft Storage Requirements

## Conventional Hangar

Aircraft	Piston	TP/Jet	Rotor
Requirement %	25%	0%	0%
2035 Requirement	6	0	0
SF Requirement	2,000 SF	10,000 SF	2,000 SF
2035 Requirement	0 SF	20,000 SF	2,000 SF
<b>22,000 SF of Conventional Hangar Space Required by 2035</b>			





# Support Facilities

- Fixed Base Operator
  - Reserve space for the FBOs expansion needs
- Airport Fueling Facilities
  - Provide additional tanks to allow for reserve capacity (as necessary)
- Airport Administration Building
  - The current location is better suited for another use. Consider relocating the facility to free up prime frontage on the terminal apron.
- ATCT
  - ATCT personnel are critical for managing traffic flows on a complex airfield configuration
- Airport Maintenance Facilities
  - Current location is desirable for commercial development.
  - Consider the potential to relocate the facility
- Airport Access and Parking
  - Improve roadway access within the industrial park
  - Pave grass and gravel parking areas to provide a safer and cleaner parking and walking environment



# Summary of Facility Requirements

Category	Requirement
Critical Aircraft	Cessna Citation 560XL (medium-sized corporate jet)
Runway Design Code (RDC)	RDC B-II
Taxiway Design Group (TDG)	TDG-2
Runway Wind Coverage	All three runways needed for wind coverage purposes, combined with assistance from ATCT personnel
Airfield Capacity	All 3 runways needed for airfield capacity purposes. The number of annual and hourly operations at EVB illustrates the need for 3 runways.
Airfield Design Standards	Runway 7-25 RSAs and ROFAs contain roads, Runway 2 ROFA contains a road, Runway 20 end RSA overlaps the Runway 25 RSA, and all RPZs extend off the airport property
Runway Length	Runway 11-29 – Requirement of 5,405 feet, but additional length may be planned Runway 2-20 – 4,200 feet Runway 7-25 – 4,700 feet
Runway Strength	Maintain existing strength
Taxiway and Taxilane System	Correct hot spot, fillets, and complex intersections wherever possible
Airfield Lighting	Light Runway 2-20 and Taxiway D for night operations
Airfield Markings	Correct non-standard runway markings, improve taxiway edge and holding position markings, and add LAHSO markings
Airfield Signage	Upgrade signage at holding positions
Navigational Aids	Repair AWOS and consider non-precision approach capability for all runway ends
Transient Apron	Provide additional space for large aircraft (e.g., corporate jets) and pave grass sections for improved maneuverability.
Based Aircraft	By 2035, add six apron tiedowns, 19 T-hangar bays, and 22,000 square feet of conventional hangar space
Fixed Base Operator (FBO)	Reserve space for the FBOs expansion needs
Fueling	As necessary, provide additional tanks to allow for reserve capacity
Airport Administration Building	The current location may be better suited for another use. Consider relocating the facility to free up prime frontage on the terminal apron.
Airport Traffic Control Tower (ATCT)	ATCT personnel are critical for managing traffic flows on a complex airfield configuration
Airport Maintenance Facility	The maintenance facility is located at an intersection where commercial development may be desirable. Consider the potential to relocate the facility to a more remote area on the airport property.
Airport Access and Parking	Improve roadway access within the industrial park and pave grass and gravel parking areas to provide a safer and cleaner parking and walking environment.
Land Acquisition	Consider acquisition needs as part of the alternatives analysis
Security	As necessary, update security procedures and features

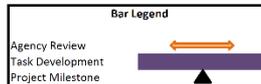
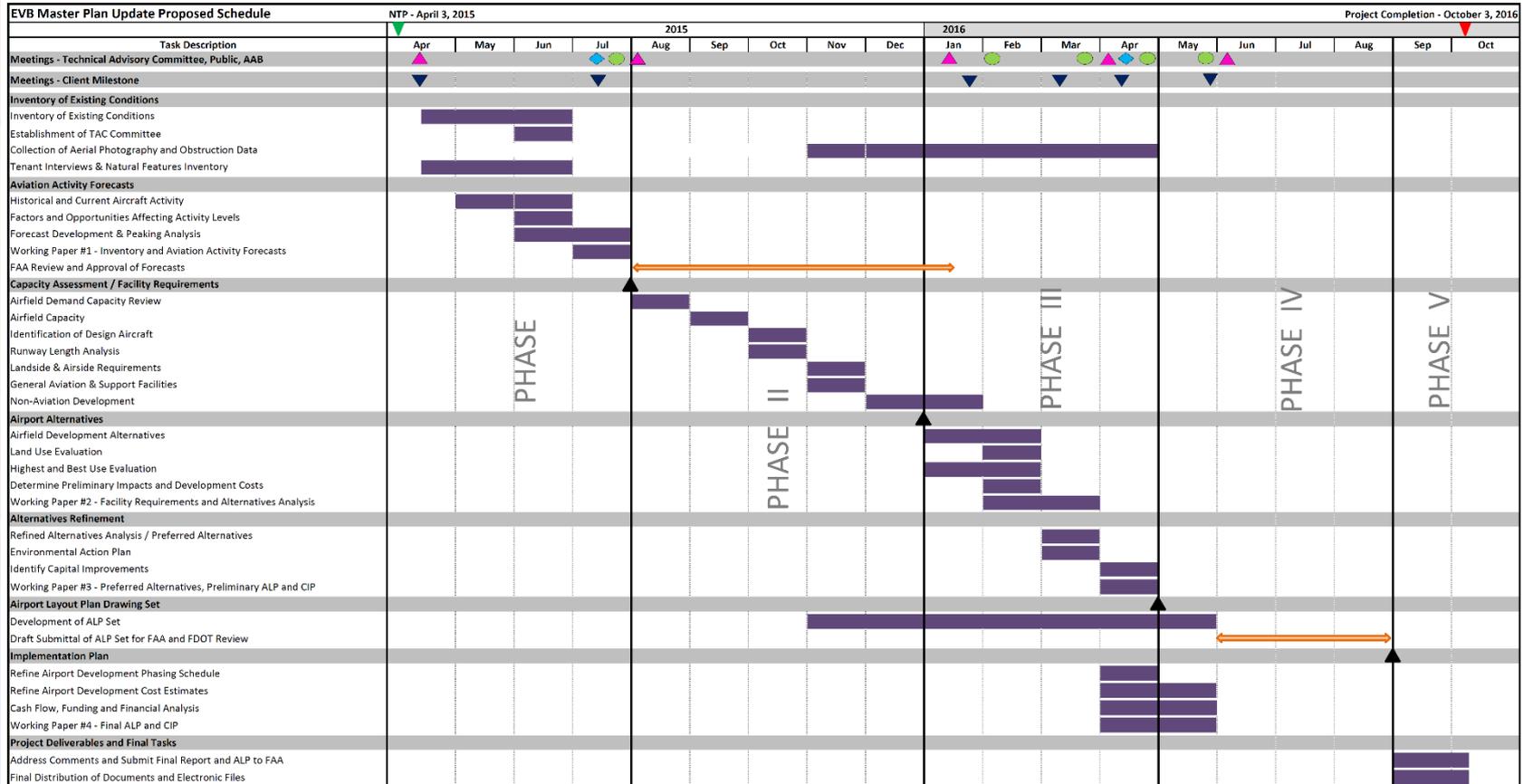


# Land Use Analysis





# Project Schedule





# Next Steps

- FAA Forecast Final Approval
- Review Working Paper 2
  - Comments due in 2 weeks (March 14<sup>th</sup>)
  - FAA/FDOT Review
- Working Paper 3 – Alternatives
  - Mid-April
- Next TAC Meeting - April 2016



# Questions and Comments?

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