



# DeKalb Peachtree Airport *2040 Master Plan*

**Presented to: PDK Master Plan Committees**

July 11<sup>th</sup>, 2019



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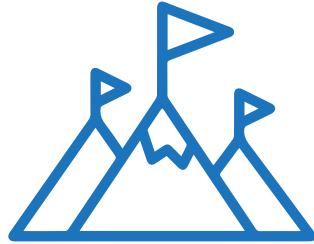
# *Master Plan Process*

# MASTER PLAN PROCESS

## Phase 1 - Airport Visioning



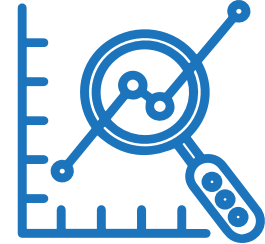
**STAKEHOLDER  
ENGAGEMENT**



**GOALS &  
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**EXISTING  
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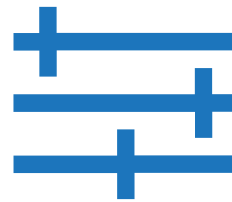
**AERONAUTICAL  
FORECAST**

# MASTER PLAN PROCESS

## Phase 2 - Master Plan



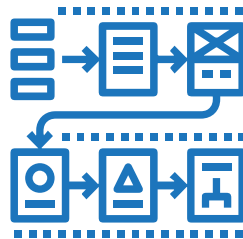
NEEDS  
ASSESSMENT



DEVELOPMENT  
OPTIONS



STAKEHOLDER  
ENGAGEMENT



IMPLEMENTATION  
PLAN

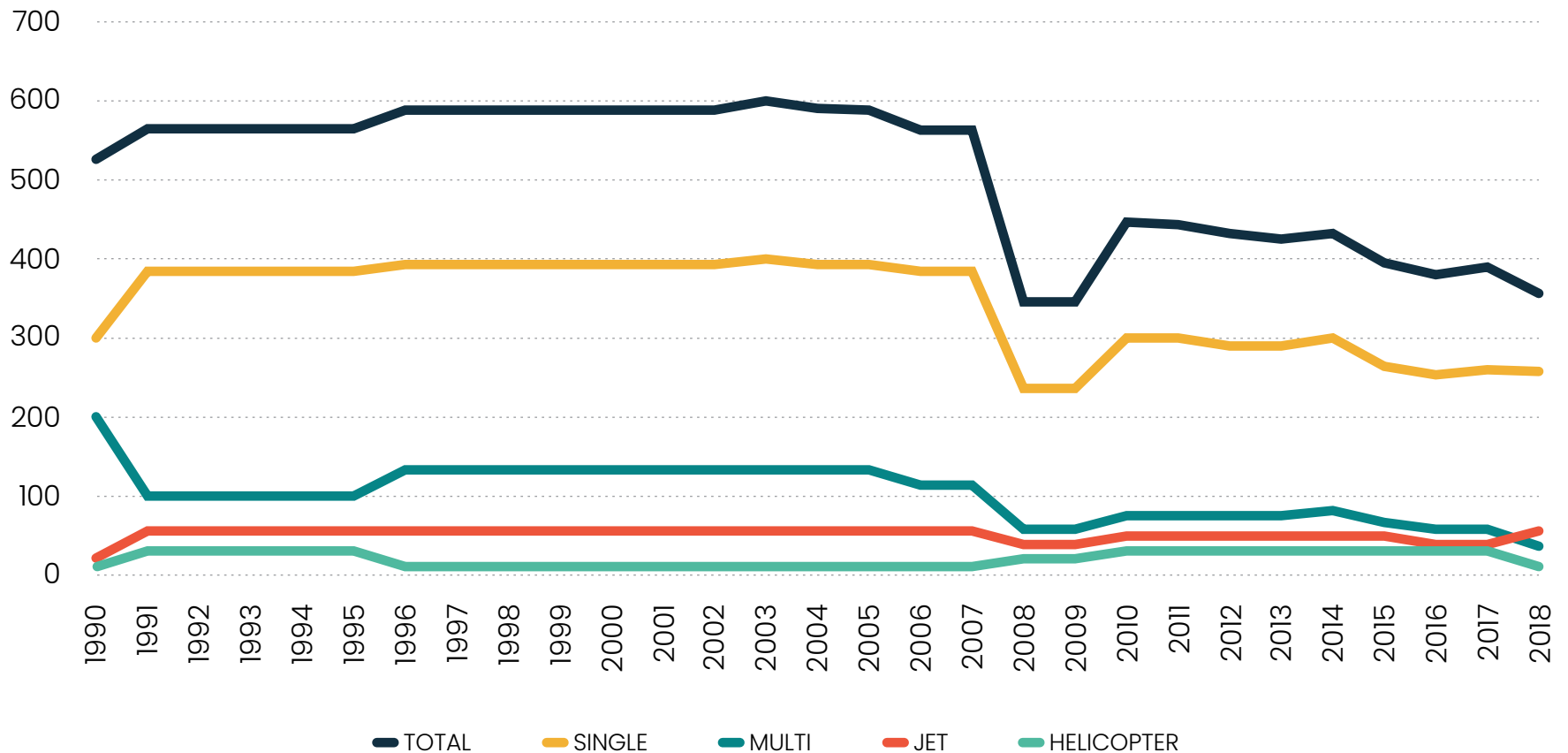


FINAL  
DELIVERABLES

— PUBLIC INVOLVEMENT —>

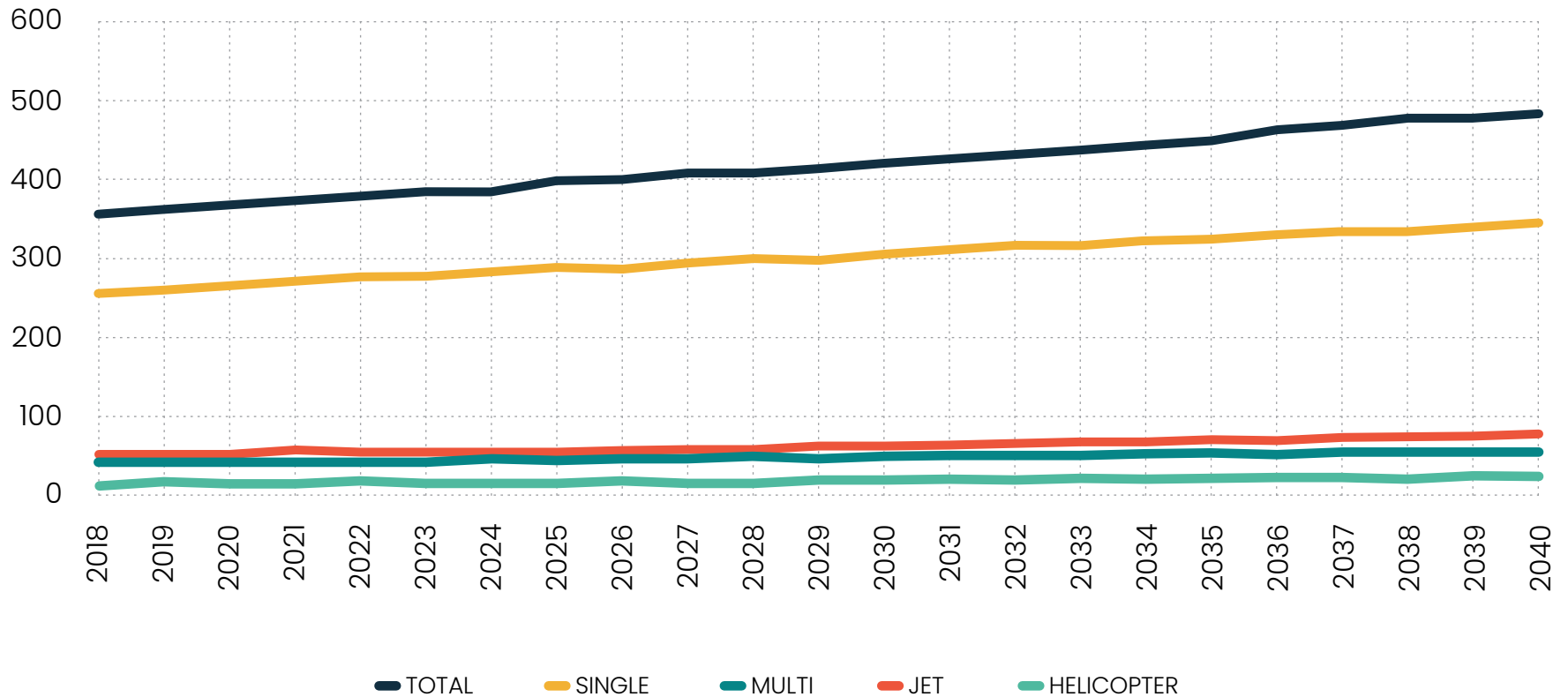
# PLANNING HORIZON ACTIVITY LEVELS

## Historic Based Aircraft Levels 1990-2018



# PLANNING HORIZON ACTIVITY LEVELS

## Based Aircraft Forecasts 2018-2040



# PLANNING HORIZON ACTIVITY LEVELS

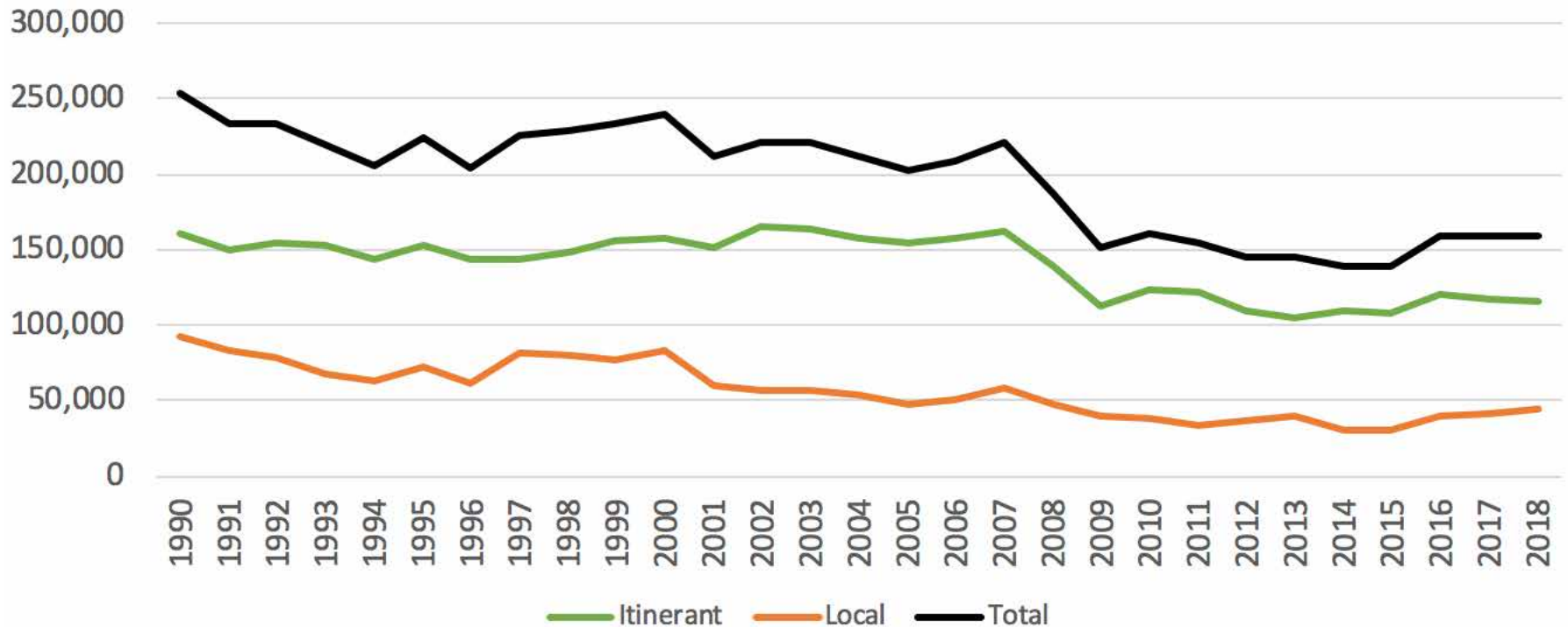
## Based Aircraft Forecasts 2018-2040

Aircraft Type	2018	2040	Change
Single Engine	258	343	85
Multi Engine	39	52	13
Jet	46	74	28
Helicopter	12	18	6
<b>Total</b>	<b>355</b>	<b>487</b>	<b>132</b>



# PLANNING HORIZON ACTIVITY LEVELS

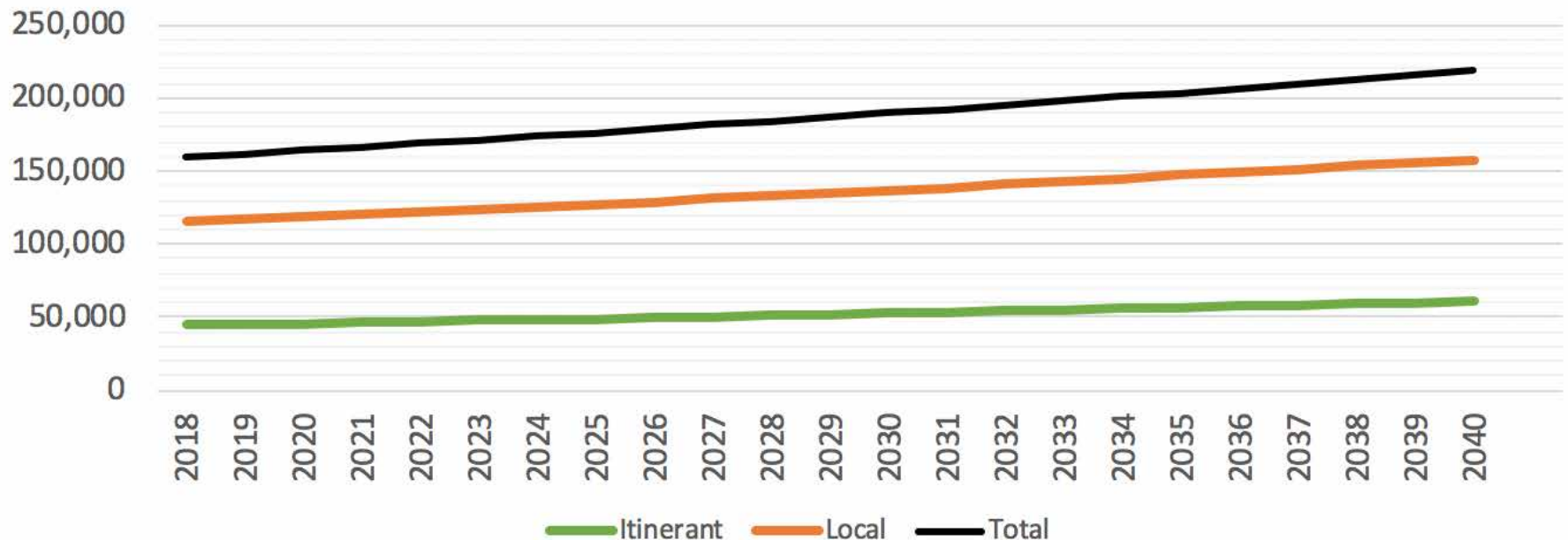
## Historic Local and Itinerant Operations 1990-2018



Operations = Takeoffs & Landings

# PLANNING HORIZON ACTIVITY LEVELS

## Local and Itinerant Operations Forecasts 2018-2040



# PLANNING HORIZON ACTIVITY LEVELS

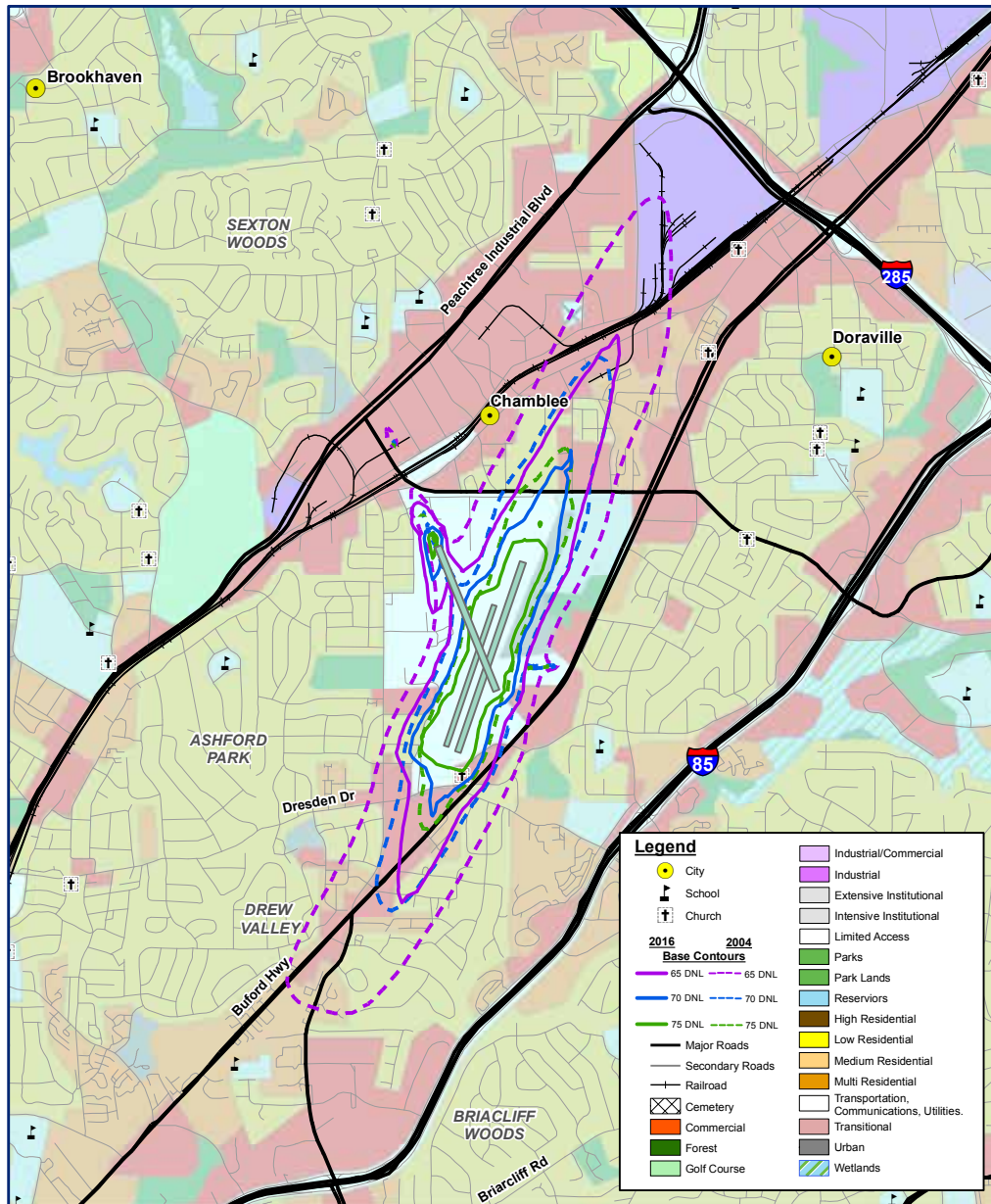
Item	Base Year 2018	5 Year Short-term 2025	10 Year Mid-term 2030	20 Year Long-term 2040
<b>Total Based Aircraft</b>	355	380	409	487
<b>Annual Operations (Combined Local &amp; Itinerant)</b>				
<b>General Aviation</b>	94,563	104,612	112,434	129,871
<b>Military</b>	429	486	486	486
<b>Total Operations</b>	159,493	176,371	189,510	218,797

Source: Michael Baker International, 2019.

# PLANNING HORIZON ACTIVITY LEVELS

Year	Year +	Operations			Based Aircraft		
		TAF	Recommended	Difference	TAF	Recommended	Difference
2018	0	159,493	159,493	0.00%	355	355	0.00%
2023	5	162,847	171,374	5.24%	379	381	<b>0.67%</b>
2028	10	166,271	184,141	10.75%	404	410	1.36%
2040	22	174,785	218,797	25.18%	472	487	3.15%
Average Annual Growth Rate (AAGR)							
2018-2038	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A
2018-2040	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A
2020-2040	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A

Source: Michael Baker International, Inc., 2019.



0 1 Miles

**2004 Noise Contours vs. 2016 Noise Contours**



A twin-engine propeller aircraft is shown in a hangar, with its engine cowling removed, revealing the engine and propellers. The aircraft is white with red and blue accents. The hangar is filled with various tools and equipment, including a large black tool chest with multiple drawers and a blue cart. The background shows the structural elements of the hangar, including beams and windows. The text "Facility Requirements in Depth" is overlaid in a large, white, serif font across the center of the image.

# *Facility Requirements in Depth*

# MAJOR CATEGORIES OF FACILITY REQUIREMENTS

- **Airfield Capacity**
- **Identification of Critical Aircrafts**
- **Airfield Safety Requirements**
- **Landside Improvements**
- **Airport Support Facilities**

# AIRFIELD CAPACITY

- Annual Service Volume (ASV) is the max take offs and landings the airport can handle without significant delay.
- Hourly Capacity: 145 VFR Ops | 57 IFR Ops
- ASV can vary based on mix of aircraft types and taxiway configurations.

## ANNUAL SERVICE VOLUME

OPERATIONS

\*Max Service Volume = 275,000 OPS



2018  
159,493 | 58%

2025  
176,371 | 64%

2030  
189,510 | 69%

2040  
218,797 | 80%



# CRITICAL AIRCRAFTS



## **Primary Runway:** **Gulfstream 550**

Wingspan: 93 ft, 6 in  
Exterior length: 96 ft, 5 in  
Interior length: 50 ft, 1 in  
Range: 6,750 nm  
Max Passengers: 19



## **Secondary Runways:** **King Air 90 (and similar)**

Wingspan: 46 ft  
Length: 35 ft, 5 in  
Range: 840 nm – 900 nm  
Max Passengers: 7

- Critical Aircraft is the most demanding airplane with 500 or more operations.

# CURRENT VS. PREVIOUS CRITICAL AIRCRAFT COMPARISON

**G III**



**WING SPAN**

**78'**

**MAX. TAKEOFF WEIGHT**

**69,700 lbs**

**NOISE LEVEL**  
(FAA AC 36-1H)

**91.1 dB**

**G 5**



**93.6'**

**91,000 lbs**

**80.3 dB**

# RUNWAY DESIGN GROUP

Aircraft Reference Code	Aircraft Approach Category (AAC) (knots)		
	Category	Approach Speed	
	A	< 91	
	B	91 to 120	
	C	121 to 140	
	D	141 to 165	
	E	> 166	
	Aircraft Design Group (ADG) (feet)		
	Category	Wing Span	Tail Height
	I	< 48	< 20
II	49 to 78	20 to 29.9	
III	79 to 117	30 to 44.9	
IV	118 to 170	45 to 59.9	
V	171 to 213	60 to 65.9	
VI	> 214	> 66	

- Primary Runway: D-III
- Secondary Runways: B-1

# AIRFIELD SAFETY REQUIREMENTS

- Runway Length
- Runway Width
- Wind Coverage
- RSA & OFA's
- RPZ's
- Instrument Approach Procedures
- Approach Lighting
- VOR Closure
- Landslide Improvements
- Aircraft Storage
- Admin Building & Parking Improvements

# RUNWAY LENGTH COMPARISON

**PDK Existing Length**

6,000 ft

**Gulfstream 550 Max Length**

7,200 ft

**Cobb County Airport (General Aviation)**

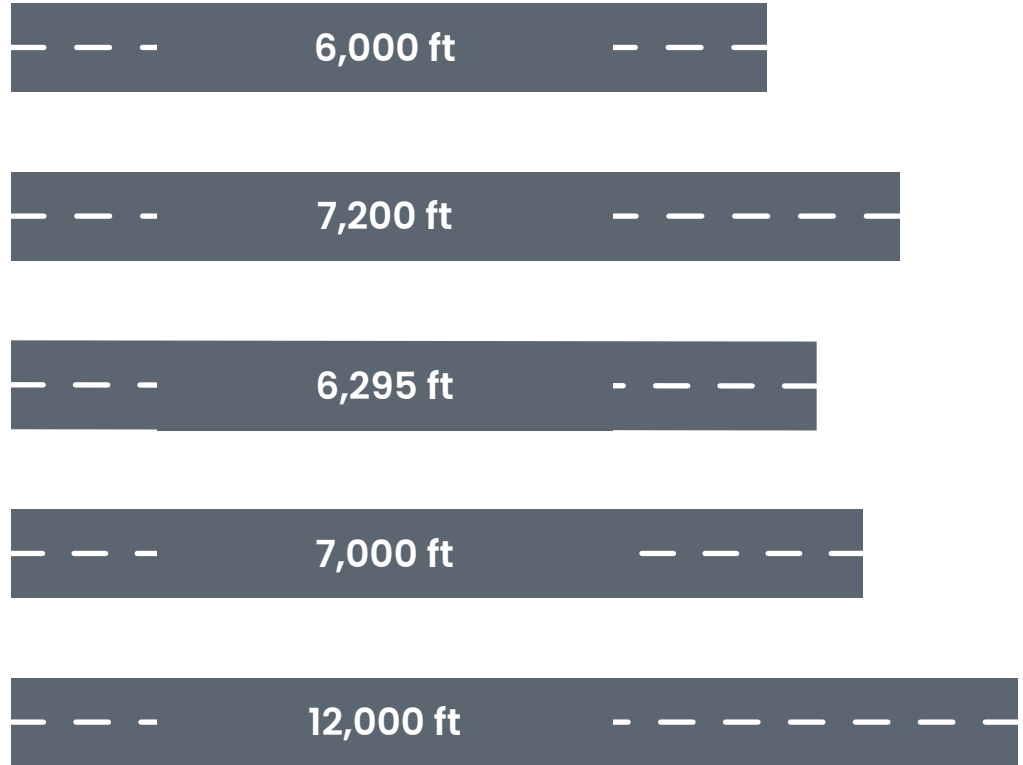
6,295 ft

**Teterboro NJ (General Aviation)**

7,000 ft

**ATL Airport (International)**

12,000 ft



# RUNWAY LENGTH

RUNWAY	FAA DESIGN STANDARD	EXISTING
3R-21L	6,001'	Same
3L-21R	3,746'	Same
16-34	3,967'	Same

- **Additional runway length is not practical due to physical site constraints.**



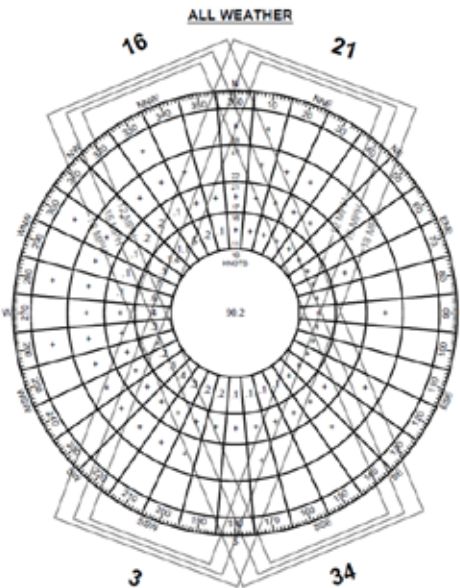
# RUNWAY WIDTH

RUNWAY	FAA DESIGN STANDARD	EXISTING
3R-21L	100'	100'
3L-21R	60'	150'
16-34	60'	150'

- No plans to adjust runway widths over the planning period unless a full reconstruction is required.



# WIND COVERAGE



ALL WEATHER			
RUNWAY	10.5 KTS (12 MPH)	13 KTS (15 MPH)	16 KTS (18 MPH)
3-21	93.57%	96.35%	99.12%
16-34	96.71%	98.47%	99.70%
BOTH	98.09%	99.33%	99.86%

IFR			
RUNWAY	10.5 KTS (12 MPH)	13 KTS (15 MPH)	16 KTS (18 MPH)
3-21	96.59%	97.97%	99.34%
16-34	97.40%	98.57%	99.53%
BOTH	98.63%	99.40%	99.79%

VFR			
RUNWAY	10.5 KTS (12 MPH)	13 KTS (15 MPH)	16 KTS (18 MPH)
3-21	92.96%	96.02%	99.08%
16-34	96.59%	98.46%	99.74%
BOTH	97.99%	99.33%	99.88%

- Crosswind coverage must be 95% for various weather conditions.
- 16-34 provides necessary crosswind coverage for small aircraft.



# RSA'S & OFA'S

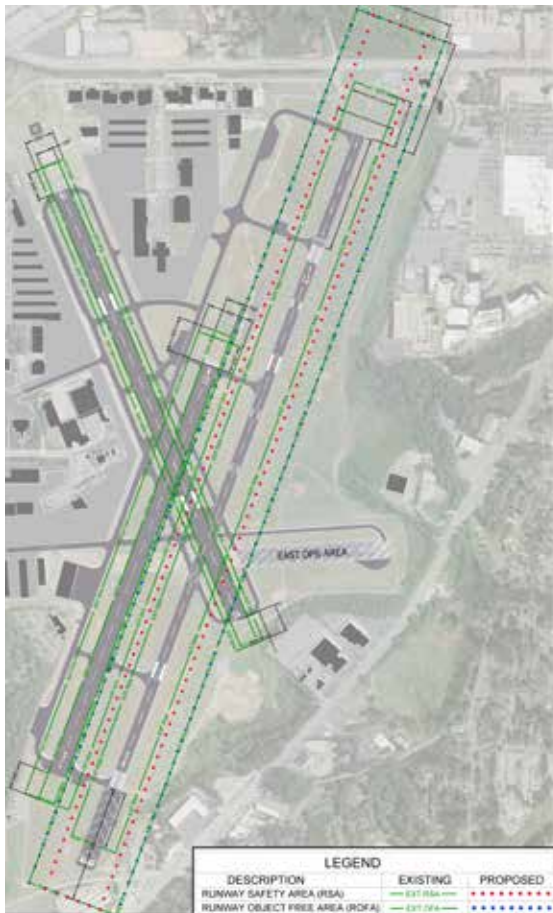
## **Runway Safety Area (RSA).**

A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.

## **Object Free Area (OFA).**

An area centered on the ground on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by remaining clear of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

# RSA'S & OFA'S



- Potential relocation of county sanitation site near Chamblee Tucker Road.
- Evaluating Runway 34 grading improvements.
- Recent EMAS installation.

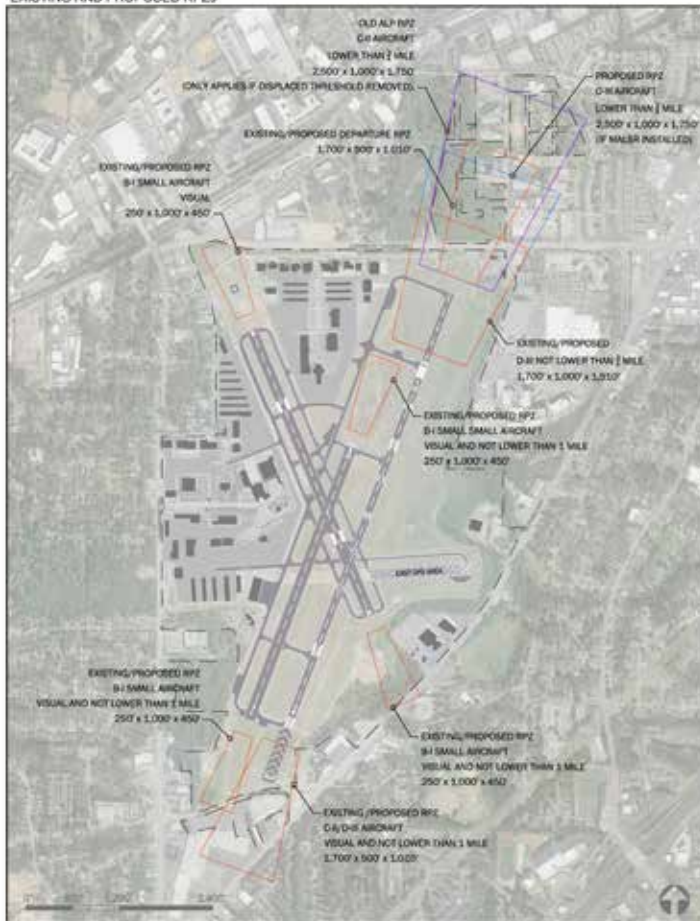
# INSTRUMENT APPROACH PROCEDURES

Approach	Minimum Visibility	Minimum Ceiling Height
<b>ILS or LOC Runway 21L</b>		
ILS	> ¾ mile	400
LOC	¾ mile	500
Circling	> 1 mile	600
<b>RNAV (RNP) Runway 3R</b>	1 mile	400
<b>RNAV (RNP) Z Runway 21L</b>	> 1 mile	600
<b>RNAV (GPS) Y Runway 21L</b>		
LNAV/VNAV	> 1 mile	500
LNAV	¾ mile	600
Circling	1 mile	600
<b>VOR/DME-D</b>	1 mile	700

- Master Plan is evaluating lower minimums to 21L and LPV.
- Analyzing approach to Runway 34.
- Aeronautical survey underway.

# RPZ'S

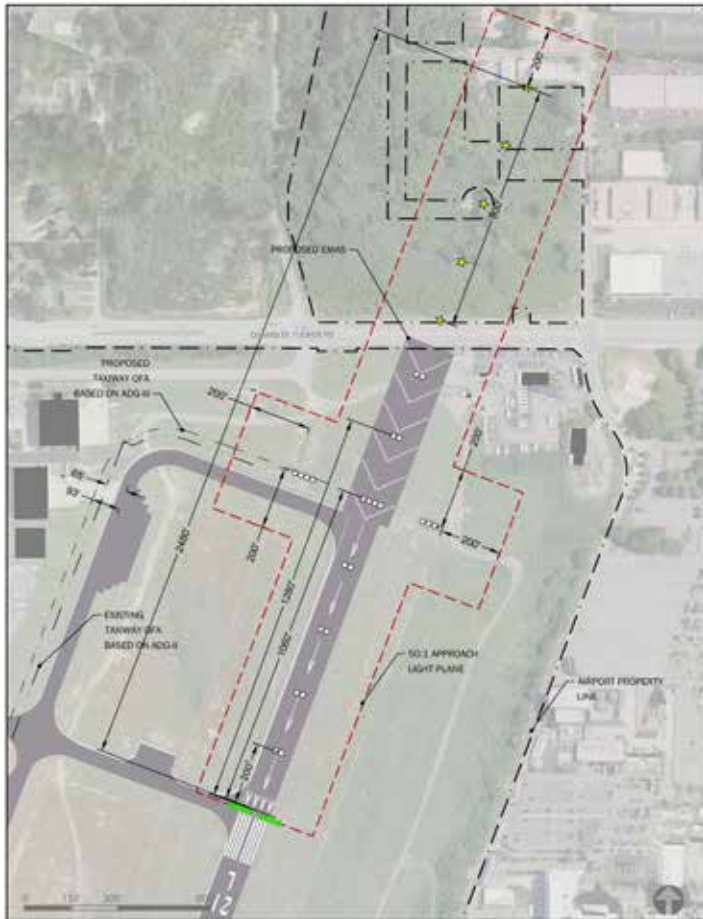
EXISTING AND PROPOSED RPZs



**Runway Protection Zone (RPZ).** An area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground.

# APPROACH LIGHTING POTENTIAL MALSF TO MALSR UPGRADE

RUNWAY 21L EMAS AND MALSR



- Extending Runway 21L Approach Lighting could improve instrument minimums.

# PLANNED VOR CLOSURE

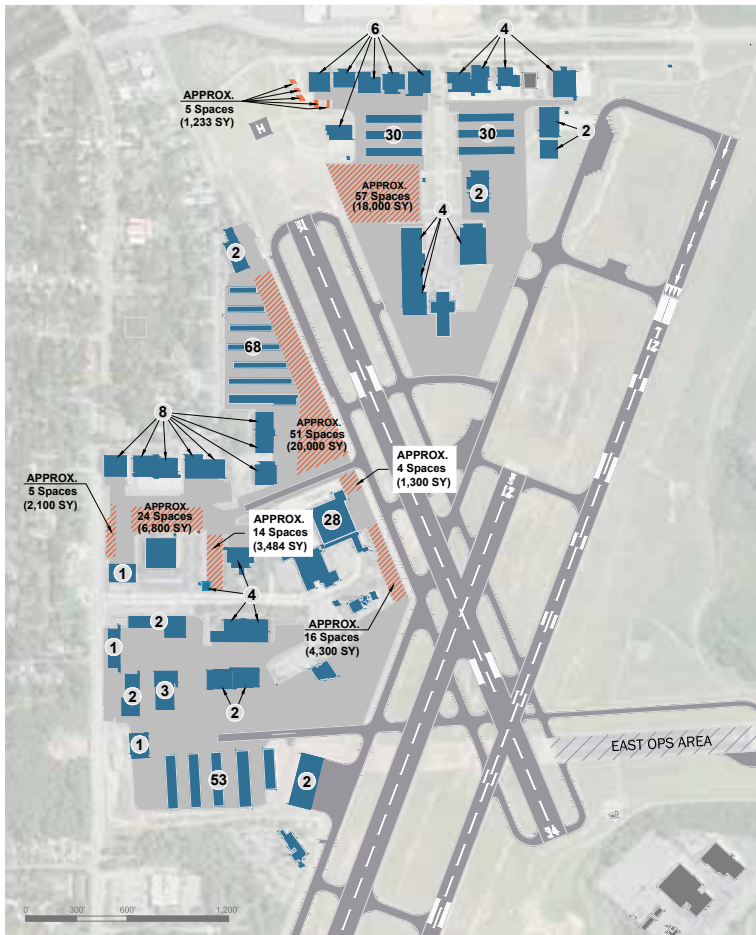


- The FAA will be decommissioning the VOR in the next couple of years. (Radio Navigation Aid)
- Master Plan is evaluating development options in East Ops Area and will present potential improvements at future meetings.

# LANDSIDE IMPROVEMENTS

- **Aircraft Storage**
- **Admin Building & Parking**
- **ARFFF (Fire Station)**

# AIRCRAFT STORAGE CAPACITY VS. PROJECTIONS



EXISTING HANGAR CAPACITY (2018)	EXISTING TIE-DOWN CAPACITY	EXISTING AIRCRAFT STORAGE TOTAL
247	176	389
EXISTING BASED AIRCRAFT TOTAL	FORECASTED BASED AIRCRAFT	CHANGE
423	487	132
NEEDED AIRCRAFT STORAGE		
64		

- "Storage" space can be a combination of hangars and tie-downs.
- Of 64 spaces, approximately 28 are needed for jets over next 20 years.



# SW QUAD HANGAR DEVELOPMENT (UNDER DEVELOPMENT PRIOR TO MASTER PLAN)



LEGEND	
	HANGAR 1: 100' x 100' (10,000 SQ. FT.) MAX HEIGHT: 35'
	HANGAR 2: 100' x 120' (12,000 SQ. FT.) MAX HEIGHT: 35'
	HANGAR 3: 100' x 240' (24,000 SQ. FT.) MAX HEIGHT: 35'
	FIRE DEPARTMENT: 60' x 60' MAX HEIGHT: 25'

Y:\Projects\PM\188740 - MK 18-06 - SW Quad - Design\Design\Draw\Exhibit\Concept Layout - 04119.dwg Plotted on: Apr 15, 2019 - 9:13pm by Mackenna Perkins



# ADMIN BUILDING & PARKING IMPROVEMENTS

- **Constructed in 1940's**
- **Non ADA Friendly**
- **Asbestos**
- **Antiquated Fire Suppression**
- **Lack of Central HVAC**
- **Inadequate Admin/ Public Spaces**
- **Evaluating Parking Improvemnts**



# ARFFF

## AIRPORT FIRE STATION - CHARLIE 15

- Joint Use County/  
Airport Fire Station
- Repurposed Airplane  
Hangar
- Aging Facility  
(30 plus years)
- Inefficient Access  
to Airfield
- Inadequate Crew  
Quarters & Vehicle  
Storage





# *Next Steps*

# NEXT STEPS

- **Concept Development & Alternative Analysis**
- **Environmental Matrix**
- **Public & Committee Meetings to Review Concepts & Alternatives**

*Thank You*

