

Airport Master Plan Advisory Committee (AMPAC)

Meeting #4

September 24th, 2020 – 5:30 p.m.



AGENDA

- **Housekeeping Items**
- **Introduction of Team**
- **The Role of Forecasts**
- **Recent Airport Activity**
- **Indicators of Demand**
- **Forecasted Based Aircraft**
- **Forecasted Operations**
- **Design Aircraft**
- **Questions**
- **Next Steps and Schedule**

HOUSEKEEPING ITEMS

- ✈ **This meeting is being held virtually to comply with recommendations to limit the spread of COVID-19.**
- ✈ **Given the format, we will give a brief (20-minute) overview of the Forecast Chapter and then open it up for Questions.**
- ✈ **The focus of tonight's meeting is on the FAA-approved Forecasts, and we ask that your questions and the discussion be kept to this subject.**

HOUSEKEEPING ITEMS

- ✈ **We will start by addressing any questions that were received in advance of the meeting.**
- ✈ **As a reminder, the FAA is required to approve the Forecasts and the ALP. The Chicago Airports District Office (ADO) approved the forecasts on July 30th, 2020.**
- ✈ **As such, tonight's presentation is for informational purposes only. We are not seeking action from AMPAC, but want to address any clarifying questions members may have.**

INTRODUCTION OF TEAM



Greg Stern
Mead & Hunt



Ryk Dunkelberg
Mead & Hunt



Barbara Michael
Mead & Hunt



Josh Holbrook
Wisconsin BOA

TIMELINE OF FORECAST REVIEW



THE ROLE OF FORECASTS

- ✈ **Forecasts form the basis for future demand-driven facility needs**
- ✈ **Provide data from which to estimate impacts: noise, traffic levels**
- ✈ **The numbers are not exact, but are instead developed to indicate a reasonable projection of future activity based on demand**
- ✈ **Forecasted demand levels are correlated with the short, medium and long-range planning periods (0-5; 5-10; and 10-20 years)**

RECENT AIRPORT ACTIVITY DATA

Year	Total Ops (TAF)	IFR Ops	Freight Ops	Jet Ops	Turbo-Prop Ops	Jet-A Fuel Sold	100 LL Fuel Sold	Based Aircraft
2010	40,510	3,452	30	424	564	31,076	77,385	58
2011	40,510	3,083	92	442	396	31,783	72,660	57
2012	40,510	3,203	390	492	282	24,271	68,802	61
2013	40,510	2,997	358	332	240	21,836	78,709	68
2014	40,510	2,916	348	342	188	18,137	73,649	71
2015	40,510	3,407	370	456	410	15,868	76,467	72
2016	40,510	3,029	404	436	640	21,152	73,037	86
2017	40,510	2,849	356	416	562	29,927	74,238	86
2018	40,510	2,462	342	366	532	29,142	70,293	94
2019	41,342 *	2,566	420	344	564	29,988	78,716	100
<i>Average:</i>	40,593	2,996	311	405	438	25,318	74,396	75
<i>CAGR ('10-'19):</i>	0.2%	-3.2%	34.1%	-2.3%	0.0%	-0.4%	0.2%	6.2%
<i>CAGR ('15-'19):</i>	0.5%	-6.8%	3.2%	-6.8%	8.3%	17.2%	0.7%	8.6%

→ **Highlighted numbers** indicate 10-year high values

RECENT SOCIOECONOMIC DATA – DANE COUNTY

Year	Dane County Population	Dane County Total Retail Sales (mil, \$2009)	Dane County Total Personal Income (mil, \$2009)
Historical:			
2010	489,190	7,907	\$21,258
2011	496,460	8,448	\$22,317
2012	503,438	8,882	\$23,048
2013	510,007	9,131	\$23,673
2014	516,494	9,421	\$24,349
2015	522,878	9,672	\$25,860
2016	531,273	9,942	\$26,486
2017	536,975	10,203	\$27,159
2018	543,120	10,386	\$27,896
2019	549,327	10,556	\$28,583
<hr/>			
<i>CAGR (2010 - 2019)</i>	1.30%	3.26%	3.34%
<i>CAGR (2015 - 2019)</i>	1.24%	2.21%	2.54%

INDICATORS OF DEMAND

- ✈ **There are approximately 41,000 operations conducted per year**
 - Of these, more than two-thirds (69%) are Local operations
 - Roughly 3,000 annual Instrument operations. Recent years below average

- ✈ **Growth in e-commerce coupled with proximity to UPS Delivery Center have generated regular air freight operations from two service providers: Freight Runners and Pro Aire Cargo Consultants**

- ✈ **Addition of a Second Airport Service Provider (Capital Flight)**

INDICATORS OF DEMAND

- **Sustained operations by small jets and turboprop aircraft. Over 1,000 combined operations in Year 2016**
- **Consistent fuel sale numbers. Highest volume of fuel sold in 2019**
- **Large growth in the number of based aircraft and sustained interest in hangar construction / aircraft storage**
- **Strong socioeconomic growth numbers in Dane County which are forecasted to continue**

INDICATORS OF DEMAND

✈ **Interest from area businesses for greater or continued use:**

- Epic Systems Corporation
- Hy-Cite Enterprises
- Medex, LLC
- North Central Group
- Plastics Ingenuity
- GCG Investments, LLC
- Capital Flight

► Aviation Activity Forecasts

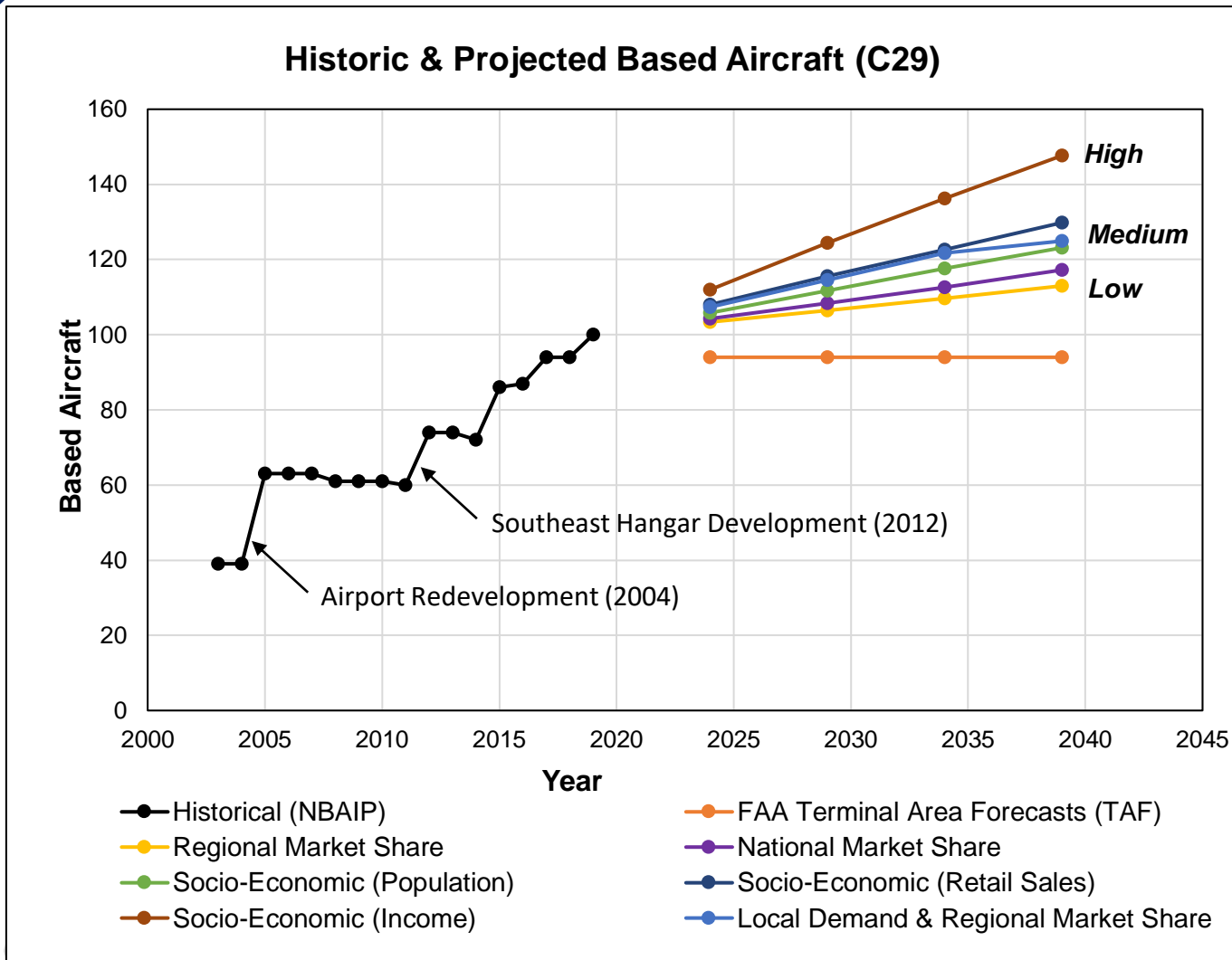


FORECAST METHODS

- ✈ **Socioeconomic Methodology – examines the relationship between airport activity and socioeconomic variables to predict future levels**
 - Population
 - Retail Sales
 - Personal Income

- ✈ **Market Share Methodology – identifies and applies a historical share of activity to larger National and Regional market projections**
 - National – U.S. Aviation Market
 - Regional – FAA Great Lakes Region

BASED AIRCRAFT FORECAST

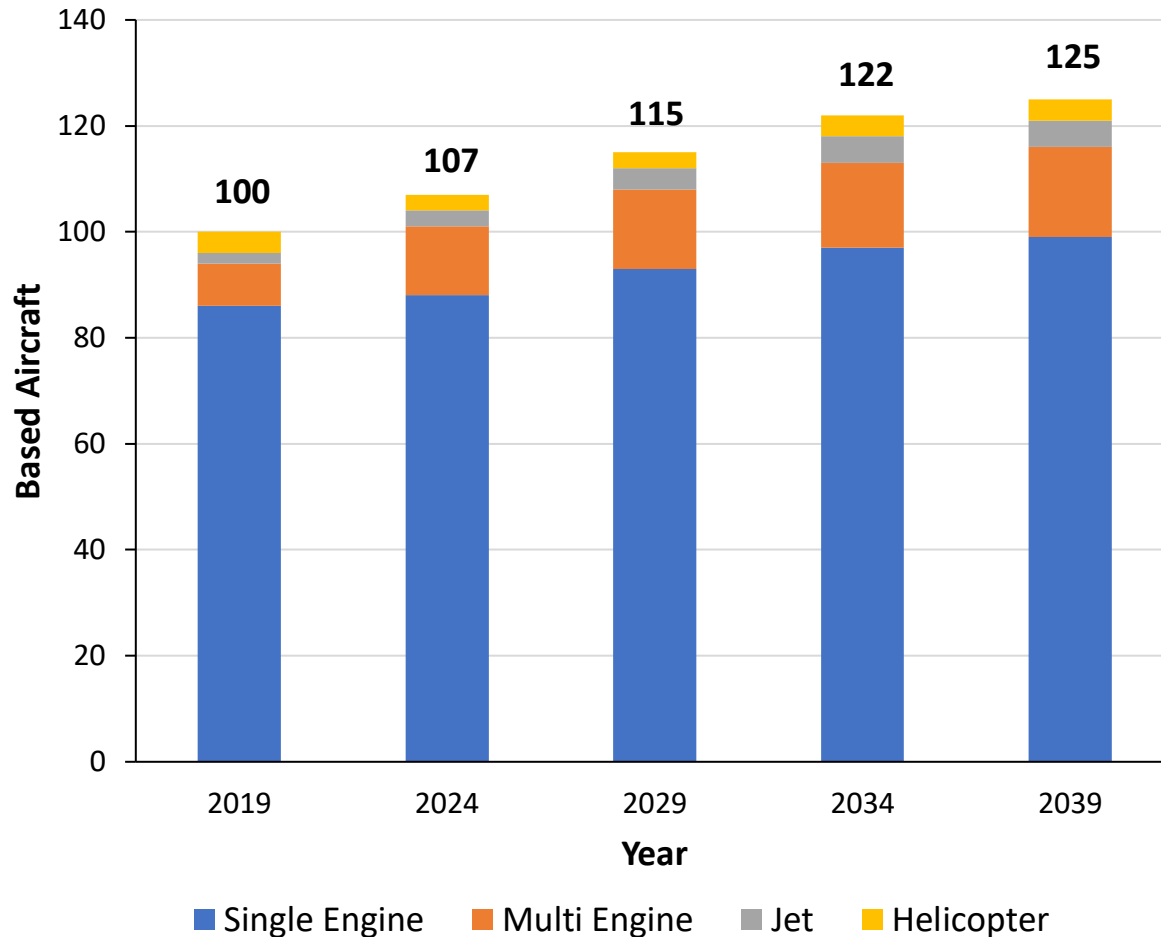


Year	High Growth		
	Socio-Economic Population	Socio-Economic Retail Sales	Socio-Economic Personal Income
2019	100	100	100
2024	106	108	112
2029	112	116	124
2034	118	123	136
2039	123	130	148
CAGR ('19 - '39)	1.05%	1.31%	1.97%

Year	Low Growth		Medium Growth
	Regional Market Share	National Market Share	Local Demand & Regional Market Share
2019	100	100	100
2024	103	104	107
2029	107	108	115
2034	110	113	122
2039	113	117	125
CAGR ('19 - '39)	0.61%	0.80%	1.12%



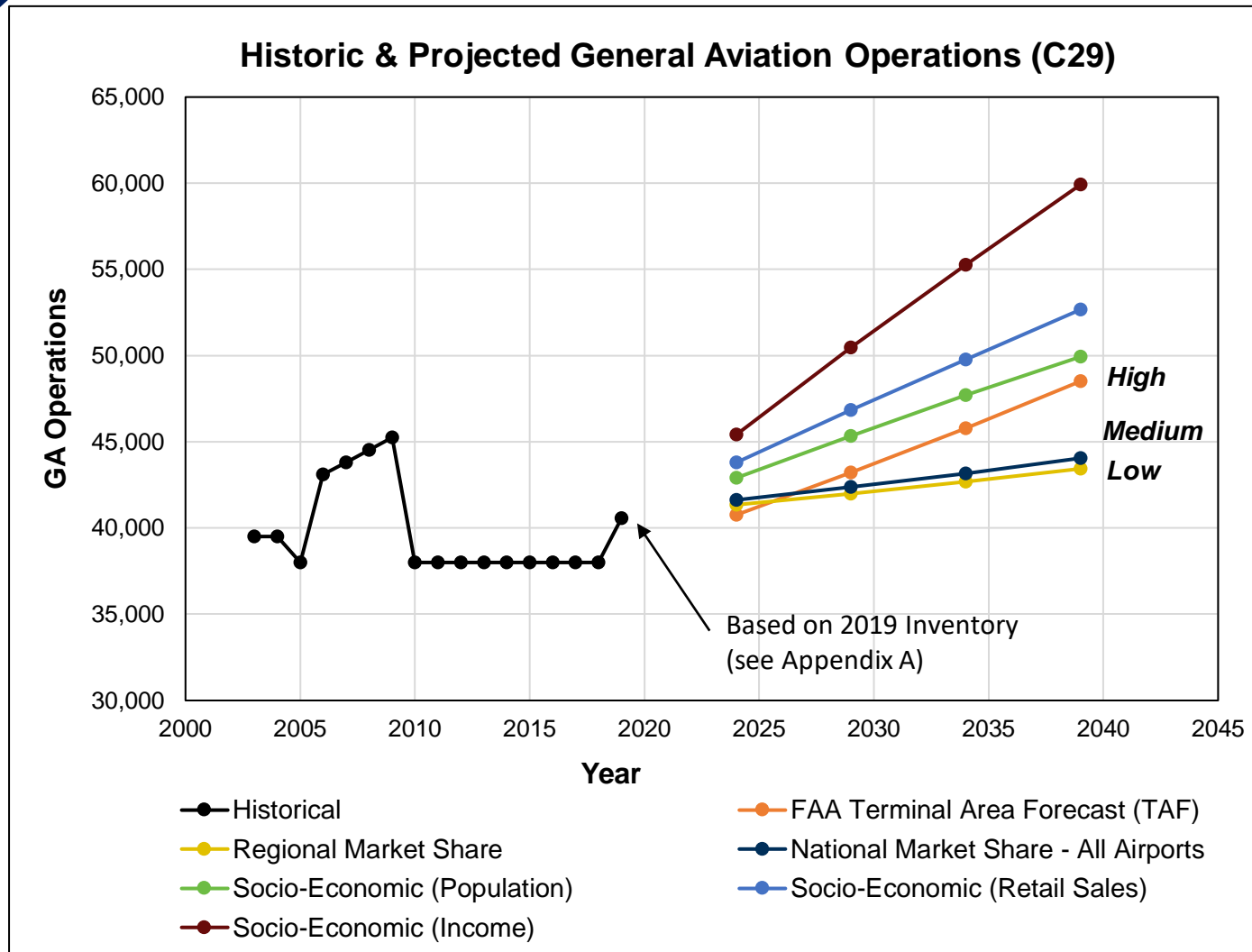
FLEET MIX OF BASED AIRCRAFT



Year	Single Engine	Multi Engine	Jet	Helicopter	Total
2019	86	8	2	4	100
2024	88	13	3	3	107
2029	93	15	4	3	115
2034	97	16	5	4	122
2039	99	17	5	4	125
CAGR ('19-'39)	0.69%	3.99%	4.69%	0.00%	1.12%



OPERATIONS – GENERAL AVIATION

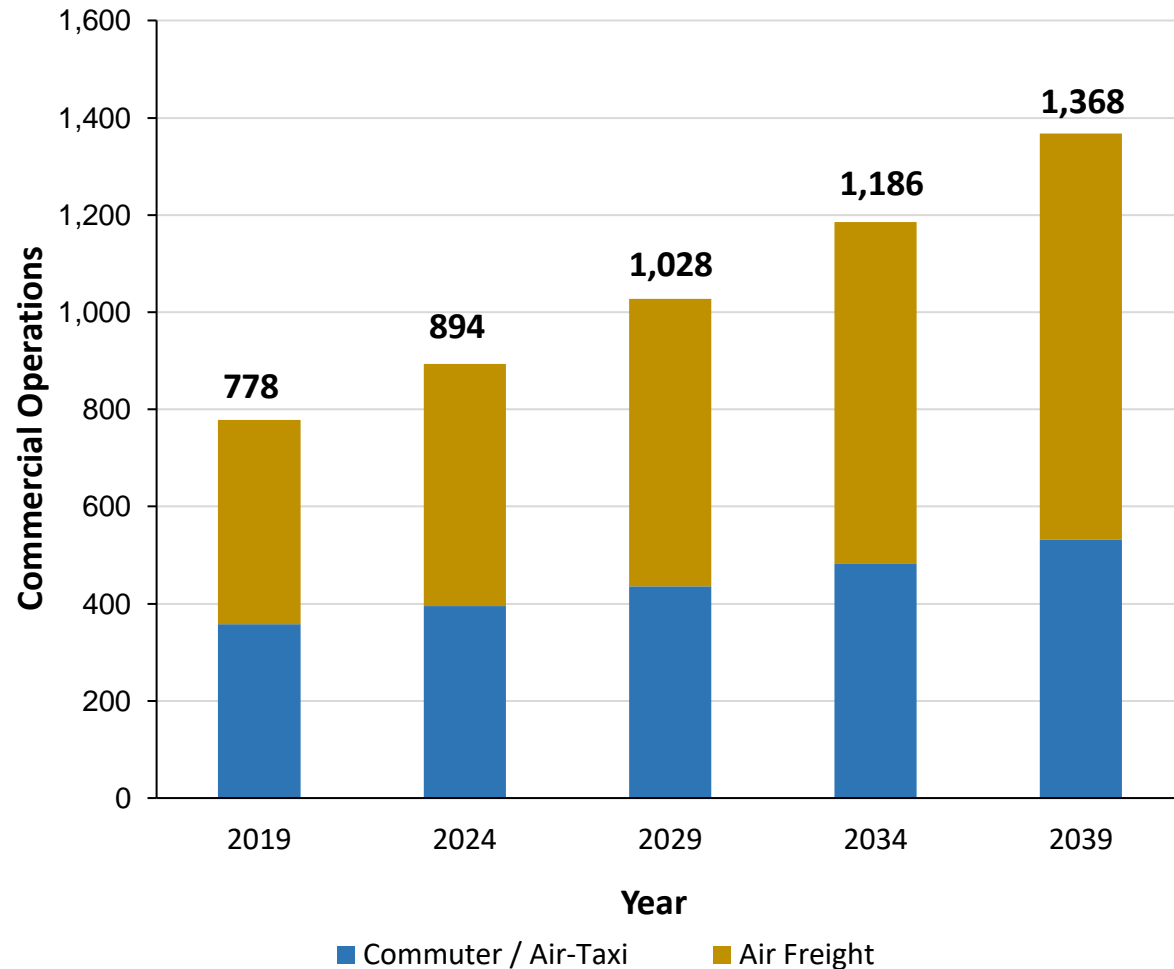


Year	Socio-Economic Population	Socio-Economic Retail Sales	Socio-Economic Personal Income
2019	40,560	40,560	40,560
2024	42,909	43,795	45,428
2029	45,322	46,850	50,470
2034	47,695	49,765	55,254
2039	49,941	52,671	59,918
CAGR ('19 - '39)	1.05%	1.31%	1.97%

Year	Low Growth Regional Market Share	Medium Growth National Market Share	High Growth FAA (TAF)
2019	40,560	40,560	40,560
2024	41,342	41,610	40,763
2029	41,995	42,362	43,204
2034	42,690	43,169	45,781
2039	43,447	44,041	48,505
CAGR ('19 - '39)	0.34%	0.41%	0.90%



OPERATIONS – COMMERCIAL (CHARTER & FREIGHT)



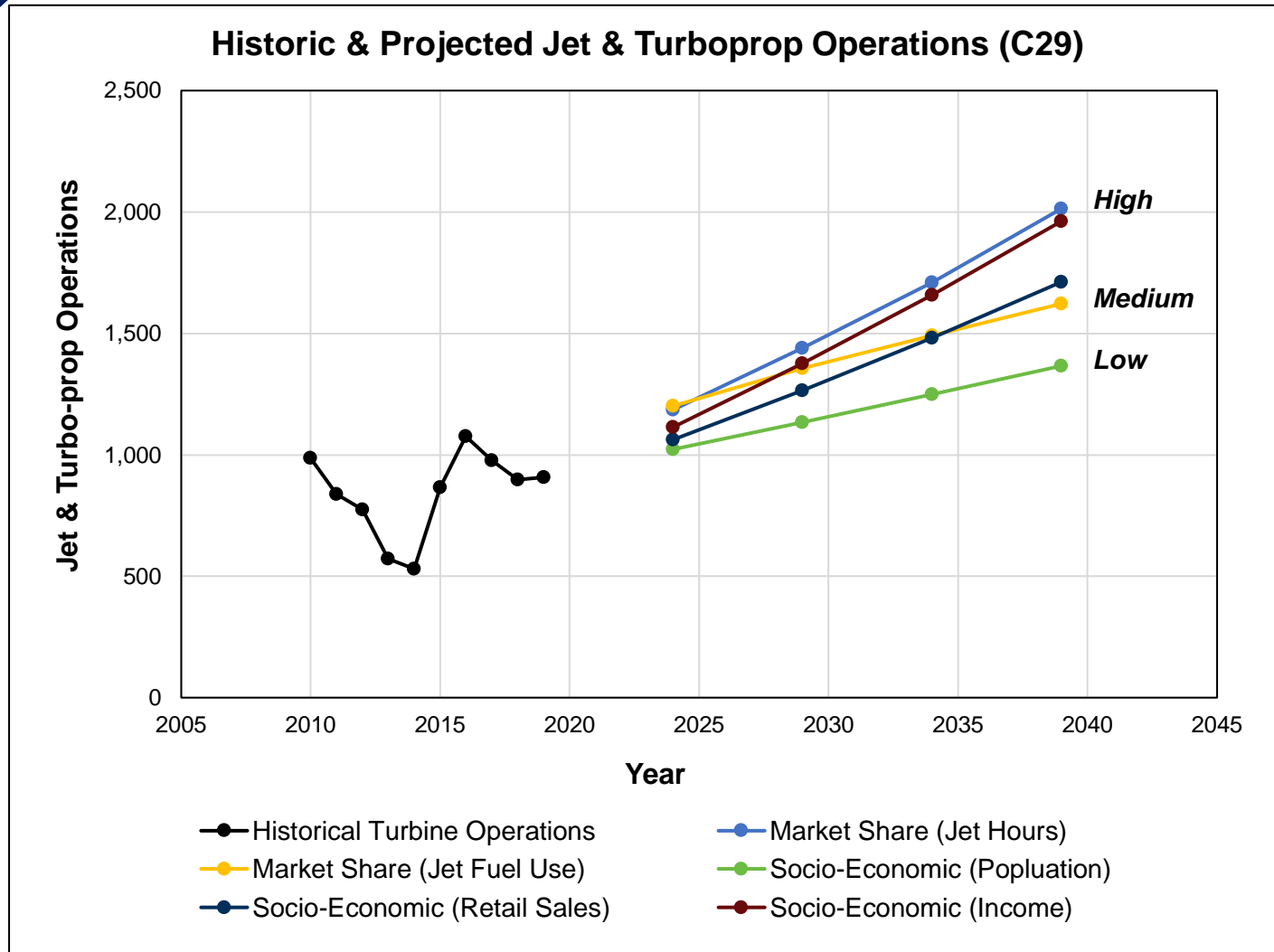
Year	Charter	Air Freight	Total Commercial
2019	358	420	778
2024	395	499	894
2029	436	592	1,028
2034	482	704	1,186
2039	532	836	1,368

CAGR ('19-'39) 2.00% 3.50% 2.86%

✈ **Commercial Operations represent approximately 2% of the activity at C29.**



OPERATIONS – JET & TURBO-PROP



Low Growth

Year	Socio-Economic (Population)	Socio-Economic (Retail Sales)	Socio-Economic (Income)
2019	908	908	908
2024	1,024	1,063	1,115
2029	1,134	1,266	1,377
2034	1,249	1,481	1,658
2039	1,366	1,713	1,963
CAGR ('19-'39)	2.06%	3.22%	3.93%

Year	High Growth	Medium Growth
	Market Share (Jet Hours)	Market Share (Jet Fuel Use)
2019	908	908
2024	1,187	1,201
2029	1,440	1,357
2034	1,710	1,492
2039	2,015	1,622
CAGR ('19-'39)	4.07%	2.94%



DESIGN AIRCRAFT

A-I

Beech Barron 55
Cessna 150
Beech Bonanza
Cirrus SR-20/22
Piper Warrior



B-I

King Air 90/100
Piper Navajo,
Cheyenne
Cessna Citation I
Beech Barron 58
Cessna 402
Cessna 421



A-II and B-II

DHC Twin Otter
Cessna Caravan
Cessna Citation III
King Air C90
Super King Air
200, 300, 350
Beech 1900
Falcon 20



A-III and B-III

Fokker F28
DHC Dash 7
DHC Dash 8
DC-3
Convair 580



C-II and D-II

Gulfstream III
Cessna 650
Gulfstream IV
Canadair 600
Cessna
Citation X
Cessna Citation Sovereign
Hawker 800XP



C-III and D-III

Boeing 737
Bombardier
CRJ-700
Gulfstream V
Global Express
MD-80
DC-9



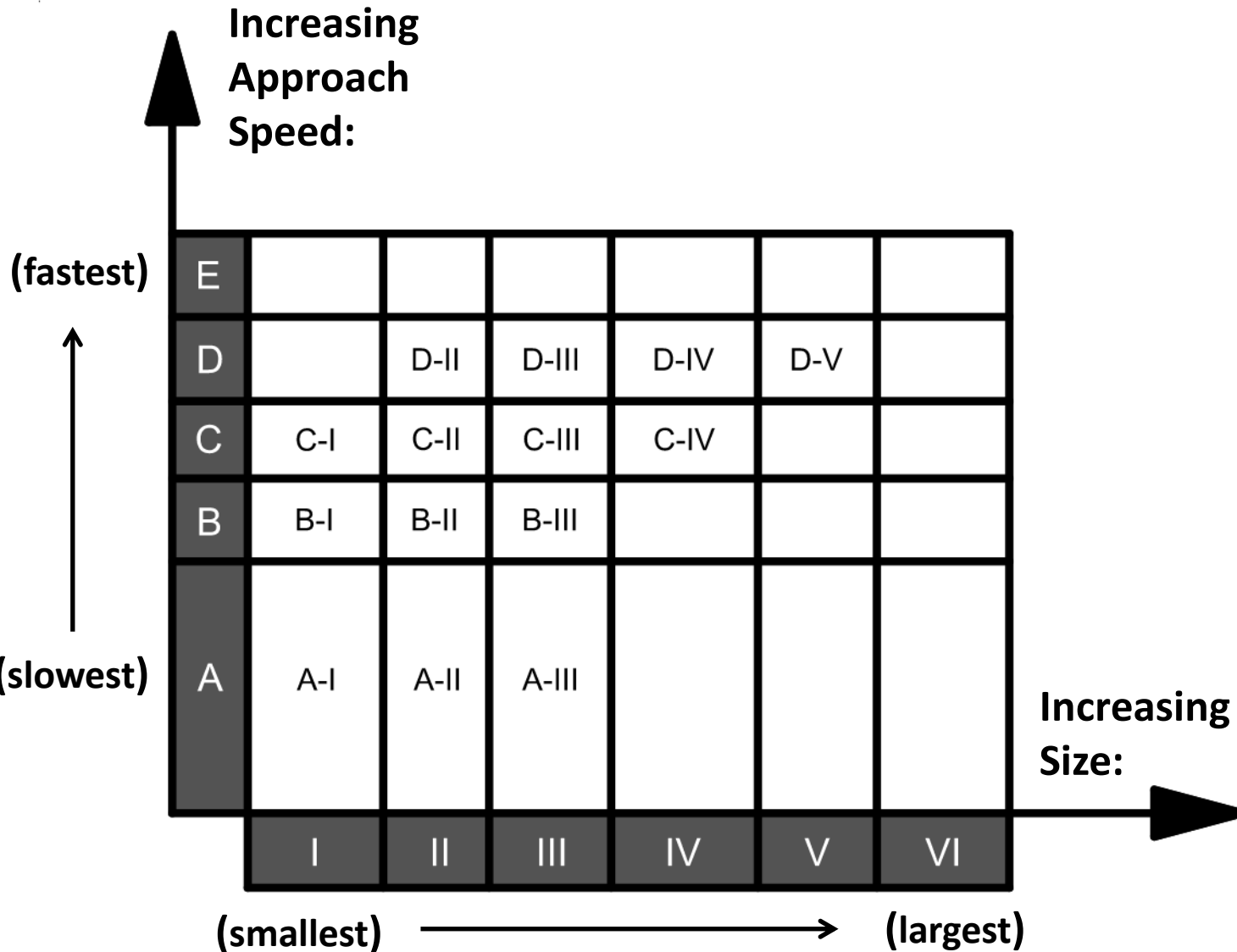
C-IV and D-IV

Boeing 757-200
DC-10
Boeing 767
MD-11



D-V

Boeing 747 Series
Boeing 777 Series



A-I
 Beech Barron 55
 Cessna 150
 Beech Bonanza
 Cirrus SR-20/22
 Piper Warrior



B-I
 King Air 90/100
 Piper Navajo, Cheyenne
 Cessna Citation I
 Beech Barron 58
 Cessna 402
 Cessna 421




A-II and B-II
 DHC Twin Otter
 Cessna Caravan
 Cessna Citation III
 King Air C90
 Super King Air 200, 300, 350
 Beech 1900
 Falcon 20




A-III and B-III
 Fokker 28
 DHC Dash 8
 DHC Dash 8
 DC-3
 Convair 580




C-II and D-II
 Gulfstream III
 Cessna 650
 Gulfstream IV
 Canadair 600
 Cessna Citation X
 Cessna Citation Sovereign
 Hawker 800XP




C-III and D-III
 Boeing 737
 Bombardier CRJ-700
 Gulfstream V
 Global Express
 MD-80
 DC-9



C-IV and D-IV
 Boeing 737 700
 DC-10
 Boeing 767
 MD-11



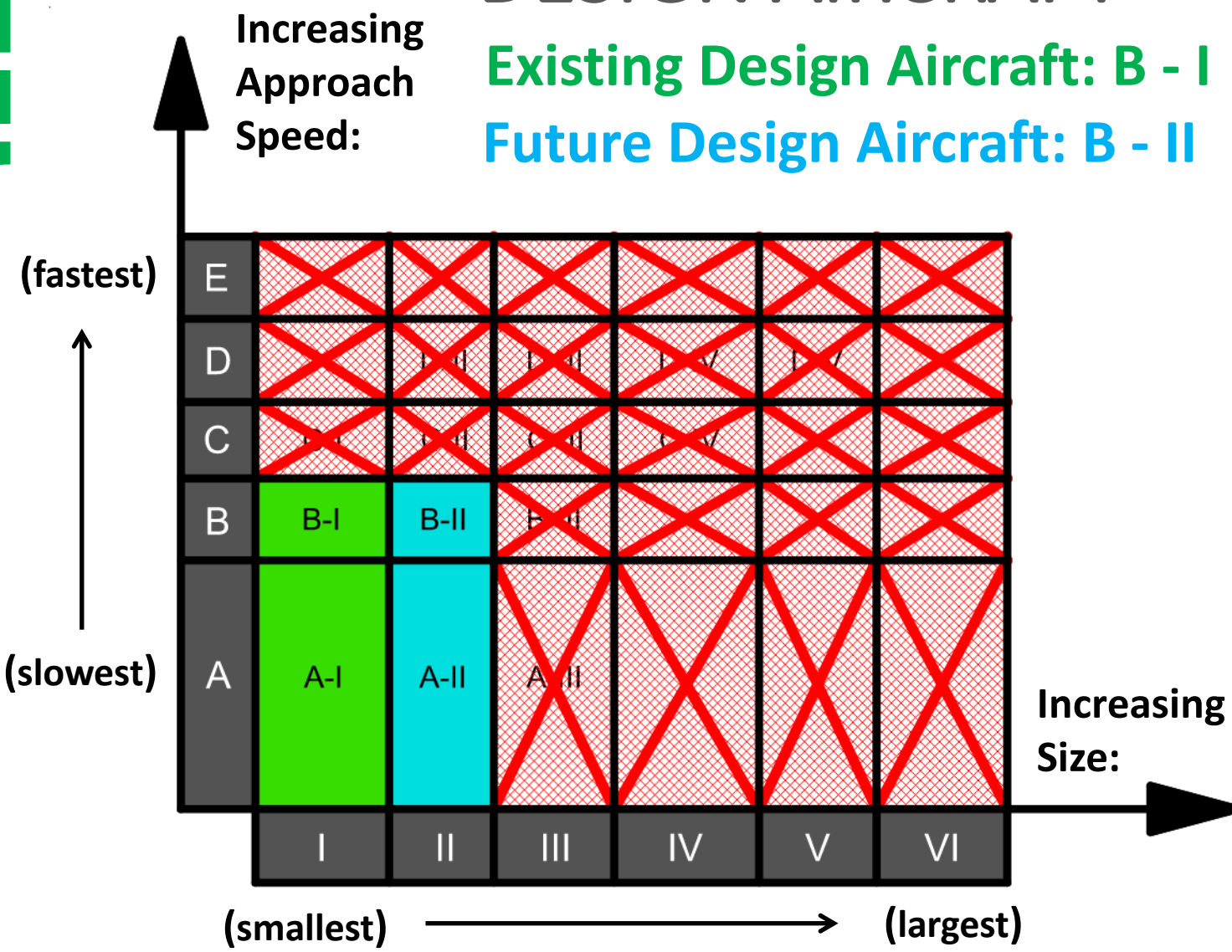
C-V and D-V
 Boeing 747 Series
 Boeing 777 Series



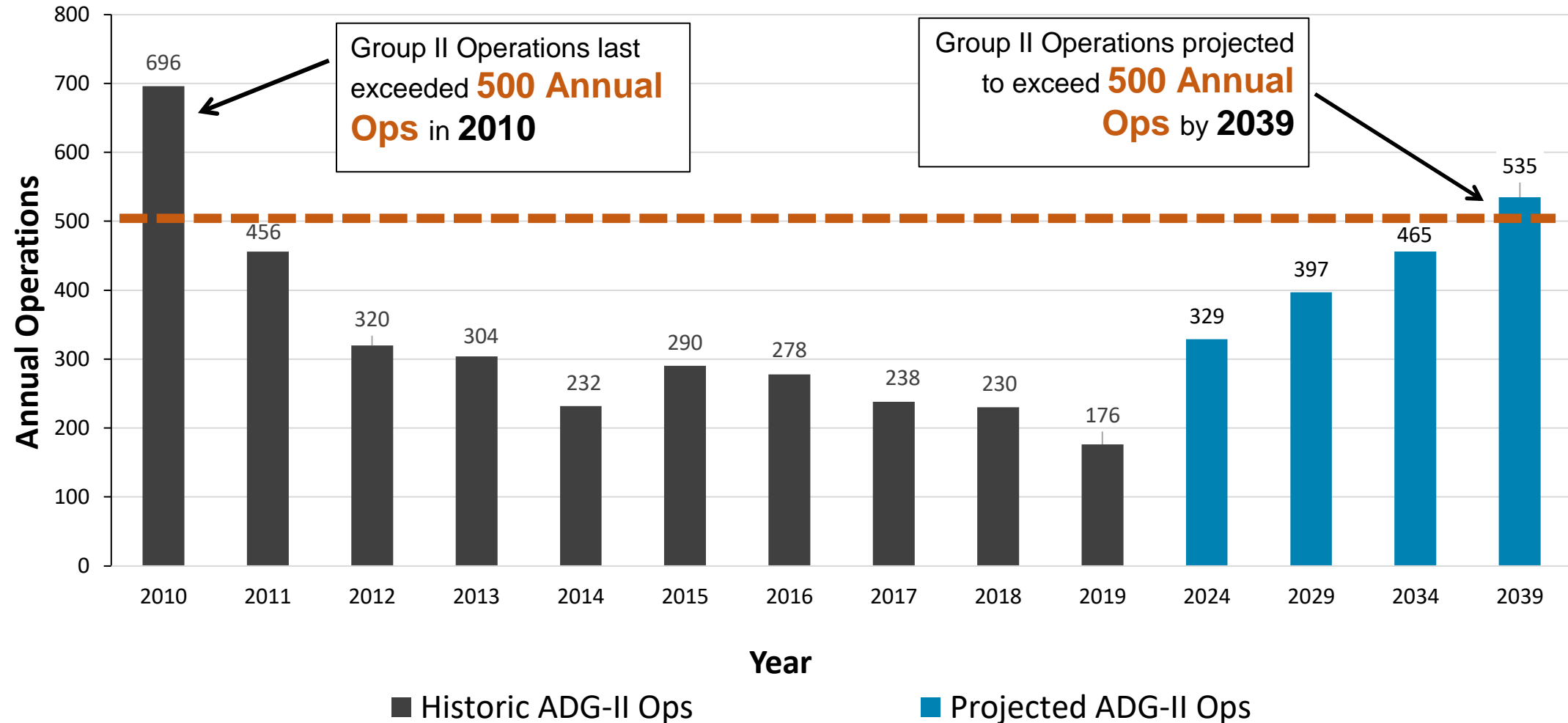
DESIGN AIRCRAFT

Existing Design Aircraft: B - I

Future Design Aircraft: B - II



GROUP II OPERATIONS



EXISTING DESIGN AIRCRAFT (B-I)

FUTURE DESIGN AIRCRAFT (B-II)

Approach Speed	Tail Height	Wingspan
≥ 91 knots, < 121 knots	< 20 feet	< 49 feet

Approach Speed	Tail Height	Wingspan
≥ 91 knots, < 121 knots	20 – 29 feet	49 – 78 feet

Jet



Turboprop



Jet

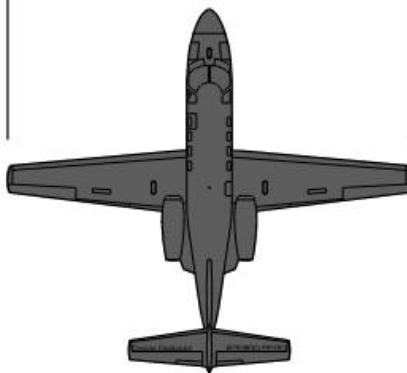


Turboprop



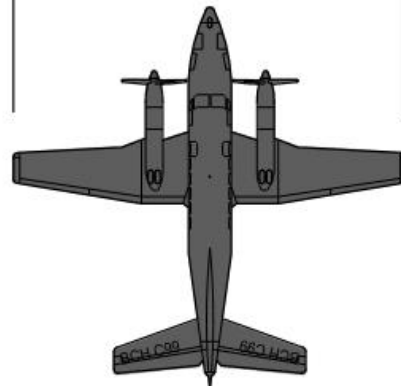
Citation CJ1

WINGSPAN: 47'



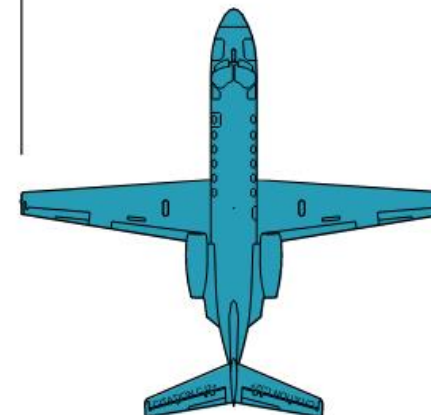
Beech Airliner 99

WINGSPAN: 46'



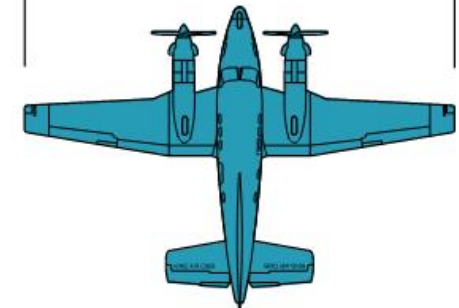
Citation CJ2

WINGSPAN: 50'



Beech King Air 90

WINGSPAN: 50'



FORECAST SUMMARY

	Year	2019 TAF ¹	Low Growth Forecast (LGF)	LGF to 2019 TAF (%)	Medium Growth Forecast (MGF)	MGF to 2019 TAF (%)	High Growth Forecast (HGF)	HGF to 2019 TAF (%)
Based Aircraft								
Base Yr. Level	2019	94	100	6.4%	100	6.4%	100	6.4%
Base Yr. + 5yr.	2024	94	103	9.9%	107	14.2%	112	19.1%
Base Yr. + 10yrs.	2029	94	107	13.3%	115	21.8%	124	32.4%
Base Yr. + 15yrs.	2034	94	110	16.7%	122	29.5%	136	44.9%
Base Yr. + 20yrs.	2039	94	113	20.2%	125	33.0%	148	57.2%
GA Operations								
Base Yr. Level	2019	38,447	40,560	5.5%	40,560	5.5%	40,560	5.5%
Base Yr. + 5yr.	2024	40,763	41,342	1.4%	41,610	2.1%	40,763	0.0%
Base Yr. + 10yrs.	2029	43,204	41,995	-2.8%	42,362	-1.9%	43,204	0.0%
Base Yr. + 15yrs.	2034	45,781	42,690	-6.8%	43,169	-5.7%	45,781	0.0%
Base Yr. + 20yrs.	2039	48,505	43,447	-10.4%	44,041	-9.2%	48,505	0.0%
Total Operations								
Base Yr. Level	2019	40,957	41,342	0.9%	41,342	0.9%	41,342	0.9%
Base Yr. + 5yr.	2024	43,273	42,166	-2.6%	42,514	-1.8%	41,724	-3.6%
Base Yr. + 10yrs.	2029	45,714	42,856	-6.3%	43,401	-5.1%	44,379	-2.9%
Base Yr. + 15yrs.	2034	48,291	43,591	-9.7%	44,365	-8.1%	47,222	-2.2%
Base Yr. + 20yrs.	2039	51,015	44,389	-13.0%	45,419	-11.0%	50,276	-1.4%

Questions on Forecasts



Question #1: “Often times during VFR conditions, the traffic pattern at Morey is at or above capacity which results in overflights of residential neighborhoods. How are capacity constraints, in the traffic pattern, factored into the forecast?”



Next Steps, Schedule



SCHEDULE AND NEXT STEPS

