



TRUCKEE TAHOE AIRPORT

AIRPORT LAYOUT PLAN UPDATE

Aviation Activity Forecasts

June 23, 2021

Presentation Overview

- ALP Update Project
- **Aviation Activity Forecasts**
- Historical Operations
- Operations Forecast
- Based Aircraft Forecast
- Critical Aircraft
- Next Steps

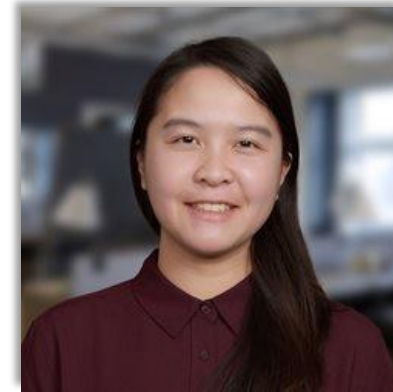


The Mead & Hunt Team

- Brad Musinski – Project Manager



- Patricia Song – Aviation Planner



- Mitchell Hooper – Quality Control

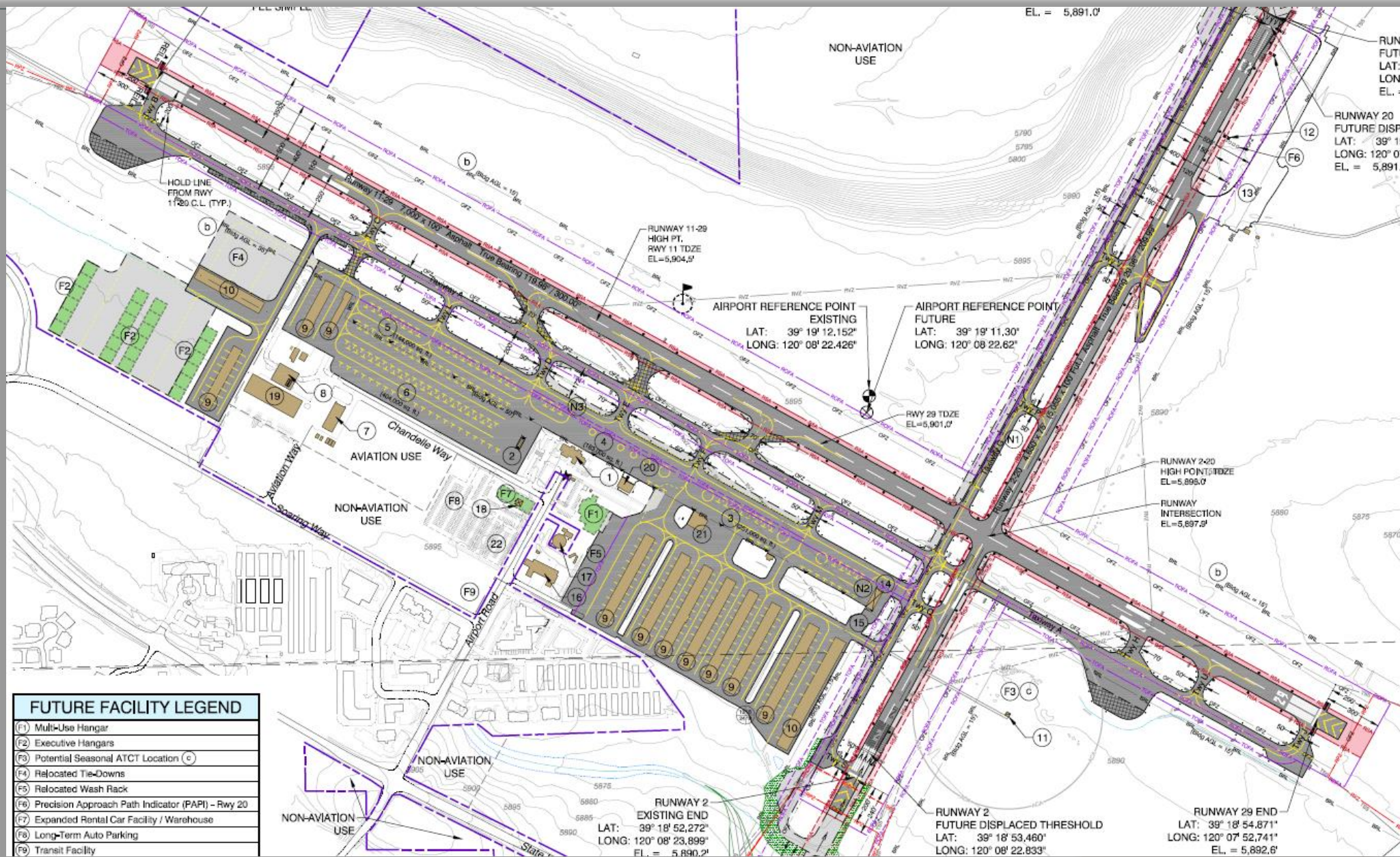


ALP Update Project

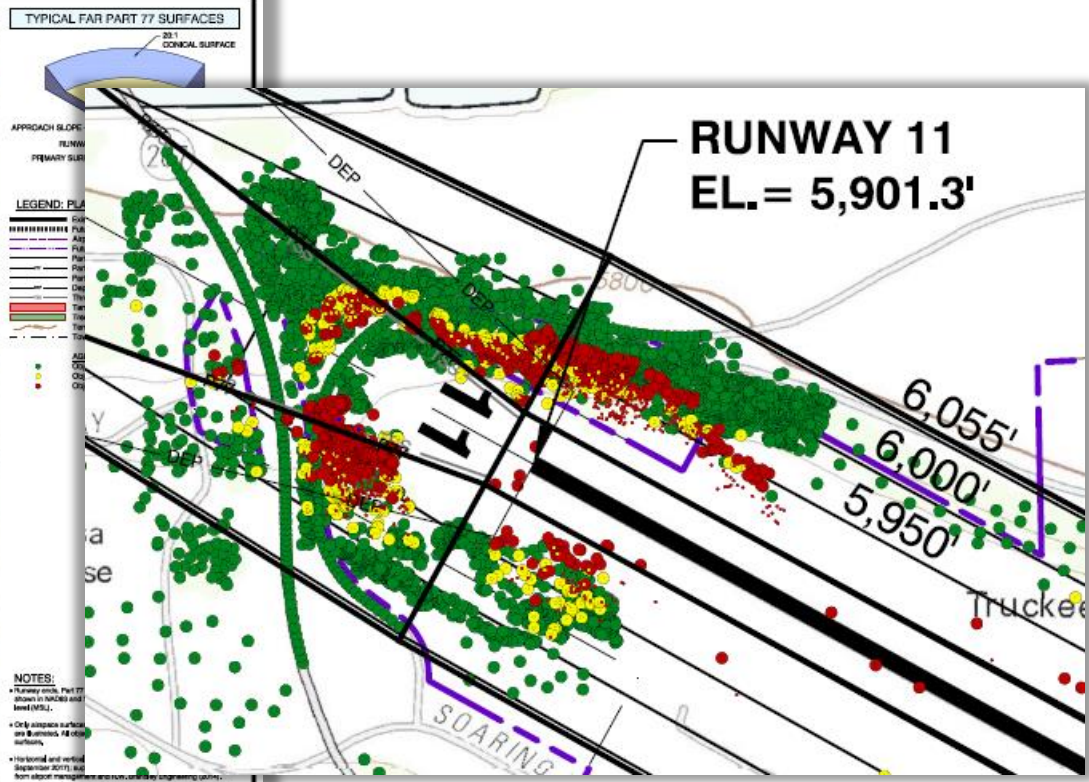
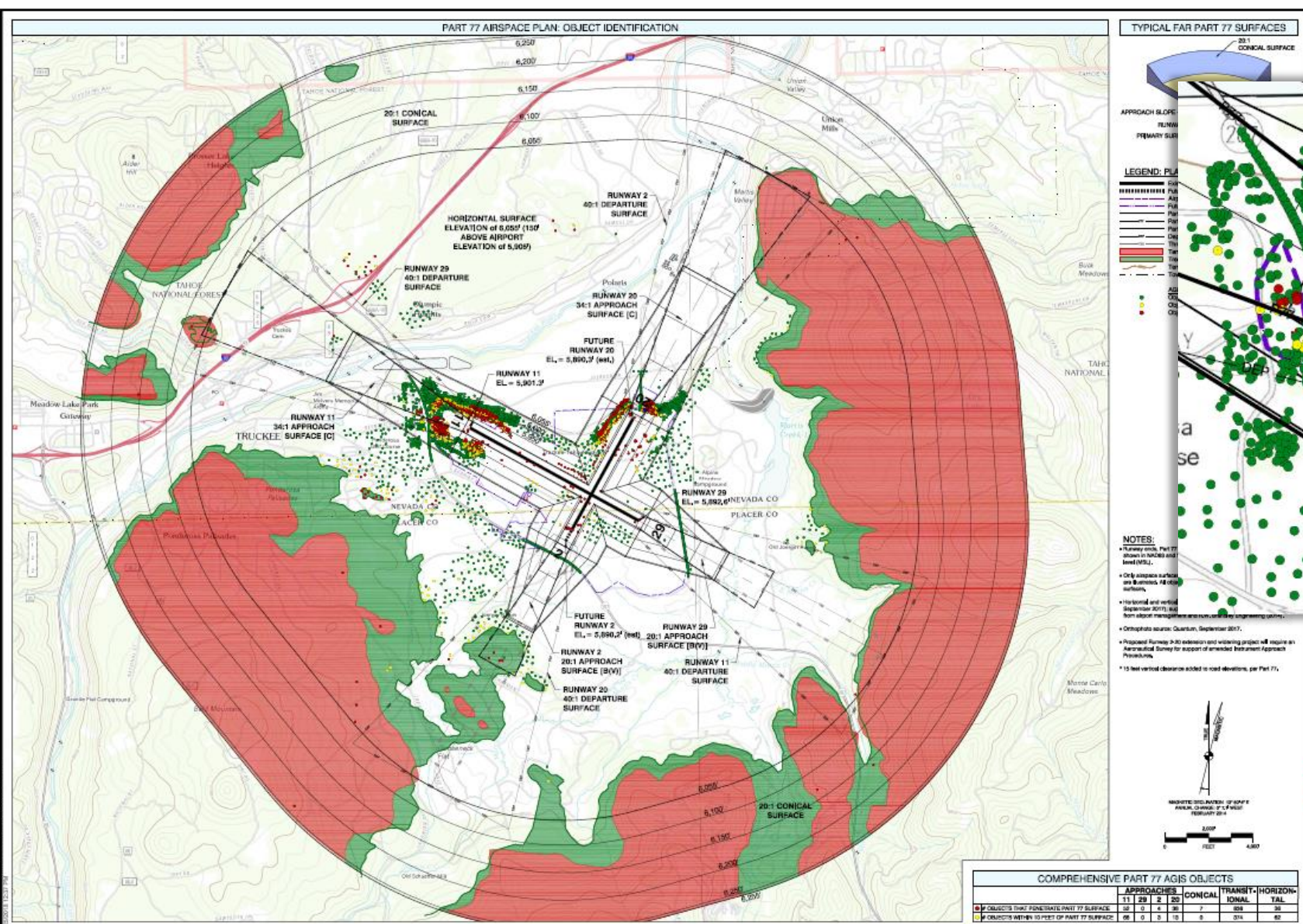
- Why update the ALP now?
 - Does not replace the 2015 Master Plan
- Incorporate 5-years of pen-and-ink changes
 - Taxiway construction
 - Hangar 2
 - Executive hangars
 - Control tower
 - Wash rack, maintenance building, helicopter parking pad
- Evaluate non-aviation land use
- Integrate recent AGIS survey into Airspace Plan



2015 Master Plan ALP



ALP Airspace Update - AGIS



Aviation Activity Forecasts

- Why update the Forecasts?
- FAA Approval
 - Justifies eligibility for capital funding assistance
 - Supports long-term facility planning
- 2015 Master Plan Forecasts have been reached
- New methods
- New FAA requirements for design aircraft and runways



Historical Operations

Aircraft Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Piston	8,401	8,659	8,610	8,484	8,047	8,293	10,676	14,262	14,978	15,937	16,775
Piston T&G	1,680	1,732	1,722	1,697	1,609	1,659	2,135	2,852	2,996	3,187	3,355
Piston Twin	1,560	1,208	1,182	931	1,042	1,110	1,524	1,205	1,145	1,176	1,269
Turboprop	2,941	2,593	2,602	3,116	3,036	3,691	5,756	6,413	6,942	6,840	6,346
Jet 2 (< 12.5k lbs)	n/a	n/a	n/a	n/a	n/a	n/a	924	918	960	896	998
Jet 3 (12.5-20k lbs)	661	516	500	441	1,046	1,276	1,290	1,331	1,599	1,751	1,658
Jet 4 (20 - 50k lbs)	355	644	590	642	946	1,027	970	1,164	1,274	1,606	1,504
Jet 5 (50k+ lbs)	600	413	447	583	974	1,145	227	261	307	296	270
Helo	390	1,500	1,467	1,666	1,638	1,333	1,138	1,190	1,229	1,013	985
Gliders Only	1,376	2,622	2,748	2,748	2,445	2,445	2,554	2,890	2,573	2,666	3,287
Glider Tow Plane	1,376	2,622	2,748	2,748	2,445	2,445	2,554	2,890	2,573	2,666	3,287
TOTAL	19,339	22,509	22,616	23,056	23,227	24,423	29,748	35,376	36,576	38,034	39,734

- Pre-Great Recession operations closer to 2016/2017 levels



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- Touch & Go operations (Historical Estimate = 20% SEP)
- Air Taxi = 4,755 operations (12% of total)
- Local / Itinerant = 42% / 58%



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TOTAL	19,339	22,509	22,616	23,056	23,227	24,423	29,748	35,376	36,576	38,034	39,734



Review of 2015 AMP Forecasts

	2012	2015	2020	2025
Single-Engine Piston	13,726	14,118	15,182	16,330
Multi-Engine Piston	1,481	1,429	1,535	1,650
Turboprop	2,866	2,981	3,247	3,536
Jet	1,532	2,039	2,222	2,419
Helicopter	1,616	1,648	1,794	1,955
Gliders ¹	5,250	5,250	5,250	5,250
Total	26,471	27,465	29,230	31,140
Local	14,902	15,687	17,087	18,612
Itinerant	11,568	11,777	12,142	12,527

- 2019 operations = 39,700
- Local / Itinerant = 42% / 58%



Operations Per Month



Based Aircraft

Historical:

Aircraft Type	2012	2013	2014	2015	2016	2017	2018	2019	2020
Single-Engine Piston	151	137	165	168	174	173	172	177	173
Multi-Engine Piston	14	14	21	20	20	20	21	20	15
Turboprop	5	7	13	13	13	13	16	18	26
Jet	4	4	10	8	6	7	4	4	7
Helicopter	3	4	8	8	8	8	9	10	6
Other	4	6	9	9	9	9	8	9	11
Total	181	172	226	226	230	230	230	238	238

2020 Based Aircraft:

Aircraft Type	TRK Inventory	FAA Validated
Single-Engine	173	97
Multi-Engine	15	8
Turboprop	26	N/A
Jet	7	1
Helicopter	6	4
Other	11	0
Total	238	110



Correlation and Regression Analysis

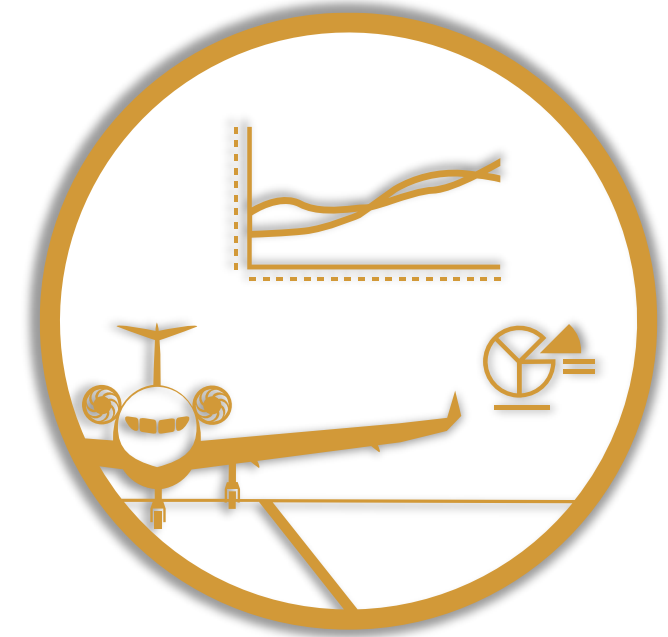
- Correlation: The strength of the relationship between two variables' rate of change
- The stronger the correlation, the more linear their relationship is
- Found strong correlation between historical TRK operations/based aircraft and area demographics
- Population, employment, retail sales, income, GRP
- Nevada County, Placer County, Sacramento MSA

Correlation Coefficient	Total Annual Operations	Turbine Operations ¹
Population	0.85	0.76
Employment	0.96	0.97
Total Retail Sales	0.97	0.95
Income Per Capita	0.97	0.96
GRP	0.99	0.94

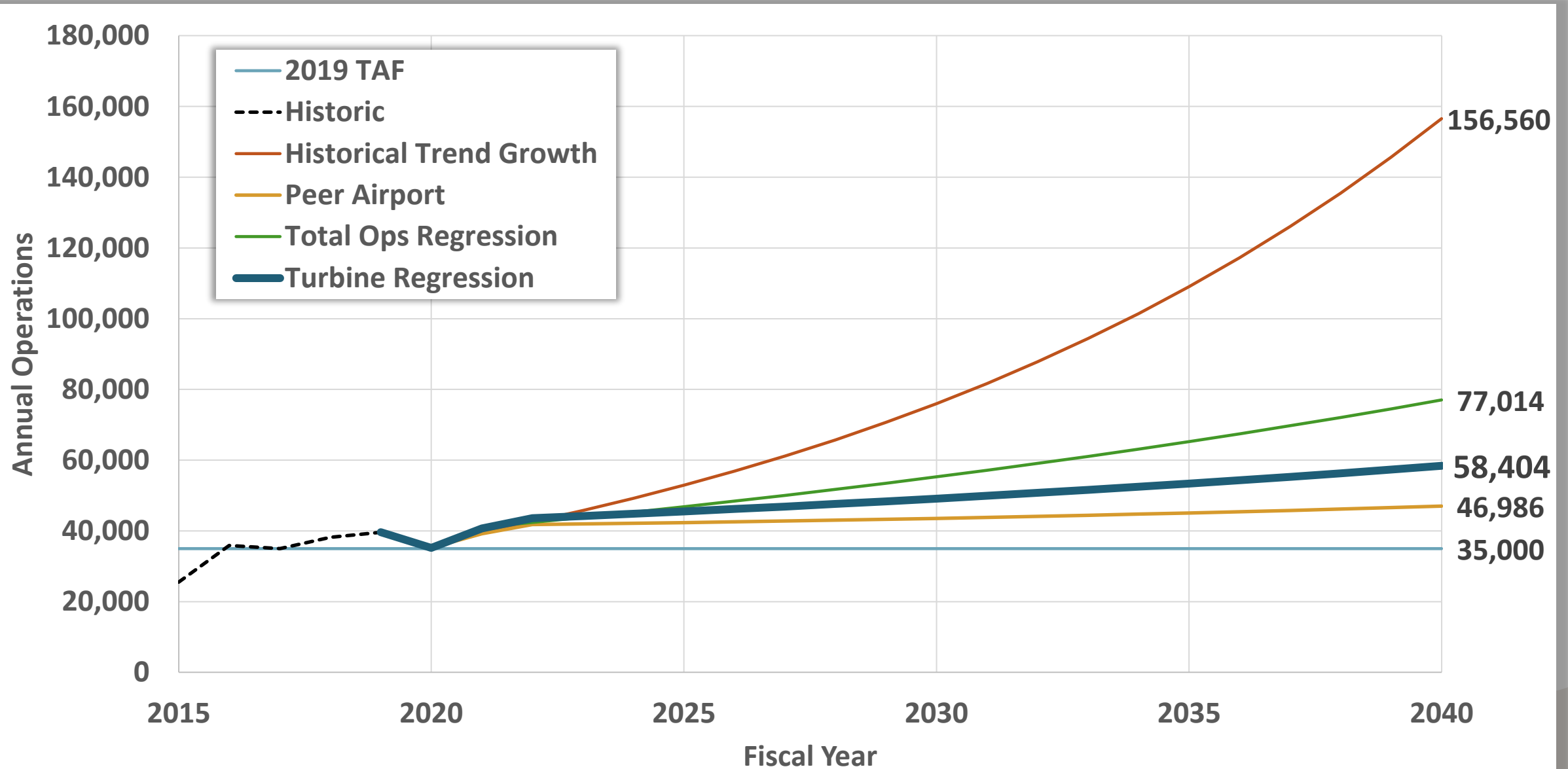
¹ Turbine operations include jet and turboprop operations.
Sources: Mead & Hunt, TRK Airport records, W&P 2020

Operations Forecast Methodologies

- FAA Terminal Area Forecast Rate
- Total Operations Regression
- Turbine Regression
- Peer Airport
- Historical Trend



Operations Forecast Methodologies



Preferred Operations Forecast

Aircraft Type	2019	2020	2021	2025	2030	2035	2040
Total Operations	39,621	35,203	40,710	45,508	49,122	53,377	58,404
Itinerant	23,034	20,922	24,123	26,075	29,234	33,017	37,554
Air Taxi	4,755	4,225	5,058	6,495	8,338	10,775	14,022
General Aviation	18,279	16,697	19,065	19,580	20,896	22,242	23,532
Local	16,587	14,282	16,587	19,432	19,888	20,360	20,850
General Aviation	16,563	14,258	16,563	19,408	19,864	20,336	20,826

Source: Mead & Hunt, TRK Airport records, FAA TAF

Based Aircraft Methodologies

- Constrained Growth
 - Based on future hangars shown in 2015 Master Plan being constructed and occupied
- Unconstrained Growth
 - FAA Aerospace Forecast and regression analysis



Based Aircraft Methodologies

Fiscal Year	TRK Inventory	FAA Validated	2019 TAF
2020	238	119	117
2025	250	121	117
2030	256	122	117
2035	256	122	117
2040	256	122	117
'20 - '40 CAGR	0.4%	0.1%	0.0%

Source: Mead & Hunt, TRK Airport records, FAA TAF and NBAIP database
CAGR: Compound Annual Growth Rate.



Critical Aircraft

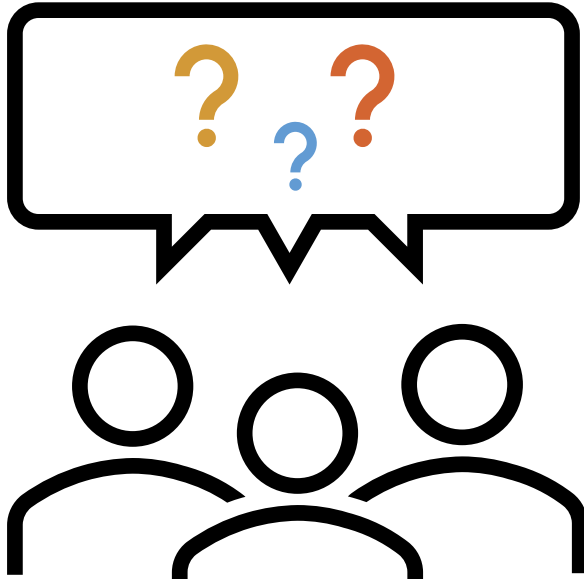
- Pilatus PC-12
- Critical aircraft from 2015 AMP: Cessna Citation V
- Same FAA design code (B-II)
 - Runways 11/29 and 02/20
- No expected change in critical aircraft or design code for TRK over the forecast period



Next Steps

- This is intended to be an introduction to Forecasts
- Approve at this meeting, or review and approve at a later meeting
- Submit Forecasts to FAA for approval
- After approval of Forecasts, complete update of ALP set for Board review and approval at a later meeting





Questions?

Thank You.



Mead&Hunt