# Review of ACR Recommendation 3: Increase Arrival Altitudes at CAATT/EPAYE

January 12, 2022



## Agenda

- ACR Slate Recommendation 3
- Analysis Methodology
- Results
  - CAATT/EPAYE
  - Comparison to 2018 Baseline
- Observations





# ACR Slate Recommendation 3: Return CAATT Waypoint to Pre-Metroplex Location

- Bring altitudes on CHSLY arrival closer to pre-Metroplex altitudes
- Increase altitude at CAATT and EPAYE by 1,000 feet
  - Raise aircraft to higher altitudes at CAATT and EPAYE navigational points consistent with pre-Metroplex flight paths
  - Reduction of noise along and under the south flow east downwind in the vicinity of CAATT and EPAYE
- Analysis completed prior to submitting the ACR Slate to FAA
- Under preliminary analysis using the ACR criteria, this recommendation is expected to have a net benefit in noise reduction to over 80,000 residents in the Charlotte Metropolitan area





### ACR Slate Recommendation Analysis Methodology: Increased Arrival Altitudes at CAATT/EPAYE

- HMMH analyzed the recommendation relative to a baseline of calendar year 2018 CLT aircraft operations
- Modified/simulated 2018 CLT flight tracks as appropriate to reflect the recommendation
- Increased aircraft altitudes by 1,000 feet relative to current aircraft altitudes at the CAATT and EPAYE navigational points
  - Similar to pre-Metroplex operations
- Aircraft lateral profiles did not change, only vertical profile changes were modeled

Note: Number of average daily aircraft overflight analysis not required since the lateral location of the flight tracks did not change



#### Number of Noise Events Above 70 dB (N70) Analysis: 2018 Operations with Increased Arrival Altitudes at CAATT/EPAYE Compared to Baseline







#### Number of Noise Events Above 70 dB (N70) Analysis: Difference – 2018 Operations with Increased Arrival Altitudes at CAATT/EPAYE Compared to Baseline

N70 Difference Interval (Events)	Count of Grid Points / % Change	Count of Population / % Change
Less than -75	0 / 0.0%	0 / 0.0%
-75 to -25	22 / 0.1%	5,092 / 0.2%
-25 to -10	165 / 0.4%	19,009 / 0.9%
-10 to -1	522 / 1.4%	56,143 / 2.6%
-1 to 1	37,592 / 98.1%	2,103,317 / 96.3%
1 to 10	0 / 0.0%	0 / 0.0%
10 to 25	0 / 0.0%	0 / 0.0%
25 to 75	0 / 0.0%	0 / 0.0%
Greater than 75	0 / 0.0%	0 / 0.0%
Total	29 201 / 100 09/	2 192 561 / 100 0%

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Number Above Lmax 70 Grid Analysis January 1, 2018 through December 31, 2018 CLT Operations with Increase in Altitude at CAATT and EPAYE Compared to Baseline Operations



709 Grid points (1.9%) / 80,244 people (3.7%) would experience fewer events above 70 dB Lmax with increased arrival altitude at CAATT/EPAYE No grid points or people would experience more events above 70 dB Lmax with increased arrival altitude at CAATT/EPAYE



### ACR Slate Recommendation Analysis: 2018 Operations with Increased Arrival Altitudes at CAATT Compared to Baseline Observations

- Increasing arrival altitudes at CAATT and EPAYE would provide greatest benefit under the location of the south flow east downwind
- It is not anticipated increasing the altitude would result in disbenefit elsewhere
- The FAA has proposed an alternative to the ACR request that increases the altitude on the east and west downwind arrivals by 1,000 ft

