

CLT Airport Community Roundtable - Noise Improvement Matrix

A) NOISE CATEGORIES	B) SPECIFIC CAUSES	C) IMPACT LEVEL	D) LOCAL CONTROL LEVEL	E) EXISTING INITIATIVES	F) ACR-RELATED SOLUTIONS AND STATUS	G) BENCHMARKING OPPORTUNITIES
WHAT/ EQUIPMENT	Loud Aircraft	High	Low	Phasing out of Stage 2 & 3 aircraft	<p>Modify 283 American Airlines Airbus aircraft with the vortex generators (AA has modified 59 of 283 as of 3/20/19. To be completed by 3/1/22); <b>Request 46</b> noted that modification “estimated to cause up to a 4dB reduction in aircraft noise between 6-10 miles from the Airport.”</p> <p>Airport to draft letters to govt. officials to support greater introduction of Phase 5 aircraft (via reauth. bill). See <b>Request 52</b></p>	<p>Phasing out loudest aircraft and introduction of quietest equipment.</p> <p>Fitting all A320s with quiet technology (vortex generators)</p>
	Inadequate residential noise mitigation	Moderate (varies by location)	High	<p>The City of Charlotte has created a noise disclosure overlay based on the 1996 65 DNL contours. – <b>CLT Ref. 3</b></p> <p>CLT has soundproofed over 1000 homes, six churches and three schools in accordance with our Part 150 program. – <b>CLT Ref. 4</b></p> <p>Over 400 properties have been purchased for noise abatement reasons. – <b>CLT Ref. 5</b></p> <p>CLT does not have blast fences except near run-up locations. – <b>CLT Ref. 6</b></p>		<p>More extensive sound insulation of homes, schools, churches, hospitals, etc.</p> <p>Using “Noise Barriers/Blast Fence” – ORD, LAX, IAH, JFK, YYZ – <b>CLT Ref. 6</b></p>

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WHEN/ TIMING	Commercial night flights and equipment movement between 11pm and 6am		Low	CLT Part 150 details preferred runway use: 5/23 during night hours, no departures on 36L/18R, etc. – <b>CLT Ref. 3</b>  Run-up restrictions during night hours. – <b>CLT Ref. 9</b>	Make Voluntary Curfew Request (Request sent to all carriers in April) – <b>Motion 07-18</b> . See <b>Request 51</b>	Night flight restrictions – noise quotas, seasonal limits, landing fees
	Freight night flights, e.g. FedEx, UPS, Amazon		Low			Night flight restrictions – noise quotas, seasonal limits, landing fees
HOW/ ARRIVALS	Next Gen Flight Rail <b>concentration</b>		Low		Move Downwind Arrival Path - Alternating Rails (Being Analyzed) – <b>Requests 43, 48, 49, 56</b>	
	Location of Arrival Rails over <b>highly populated Areas</b>		Low		Return the CAATT Waypoint to Pre-Metroplex location (Request sent to FAA) – <b>Motion 06-18</b>	
	Low altitude Way Point <b>turns</b> over residential areas		Low			
	Non-optimal descent slope ( <b>CDA</b> ); low altitude over residential areas		Low		Implement RNP CDA using Terminal Spacing and Sequencing – TSAS (test in Denver 2019) – <b>Motion 01-17</b> ; Increasing use of OPD – <b>Request 44</b>	Continuous descent approach (CDA) or steeper approaches
	Early <b>deployment of landing gear</b>		Low			Minimize landing gear noise; deploy at latest moment

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HOW/ DEPARTURES	Next Gen Flight Rail <b>concentration</b>		Medium		Modify South Departure Procedure: turns, headings, altitudes (Being Analyzed) – <b>Motion 05-18; Requests 40, 41, 42</b>	
	Low altitude Way Points <b>turns</b> over <b>highly populated Areas</b>		Low		Altitude-based Turns on South Departures; this analysis also addresses Multiple RNAV paths, different headings, etc. (being Analyzed) See <b>Requests 53, 54, 57</b>	Implement DOT rules on departure distance/height ratios (NPR) to 4,000'
	Non-optimal ascent slope; <b>low altitude</b> over residential areas		Low	Airport does not specifically recommend a departure profile. Airline operating procedures currently utilize a procedure similar to NADP-2. – <b>CLT Ref. 10</b>	Assess Existing Departure Profiles (Being Analyzed) See <b>Requests 55, 58</b>	Using “Airport-Recommended Departure Profiles” – ORD, LAX, YYZ – <b>CLT Ref. 10</b>
	<b>Non-NPR compliance</b>		Low			Tracking of NPR performance compliance (also noted under “People/Orgs”)
	Departure <b>High Speed/Noise</b>		Low		Slow the departure speed (process in experimental phase) – <b>Motion 03-18</b>	
	Unnecessary engine <b>run ups</b>		Medium	Run-up restrictions during night hours. (noted in Night Hours Section). – <b>CLT Ref. 9</b>		

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WHO/ <b>PEOPLE,</b> <b>ORGS.</b>	Low citizen awareness of CLT noise mgmt. efforts		High	<i>Communication plan under development to address Items 1, 3, and 4. Item 5 is being discussed.</i>	CLT Noise Website; ACR involvement  Identified at 3/20/19 Meeting: 1) Develop PP presentation tools to enable ACR to better inform local community groups 2) Create a Twitter feed focused on reducing airport noise 3) Airport should greatly expand distribution of newsletters to increase community engagement 4) Airport should proactively communicate to the press via press releases 5) Consider use of e-survey tools to better gauge the community perception of airport related noise	

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<p>WHO/ PEOPLE, ORGS. (cont'd)</p>	<p>Limited CLT/City initiative to proactively reduce noise and communicate to citizens.</p>		<p>High</p>	<p>CLT ACR established June 2017. – <b>CLT Ref. 13</b></p> <p><i>Items 2, 3, and 5 will be addressed within communication plan. Items 1 and 4 can be addressed by the Airport as needed or by ACR independently.</i></p>	<p>CLT Noise Website</p> <p>Airport to draft letters to govt. officials to support greater introduction of Phase 5 aircraft (via reauthor.)</p> <p>Identified at 3/20/19 Meeting:</p> <ol style="list-style-type: none"> <li>1) Meet with City Manager as a coordinated group to inform and ask City to make it a greater priority for Charlotte</li> <li>2) Provide noise metrics and data from HMMH study of Slate of Recommendations</li> <li>3) Provide City Manager and City Council with citizen/community engagement plans</li> <li>4) Encourage greater citizen oversight on management of airport</li> <li>5) Increase coordinated communication to local, state, and federal government officials</li> <li>6) Engage with the National Quiet Skies Coalition (<a href="http://www.nqsc.org">www.nqsc.org</a>)</li> </ol>	<p>Airports proactively and publicly describe all noise management practices</p> <p>Airports self- initiate robust noise management procedures</p>

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WHO/ PEOPLE, ORGS. (cont'd)	No negative consequences for non-compliance with noise procedures		Medium			Tracking of NPR performance compliance and penalties for non-compliance
WHO/ PEOPLE, ORGS. (cont'd)	Resistance from FAA and ATC Union to change procedures to reduce noise		Low			
	Carrier and pilot procedures not focused on noise		Low	Some Airports advise against using reverse thrust during night hours. This generally only impacts noise adjacent to airport property. This likely would not affect noise levels at CLT. – <b>CLT Ref. 11</b>		Using “Limited-Use Reverse Thrust” – ORD – <b>CLT Ref. 11</b>
	Inadequate noise monitoring network and metrics beyond Dba thresholds		Medium	CLT is phasing out physical noise monitors in preference to 'virtual monitors', utilizing a similar system to the FAA Aviation Environmental Design Tool (AEDT), the official contour generating system. – <b>CLT Ref. 12</b>  <i>Sent letter to U.S. Sec. of Transportation in May 2019 addressing areas of support in FAA Reauthorization Bill of 2018</i>	<p>POTENTIAL: Airport to draft letters to govt. officials to support modification of 65 dB level (via reauth. bill) this suggestion was made by ACR.</p> <p>POTENTIAL: Evaluate the importance of defining other noise metric limits than 65 DNL (average not a true measure of annoyance and health effects from noise)</p> <p>POTENTIAL: Identify and implement other methods (real and virtual) of noise monitoring</p>	<p>Increase noise monitoring locations and reporting. See ORD, LAX, DFW, LAS, JFK, YYZ – <b>CLT Ref. 12</b></p> <p>Include noise sensitive locations like schools in noise monitoring.</p> <p>Decrease noise metrics from 65 Dba thresholds (measure frequency and duration).</p>

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WHERE/ ENVIRON- MENT	Charlotte population growth of 3%		Low			
	Orientation of three 18/36 NS runways		Low			
	Decommissioning of 5/23 runway and additional 4 <sup>th</sup> NS Runway		Low			