

# Charlotte Airport Community Roundtable (ACR)

## Unapproved Summary Minutes: May 15, 2019

### Attendees

Sara Nomellini, County 2, Chair  
Phillip Gussman, City 1  
Loren Schofield, City 3  
Sherry Washington, County 4  
Bobbi Almond, City 5  
John Garrett, County 5  
Mark Loflin, County 6  
Sayle Brown, Cornelius  
Bob Cameron, Davidson

Bob Lemon, Huntersville  
Thelma Wright, Mecklenburg  
Ed Gagnon, CSS, Inc. (Facilitator)  
Cathy Schroeder, CSS  
Gene Reindel, HMMH (Technical Consultant)  
Stuart Hair, City of Charlotte (ex-officio)  
Bob Szymkiewicz, FAA (ex-officio)  
Dan Gardon, CLT  
Kevin Hennessey, CLT

**Call-in Participants:** Kurt Wiesenberger,  
City 2, Vice Chair

### Summary Minutes

- ❖ Meeting started at 6:00 PM
- ❖ Open the Meeting
  - Approve Minutes: Loflin moved to approve. Almond seconded. All in favor.
    - Wright: Noted that Tracy Montross from AA was here last month and was not on the attendees for the minutes. (CSS will change that in the minutes)
  - Review Ground Rules by Gagnon
    - Keywords: Healthy conversation, productive and results in effective process.
  - Review Meeting Packet Information by Gagnon
    - Note information mentioned. Some items in packet will not be updated, just there for information. We will go over a Slide that is a Work Schedule for the FAA Submittal through the end of the calendar year. No questions or comments.
    - Wright: Kurt going to call in. The line is open.
    - Gagnon introduced new member Phil Gussman. Representing City 1. Background as it relates to airports and aviation. Very involved in the community.
    - Tracy Montross had a baby and will be gone through August meeting. If any need for AA representation, route questions/requests to Bob Szymkiewicz.
- ❖ Review Public Input
  - Gagnon introduced participants and went over the speaker/public guidelines. Noted how much time allowed. Full recording of meeting on website. New CLT airport website with noise section.
  - The following citizens were given three minutes to address the ACR.
    - Person #1 Todd Douglass
    - Person #2 Chris Curtis
  - ACR participants shared initial feedback from the speakers.

- Key Takeaway from speakers: During the Agenda Planning Call for June, the ACR Chair/Vice Chair and CLT will discuss whether to add representation from other surrounding counties (Catawba, for example, per the first speaker).
- ACR requested contact information for both speakers.

❖ **Review 2019 Work Schedule - Ed Gagnon**

- ACR has created a work plan for the rest of the calendar year. Focus on the 4 Phases in the 2<sup>nd</sup> column. Phase 1: Develop draft submittal documents. Phase 2: Analyze and prioritize recommendations. This is work that will begin being presented at the next meeting in earnest. For the next four meetings after today, HMMH will present results of analysis from 2 recommendations per meeting (8 total). Results will be compared to the baseline that has been reviewed. Probably through September. Based on what those results look like, HMMH will come back with more collective analyses. Phase 3: Gaining community input, so we will need to start planning for this very soon. The idea is as the analysis is taking place, at the same time there is a plan to present with the help of CLT and HMMH to the community at large. If there are changes that will affect folks in certain communities, they are able to hear those changes in advance. Also, as a part of this Phase, the suggestion was made to have FAA headquarters representatives come to speak with you. So, you can get feedback from FAA. And then in the end, refining the actual submittal document, after community feedback and after FAA feedback. Not going through each step in detail. Hopefully gives a flavor for what will be happening through the calendar year with these phases. Any questions? (None from members).

❖ **Analyze/Uncover**

➤ **Request for Information – Noise Metrics Review – Gene Reindel, Vice President HMMH**

- Gagnon: (Passed out overview document to review while Gene presents) The front has the slate of recommendations and on the back are the Guiding Principles. As you are listening to Gene, he will provide information on noise metrics, and we are going to ask - at the end of the presentation - for you to determine what are acceptable levels and frequencies of noise and what would be your ultimate goal.
- Reindel: In hindsight, this should have been done in first meetings here. This is a review of basic noise terminology in aviation as a whole. Difference between sound vs. noise; the decibel scale and why we use it; the A-weighted decibel; single event noise metrics – you hear the aircraft come and you hear it go away – that is a single event; and cumulative exposure metric.
  - Sound is a pressure variation that our ears can detect. Noise is unwanted sound, and it is a subjective quantity. Doesn't have to be loud to be noisy and annoying. How does sound affect us? Annoyance is a good indicator of how we perceive noise. Annoyance comes from speech interference and sleep disruption. Slide 2: We use a decibel scale, and there is a good reason for that. Take note of the table on the right – threshold of hearing is in energy and threshold of pain is much higher in terms of energy level. We hear sound pressures over a huge range, and decibels help us compress that range into what we hear. It is not an exact science. 6 to 10 dB difference in noise is about a doubling of what is perceived as how loud it is.
  - Real time decibel change – Rules of Thumb: In the lab test, a 1 dB change is detectible – in normal environment, a 3 dB change is generally the threshold of detectability. But comparisons of 2 distinct noises are rare.
  - You will notice a difference in 75 and 85 as twice as loud. Decibel addition is not easy or equal. With two equal dB sources, you will get a 3 dB increase (so 2 stereos both at 60 dB will sound like 63 dB). Sound quality matters. Ten equal sources at same dB can be perceived as doubling.
  - Duration and time-of-day matter. Ambient noise goes down at night, so noise at night seems louder.
  - A-weighted sound level. Our ears are not equally sensitive at all frequencies. Slide 5: This chart shows by frequency 50 Hertz (Hz) to 6300 Hz. Hz is cycles per second: Low frequency

- v. high frequency. Where we hear best is in the middle frequencies. Our ears are tuned to how we communicate with one another. Our voices are in the 1000-3000 Hz level. We got the A-weighted curve from a lot of tests. Played the same noise level at different frequencies and people rated them compared to other ones, and that is how we got the A-weighted curve. The A-weighted curve is what the EPA recommends and the FAA requires it for any analysis done for them.
- Talking about some of the metrics. Lmax is most commonly used to determine maximum sound level. Simple way to describe a noise event. The maximum noise level is that level when it was the loudest at your location.
  - People find annoyances with duration. SEL – sound exposure level. A longer event may seem noisier. More energy. People find annoyances tied more to SEL than to Lmax. SEL is 10-12 dB higher than LMax.
- Wright: Don't understand the difference between top 2 and bottom 2 on the Slide at bottom on page 6.
  - Reindel: It's like a cartoon. Taking the total energy from both of those noise events in the upper left, in SEL you are taking the noise energy and compressing it into one second. It is a way of taking into account the duration as well. All that sound energy is compressed to get the SEL.
    - SENEL: Single event noise event – only used in CA. Close to the same definition of SEL. SEL is important because it is the basis for determining cumulative exposure or day night sound level or DNL. Describes a 24-hour noise exposure. Noise from 10pm-7am is factored up by 10 dB penalty. Slide 7: In surveys people have said that at night the planes sound twice as loud. By definition of DNL nighttime is 10p-7a. Sometimes expressed as Ldn. Level day night is the engineering equivalent. Mostly see DNL.
  - Nomellini: Other than air traffic, when is this measurement used - DNL?
  - Reindel: It is used for most transportation noise sources; it's used to characterize neighborhoods or types of communities (e.g., urban). Trying to understand a 24-hour noise exposure. Used to access a 24-hour noise exposure, use DNL.
  - Nomellini: Not specific to air traffic noise?
  - Reindel: No. DNL was developed before using it to evaluate aircraft noise. Later found to be a good evaluation tool for aircraft noise since it's a 24-hour metric.
  - Wiesenberger: (Had question on phone.)
  - Reindel: Summary of Kurt's question: *There are periods of the day where you are less than 65 and periods of the day where you are greater than 65, but it is the average of those?*
  - Reindel: I think it would help for this discussion to try to describe DNL differently. At midnight you start with 0 DNL. No noise in the bucket. When an airplane goes over you add that noise to the bucket. Because it is night, you add 10 of those in, thereby adding noise to the bucket. After 7 am, don't add 10 times, just add one. At midnight, you close the bucket. The difference between the total noise in that bucket and DNL is 60 dBs different. It is a logarithmic issue. When you divide by 86,400 – number of seconds in a day – you basically subtract about 60 dB. So, a DNL of 65 equals to that noise bucket of being 115 (125?)...or something like that.
    - The EPA did a disservice by going to a day night average sound level rather than a day night sound level in my opinion. The louder events dominate in logarithmic. There are airports that when the nighttime is over, their DNL is known for the day. Because they have so many nighttime events – Louisville as a UPS hub is an example.
    - DNL is not really an average. It is taking into account all the noise energy that attributed to the DNL.
  - Gussman: What is CLT's DNL average level?
  - Reindel: Depends on where you live. There is also a handout that shows the DNL at each grid point for 2018. It is a matter of how many, how loud, and when they occur.

- Hair: There is also a map showing the amoeba of when the DNL exceeds the prescribed amounts.
- Garrett: So SEL takes an event that lasts 30 seconds and compresses it to a 1-second time, measures the sound energy, and that's used in the calculation of DNL, adding all those up, and dividing by the # of seconds in a 24-hour period to get an average.
- Reindel: Right.
- Reindel: Typical Community DNL Examples. Relatively old data -1974 - on lower part of Slide 7. Some areas it has not changed much. For example: tomato field and 2<sup>nd</sup> floor Harlem apartment are probably similar to what they were in 1974, but some city noises have come down some. Note (on the left of the scale) what environments are higher DNL. Examples are there to hopefully let us know what DNL environments are like.
  - Major federal aviation noise related legislation. Slide 8 - NEPA: Most important. It directed all federal agencies to assess environmental effects. FAA has interpretations of NEPA – listed at far right on chart. In order to open a new runway at the airport, the FAA needs to come up with an environmental impact summary to determine the noise effects. They will go to the FAA orders to determine levels of impact. The levels of impact are based on “no project” v. “project” -What is like today without runway and project v. what it is going to be like with the runway. Impacts are determined based on differences. Significant impact is a 1.5 dB change in DNL, and 1.5 within the 65 DNL contour, and at noise sensitive receptors such as schools, churches, etc. Other legislation listed you can Google to reference.
  - Aviation Safety and Noise Abatement Act of 1979. Led the FAA to come up with Part 150 – The noise and land use compatibility planning around airports. The ASNA directed the FAA to establish a single system to measure noise. Decided that less than 65 is compatible and above is not compatible.
  - ANCA resulted in the FAA coming up with Part 161, which is an access and noise restriction study you would do. ANCA mandated phase out of stage 2 aircraft. We are dealing with stage 3, 4, and 5 today. Aircrafts leaving the factory now must meet stage 5 noise standards, which are well below the noise standards of 2, 3 and 4.
- Cameron: When did they establish the 65 DNL?
- Reindel: I think 1980. Shortly after ASNA came into effect. It is in Part 150.
- Cameron: What is end date of stage 3?
- Reindel: I don't know, but there is a start date and an end date for each of the noise phases.
- Cameron: We are in stage 5 with stage 3 aircraft operating.
- Reindel: Yes.
- Cameron: When will stage 3 and 4 really go away?
- Reindel: Part of ANCA provided a phase out of stage 2 aircraft. I believe that in the reauthorization the FAA should evaluate the potential phase out of stage 3. Barring legislation to phase out stage 3, you would need to wait for them to be out of an airline's fleet. They are gotten rid of because the service life is over or too expensive to upkeep.
- Nomellini: What average age of planes?
- Reindel: 30+ years. While we do have stage 3 flying, there are not a lot of them.
- Cameron: Would you say that the majority of aircraft flying now in Charlotte are stage 4?
- Reindel: You bring up a good point. An aircraft is certified based on when it was manufactured. Many stage 3 aircraft meet stage 4 requirements. They will not recertify unless there is a phase out. Really what is operating in fleets now meet stage 4 and 5. Most aircraft that were certified stage 3 are stage 4. And most that were certified stage 4 are stage 5. In Charlotte, I would say somewhere between stage 4 and 5.
- Hair: AA claims to have the youngest fleet of commercial airlines.
- Reindel: Young fleet is important.

- Garrett: We are not going to get any quieter planes in most of our lives.
- Reindel: You're right except the noisy ones will be retired and phased out. It will be a long time before we get another reduction. Two pretty big reductions in my career: Phase out of stage 2 and the other was fuel prices – they were going to newer aircraft because they were so much more efficient. Contours changed. After 9/11, a lot of planes were grounded and not brought back because of fuel efficiency. Now we're at the smallest contours.
- Wright: These requirements only apply to commercial airlines?
- Reindel: No, the stage certifications apply to all aircraft manufactured, except military.
- Nomellini: Are there variations in the stages? Beginning of stage vs. end of stage? Or are they all equal.
- Reindel: No. Technology makes its way into the fleet. They are trying to make the planes quieter. It is also number of passengers and cargo. If you can fit more people (e.g., that can carry 600 people so you can take fewer trips) or cargo, then you can be certified at a higher noise level.
- Nomellini: Is there a direct correlation between efficiency and noise?
- Reindel: Almost direct correlation, not quite. For manufacturers, one of the things that play off of one another is noise and emissions. While we are dealing with noise, the manufacturers have to deal with both and try to find the sweet spot. There are some tradeoffs.
  - National NEPA: There are orders that provide information on differences between 60 and 65 DNL and 45 and 60 DNL. If you get a significant change of 1.5 dB within the 65 DNL you must look out to the 65 DNL and look for a 3 dB increase in DNL. Those are generally noticeable by the public. It is not a significant change – that is the 1.5 dB within a 65. However, if you are doing an air traffic project like Metroplex, you must then evaluate between 45 and 60 to determine if there are increases of 5 dB or greater.
- Nomellini: These are cumulative over multiple projects?
- Reindel: According to NEPA, it is on a per project basis.
  - Next, FAA noise abatement policy, November 1976. It was intended to be updated but still hasn't been. This established rules and responsibilities in terms of noise. Note on Slide 18. Already talked about ANCA, which led to Part 150.
- Garrett: Talking about the large maps we got as handouts - how do you come up with the noise level grid values?
- Reindel: To determine the grid values, we took all of aircraft operations in 2018 to develop the base case. Every aircraft operation that occurred in 2018 was input into the FAA noise model. This is the aviation environmental design tool – AEDT – and as a result of that input, you have information that is on an annual average day. The number of events that the AEDT calculated to be over 70 dB at each grid point.
- Garrett: So, a departing plane (offered example), can you estimate how loud that would be?
- Reindel: No.
- Garrett: If this is theoretical data...and our experience on the ground is very different, how can we make recommendations?
- Reindel: The AEDT is quite sophisticated, and everything is very accurate. Everything is probably within a dB. Accurate relating to what you are hearing/experiencing.
- Gagnon: Going back to the handout of the 8 slate recommendations, Sara has requested that prior to the June meeting that she gets your impressions on what would be an acceptable level for noise - based on baseline data and based on what Gene has presented today and last month.
  - Send me an email, copy Sara and Kurt, and let us know what is an acceptable level of noise. In the next few weeks, before May 29<sup>th</sup>, please send the email. If not heard from you, I will follow-up.

- Reindel: Not in handouts today are all the number of grid points and population for each of the different levels of the grid points. Go back to last presentation and see the grid values. Don't overlook that information.
- Nomellini: Can you reproduce those documents at this scale?
- Reindel: The scales did not change. The colors changed. The range and values are the same. The prior presentation had the number of grid points and population.
- Cameron: As noise is subjective - What does 70 dB sound like in terms of a plane? On my phone if it is accurate, I will know what 70 dB sounds like. Is there something better to use to evaluate? We need to be speaking a common language.
- Reindel: I did add on the chart some levels that we are familiar with - 70 dB is like an older vacuum 10 feet away from you. The apps on phones are relatively accurate. They are pretty close. We cannot use it for us. I've done comparisons and they are relatively close. Most apps are free. I would not get too wrapped on the level and 70. If you look at the charts, it covered the areas we are looking in. I'm convinced that we don't need to change 70.
- Nomellini: I look at this, and it doesn't represent how I feel. I look at my neighborhood, and it looks great, and it's not. That tells me that maybe we need to lower what this represents and how I feel about what is going on about where I live.
- Garrett: For instance – referencing large handout - number above Lmax 70 grid analysis – this is average per day over the year.
- Reindel: If you are under one of those departure flight paths, you can maybe double it since half the time they're flying the other direction. If you are under arrivals, they are going to go north and south, so maybe it's accurate.
- Wright: We are near the airport. When it flies over this building, it sounds like it's 140, and it is louder than at my house. But flights are occurring at 530 am and after 10 pm. So, I'm guessing that over this building is at 140. What about the house rattling? Where does the rattling fall into the scale?
- Reindel: If you are standing right next to the jet when it is departing, that is 140 dB. By the time it gets here it is probably 80 to 90, 95 maybe. These are only aircraft and outdoor noises.
- Gagnon: Any other information needed so you can send us perspectives by the 29<sup>th</sup>?
- Brown: Do you want our opinion on all areas or just our area?
- Nomellini: I think your opinion is applicable to anybody.
- Brown: So what you're saying is that if we want to reduce the heavy trafficked areas down to 55 from 65 or something like that, we're going to have to increase some other neighborhoods.
- Nomellini: It may turn out like that.
- Reindel: Remember you are representing more than your home - you are on the ACR, but you need to use your experience. You are bringing your experience and what change you would like to see to your experience that would mean success. We can then figure out how that works globally.
- Gussman: Could we have a different metric for night and day?
- Reindel: We have not looked at day night differences. If you think that would be beneficial, we could, but haven't as yet.
- Gagnon: Do what you think is best for your ability to evaluate this as a whole, and we will see what we get. Don't restrict your ideas.
- Wright: Also include the frequency, right?
- Reindel: I would agree. The most beneficial is the chart with # of events above 70 dB. We talked about spreading out the events. Personally, what I have heard is that is the most compelling one to look at.

- Nomellini: Agree, but we first need as a group to determine what we think is acceptable noise. We cannot weigh the frequency until we get the noise. Do it in 2 parts.

❖ Additional Business

- Gagnon: Look in handouts where there are written updates where presentations were not needed.
- **Motion Update and Next Steps – Return the CAATT Waypoint** (on the CHSLY3 arrival pattern for arrivals to the 36 parallels) **to Pre-Metroplex** (Raising Altitudes on Downwind Leg) – Bob Szymkiewicz, FAA
  - Szymkiewicz: Mark Clark is the district operations manager, and Sonya Busch is the air traffic manager. They are the ones that keep your issues alive on a daily basis. Procedural change that we think we can make comes from our NATCA representative in Charlotte. The first couple of Slides are history. In Oct./Nov. 2017, the airport presented data to the FAA which stated that the airplanes on the east downwind on north operations were lower after Metroplex. Procedure was implemented in 2016. We checked the data, and your data and our data pretty much matched. The information presented was LGA to CLT flights. We picked a few days and compared year over year, and they were lower. So, why are they lower? We discovered that we moved the descent point by 2.73 miles. At 250' per nautical mile, this brought the planes lower by about 682'. It also has to do with the manual descent that the air traffic controllers are giving to get to 4000'.
    - About a year later, late October or November 2018 a letter was sent by the ACR to the FAA asking to raise the altitude on the downwind, and we were given three possibilities to do that. When we received that letter, Mark Clark and I presented a briefing to the facility manager and the facility NATCA representative, presented data, and asked them to think about your 3 suggestions and also some other possible opportunities. We then asked them to think about how we can raise the altitudes. As the conversation started, we did not think 1 and 2 would work. If you move a fix in a procedure, it breaks the procedure and takes it out of criteria. This could draw out the process, and we were looking at something that would be quicker. Option 3 wasn't good either for multiple reasons. But one of the options that came about from the NATCA representative was - what if we change a couple of altitudes? We did some investigation on that, and then we had the shutdown. But we were still thinking about it. Is this procedure possible? I have two points that are of contention – amend CAATT to 10,000' from 9,000' and EPAYE to 7,000' from 6,000'. This keeps the procedure in compliance.
    - I think if Gene would analyze this it may be a better deal than moving the descent point by 2.73 miles. It is not one of the alternatives from you, but we think it meets the spirit and would work. It would qualify as an abbreviated amendment – which is a little quicker timeline. There are slots, and we have to get the right person to help to get a team to accomplish. I don't have an actual timeline. It takes about six months for Oklahoma City once they get the procedure. Procedures are implemented every 56 days. It could be six months plus 28 days or 6 months plus 56 days. I want to be realistic. We think this meets the spirit of what you asked us to do.
    - On local level, we're working on an interim solution. Something similar to item 3 that you sent to us. We think we have an idea to raise it, get permission to get a team and raise the altitude.
  - Nomellini: Who puts together the paperwork for OKC?
  - Szymkiewicz: Design team that does that. FAA team. We have to get permission to put together that team.
  - Nomellini: Where do we get the permission from?
  - Szymkiewicz: When we came out of the shutdown, we were told no new projects being started as they were prioritizing what they had. Mark is working diligently to get that request. We are hoping to make this the right priority.
  - Nomellini: Would a phone call help? What helps the FAA to feel pressure to make these changes?

- Szymkiewicz: I feel that everyone that needs to know this is important knows. I don't think phone calls would help or hurt. I think your issues are on everyone's radar.
- Garrett: As someone who lives right there, 1000 feet is a big deal. I appreciate you trying to find solutions.
- Nomellini: What is making me nervous, I appreciate the politics, but it would be helpful if we could identify who is accountable. I cannot track the progress. Who and when will make that decision?
- Szymkiewicz: I'll ask that question tomorrow first thing in the morning.
- Wright: (Asked about acronyms)
- Szymkiewicz: CAATT is a fix on a procedure a place. CHSLY is the name of the entire procedure. PELOY is a fix that used to be on the old procedure. These are all points. EPAYE is the anchor point.
- Gardon: On the first slide, the LaGuardia to Charlotte data was compiled by the airport, but Brian Cox, former member, gave us that data.
- Gagnon: What is NATCA?
- Szymkiewicz: NATCA is National Air Traffic Controllers Association. The NATCA rep and the air traffic manager collaborate on everything.
- Reindel: To be clear, NATCA is the union representing the controllers.
- Gagnon: For the interim solution, you could talk to Sonya when she gets back?
- Szymkiewicz: Yes. The interim solution is something that is proximate to Action #3. She and the NATCA representative would discuss the hows and whens.
- Gagnon: Thanks, Bob. Summaries: By the 29<sup>th</sup>, get emails with ideas to me, Sara, and Kurt for the acceptable level of noise. Bob is going to investigate who is the key person to convince these changes are priorities, the timelines, and the interim solution.
- Nomellini: Just want timelines – a milestone schedule.

➤ **Requests for Support – Update on Overall Communications Strategy and Near-term Actions – Stuart Hair, CLT**

- Hair: We have contracted with an outside marketing firm to help us with overall marketing for our community and economic affairs program. We initially tasked that firm with helping us with a real estate project. Through that process we determined that they had the expertise needed for a communications plan around community engagement. We have drafted a scope of work that I signed off on Thursday. We had a discovery meeting and discussed what programs and signature events are important to incorporate into that plan, what are we doing right now, what is working or not working, etc. They're going to begin drafting out a communications plan.
  - I met today with our internal team as to how that will be implemented – our internal team will implement the plan. We are in discovery stage, and I will reach out to Sara and get your input as to who needs to be involved in getting a communications plan formed around this roundtable. Had gotten Bob's presentation data and was happy. We are working on a draft of an initial statement – probably would not share until we know a specific implementation date. We would initially communicate on social media and our web platform. Probably not do a press release until the whole slate has been analyzed and the ACR comes forth with the recommendations. To summarize, we have a firm for the communications plan.
- Nomellini: Ed, ask for volunteers to help with this.
- Gagnon: I'll do that.
- Wiesenberger: What about the outside group? To what extent will airplane noise and the ACR be a portion of that marketing and communication plan?
- Hair: This plan that we are working on is specific to our community engagement. So, it has a couple of legs. One of those legs is this community roundtable. We have community outreach to



just our neighbors around the airport - they are the ANC. We also have a group of businesses around the airport - ACP or Airport Community Partnerships. Those 3 things will be the bulk of the communication plan. It will focus on the outcomes of those engagement strategies.

- **ACR Strategic Framework Update/Review** – Kurt Wiesenberger, ACR Member
  - Gagnon: Last item on agenda. We were going to walk through some of the Noise Improvement Matrix (NIM) pages and review.
  - Nomellini: Can we push off until next month? It is past 8p, and it is really Kurt's baby.
  - Gagnon: Yes. Kurt says fine. I'll follow-up on status on the NIM points.
  - Gagnon: Any other business? (None)

❖ **Adjourn**

- Schofield motioned to adjourn. Member seconded. All in favor.
- Meeting adjourned at 8:07pm