

Charlotte Airport Community Roundtable (ACR)

Unapproved Summary Minutes: December 18, 2019

Attendees

Sara Nomellini, Chair, County 2	Kevin Vesely, York
Kurt Wiesenberger, Vice Chair, Charlotte	Sean Muckenfuss, York (Central)
Phillip Gussman, City 1	Gene Reindel, HMMH (Technical Consultant)
Priscilla Johnson, City 4	Jose Colon, FAA
Sherry Washington, County 4	Michael O’Harra, FAA
John Garrett, County 5	Pearlis Johnson, FAA
Mark Loflin, County 6	Sonya Busch, FAA (ex-officio)
Sayle Brown, Cornelius	Bob Szymkiewicz, FAA (ex-officio)
Bob Cameron, Davidson	Stuart Hair, CLT (ex-officio)
Bob Lemon, Huntersville	Dan Gardon, CLT
Walter Ballard, Lincoln	Kevin Hennessey, CLT
Thelma Wright, Mecklenburg	Tracy Montross, American Airlines
Theresa Brunner, Pineville	Ed Gagnon, CSS, Inc. (Facilitator)
Call-in Participants: None	Cathy Schroeder, CSS

Summary Minutes

- ❖ Meeting started at 6:00 PM
- ❖ **Open the Meeting:** Kurt Wiesenberger opened the meeting. We have a quorum.
 - Approve Minutes: Loflin moved to approve. Member seconded. All voted to approve.
 - Review Ground Rules by Gagnon: Be respectful of each other. Healthy conversation. Productive. Effective, such as positive effects on community in terms of noise.
 - Review Meeting Packet Information by Gagnon: Cover Sheet, Agenda, Summary Meeting Minutes from November, requests from the November meeting, email memo from HMMH on suggested groupings for collective analysis. Simplified version of FAA work submittal checklist. PowerPoints. New and updated color key and HMMH questions packet on table.
 - Review Public Input: None presented.
- ❖ **Analyze/Uncover**
 - **FAA Introductions and Update** – Michael O’Harra – *Regional administrator for the FAA Southern Region. That area represents Mississippi into Tennessee, Kentucky, the Carolinas, Alabama, Georgia, Florida, down into Puerto Rico and the Virgin Islands. Senior FAA executive for Southeast. First time meeting here, but he has had several conversations with elected officials from the area regarding noise here in Charlotte. He has tracked meetings and knows topics and conversations that we are speaking about. This information is not new to him. Introduced other FAA employees.*
 - O’Harra: Couple of updates to share. We had a FOIA (Freedom of Information Act) request from ACR in October. We did a full release of the requested documents on November 21 - went out from our office. Documents were related to the local orders and procedures that hopefully will help for the purposes it was intended. We provided that to the airport and the Chair/Vice Chair. Also, we had a request about a clarification of a public meeting notice from 2016. That meeting notice information was accurate. We did modify one of the standard arrival routes for northeast arrivals, and there were no changes made below 9000 feet. When it went out in May 2016 it did reference some forthcoming changes.
 - Gagnon: Michael is talking about what Natalie Rutzell (public speaker) spoke on last month. She had found FAA memo from several years ago regarding altitudes and where they had planned to turn planes. FAA responded to questions, and that was sent to Dan. Gene will talk about that in his presentation in more depth.
 - O’Harra: We have received as I understand it, an evolving series of questions – “8 questions” – perhaps this will resonate with Sean Muckenfuss. They are topics of interest that we have seen others ask. They are clarifying questions. They raised other questions. We provided the answers to Dan and Ed, just today. I believe that it was passed on to Sean. If there are follow-up questions, we will do our best to continue these discussions.

- Gardon: I had a few minutes to go over it. Everything looks to be in order. There are a few questions on ILS capabilities - hardware on the ground issues. We will follow up.
- Gagnon: What they are talking about is when Sean brought up how north flow and south flow are decided – which direction for departures? FAA submitted those responses today to the follow-up questions. Dan sent responses to Sean Muckenfuss since he initiated this idea. When the back and forth is completed, he will bring that back to ACR to review.
- O’Harra: The fourth item out of 4. It is an ongoing dialogue - Where are we with the November 2018 recommendation that came from ACR to FAA? Related to the amendment to the CHSLY 3 STAR. Some of those things are complex and, in my mind, we are at a fork in the road where we have an opportunity. In order to accomplish what was requested, the changes were complex. What we found is that there were additional things required. We need consistency with other procedures. We do not do things different on one approach than another. When one approach is changed, there are considerations to other approaches. We had our design experts meet and focus on that. I was getting updates. That evolved throughout the year. It looked really easy, and it changed. The ACR asked if we can do one of three things. First it was I think “that will be pretty straightforward.” Then it became “I think we can do this, and I think it meets the intent of the ACR, but it is not one of those 3.” Then it went to other complexities. It went through different teams. We were getting into specifics of technical design in October. During that analysis, things were highlighted.
 - Anytime you change something in an airspace like Charlotte, many things are involved. We are prepared to move forward. We have some processes to follow; we have a lot of requests. There are costs with this, limited dates to publish. Validation process is to be sure it supports safety and efficiency. Technically, environmentally and financially feasible.
 - After validation, there is process - many funnels. There are a lot of other requests – national, regional, community initiatives. All this funnels as to what comes out first. We have a design, and we are ready to move forward.
 - At this time, we have seen in these meetings, that there are some concept recommendations – I think 9 of those. The challenge and question that I have is to set one of the ideas in motion. We have had conversation with the airport, we have identified a small team and the airport has agreed as well - to look at these recommendations. Are there any of these that are non-starters, given our expertise? If it would be of interest to the ACR for us to do that, we would have feedback by February. We might be able to say that this one won’t work. Or we might be saying that some of these would contradict (i.e., you could do A or B, but not both). Doesn’t mean you have to follow our lead. If we move forward, I want to be transparent. Do you want to move forward on the November 2018 idea, or do you want some of our ideas on your Slate first?
- Wright: Is the November item the thing that Bob submitted, that you’ve been working on for a year? (*Yes*) Is it a question of “either the November item or our Slate?” Is it “continue on the CHSLY item or the new recommendations?”
- O’Harra: I don’t know that I have an official recommendation, but I will share an opinion. I think it might be best for the ACR to say let’s give a subset of our recommendations to the FAA, and they can give us some ideas in the February timeframe on what might be feasible. The alternative is we move forward full steam ahead with the one request, knowing that other requests that come might conflict. The opportunity is yours. We are trying to share the environment that we are in and not have surprises.
- Nomellini: If we delay action on the original request, will that improve our position in the queue when our Slate goes forward?
- O’Harra: If you start an initiative and bring others later, the ones that come later probably get held up to some extent. I respect the energy and effort of this group. I will continue to push for this group. It’s not a process I own. I will do my best; I have talked to people on that prioritization board. I think that if you have a collection, you increase the odds that the collection goes through with higher priority.
- Nomellini: If we continue forward with the November item – it took us 18 months to get to where it is now – I am assuming that it will be 18 months for the rest of our Slate to be considered? Is that fair? If we continue with that submittal, then new submittal will not be dealt with much urgency.
- O’Harra: I don’t know if I agree with that. If the ACR asks us for something in March, you run the risk of undoing some of the things you have done. This is not a simple request. It is not simple airspace. I think for example, if you give us something in March timeframe the ACR says “this is our Slate,” we will do everything we can to move it forward. The risks are that if we continue with the November thing, even when you give us the Slate, you run the risk that some things will have to be undone because we started to change some of the airspace in a different way. We have seen that. We thought this was a simple request. But it is not simple airspace. It is a major airport. The risk is we start down a path and then we have to back up.
- Muckenfuss: It seems like you are saying that if we believe we have multiple suggestions that make the airspace have less noise, that the collective inertia is more probable to do that one at a time. It may delay the November of last year request.

- O’Harra: It is vital to consider the changes collectively. The Metroplex initiative was to look at everything in a major metropolitan area. Everything affects something else. If you believe you are coming close to other recommendations, I would recommend you do this set. We want to be transparent and say here is the environment.
- Garrett: When did we submit this, Ed?
- Gagnon: November, and then there was a delay with the government shutdown. In the spring of this year, FAA came back with an alternative of raising the altitudes at those CAATT/EPAYE Waypoints instead of moving the Waypoints. We have been waiting for the design teams to meet.
- Garrett: What is currently being looked at that we are calling the November 2018 request - after meeting for over a year and a half because the ACR started in summer of 2017 - November 2018 request is raising the elevation at those 2 waypoints by 1000’. Is that the request?
- O’Harra: Yes, but there are other factors we have found.
- Garrett: I am struggling with that request and the timetable. Now we are being told – to work on the Slate – which we were told to do and have been working on for a year - we did not expect it to take 13 months for the November request to be prioritized. I have been working on this in some way or another since 2016. We have yet to have one thing for the FAA to have said yay or nay. Now we are being told that our one request might impact our Slate. I only have so many years to work on this and see some progress, and I am frustrated.
- O’Harra: I have known about the request since it was issued. It did not sit on the backburner. It just grew in complexity.
- Garrett: Is this part and parcel of our Slate or not, by definition?
- Reindel: I remember that this could be a quick request – it would not need to wait on the rest of the Slate. The FAA thought this would be easy. They’ve looked at it, and now say it isn’t. Based on their information, my recommendation is we should add it back in the Slate.
- Muckenfuss: Is there anything in the work that you have done that we can use? Is there anything that we the ACR can glean from your 13 months of work?
- O’Harra: My thought is it might be helpful to discuss this in a future meeting. (*Asking Bob and Sonya*)
- Szymkiewicz: It would be good to meet in a small group to show how everything we looked at created another problem, or how this happened. I don’t know if there is a way to explain in a short period of time that would be helpful. I think there is value to explain with Gene or with Adam and with the airport.
- Garrett: Gene’s explanation makes sense. I’ll defer to the will of the group.
- Reindel: The analysis that we were asked to do this month, which is raising the downwinds to 6K, would not work with what they are looking at now. Another reason to put back in the Slate.
- Wright: I also heard him say he would take our Slate and review for February. Which is the better approach?
- O’Harra: That is a slight modification – that makes sense. When we look at the Slate, we provide feedback on any interaction with this November request. Unless the ACR says they don’t want to hear our perspective, I think it would be helpful. I want to help the ACR. Nobody wants to work on a non-starter. Our intent is to have that meeting and provide feedback unless you tell us you don’t want it.
- Ballard: I think it is fantastic that you are willing to take a look at these. I think it is a great idea.
- Vesely: I do as well. Moving forward, tell us things that might be better and then we don’t waste a year. We need to have dialogue and interaction.
- Gagnon: Just to clarify, Gene was suggesting to just add the November 2018 recommendation to the Slate. Would anything preclude them from doing that?
- O’Harra: That is absolutely acceptable.
- Gagnon: Do we want to have the ACR vote on whether or not to take that action – having the FAA pause on their design work on that Motion to raise the altitudes at EPAYE and CAATT, and roll that into the Slate? The 2nd point is the offer to have the FAA to do a preliminary look at the Slate, and they would give feedback.
- O’Harra: It is not just FAA. It is also the airport and would welcome HMMH as well.
- Gagnon: Do you want to vote to pause the design work on raising of the waypoints and have the group put it back in the Slate? A second option would be having the FAA continue on this Motion, knowing that would result in the Slate being delayed.
- Nomellini: My assumption is if we put it in the Slate, it will continue?
- Gagnon: 3rd option would be to stop design work on this, and the Slate would be priority.
- O’Harra: I think it would be the 3rd option – it’s viable to table the November 18 option until we hear back in February, and you have 2 additional meetings to discuss.
- Wiesenberger: I think it makes the most sense to suspend the November 2018 request until we are clear on combination of recommendations to make sure there are not conflicting recommendations. The cost of time is frustrating because we thought this would be a quick win. It is frustrating that we have to wait a year. I thought a

good suggestion is that we have smaller group interim meetings so we don't have to wait a year for results. I encourage us to have more of a dialogue instead of an "us" and "them."

- Gagnon: 3 options
 - 1 - Pause/cancel (Eliminate) November '18 raising of altitude Motion.
 - 2 - Continue on design process for November '18 Motion of raising the altitudes, knowing it will delay FAA work on the Slate.
 - 3 - Temporarily pause work on raise altitude Motion and consider rolling it into Slate – that Motion would become #10 on the Slate.
- Loflin: After we vote on that, do we need to vote on your recommendation to look at our Slate?
- O'Harra: I prefer your feedback. It is our plan to do that.
- Gagnon: Sara, Kurt, do you have preference for how to address this with the group? Needs to be a formalized decision since it was a formal Motion. *(Yes)*
 - Vote: Option #1 - 0 votes. Option #2 - 0 votes. Option #3 - all votes for except Priscilla.
- Gagnon: The only other thing to consider is to have FAA look at our recommendations and come back to the ACR in February. Any objections? *(None)*
- Gagnon: Thank you, Michael.
- Wright: Do we need to do any formatting for giving this to the FAA?
- Gagnon: That is a good question. Is there anything FAA needs from this group besides what you get from HMMH?
- O'Harra: I believe that's adequate.
- Gussman: Timeline: When do you hope to get this?
- O'Harra: I don't know if we'll meet just before or after the January ACR meeting. We'll take the latest information you have. If the ACR needs more meetings before we meet, I believe that we can schedule that meeting accordingly.
- Vesely: Clarification. Making sure that our numbers are not hard and fast. If we say 6000' or 2000', and it can't work unless it's like 1900', let us know; don't say No because we suggest 2000'.

➤ **Gene Reindel: HMMH presentation (2018 Baseline with Expanded Grid)**

- Gagnon: This is from the packet on table. Back of cover page and 2nd page are Guiding Principles. Then slides of Gene's PowerPoint of what he wants us to consider. Then a couple of pages of survey results; written updates document which I will not go over today. Then the request/motion database.
- Reindel: Summary of what ACR asked of HMMH: (1) We redid the 2018 baseline with the expanded grid. It did not make sense to do the (2) full analysis on the 6000' minimum altitude on Arrivals downwind until the expanded grid was done. (3) Alternating Downwind Altitudes. (4) Then we were asked after the last meeting to investigate the FAA press release on Aircraft turns above 3K to 6K feet. (5) You asked for - on Altitude-based turns - what altitude we would recommend. (6) And then we will look at the collective analyses groupings. We have your survey and our analyses.
- Reindel: Finding things on this map is more difficult with the larger grid. If we need to zoom in, we can, and you can certainly do that on your own. The grid is not square. It is more of a rectangle. Roughly 30x60 miles. No longer using 2010 census data. We are only using 2017 ACS population data. The following slides are showing population data, 2018 Baseline with # annual average overflights and # average daily noise events above 70 dB (N70). Going forward we will use these new grids.
- Gardon: Looks like south of the airport you can see defined downwinds, but they are not on the north side of the airport.
- Reindel: Correct. We have started to look at that at my request. I thought it odd as well. That is how it came out. Maybe there are different altitudes from what they fly south. We haven't analyzed it yet.
- Vesely: Would it matter the # flights to create that pattern?
- Reindel: No. Even if you have one single flight above 70, it would record that.

➤ **HMMH presentation - 6,000' Minimum Altitude on Arrivals Downwind**

- Reindel: Modified calendar year 2018 to stay above 6K feet. We based it on which runway they were coming into based on the flow. They are assigned 3 different altitudes based on the runway, so we assigned 6, 7 and 8K feet, where they were flying 4, 5 and 6K feet. So, we took all those and basically raised them up 2K feet. Essentially that is how to think about it. Compared modified results with the baseline of annual average overflights and # N70 events; used 2017 ACS population data for results.
 - We compared baseline and modified. Slide 13. To the south you get this difference. Also, because they are at a higher altitude they fly further south before making the turn onto base and final legs of arrival. They cannot turn at the same place because they are too high.

- Slide 14 shows the difference. The green dots are places where you get less overflights and the red are where you get more overflights. By going up 2K feet you are pushing things further north and south.
Summary: 10% of population would experience less overflights, and 8% would experience more overflights.
- Muckenfuss: Much the same as Dan noticed - big difference between north and south.
- Reindel: Moving on to noise. Results of N70 events. By raising it up, you no longer have noise of N70 above any of the downwind. That is the purpose of why Kevin suggested this.
 - Slide 17: Green are reduced areas of noise. Yellows and reds are areas of increased noise. You are getting increased noise levels south of the extended center line.
- Gardon: Note the benefit at the bottom of slide 17. 436K people will experience less noise. This is an insane difference. I am astounded.
- Vesely: Dan and I were analyzing how many flights were making the turn and where. I think it amounted to about 88 flights within that 1st 6 miles compared to 800 flights that take that route. So, if you are pushing back only 88 planes v. 800 planes that are already taking that loop, how many flights are turning where? It is important to understand the colors, and it is also the frequency of the flights.
- Reindel: I am trying to see in the red. That agrees with what you are saying.
- Ballard: If they are coming down at 6K feet, is that not going to reduce that noise?
- Reindel: Some, but still above 70. They may be at a lower noise level, but it is probably not all that different in that area. Once they make that turn and are on the 3 degree glideslope, then it is a matter of distance away from the airport.
- Vesely: When they come around, they don't all come down the same. It is an operational thing. Some come down like a rocket - at least from my observations from flight tracker.
- Reindel: I would be surprised if that happens. They are turning further out, and they are still at 3 degree glideslope. They are 1K separated of where they are turning. They are not in the same plane. It is difficult for airplane to go more than 3 degrees because they get to the runway at too fast a speed. Speed control limits your ability to do that, and each runway has an assigned glideslope to it. The aircraft have to be on that glideslope to land that.
- Garrett: I think we are just using 3 parallel runways. Have we discontinued the crosswind runway?
- Szymkiewicz: Using the 5/23 for night noise and unusual weather conditions.
- Member: But soon we will have 4, right? And is that similar to Atlanta?
- Garrett: What I am getting to is are they using this 6K foot minimum anywhere else?
- Reindel: I don't think it is the 6K foot that is the big thing. It is whatever they have been flying, has it been raised or not? Probably not. It is by the design of the airport and airspace. That is the area that they have allocated for those operations. I am not aware of raising the altitude once you have a procedure in place.
- Garrett: Is there a similar footprint of this somewhere else?
- Reindel: Yes, many airports work this way - using the downwinds and turning; it is extremely common. Whether or not they have raised or lowered those, that I am not aware of.
 - Slide 18 observations: Overflight: A greater # grid points experienced an increase than decrease, but more people experienced decrease than increase. Noise event greater than 70 dB: A greater # people and grid points experienced a decrease than increase. Potential noise increase in northern portions of grid for Mountain Island Lake area. Potential noise reductions in central portions of grid of SouthPark. Potential noise increases in central portions of grid and reductions in the western portion of the grid for Steele Creek. May negatively affect operations throughput. FAA would have to evaluate. Flexibility of air traffic controllers to turn a flight in early would be affected. Would increase flight miles.
 - Back to the questions: Do the reported changes meet the goals of the ACR, does the potential negative effect on throughput factor into ACR recommendations, and does the ACR want to recommend having aircraft maintain minimum 6K foot altitudes on arrivals downwind for consideration on the final Slate in the collective analysis?
- Gagnon: Any discussion or comments? (*No*) We have typically done a poll at this point – after receiving the full analysis. Last month, the vote on the preliminary analysis was 15 in favor, 0 against, and 1 abstained. When you conducted the member survey, this was the number 2 rated recommendation of the 9.
- Nomellini: Let's do a poll.
- Gagnon: This is to see if we want to continue to consider this recommendation - Maintain arrival altitude at or above 6000' until intercept final approach course. Yea: 13, Nay: 1, Uncertain: 1. So, we will continue looking at this moving forward.
- Wiesenberger: I had a question on slide 18 - 4th bullet point regarding Mountain Island Lake area. These are downwind legs. Mountain Island Lake is on the approach leg as I recall, so how would that be a potential increase? Aren't downwind legs several miles east and west?

- Reindel: You can see that in the northernmost area you are getting that increase because of not turning over that area but coming through that area. You are getting some increase in volume and over 70 dB. It is because they are turning after that place now. There are more of them on that final.
- Muckenfuss: It looks to me that it is concentrating in a narrow way - almost like the downwind legs. Very distinct. Same thing happens in south over the town of Fort Mill.
- Vesely: North they don't turn as much. Just come in straight from the north.

➤ **HMMH presentation - Alternating Downwind Altitudes**

- Reindel: Next request. Alternating downwind altitudes. At last meeting ACR wanted to see if it was possible to rotate altitudes between 4 and 6K feet. Intent to minimize aircraft at 4K feet and maximize aircraft at 5K and 6K feet. Kind of another take on what we just did with raising everything up to 6K. Today's altitudes are assigned as follows: North flow: 36L:5K, 36C:6K, 37R:4K and South flow: 18L:4K, 18C:6K, 18R:5K.
- Ballard: Does it have to be an alternative to raising the altitude? It could be an addition.
- Reindel: It could be that we look at them together. Slide 22. It is possible to rotate the assignment of the downwind altitudes, but altitudes would need to be alternated for all aircraft based on arrival runway. Altitudes could be alternated such that arrival aircraft to Runway 18L/36R could fly at 5K v. 4K as they do today, and aircraft to Runway 18R/36L could fly at 4K v. 5K today. The center runway has to be the highest at 6K. Does the ACR want to add to the Slate and ask HMMH to do noise analysis? It is possible, but if you are asking the FAA to really alternate it, there will be some pushback because of changing things creates more training, workload, etc.
- Ballard: I am the one who brought this up. My neighbor who is retired air traffic controller thought that on a yearly basis it would be easy to be done. Obviously, the FAA can tell us more when they look at this option. Also, with the downwind altitudes increasing, we are going to see higher frequency 70dB noise over these arrival rails. At least if we shift these once a year, it would provide some relief.
- Reindel: FAA might push back because changes would have to happen in procedures. I am not trying to speak for them.
- Ballard: One of our other proposals is to move alternating rails out 4, 5, and 6 miles. Same concept.
- Reindel: I am assuming there will be pushback on those as well.
- Wiesenberger: This is a modification of what we just discussed. Perhaps a compromise to some of the benefits that we saw in terms of the 70 dB events over populations because we are alternating this over an annual basis. Some years we would see the benefit; other years it would be the baseline.
- Reindel: It is going to affect the same areas. It is relatively similar. It is just swapping those two altitudes.
- Vesely: Data will figure it out. Rock Hill on one side, and nothing on the other.
- Muckenfuss: What would be the next step for this suggestion?
- Reindel: Going forward would be the grid analysis.
- Gagnon: What about timing? How would this affect timeline?
- Reindel: Every time we add analysis, we delay. We need at least a month or two. There is time needed to do that.
- Colon: When you say you need more time when something changes, can you expand on that? It sounds like with the FAA, when we have a change, it shifts the analysis. We have to go back to the drawing board, if you will. The airspace is complicated.
- Reindel: Right now, the flight tracks are flying where they fly. We do this for every single flight track. The ACR is aware of this. Fortunately we have computer programs that do this for us, but we have to tell it what to do.
- Colon: We at the FAA understand.
- Gagnon: Poll on alternating downwind altitude, whether to conduct full analysis by HMMH. Yea – 3. Nay - 10. Unsure – 2. ACR has decided not to continue with a full analysis right now.
- Washington: The FAA is going to come in February and tell us if it is feasible or they will encounter any issues. Am I correct?
- O'Harra: I think I mentioned that we would look at safety of the operation as well as capacity and efficiency of the operation. Rather than say what is feasible, our focus will be what is not feasible. Fuller analysis is needed. We know enough to know that this is not feasible.
- Washington: So, you will tell us what we can do. With the Slate - all of it?
- O'Harra: We can come back and say, *yes, we think this is a non-starter*. Hopefully, we can explain our reasoning and not just say No.
- Washington: What is the voting for?
- Gagnon: We are going through a process with every proposal. We are polling to make sure the majority are supportive of devoting resources to do the next step, whatever that is. We haven't pulled anything off of the potential Slate. This was a recent proposal. You all may decide not to submit the full 10.
- Ballard: Can we ask the FAA to look at the alternating downwind to determine if it is even feasible? Is it reasonable to ask?

- O’Harra: Yes, it is. If you identify a set of recommendations that are active, yes we will.
- Ballard: In particular let’s say you come back and say 6K foot downwinds will not happen, because of whatever. You give us a more viable option - if we can have analysis a little bit.
- O’Harra: Thumbs down or not thumbs down. If in the discussion of a couple of hours we don’t know enough to say that this won’t work, we come back and say we did not find any reason to exclude it. That is what you can expect. If in a reasonably brief couple of hours discussion, air traffic says here is how this procedure would work in airspace, here are our concerns, etc. There might be a red flag, and we will come back and provide that feedback.
- Cameron: I thought we just voted not to pursue that particular one?
- Ballard: We just voted on not continuing analysis at this time, but it might come back at a different time.
- Vesely: I think we are agreeing not to do more analysis right now through HMMH.
- Ballard: Agreed. Is this something the FAA can spend 15 minutes on, and offer an opinion on this?
- O’Harra: We knew about 9. We talked about a 10th - that was actually the first (*November 2018 Motion*). We will look at this as well, if requested.
- Ballard: Can we officially ask that?
- Gagnon: In terms of the process that we have typically done: We have had a proposal, we have conducted analysis. This is not a step we have planned for/done before. This would be a different way to go about it. How would you want to go about this?
- Nomellini: What I am hearing is the FAA wants to see our Slate, and they will comment. So, we may need to add - when we vote on the final Slate, what has to be on there are items like this where we don’t do study, and we present them as alternative solutions.
- Reindel: I think what is different is that we haven’t had the capability with the FAA that we have now. I would recommend to give them everything now, and they can weigh in. Just because we are not doing a full analysis, still let them see it.
- Nomellini: In fairness to all members, if there is anything else that we have not done full analysis on, we need to get those to them, too.
- Loflin: To me this seems like this is 9A, mainly because it is an alternative to the 6K foot idea.
- Cameron: Why don’t we just give them our whole Slate now?
- Nomellini: We are going to hand the FAA our entire Slate, most of which has been fully analyzed by HMMH, plus, this one thing without the analysis.
- Muckenfuss: It’s a work in progress review.
- Cameron: So, what’s the timeline? We are going to give them this tonight, and by when will we find out if there are any clear thumbs down? (*February*) When do we decide which multiple item Slate we want to move forward?
- Gagnon: We will talk about that a little bit in Unfinished Business when we talk about the schedule. It would not be before February. This would not slow down that decision-making process.
- Reindel: It would be about the right time.
- Cameron: When would we get to the point where we say we would like a full analysis of option 16, that we voted on by email last month?
- Gagnon: It is at the end of Gene’s presentation today.
- Reindel: Two things happening here. Collective analysis so we can see how things would interact with one another. We cannot run all 10 together, but that is just going to give us more information to see if we want to have a particular measure in the final Slate. The collective analysis is not meant to be the final Slate. We will have that around February as well as the FAA information. You will have most of the information in February or March to have all you need in order to make that vote on the final Slate.
- Cameron: I think we should give them our Slate tonight for informal feedback.
- Gagnon: What I have heard is that we asked the FAA to work with HMMH and CLT to take the 9 current recommendations, to add the recommendation from November 2018 (“raising the altitude” motion) as well as the alternating arrival downwinds. Look at the 11, and by February, they will tell us what might be a no go. And if they are a no go, tell us why. So that when we have our final Slate, none are non-starters. Does that make sense?
- Montross: On my list, #3 is NADP. Is that a decision for FAA to weigh in on? All of the other recommendations are relevant to FAA, not to carriers.
- O’Harra: To say if it is truly feasible, there would need to be a broader discussion. If we say X is probably not going to happen, you are going to have conversations about Y.
- Washington: If we go that route, due to the fact that we have voted on alternating downwinds analysis, and it only takes a month or two, do we want to reconsider our vote? (*No*)

- Reindel: Maybe I can add to that. The reason for the No is that the analysis takes a month or two, it results in a delay of the whole process of a month or 2.
- **HMMH presentation - Investigation of FAA Press Release on Aircraft Turns above 3,000 to 6,000 Feet**
 - Gardon: In terms of time, the next section was mostly based off a community member's question and by slide 28, the main point is that interpretation was the main cause of the disconnect. I would propose that we take that offline.
 - Reindel: To summarize, basically the community speaker that spoke last month said something about they are already supposed to turn before 3K feet according to this press release. We read it as the 2nd turn not the first turn. So, they have that initial turn off the runways – it says the initial departure tracks are the same – and then we don't turn them again until 3K to 6K feet.
 - Nomellini: Okay.
- **HMMH presentation - Altitude-Based Turn Recommendation**
 - Reindel: Slide 30: Altitude-based turn recommendation. We did look further at this, and we focused on the 4-mile waiver that they have to divert the aircraft no later than 4 nautical miles. We saw that as a limiting factor. We looked at 2K, 2.5K, and 3K, and 2K foot turn altitude works best for not infringing on the 4-mile divergence requirement as aircraft will turn closer to the airport. 3K foot turns would infringe on that. This would result in a concentration of aircraft turning near that 4-mile point. 2500 feet would be a compromise. You would have less concentrated tracks. However, there would still be some that would have to turn by that 4-mile point. Slide 31. Turning altitude to model is a compromise but the higher the altitude chosen for the turn, the greater the chance departure aircraft will infringe on the 4-mile divergence requirement. ACR must determine if benefits of having departure aircraft turn at an altitude of 2500' and thus turning further from the airport outweighs the potential negative impacts of concentrating flight tracks around 4-miles due to aircraft infringing on the 4 mile divergence requirement.
 - You asked us our recommendation. We think that 2K foot Altitude-based turn provides you with some greater dispersion than you have today because of how they reach that altitude. But in going any further up than that you are going to have concentrated tracks around 4-mile point.
 - Gagnon: Just as a reminder when you approved 2K based turns, most members preferred 2K, but some preferred higher. We asked for HMMH to see if there was a better altitude (between 2K-3K) that they would use in the collective analysis, or should they just use 2K in the collective analysis and on the Slate. If you stick with 2K, this could affect what altitude they use in the final analysis and potentially what altitudes you use on the Slate.
 - Nomellini: Can we table the altitude decision until January?
 - Reindel: I think we can table it. You asked for my feedback.
 - Nomellini: Part of my problem was the population counts that were shown were inaccurate. At 3K, it benefited more people. People that saw improvement was higher. I am not prepared to talk about this today.
 - Reindel: One thing to keep in mind - we did not put in, on that Altitude-based turn, any requirement not to exceed that 4 nautical miles. That analysis, if it was at 3K feet, they were turning beyond the 4 nautical mile waiver that they have now. We did not show that concentration of tracks. In order to do a higher than 2K or 2500' turn, you would have to ask the FAA to remove or modify the waiver to allow you to turn after 4-miles, which would have a repercussion because you want aircraft to be diverging so you can take the next aircraft off the runway. You can wait until January.
 - Gagnon: If the ACR doesn't come to an agreement on the specific altitude and it is deferred until January, is there a potential that HMMH might share a collective analysis that might include Altitude-based turns in January?
 - Reindel: I don't think we will have it that quickly. You will see in a bit, everything that you have recommended on your survey and what we are recommending requires a lot more modeling. It is not just overlaying things; it is modifying tracks.
 - Gagnon: HMMH is going to share analysis of the recommendations with the expanded grid. So, let's not show Altitude-based turns on the expanded grid in January until the group finalizes that altitude.
 - Johnson: What is the 4-mile restriction for? Is it there for separation of aircraft or concentration of aircraft?
 - Reindel: It is there to separate aircraft. You have parallel runways and you cannot stay parallel; they have to divert. They are supposed to divert before 4-miles but because of the 2-mile restriction here, they cannot turn before 2-miles heading south so there is a waiver that they can go out to 4-miles.
- **HMMH presentation - Additional Review of Collective Analyses Groupings**
 - Gagnon: I want to highlight the member survey results (in packet on table). Gene is basing what he is about to discuss on your feedback and HMMH analysis. There is summary page, and the next three pages are detailed survey results. At the bottom of the page is a table that is one of the 2 slides that Gene presented in November. This does not include collective groupings 1-12 since they did not rise to the top for either HMMH or the ACR. So, when he is referencing different groupings, he is talking about this table.

- Reindel: Collective groupings HMMH: 13, 15, 18, 19. ACR selected 14, 15, 16, 18. So, there are six groupings, since 2 groups overlap. HMMH recommended at November 2019 meeting not to include Noise Abatement Departure profiles (NADP), Continuous Descent Arrivals (CDA), or alternating downwind rails in any of the collective analysis groupings. It is not to say we can't have them in there. Slide 35 is each of the 6 groupings and what is in each. Slide 36 shows taking out the measures just talked about. Remember that alternating downwind rails would actually result in 3 times the # runs because of the alternating rails. So looking at those 6, five (or 7 if we look at continuous descent and alternating downwind rails) of the Slate measures are: 6K foot minimum altitude on arrivals downwind (all 6 groupings) – Altitude-based turns (4 of 6 groupings) – remove the 2-mile restriction (4 of 6 groupings) – change initial departure heading (3 of 6 groupings) and multiple divergent departure headings (3 of 6 groupings). Collective groupings #14 and #16 both contain 4 or 5 Slate measures contained within the six collective groupings. #14 includes change initial departure heading Slate measure and #16 includes divergent departure headings Slate measures, and you cannot do those together. Collective groupings #13, #15, #18 and #19 are all subsets of groupings #14 or #16. If you are looking for biggest bang for buck do 14 and 16. The other 4 are subsets, meaning they are in those measures.
 - Based on those, I am recommending groups #14 and #16. The difference between the two is the change in the initial departure heading v. the implementation of multiple divergent departure headings. These two contain all the Slate measures contained within the four collective groupings that resulted from the ACR member survey. How do we want to proceed from here?
- Brown: Just to make sure, if we use 14 and 16, the only things we are missing is the divergent headings and what?
- Reindel: Divergent headings is in 16 but not in 14, and the change in departure headings is in 14 but not 16. All the things that rated high in your survey are included in these.
- Gagnon: Would it be beneficial for ACR to identify at least one for you to begin with, or more?
- Reindel: Either way. I think the preference is to know everything that we are intending to do here. But if you want to hold off and only do one, we won't be able to get them all done. There is some savings to be had when we are modifying these, but one is fine.
- Nomellini: This is specific to being in Steele Creek. On these collective groupings, could we do one with just removing the 2-mile restriction and the other with the Altitude-based turns because that sort of defeats the purpose of the 2-mile restriction removal. The intent of that is to make them turn quicker, but if forcing them to go higher, it sort of defeats the purpose of that.
- Reindel: Yes. If we use 2K feet, some would be able to turn before the 2-mile restriction but it's not the majority of them. We could do those independently. If we remove the 2-mile restriction, likely very few will get to that altitude before they turn because they can turn sooner. The benefit of removing the 2-mile restriction is that you can have more turn sooner, and you would be getting that if you did Altitude-based turns. So, I get that.
- Gagnon: So in doing that, you get to evaluate the effect of one v. the other. If you look at the table, it looks like 15 and 18 would address what Sara is suggesting.
- Wright: On the handout under summary results of the member survey, notes the recommendation with the most disparity in responses is Utilize Alternating Arrival Rails. None of these proposals have arrivals. I am affected by arrivals. Is that correct?
- Reindel: No, we've included the 6000' Altitude Arrival.
- Gagnon: Thelma, it is worded differently in the table. Alternating Downwind Rails is the same as Alternating Arrival Rails. So, based on the survey and taking Sara's comment into account, you might want to consider 15 and 18. Neither one addresses all 5 of your top recommendations. Each addresses 4. But to Sara's point, #15 would include Altitude-based turns without the 2-mile restriction, and #18 would include the 2-mile restriction without the Altitude-based turns.
- Reindel: Without looking too much into that, it would be ok to do 14 and 16 and tell me which one to remove the 2-mile restriction and which one to add the Altitude-based turns.
- Nomellini: The whole point to this is to provide another data set so we can see when stuff starts overlapping.
- Reindel: Use these 2. One we will put Altitude-based turns in, and the other we will remove the 2-mile restriction.
- Gagnon: So, ACR will charge HMMH with 14 and 16, use those for collective analysis, and with their professional discretion determine how to incorporate Altitude-based Turns and removal of the 2-mile restriction.
- Ballard: Arrivals and departures and their impact on noise are totally separate. So, why are we combining arrival and departure options on your collective analysis?
- Nomellini: I'll tell you why. Because right now I don't get affected by arrivals and when suggestions come forward, I will be affected. If I am getting negatively affected on arrivals and departures, I want to know.
- Muckenfuss: It is one airspace. If we do this collective analysis, we might see grid points where everything is worse, and we don't want to do that.

- Ballard: But are we going to be able to know if arrivals and departures are making the noise since we are combining?
- Reindel: We may not be able to say precisely, but you will be able to see it. And if you cannot see it, I will do further analysis so you can.
- Wiesenberger: Noting that CDA was one of our most popular, and you had said it was not really an option from your perspective, can you expand?
- Reindel: Our analysis would be pretty limited. I don't think CDA will negatively affect any collective analysis. It is always going to be a positive because you are lowering the noise level throughout that whole track of continuous descent. I think you are going to recommend it regardless. It is really localized as to how they are doing CDA. We can put it in. It is not a hard thing to do. I don't think it will help you with any valuable information.
- Cameron: I can see your point from the analyst side. I think there may be advantages somewhere that when we submit the Slate that we say we have subjected all of these not only to individual but to collective analysis, and this is our concluding opinion for the FAA. As opposed to having some outliers that we took a multi-variant view on, and here are a couple that we are submitting in isolation. Purely psychological as opposed to rational, but I wonder if there is a value there.
- Reindel: Remember that we have 4 or 5 of these in each of these, and we have 9, maybe now 11 Slate items. So we are already not doing them all together.
- Cameron: No, but what I envision we send forward will have been together at some point; is that wrong?
- Reindel: We cannot put everything together because not everything can be done together. Even if we have 7 Slate items, I don't think we can have them all together in collective analysis. We are not there yet. There is a chance we can put them all together in collective analysis, but there is a chance that we cannot.
- Gagnon: In terms of moving forward, should we give them the charge of doing 14 and 16 with modifications as determined by HMMH?
- Nomellini: Just to say again, these groupings in no way determine what we put forward. All it is doing is giving us another data point. We are committing to nothing here except Gene's time.
- Gagnon: Any objections to going forward with 14 and 16? (*None*) Great. Thanks. Thank you, Gene.

❖ Request/Address Additional Business

➤ Unfinished Business

▪ **FAA Submittal Checklist**

- Gagnon: Document that Dan provided. FAA Checklist. We had months noted, and they were having to be modified; so in talking to CLT and HMMH at the last debrief, the thought was to present this as more of a checklist. You can see the sequencing grid on the right. Essentially, these are the exact same activities that were on the FAA Submittal Work Schedule. 1st item: Finish analysis of recommendations and finalize Slate. You today have done the first 2 bullet points under that heading. At some point you might want to finalize the Slate, even if that means saying you will not add more. The next item: Select groupings for collective analysis. That was done today as well. The next items are coming up. This should give you a feel for how things are progressing. No dates, but it is a sequence. We wanted to share this in a slightly different way. Any questions? (*None*)

▪ **Community Meetings**

- Garrett: We will have spent 2+ years, and now public meetings. What is the purpose of those?
- Hair: Good point. The reason why is for a broader outreach - for more public engagement. Some folks may not be aware of the ACR. More public outreach will allow for more credibility that this is a community-wide request.
- Garrett: I agree with the part about communication. I don't agree that we need more input or more options, or somebody needs to throw more things on the table for us to consider. If it's a process for communication, that's one thing; if it's a process to get feedback, then I don't think that makes any sense. This is a community-representative board, so that's what we're doing here. We need to move forward.

- Gagnon: That's the last formal item. We are shifting meetings to the 2nd Wednesday of the month starting in February. January will be the 3rd Wednesday, January 15, 2020. Any other items? (*No*)

❖ Adjourn

- Loflin motioned to adjourn. Johnson seconded; all in favor.
- Meeting adjourned at 8:33 pm