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TRANSPORTATION RESEARCH BOARD

Aviation System Planning Committee (AV020)

2017 Mid-Year Meeting

Washington DC – Keck Center, Room 209

June 1, 2016

8:30-12:30 PM EST

MEETING MINUTES

1. Welcome and Introductions

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2. Approval of 2017 Annual Meeting Minutes

Geoff Gosling suggested the meeting minutes reflect what happened at the meeting in enough detail for those who can't attend. Circulate draft minutes shortly after the meeting when it's fresh in everyone's mind for those to comment on. Verne suggested our minutes could be circulated to other committees too. Verne suggested the CRCC-A should take on coordination among committees. Young members group (YMCA) and communication coordinators are also nodes in the network or sharing info.

3. Committee Rotation

Jeff went over the list of committee members rotating off and thanked them for their service. He also shared a list of new committee members with the attendees. These include –

- Kent Duffy, Senior Aviation Planner, FAA
- Reiner Pelzer, Senior Project Manager, AECOM
- Arlyn Purcell, Director Aviation Environment & Sustainability, Port of Seattle, Sea-Tac Airport
- Martin Rottler, Lecturer, Ohio State University
- Jim Halley, Florida DOT

Jeff also informed the attendees that committee added 4 new international members and 4 new young members. The committee membership roster still had 2 positions vacant and had added presence of state aviation officials from NC and FL.

4. Committee Updates

a. TRB Staff Update – Christy Gerencher

JEFF CAN YOU WRITE SOMETHING UP PLEASE. I don't have the recording for this.

b. ACRP Update – Joe Navarrete

ACRP's new process will retain a "formal review" time. The new tool will allow individuals to be able to sign up for notifications. Users will be able to sign up by topics or roles or area of interest and be able to look at the orphanage where ideas are parked until someone elects to develop a problem statement. ACRP's Oversight Committee(AOC) felt that authors did not research their topics enough nor was adequate attention paid to developing a representative

fee or task schedule. AOC felt that the group turning in problem statements year after year was missing a large part of the industry and was keen to expand the base to include these individuals.

Ms. Stephanie Ward opined that the new ACRP process would help improve the quality of problem statements submitted to ACRP because of adoption of a format and an online tool that would facilitate collaboration of industry groups with statement writers. ACRP's next problem statement development process would open as soon as their new tool was up and running, currently estimated to be launched in November 2017. The online tool is designed to run all year long. ACRP is also moving ahead with a program forming a group of "mentors" from industry-wide subject matter experts. The goal of the program is to assist in the development of higher quality statements.

ACRP was also working on a rating system that would help in assigning an appropriate numerical rating value to problem statements.

Stephanie will communicate with Aviation CRCs by the end of June and the committee will be ready for 2018 problem statement year. ACRP was working to prepopulate the orphanage to generate some ideas and would make a concerted effort on social media after AOC meeting in July. Dr. Byers recommended that problem statements that received good reviews but did not receive funding could be used to prepopulate the new system. He suggested that TRB's aviation committees could help with that. ACRP has archived over 1,000 such problem statements over the years and following a disciplined process driven by the committees would help to have the right number to start with.

Stephanie informed the attendees that the research needs committee was tapped for beta tests.

ACRP also has multiple initiatives that are being pursued:

- Collaborative Tool to improve Problem statement quality
- Hold Insight events – get stuff out quicker on topics (land use, economic and social sustainability at airports, communicable diseases)
- Improve Dissemination – how to we get it out into people's hands

RFP for student groups – ACRP took over this program from FAA runway safety group. Dr. Byers was in touch with other research groups and was working towards having this committee help facilitate reaching out to student groups, and looking for SME (Industry Sponsors) to support participating teams.

- c. Committee Research Coordinator (CRC) Update – Dave Byers / Verne Skagerberg
The CRCs discussed the problem statement reviews performed for ACRP. In this cycle, in line with ACRP's efforts, some members became involved early in the problem statement development process. The process did get off to a good start but fell off at the end. Overall, the problem statement reviews went well and the committee prepare delivered good reviews that received positive feedback from Christy. Next year the reviews process is expected to be

more challenging due to changes in ACRP's process. The Committee's job next year will be to coordinate with ACRP staff to get info out on the new process, as well as to continue coordination with other Aviation CRCs.

Dr. Byers concurred with the above and was appreciative of the help with reviews. He reported that the committee was able to arrive at a consensus on all but one problem statement.

The review results were positive; 4 problem statements were developed before deadline. Dr. Byers mentored the group developing a problem statement and this helped in the development of a sound problem statement.

d. Committee Communications Coordinator – Leah Henderson

Jeff work with TTI to get their webpage up – Leah has outline for the website, will send to Jeff (met with Mike in Jan, ACRP can help host it too or free, Leah sent follow up email in this week)

Leah did ranking survey for annual conference topics – got 24 responses, it was good to get the topics from the other committees so we could see overlap if any, Jim Halley suggested an option to comment on each topic (Jeff do in the future)

e. Young Members Council – Aviation (YMC-A) Update – Elaine McKenzie
Elaine (not on the phone)

2018 meeting sponsor a session, doing student call for posters, developing intro to TRB materials, develop mentoring program, updated website and LinkedIn page she will send around later

f. International Members Council – Aviation Update – Hazel Peace

g. UAS Subcommittee Update – Daniel Friedenzohn
one session planned, included in list of topic options

h. Commercial Space Subcommittee update – Marcus Smith
proposing 2 sessions (state of CST industry & opportunities for small launchers) and a workshop this year (Pam described the workshop)

Christy only received 2 workshop proposals – aviation has 4 slots for workshops

5. FAA Airports Update – Kent Duffy gave a presentation on FAA's activities and goals.

a. FAA PBN Strategy, Runway Length/Exit Location Tools, New Critical Aircraft Guidance

FAA has been working for quite a while on the Critical Aircraft Advisory Circular (AC). Mr. Duffy expected the AC to be published in the coming several weeks. The goal of the AC is to consolidate the definition of the "Critical Aircraft" used for planning, environmental and financing and locate it in this AC. Regular use remains 500 operations though the AC does incorporate local operations though "touch and gos" do not count. The AC therefore essentially broadens the definition of critical aircraft to account for local conditions and use by larger aircraft. The regular use definition will also apply to commercial air service. The motivation for this was to stay away from large expensive projects for low levels of air carrier service. Often times the current critical aircraft is different from that used for the 20-year planning horizon. The AC which will be about a 20-page document, provides guidance for this selection. The AC requires that the airport owner document the selection of its critical aircraft. This can be based upon landing fee reports, IFR records, fuel sale records and so on. The documents must clearly document who is actually using the airport. A few weeks after the AC is released, FAA will conduct webinars to clarify the guidance and answer questions.

Research Updates – FAA discussed about developing a ten-year research plan earlier this year. The plan continues to be under development and is expected to be complete by the fourth quarter. Two of the projects include update to the Runway Exit time model developed by Virginia Tech. This project is currently half way completed and is estimated to be complete in a year and will make available tools developed to airports for use. The second project is regarding runway length determination/tool. FAA has 23 million take off records of the 104 aircraft types that generate 95% of the IFR systems demand. That is built into an integrated database that includes the temperature and elevation of each operation, trip distance and runway surface gradient along with other data about each operation. The research is working to deliver a web-based tool that will provide a runway length determination. The task is estimated to be about 18 months from completion. It was disclosed that the Runway Length AC would be updated with the release of this tool and that the intent was to provide data to support runway length determination. The database included data down to the smaller B1 turboprop type aircraft.

Last year FAA published a strategy for Performance Based Navigation (PBN) details of which are available on FAA's web-site. The strategy is very relevant to Airport Development. Last year about 90,000 unique N-numbers that flew IFR procedures and there are about 83,000 WAAS units installed in GA fleets. That corresponds to 92% of the GA fleet that regularly flies IFR. The total GA fleet is about 160,000 aircraft but not all of these fly using IFR procedures. At the present time, there are 2.5 times more LPV approaches than ILS procedures. FAA's data indicates that a lot of the fleet has basic RNAV1 and RNAV2 capability. Also, not quite half of the fleet is able to fly Vertical Navigation approaches. A lot more of the fleet has the equipment on board but is not used by those carriers.

Navigation services will be delivered within the NAS according to the guiding principle of providing the appropriate PBN tool to meet a specific operational need. The mechanism for determining the services provided at NAS locations is the Navigation Service Group (NSG) concept. Associated with each NSG are the navigation services that will potentially be available at the airports within each group.

NSG 1 includes the top 10-15 airports NSG 2 includes the large and medium hubs, NSG 3 includes the small and non-hubs, and NSG 4 and 5 includes the NPIAS GA airports.

FAA hopes to provide LNAV, VNAV, and RNAV (GPS) with LPV minima at qualifying runway ends. Beyond these, the goal is to match airport needs with the required approaches. For example not every airport needs a RNP AR Approach. ILS may be provided at large and medium hub airports. At the small and the non-hubs the PBN strategy is to not add ILS. At GA airports in the longer term there is no program to add ILS at this time unless a replacement of an existing one becomes necessary. Cat II and III ILS criteria remains unchanged and these must meet APS1 criteria.

FAA observed 99.7% reliability from WAAS system in the past year. Though outages can occur due to satellite issues or military testing, the system uptime was significant. In an outage scenario, there is a minimum operating network of VORs that would support the system and pilots flying using GPS (5,000 ft AGL) would be assured of receiving a VOR signal. Also within 100 miles there would be ILS at an airport that would also be available. In the next decade it is envisioned to have a refreshed DME network and have DMEs provide backup to RNAV.

PBN relationship to Airport Development - RNAVs to be primary approach to GA airports.

6. Introduction of David Ballard, the new Aviation Group Chair.

Jeff Introduced David who takes over as Group Chair this year.

7. 2017 Annual Meeting Sessions

Jeff recapped the 2017 Sessions. These included:

- Strategic Airport Planning for the London Region (Session 680)
- NextGen and Airport System Planning (Session 815)
- Current Issues in General Aviation Airport Planning and Operations (Session 858)
- Challenges and opportunities for Multi-Jurisdictional Airport Development Projects (Session 264),
- More from the Aviation Trenches: Young Members in Professional Practice (Session 342), and
- Remote Towers and other Advanced Airport Sensing and Surveillance Technologies (Session 343)
- Current Issues in Aviation (Session 678)
- How Airports Serve: Case Studies of Codevelopment of Cities and Their Airports (Session 772)
- Workshop on
 - UAS (Session 148)
 - Young Member's workshop

8. 2018 Annual Meeting Planning (Sessions and Workshops)

Jeff ran through other committee session proposals

AV010 –

- NextGen New Committee impacts
- Aviation funding and Competition for development
- The Ongoing Air Service Battle

Two from related Subcommittees

- State of the Commercial Space Transportation Industry and
- the growth of small Launchers

AV020

- Environmental Airport Stormwater Strategies
- Intersection of transportation noise and health
- Noise from future aircraft

AV040 The Economics and Forecasting Committee has topics regarding current research on

- Airline Competition
- Financing Airport Development
- Airline Business Models
- Geopolitics
- Aviation Economics

AV050 The Airport Terminals and Ground Access Committee

- Terminal flexibility planning and design
- Alternative leases
- Security master planning
- Assessment of airport vulnerability and protection during events
- Use of Biometrics in passenger processing
- Future of driverless vehicles and their impact on airport facilities
- Creative Employee transportation options
- Public parking and transportation
- Charging private automobiles for pickup and dropoff access

AV060 Airfield and Airspace Capacity and Delay

- NextGen and Airfield and Airspace Capacity and Delay
- Improving the predictability of command operations
- Impact of converging users to capacity of NAS
- Current Issues Airfield and Airspace Capacity and Delay

AV070 Aircraft/Airport Compatibility Committee

- Airport Improvement Program round table discussion
- Optimizing runway configuration

- Use of autonomous vehicles airside
- Welcome to the Giants – emerging airport uses

AV090 Aviation Security and Emergency Management Committee

- Airport Emergency Plans from Policy to practice
- Legal and regulatory implications of emerging aviation technologies
- Airport security research and innovations
- Safety and the Airport Community interface
- Federal improvements in airport related disaster preparedness

Young Members Council

- Guiding Millennials
- Young member research updates
- Climate change mitigation in Aviation
- Airport Collaborative decision making
- International Perspective on Aviation System Planning
- Multimodal travel

UAS Subcommittee

- UAS today and tomorrow

Our proposed ideas – leaning toward 2 in red developed from conversations in Annual Meeting, the conference call in April, and ideas collected during the National Aviation Planning Symposium (NASPS).

- Aviation system planning in the 21st century and beyond**
- Aviation system planning and EAS
- Impacts of privatization on airport system planning
- Int'l perspectives on airport system planning** - The committee sponsored a session featuring the London region last year and it turned out to be a well-attended session. A session like this it was felt would connect well with the discussions and presentations at the NASPS.
The international perspective on airport system planning would be somewhat broader than the one last year. Verne remarked that Ted Stevens International had a Memorandum of Agreement with an airport in China and there is also good interest in Canada. FAA's Kent Duffy said that they have been helping China in developing their system and it could make for an interesting case study. They have just come out with their 13th 5-year plan for airport development. It makes for an interesting study from the planning perspective because they build runways where there is no airspace to serve them. Brazil is an interesting example too.
- Airports and the future workforce – possibly could be taken up with young member's session on millennials? One attendee stated that the topic was not relevant to Airport System Planning.
- Intermodal connections and airport system planning

Based on the feedback received from Members, the top two ranked topics are highlighted in red above. Topic (c) was ranked third. Jeff was pleased with the committee bringing in several ideas to the mid-year meeting as this helps in session planning.

There were discussions on getting ready for a future without pilots in the cockpit quite like the Google cars or Uber cars without drivers on the streets. Verne stated that topics such as these should be added to the RNS as identified gaps in knowledge for a 20-year planning horizon. Geoff seconded the urgency of identifying gaps and to work towards them bearing in mind the environment that airports operate in (with time delays in approvals and limited resources). Verne stated that with accelerated change observed in the industry during present times, our ability to respond may not be fast enough (environmental hoops etc) and as a result need to do a better job to anticipate future needs.

Jim Halley of Florida emphasized that he focused more on the approach to system planning i.e., how to go about it and not what the airport will be in the future. Kent Duffy of the FAA informed attendees that FAA had a project underway called “Mass horizons 2045+”. The project deals more with the demographics and demand changes projected for that time horizon. It does not drive current FAA research and the FAA is still bound by 5 year CIPs in its research activities. The FAA is also working on a couple of projects from a planning perspective that will develop a 2030 view of what the system will look like. The CONOPS works is about Operational View including technology and its advances. The Horizon work is about trends in population growth and what the user needs will be. However, this work is quite difficult. For example, no one 30 years ago was predicting the collapse in aviation demand of the rust belt cities.

One of the attendees brought up the question of spaceports that will need to be addressed in the future. For example, where will these be located – close to major airports or collocated with them? Do these two modes of transportation even understand what the other requires? There is a conflict looming on the horizon for incompatible operations between them and these should be the problems we tackle now.

Geoff remarked that one way to improve sessions would be to transition from usually one way transfer of info from speakers to audience. He felt that the sessions should be more conversational with two way discussion of ideas. He felt that while such a transition would not resolve a lot of issues, it would put a lot of issues on the table. Verne stated that there was a lot of talk about this in the past as well. But he felt that the idea had merit because if the committee could collect a lot of bright individuals in a room to talk about problems and not be able to find a solution, it would have identified gaps right there.

An attendee stated that he could identify two gaps that could affect planning in the future:

- a) Privatization of airports could catch on in say 10-15 years and become more of the norm than it is currently.

- b) More importantly, privatization of air traffic and introducing the private sector into making some decisions related to Air Traffic Management. So perhaps they need to be driving the technology.

Jeff felt that these other topics presented opportunities to be included into other sessions. Once the top 2-3 topics are finalized, it can be decided how to put the sessions together. Some of these ideas could be used in the upcoming symposium.

9. 2018 National Aviation System Planning Symposium (NASPS) – Verne Skagerberg

Jeff had distributed the latest version of the draft agenda of the symposium coming up in May 2018 in Anchorage. The efforts were focused on getting everything straightened out to enlist moderators and speakers. Verne felt that there was room for evolution in that program.

Verne provided a brief rundown on where the symposium arrangements stood at the present. The decision to hold the symposium in Anchorage was made exactly a year ago in the mid-year meeting. And at the present moment the symposium was a year away (May 2018). The contract for the Hotel that will be the venue is undergoing final discussions and is expected to be signed shortly. Verne observed that Leah Henderson was doing a lot of heavy lifting with regards to the details and working with the Lakefront Hotel in Anchorage. The contract will be signed by the airport sponsor – Ted Stevens International. They have also offered to pay the deposit for the booking. The expenditures incurred by attendees for room rates will be lower than what they spent in Charleston for the previous symposium. The registration fee is also expected to be a little lower. Leah has also spoken with the museum and the dates are available to host the banquet. She was confident to make the reservation in the next few days.

A Symposium mission statement/marketing blurb has been put together and it is hoped that it will be finalized shortly. This will go up on the symposium web-site. The web-site name of “2018NASPS” has been purchased. It re-directs to the Texas Transportation Institute site. TTI has graciously accepted to help with the web presence. The web-site will be populated with additional information for public consumption as soon as it becomes available. Clayton Stambaugh is handling the PR/Marketing side of things for the symposium and will be uploading graphics and imagery to the site soon.

Verne was appreciative of the Sponsorships that had already been received. Geoff informed the attendees that a sponsorship subcommittee had been formed and that it had finalized the sponsorship categories. Early sponsorships had been received from Mead & Hunt and Kimley-Horn. He was confident that previous sponsors will step up again and was holding off contacting them till the web-site with online forms etc. was ready. The subcommittee had agreed upon 2 broad categories of sponsors like in past symposia – corporate sponsorships and in-kind sponsorships where industry organizations that cannot provide financial contributions could support the symposium with in-kind work. The subcommittee would reach out to the corporate sponsors early before they commit to other conferences.

Reiner Pelzer of AECOM volunteered to help with the program.

10. Triennial Strategic Plan – Review & Discussion

Jeff informed the attendees that the committee's strategic plan was not due for another couple of years yet. It does include a bunch of critical issues that have been identified by the committee through a process. Jeff stated that he would like to appoint some people to start the review process and have them continue with it through the annual meeting session process and the symposium process and make sure that it is continuously updated as we move forward thinking about webinars. Jeff has had conversations with Dave Byers about it and would like him to start the process and stay engaged and invite young members that want to work on this. This would be good experience for them as they grow in their committee roles

Geoff suggested adding a fixed agenda item like "Status report of the Triennial Strategic Plan" to all committee meetings. And in each meeting, we should go over something to the effect that "this is what he had committed to do" and "this is what we have done". Geoff also suggested that the committee does not need to devote a lot of time to discussing this but it could be an item prepared before the meeting and details provided to attendees for information only. Jeff agreed that this was a good idea but was wary of adding to the tasks of members. Verne suggested that young members could be assigned to this task.

Jeff turned to committee business.

- He asked committee members and attendees to suggest webinar topics and also reminded them that nominations for the McKelvey award were due by August 1, 2017.
- Jeff would be coordinating paper reviews for the annual meeting. He was hoping to have the area of expertise system up by then. For each paper a minimum of 3 reviews are required though Jeff assigns them to 4 or 5 reviewers. Papers are due to be received by TRB by August 1 and are typically assigned to committees by the middle of August. Committee reviews are required to be completed by the middle of September.
- Jeff would try to have a quarterly call by September sometime.

Geoff stated that AV030 has produced an electronic circular on research needs in environmental areas, then five years later (2 years ago) did an update. He suggested that the committee think about putting this together as an outcome of the symposium. This could be a more formal statement of research needs. Jeff agreed that this was a good idea and something he felt that the strategic plan team could help the committee prepare. It was suggested that a proceedings of the symposium be prepared. Geoff stated that similar suggestions were also made in the past with good intentions. He felt that perhaps the committee could use the current NASPS website website to populate links to previous symposia along with the program and links to presentations delivered. This could serve as a de-facto compendium without requiring a lot of work. Geoff also suggested that the students that would receive participation awards could be asked to write one paragraph summaries of the highlights of each session.

11. New Business

There was no new business raised.

12. Adjourn

Meeting was adjourned at 12:17 pm.