

### AV030 Annual Committee Meeting January 9, 2024

#### Today's Agenda

Time	Item	Presenters
3:45 – 4:00 (15 minutes)	<b>Welcome/Intros</b>	Kate Andrus/All
4:00 – 4:10 (5 minutes)	<b>DEI Moment</b>	Julia Nagy, HMMH
4:10 – 4:20 (10 minutes)	<b>TRB and ACRP Updates - timing based on availability</b>	Joe Navarrete, ACRP Christy Gerencher, TRB Jeff Borowiec, Woolpert
4:20 – 4:45 (25 minutes)	<b>Research Presentation: An Enhanced BP Neural Network Algorithm for Airport Refueling Truck Scheduling Considering Carbon Emissions</b>	Min Zhang, Southeast University in China
4:45 – 5:10 (25 minutes)	<b>Research Presentation: Airport Resilience</b>	Robert Horton, DFW Dr. Igor Linkov, Senior Science and Technology Manager (SSTM), US Army Engineer R&D Center;
5:10 – 5:30 (20 minutes)	<b>Committee Business</b>	All

#### Meeting Welcome- Kate Andrus, Chair

- TRB Code of Conduct
- Attendee introductions around the room and virtual protocols
- Sign in sheet is electronic, to sign in scan the QR code on the back of the Aviation Group Newsletter
- DEI (Diversity Equity & Inclusion) moment – Continuing the DEI moment that Arlyn incorporated: The committee received an update from Julia Nagy on January 8 session sponsored by AV030, “Planning for Environmental Justice and Equitable Outcomes at Airports and Beyond” that built on a AV030-sponsored session at the 2023 TRB Annual Meeting titled “Meaningful Engagement in Planning Processes” but with more of a focus on planning and data. This session aligned with several AV030 Triennial Strategic Plan (TSP) objectives to integrate equity into committee business and committee practices and processes, as well as implementing a strategy to view committee business through a DEI lens. Partnering with other committees is also a goal of the TSP and this session featured participation on the panel by the chairs of AME10 (Equity in Transportation) and APE020 (Innovative Public Transportation Services and Technology). Julia gave an overview of the session noting a framing question was used: “How can airports use planning processes to result in more equitable systems and outcomes for their communities including their internal stakeholders.” There were five panelists in all. The first presentation “Integration of Social Equity and Environmental Justice Within Envision” featured Anthony Kane and Kailey Eldredge from the Institute for Sustainable Infrastructure. They explained the Envision sustainable infrastructure rating system and described the integration of social equity and Environmental Justice into the rating system. Tracee Strum Gilliam with PRR, Inc. and co-chair of AME10, presented on “Environmental Justice Foundations”, and Adam Cohen from University of California- Berkeley and chair of APE020 presented on “Incorporating Equity and Environmental Justice into Advanced Air Mobility planning processes”. Amber Woodburn McNair,

## Environmental Issues in Aviation

Kate Andrus, Chair  
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Assistant Professor at Ohio State University and member of AV030 presented on "Environmental Justice Data Spotlight: Perspectives on Browser-Based Spatial Tools".

Top takeaways include:

- Airport Operators regularly receive federal grants through the Federal Aviation Administration, therefore they are subject to specific regulations and policies that influence airport planning practices and funding such as Title VI of the Civil Rights Act of 1964, Environmental Justice requirements under NEPA, and the US Department of Transportation (USDOT) Equity Plan. USDOT has an [Equity Data Hub](#) with useful resources as well as the recently updated document [Promising Practices for Meaningful Public Involvement in Transportation Decision-Making](#), including the new Appendix C "Using Federal Funds for Meaningful Public Involvement Activities." The appendix includes guidance to agencies using federal funds for engagement such as providing financial incentives to attend meetings and compensating the public for contributing their time and expertise on federally funded projects and how this can increase community involvement.
- AAM operators are typically private industry that might not be dependent on federal funding for developing AAM infrastructure, so their EJ/Equity requirements may be different.

Kate expressed appreciation for Julia's hard work setting up this panel. The committee is seeking to fill the new role of a DEI Coordinator which remains vacant among all of the currently-filled committee roles (subcommittee chairs, research coordinator, secretary). The communications coordinator role is also open.

### TRB, AV030, and Coordinating Council Updates

- Christy Gerencher- TRB Staff for Aviation Group Committees
  - o Christy advised there will be a conference in Denver, CO in August 2024, led primarily by the Transportation Sustainability Committees, the "Transportation Symposium on Environment, Energy, and Livable Economies". It is cosponsored by AV030 and other TRB committees (total of seven committees) and anticipated to be focused on topics relevant to these committees. Kate has been involved with the planning sessions. There will be three concurrent session lines: Decarbonization, Resource Conservation Recovery, and PFAS. Call for presentations and [Website is LIVE](#). John Putnam is tentatively slated to be a keynote speaker. Hiking excursions are being planned prior to the start of the Symposium. A tour of National Renewable Energy Lab (NREL) is also being planned. Topic ideas and speakers are welcome any time. May 24 is early bird registration deadline.
  - o AV030 will be rotating membership this year. Some changes will be announced regarding committee membership. Victoria Sheehan has directed AV030 to make sure we are as diverse and open in our processes as possible. Currently, all rules for committee rotation have exceptions based on justifications. Going forward, there will be no special exceptions, including no more than 3 three-year terms per person per committee. Some members will be rotated based on the prior exceptions. AV030 is this first committee to rotate and will be a test case. There is some concern around the long-term ramifications this could create. Ms. Sheehan has floated the concept of possible changes to the rules so that exceptions are not needed. All members and friends are encouraged to volunteer for larger events planning and other committee business, nothing is changing there. Current terms end April 14, 2023, if you are rotated off make sure to subscribe as a friend of a committee and stay involved and engaged. It is very helpful to Kate for everyone to make sure their [MyTRB](#) profile is up to date (everyone who attends a TRB Annual Meeting has a MyTRB profile) to complete profile selections and classifications related to Equity Diversity & Inclusion (EDI). Kate asked particularly for people to update their email addresses. Friends can do anything a member can do- setting up lectern sessions, plan for mid-year meetings, reviewing papers, submit problem statements etc....however if you are a committee member help with volunteer needs, being active and contributing to the work of the committee is expected. Slot identification has not changed, there will still be 36 opportunities. There are 25 core member slots, with extra slots for people who may not be able to compete as well: five extra slots for international members, additional slots for State DOT representatives, four additional slots for young professionals. If you are 35 years or younger, please update your birthdate in MyTRB to confirm you are eligible for one of the young member slots. Committee rotations are staggered over three years, so this effort to level the playing field of eliminating exceptions will be reevaluated at that time. Term limit is PER committee- you can start another 3-term membership in a different committee.
  - o See you in Denver!

- Jeff Borowiec, Woolpert, Aviation Group Chair
  - o Annual Meeting registration was around 13,000, still below pre-covid levels but increasing. 6,500 papers were submitted review and 20,000 papers reviews. Volunteers are very appreciated for their work reviewing papers! This year's annual meeting offers 436 meetings and 645 sessions.
  - o The Young Members Council received a [Blue Ribbon Award](#) for fostering the participation and growth of those 35 years of age and younger within the Transportation Research Board and the aviation industry. There are opportunities for both young members and not-so-young members to contribute to the work of this Council.
  - o [Francis X. McKelvey Award](#) went to David Ballard, former chair of Economic and Forecasting and former Aviation Group chair.
  - o TRB issued a new critical issues report, "[Critical Issues in Transportation for 2024 and Beyond](#)" available on their [website](#).
  - o Committee rotation has been a recent topic particularly the conflict-of-interest policy and practices. This is an effort to bring TRBs policies in line with other members of the NAS. Survey closes the end of the month, which will inform this review. AV030 will rotate members in April.
  - o National Aviation System Planning Symposium was held in May 2023 in Irvine, typically held every three years, primarily sponsored by AV020 and AV010. In the future, the Symposium will be restructured so that more aviation group committees are included to make it a larger aviation group event. Will need a new name for this event and will accept ideas, and they will need participants from each of the committees, such as serving on the planning committee, each committee will be able to participate to the extent desired. Mid-year meetings for committees will be held prior to the event in the event location, and there will be an opportunity to get together after the sessions to discuss take-aways and new problem statements that might be generated. TRB has limited staff and resources, but they are responsible for overseeing all committee events. The May '23 Symposium was a great success, and the Aviation Group doesn't want to see participation decrease so they feel expanding the Symposium would help sustain TRB support for the event. Chairs will meet early in February to get a planning committee established and then work on location. Looking at May 2026 for the date. The world cup may influence location choice. Need the committee to begin considering this and working on sponsorships. Christy emphasized that planning volunteers (committee members/friends) are needed for this May 2026 event and this event is going to be FUN!
- TRB/ACRP Updates – Joe Navarrete, TRB, ACRP
  - o Joe gave a big "thank you" to volunteers submitting problem statements and to the problem statements reviewers, on behalf of Joe and his teammates and Marci Greenberger, who manages the ACRP program.
  - o A new program officer has been hired, who will be starting up soon, and another vacancy has come up recently.
  - o ACRP projects come from problem statements submitted by an individual or committee. The deadline for submittal is April 8, which will approach quickly. Take advantage of peers to work together. Last year was a record number of problem statements submitted specifically by committees. The oversight committee recognizes this work and made sure to review and respond to every single problem statement submitted by a committee.
  - o Requests for Proposals were issued in December and are posted, if you are interested, please consider putting together a team and submit a proposal.
  - o Need nominees for various oversight committees, specifically the legal program, the synthesis program and the collegiate program, which each have governing boards. Also looking for volunteers to serve as mentors for the University Design Competition. Need someone to serve on ACRP Oversight Committee, in particular someone to represent small and medium-sized airports.
  - o How is ACRP relevant to industry? Strategic Plan is updated every five years to refocus relevance, just starting to do that this year. At the end of January, a small workshop will be held with the ACRP Oversight Committee and alumni of governing boards to discuss starting this process. Members of the aviation industry will be consulted during the update.

### Research Presentations

- Min Zhang, Graduate Student at School of Transportation, Southeast University - China **An Enhanced BP Neural Network Algorithm for Airport Refueling Truck Scheduling Considering Carbon Emissions**

## Environmental Issues in Aviation

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- o Currently airports rely on the manual dispatching of fueling trucks. Optimizing airport refueling truck scheduling plays a pivotal role in enhancing operational efficiency and fostering environmental stewardship through reduced carbon emissions. Four models were compared.
  - o Evaluation metrics included carbon emissions, truck-to-flight ratio, computational time, network training loss value
  - o Conclusions: An Enhanced BP neural network approach (EBNN) for low carbon scheduling of airport refueling trucks was the superior model.
  - o Future considerations include modeling path scheduling scenarios with different number of car yards at dynamic speeds considered and extending multi-objective models and algorithms in a significant direction
- Igor Linkov, PhD, Adjunct Professor, University of Florida, Senior Science and Technology Manager (SSTM), US Army Engineer R&D Center; Robert Horton, PhD Candidate, University of Florida, VP, Environmental Affairs & Sustainability Dallas-Fort Worth International Airport - **State of the Science and Practice in Resilience Analytics: Application to DFW**
    - o Mapping the ecosystem of an airport is a good first step because it shows how truly complex and complicated the ecosystem is. All domains interact with each other and often compete with each other from a business standpoint.
    - o Presentation focused on successful work DFW has done to react quickly, adapt and recover from disruptions to airport operations, and the new tools that were created for them to accomplish this.
    - o Focus on quickly recovering as opposed to simply studying probabilities of failure. Risk does not expose interdependencies within an airport's ecosystem.
    - o DFW's tools help them increase resilience by making better decisions.

### AV030 Committee Business

- A Look Forward to 2024 – Where can you be involved?
  - o Help developing problem statement development for April deadline, need ideas for groups to develop
  - o Committee Rotation: February 2024
  - o Looking for a DEI Coordinator and a Communications Coordinator
  - o Co-Sponsoring: TRB Transportation Symposium on Environment, Energy, and Livable Economies, Denver, Colorado - August 25–28
  - o Reach out to Kate.Andrus@meadhunt.com if interested in any of these opportunities to be involved!
  - o Congrats to the Young Members Council-Aviation: Blue Ribbon Award, Ryan Dittoe, Chair