

MINUTES OF COMMITTEE MEETING

TRB Transportation and Air Quality Committee Meeting (ADC20)
Wednesday, January 10, 2018; 2:30 – 6:00 PM
Marriott Marquis, Independence E (M4)
Washington, DC

1. Attendance

- a. A full list of attendees has been included as Attachment 1.

Members

Doug Eisinger (Chair), Sonoma Technology, Inc.
Marianne Hatzopoulou (Research Coordinator), University of Toronto
Ann Xu (Technology & Behavior Subcommittee Chair), US Department of Energy
Jenny Narvaez (Analysis Subcommittee Chair), North Central Texas Council of Gov'ts
Mike Claggett (Communications Coordinator), Federal Highway Administration
Song Bai, Sonoma Technology, Inc.
Matt Barth, University of California-Riverside
Alex Bigazzi, University of British Columbia
Bob Chamberlin, Resource Systems Group, Inc.
Chris Frey, North Carolina State University
Doug Ito, California Air Resources Board
Karin Landsberg, Washington State Department of Transportation
Victoria Martinez, Federal Highway Administration
Jim McCarthy, Congressional Research Service
Ray Minjares, International Council on Clean Transportation
Chris Porter, Cambridge Systematics, Inc.
Greg Rowangould, University of New Mexico
Tim Sexton, Minnesota Department of Transportation
Guohua Song, Beijing Jiaotong University
Roger Wayson, AECOM

Visitors

(see Attachment 1)

2. Agenda

- a. Copy of agenda has been included as Attachment 2.

3. General Items for the Record

- a. Doug Eisinger started meeting as new committee chair.
- b. Christine Gerencher (TRB Staff Representative) thanked committee for their engagement and announced that ADC20 midyear meeting would be held July 31st and August 1st in Washington without any registration fee.
- c. Doug introduced new ADC20 subcommittee structure and leadership beginning this year (shown in the table below):

Subcommittees	Chairs	Vice Chairs
Research	Marianne Hatzopoulou, University of Toronto	Alex Bigazzi, University of British Columbia; Greg Rowangould, University of New Mexico
Analysis: Regional and Project-Level Air Quality Innovations and Resources	Jenny Narvaez, North Central Texas Council of Governments (Dallas-Ft. Worth MPO)	Karin Landsberg, Washington State Department of Transportation
Technology and Behavior: Emerging Fleet and Travel Impacts on Air Quality	Ann Xu, US Department of Energy	Kanok Boriboonsomsin, University of California-Riverside

4. Committee Program

a. Invited speakers and topics

- i. There were two invited presentations awarded to the best papers reviewed by the committee this year (slides will be posted to the ADC20 website shortly):
 - 1) “An Eco-Drive Experiment On Rolling Terrains For Fuel Consumption Optimization with Connected Automated Vehicles,” (18-05917), Jia Hu, Tongji University
 - 2) “Effectiveness of Idle Reduction Technologies in Reducing Driver Exposure to Diesel Emissions,” (18-03013), Joe Zietsman, Texas A&M Transportation Institute (TTI)

b. Papers

- i. Marianne Hatzopoulou reported that 56 out of 116 papers were accepted for TRB2018 (48% acceptance rate).
- ii. Out of the papers accepted, 18 were referred for publication, all but one after revision.
- iii. Three papers currently have been accepted for publication while others are still pending final review.
- iv. ADC20 had 214 paper reviewers, and 9 reviewed 5+ papers.
- v. Many of the best reviews were from PhD candidates and post-doc researchers, and paper review coordinators plan to give more papers to these types of reviewers in the future.
- vi. Having a call for papers to guide committee research was recommended for next year.
- vii. Chris Frey suggested introducing an award for best paper reviewer next year and giving the option on the TRB website to recommend a different reviewer if declining.

c. Big picture: macro observations about the transportation air quality field (slides will be posted to the committee website shortly).

- i. The year in review – major actions, Jim McCarthy and Doug Ito
 - 1) Vehicle miles traveled in the US up since 2014

- 2) EPA's Tier 3 gasoline sulfur standards began
- 3) 10 production electric vehicles \geq 100-mile range
- 4) Phasing out internal combustion engines in CA and globally
- 5) Emission regulations reversed, relaxed, or delayed
 - HD glider kit exemption under review
 - Reopened midterm evaluation for LD GHG Rule
 - May revoke CA and Sect. 177 state waiver under CAA
- 6) Volkswagen settlement for diesel 2.0L vehicles
- 7) Worst smog events ever recorded in China and India
- ii. Looking ahead – key trends, emerging problems and challenges, Matt Barth and Roger Wayson
 - 1) Major transportation revolutions
 - Shared mobility
 - Electrification
 - Automation
 - Connectivity (deserves to be separated)
 - 2) Advanced technologies and alternative fuels
 - HD natural gas engines
 - Battery-electric vehicles
 - Hybridization
 - 3) In-use testing and measurement
 - Cost/size reduction of portable equipment
 - Ubiquitous mobile and GPS data

d. Strategic planning breakout: SWOT analysis

- i. Attendees were split into three groups for discussion:
 - 1) Environmental agencies (federal, state, local)
 - Lead by Bob Chamberlin and Greg Rowangould
 - 2) Transportation agencies (federal, state, local)
 - Lead by Karin Landsberg and Song Bai
 - 3) Universities/NGOs/Consultants
 - Lead by Ray Minjares and Reza Farzaneh (TTI)
- ii. The following SWOT questions were posed to each group:
 - 1) Strengths: what does ADC20 do well?
 - 2) Weaknesses: where can ADC20 improve?
 - 3) Opportunities: where can ADC20 lead?
 - 4) Threats: what can reduce ADC20's effectiveness?
- iii. Committee reconvened and group leaders summarized findings.
- iv. These summaries from each breakout group will be compiled by Heng Wei (University of Cincinnati) and Victoria Martinez (a brief SWOT report will be posted to the ADC20 website when available).

5. Committee Business

- a. Summer conference planning update, David Kall (FHWA)
 - i. Conference will held July 31-August 1, 2018 in Washington, DC with no fee to attend.
 - ii. Four research tracks are being defined.

- iii. Volunteers to help organize and plan are greatly appreciated.
- b. Reports from subcommittees
 - i. [Technology and Behavior](#)
 - 1) Ann Xu presided as new subcommittee chair.
 - 2) Kanok Boriboonsomsin gave recap of Fresh Air from Freight workshop on Sunday.
 - 3) Ann invited two non-ADC20 speakers to present:
 - “Technology-Influenced Behavior and Emissions Benefits,” Lei Zhang (University of Maryland)
 - “Millennials, Shared Mobility and Implications on Emissions,” Giovanni Circella (UC-Davis)
 - 4) A full subcommittee agenda has been included as Attachment 3 (slides will be posted to the ADC20 website).
 - ii. [Analysis](#)
 - 1) Doug gave a subcommittee review for Jenny Narvaez, who stepped out of the meeting.
 - 2) Subcommittee consisted primarily of presentations from FHWA, EPA, and CARB on recent work.
 - 3) A full subcommittee agenda has been included as Attachment 4 (slides have been uploaded to the committee website for reference).
 - c. Report on sessions and workshops sponsored by ADC20
 - i. ADC20 was lead sponsor of 3 workshops and 2 sessions this year.
 - ii. Workshops
 - 1) Fresh Air from Future Freight Transportation: Smart, Sustainable, and Sensible (#111, Sunday, 9am to noon)
 - 2) Implications of Technological and Societal Changes for Air Quality Policy and Regulations: Do We Have Adequate Tools to Know? (#874, Thursday, 8am to noon)
 - 3) Innovative Uses of Traffic Data for Air Quality and Noise Analysis (#875, Thursday, 8am to noon)
 - iii. Sessions
 - 1) Data Driven Innovations in Emissions and Air Quality Analysis (#597, Tuesday, 1:30 to 3:15pm)
 - 2) Strategies to Reduce Transportation Emissions and Improve Air Quality (#670, Tuesday, 3:45 to 5:30pm)
 - d. TRB webinar opportunities, Kevin Black (FHWA)
 - i. Several webinars relevant to ADC20 were offered recently and more are coming, including one on automated and connected vehicles in April
 - ii. Please contact Kevin with ideas for future webinars.
 - e. Website management update, Mike Claggett (FHWA)

- i. [ADC20 website](#) has been updated to reflect new subcommittees and committee leadership.
- ii. Committee and subcommittee presentations, minutes, and agendas have been archived from past year meetings where possible.
- iii. Questions about the website should be directed to Mike.

6. Other Business

- a. NCHRP updates were skipped and TRB information was delivered by Christine at the beginning of the meeting.
- b. Conferences, workshops, and other activities of interest to ADC20
 - i. [ARPA-E Energy Innovation Summit](#), March 13-15, 2018, Washington, DC
 - 1) Annual event hosted by DOE, please contact Ann Xu for further information.
 - ii. [Portable Emission Measurement Systems \(PEMS\) Conference & Workshop](#), March 22-23, 2018, Riverside, CA
 - 1) Conference is organized each year by Matt Barth and others at UC-Riverside College of Engineering's Center for Environmental Research & Technology (CE-CERT).
 - iii. [Air and Waste Management Annual Conference](#), June 25-28, 2018, Hartford, CT,
 - 1) Abstract submission deadline has passed, but please contact Chris Frey for more details about the conference.
- c. Acknowledgements and appreciations of work
 - i. Doug thanked the many ADC20 volunteers in 2017 and asked those interested in volunteering in 2018 to reach out to him.
 - ii. Heng Wei has volunteered to work on developing ADC20's social media presence and outreach.
 - iii. Doug presented certificates of appreciation to Marianne, Alex Bigazzi, and Greg Rowangould for their efforts to organize this year's paper review process.
- d. Meeting was adjourned at roughly 5:30pm.

ATTACHMENT 1: LIST OF ATTENDEES

Name	Organization	Email	Phone
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Key = **ADC20 Members**, *Young Professionals (35 years or younger)*

ATTACHMENT 2

The National Academies of
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TRANSPORTATION RESEARCH BOARD

2018 Meeting Agenda: Transportation & Air Quality Committee (ADC20)

TRB 2018 Spotlight Theme: "Transportation: Moving the Economy of the Future."

Date: Wednesday, January 10, 2018

Time: 2:30 to 6:00 pm (updated time from prior agenda versions)

Place: Independence E (M4), Marriott Marquis

- **Doug Eisinger**, Sonoma Technology, Committee Chair
- **Marianne Hatzopoulou**, Univ. of Toronto, Committee Research Coordinator

Meeting focus: crowd-sourced ideas about ADC20's strengths, weaknesses, opportunities, threats (SWOT analysis)

1. **Introductions, handouts, meeting format/goals, past meeting minutes (Doug, 10 minutes)**
2. **Presentation of this year's top papers (30 minutes)**
 - **Joe Zietsman, TTI**, "Effectiveness of Idle Reduction Technologies in Reducing Driver Exposure to Diesel Emissions" (paper #18-03013).
 - **Jia Hu, Univ. of Virginia**, "An Eco-Drive Experiment On Rolling Terrains For Fuel Consumption Optimization With Connected Automated Vehicles" (paper #18-05917).
3. **Paper review process results, recommendations for next year (Marianne, 15 minutes)**
4. **The big picture: macro observations about the transportation air quality field**
 - The year in review – major actions; **Glynda Bathan (Clean Air Asia), Doug Ito (CARB), Jim McCarthy (Congressional Research Service) (10 minutes)**
 - Looking ahead – key trends, emerging problems and challenges; **Matt Barth (CE-CERT), Jackie Ploch (TxDOT), Roger Wayson (AECOM) (10 minutes)**
5. **Strategic planning breakout: SWOT analysis:**
 - *Strengths*: what does ADC20 do really well?
 - *Weaknesses*: where can ADC20 improve?
 - *Opportunities*: where should ADC20 lead on topics, partnerships, other things?
 - *Threats*: what can reduce ADC20's effectiveness and how should we respond?

Breakout Part 1

- Small groups discuss SWOT questions; roughly grouped by organization type (35 min.)
 - EPA, state and local environmental agencies (2 groups)
 - FHWA, state DOTs, and MPOs (2 groups)
 - Universities, NGOs, consultants (2 groups)
- Facilitators:** **Bob Chamberlin (RSG), Reza Farzaneh (TTI), Karin Landsberg (WSDOT), Ray Minjares (ICCT), Greg Rowangould (U.NM), Babu Veeregowda (HNTB)**

10 minute meeting break

Breakout Part 2

- Group spokesperson reports out findings from discussions (5 min. each, 30 min. total)
 - Volunteers synthesize outcomes and share brief report (post-TRB): [Victoria Martinez \(FHWA\)](#) and [Heng Wei \(U. Cincinnati\)](#)
6. Summer conference planning update; [David Kall \(FHWA\)](#) (5 min.)
 7. Reports: *Analysis* and *Technology and Behavior* Subcommittees; [Jenny Narvaez \(NCTCOG\)](#), [Ann Xu \(DOE\)](#) (10 min. total)
Handouts available on EPA and FHWA updates provided in the Analysis subcommittee meeting
 8. Report on sessions and workshops sponsored by ADC20 this year ([Doug](#), 5 min.)
 9. TRB webinar opportunities; [Kevin Black \(FHWA\)](#) (5 min.)
 10. Website management update; [Mike Claggett \(FHWA\)](#) (5 min.)
 - Status of current website
 - Where to find archived material from past years
 11. NCHRP; [Lori Sundstrom \(NCHRP Manager, TRB\)](#) (10 min.)
 - Projects report: air quality studies recently completed, underway, and upcoming
 - Funding process review: who selects projects for funding, when, and how (criteria)
 12. TRB info sharing; [Christy Gerencher \(Sr. Program Officer, TRB\)](#) (5 min.)
 13. Information sharing about related TRB committees and/or other items (all, 10 min.)
 - Announcements from the committee
 - Announcements from the audience
 14. Review of ADC20 volunteer roles and appreciations for work in 2017 ([Doug](#), 5 min.)
 15. Adjourn (by 6:00 pm)

Transportation & Air Quality Committee (ADC20) of TRB

2018 Meeting Agenda Technology and Behavior: Emerging Fleet and Travel Impacts on Air Quality Subcommittee

Date: Wednesday, January 10, 2018

Time: 10:15 to noon

Place: Independence H (M4), Marriott Marquis, meeting room

Ann Xu, Advanced Research Projects Agency – Energy (ARPA-E, US DOE) (Chair, Technology and Behavior Subcommittee)

Kanok Boriboonsomsin (Vice Chair, Technology and Behavior Subcommittee)

Meeting Focus: trends and changes in travel behavior in the context of 1) shared mobility and 2) connected and mobile technology platforms, and the impacts of these trends on emissions and air quality

1. Introductions, handouts, meeting format and goals (15 minutes)

Ann Xu: Overview of the newly established Technology and Behavior Subcommittee

2. Read out from Fresh Air from Freight Workshop (15 minutes) (**Kanok Boriboonsomsin**)

3. Presentations (60 minutes) (30 minutes per speaker to allow for in-depth discussions)

a. Millennials, Shared Mobility and Implications on Emissions (30 min) (**Giovanni Circella**, Director, 3 Revolutions Future Mobility Program, UC Davis)

b. Technology-Influenced Behavior and Emissions Benefits (30 min) (**Lei Zhang**, Herbert Rabin Distinguished Professor, University of Maryland)

4. Next steps and appreciation for volunteer support (15 minutes)

5. Adjourn

Transportation & Air Quality Committee (ADC20) of TRB

2018 Meeting Agenda

Regional and Project-Level Air Quality Innovations and Resources

Date: Tuesday, January 9, 2018

Time: 10:15 to noon

Place: Independence H (M4), Marriott Marquis, meeting room

Jenny Narvaez, North Central Texas Council of Governments (Chair, Regional and Project-Level Air Quality Innovations and Resources Subcommittee)

Karin Landsberg, Washington State Department of Transportation (Vice Chair, Regional and Project-Level Air Quality Innovations and Resources Subcommittee)

Meeting Focus

- Near road data network
- Policy, national, technical, and project-level air quality updates
- Research needs identification and funding.

Agenda

1. **Introductions, handouts, meeting format and goals** (10 minutes)
2. **Presentations** (60 minutes) (10 minutes per speaker)
 - i. National-Scale Near-Road Monitoring Findings for 2016 (**Steve Brown**, Sonoma Technology, Inc.)
 - ii. MSAT Policy Update (**Victoria Martinez**, Federal Highway Administration)
 - iii. FHWA Update (**Cecilia Ho**, Federal Highway Administration)
 - iv. National Update (**Meg Patulski**, Environmental Protection Agency)
 - v. EPA's Motor Vehicle Emission Simulator (MOVES): Future Plans and Data Needs (**Megan Beardsley**, Environmental Protection Agency)
 - vi. Sketch Modeling VMT Reduction Strategies with the EPA's TEAM Approach (**Benjamin VanGessel**, Environmental Protection Agency)
 - vii. Reducing Toxics and Air Pollutants at the Community Level (**Doug Ito**, California Air Resources Board)
3. **Research Needs** (10 minutes)
4. **Next steps and Appreciation for Volunteer Support** (5 minutes)
5. **Adjourn**