Advanced Air Mobility and Community Outreach

January 27, 2025
2:00PM-3:30PM

NATIONAL ACADEMIES Sciences Engineering Medicine

TRB TRANSPORTATION RESEARCH BOARD

ACRP AIRPORT COOPERATIVE RESEARCH PROGRAM

Today's Learning Objectives

(1) Identify strategies and tools to help airport operators encourage and promote engagement with AAM operators, government agencies, and communities

(2) Discuss the emerging and best practices discerned from airports, industry stakeholders, public agencies, and communities for coordinating AAM-related community engagement

American Institute of Certified Planners (AICP)

1.5 Certification Maintenance Credits

You must attend the entire webinar to be eligible for credits

Log into the American Planning Association website to claim your credits

American Association of Airport Executives (AAAE)

1.0 Continuing Education Units (CEUs) are available to Accredited Airport Executives (A.A.E.)

Report your CEUs:

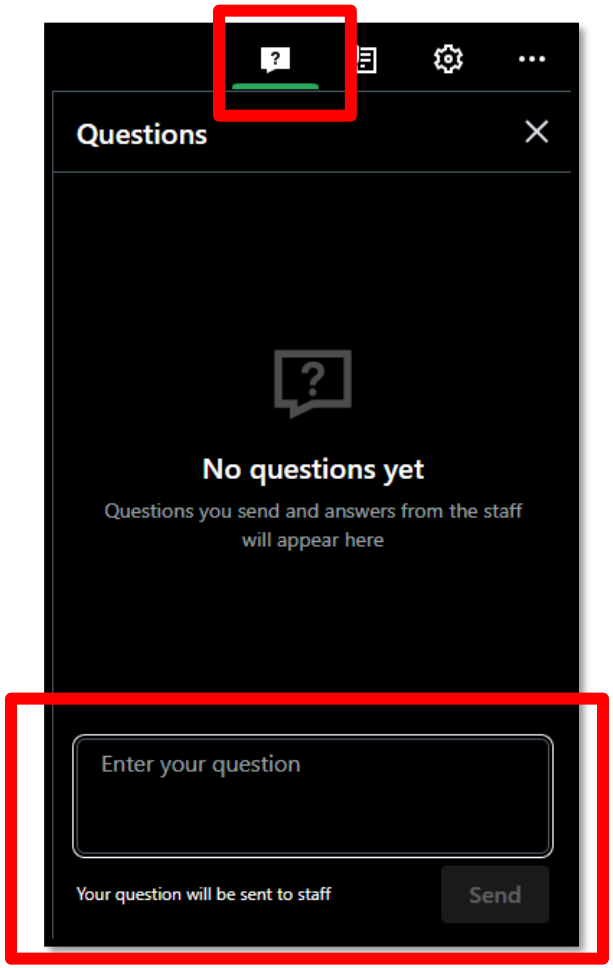
www.aaae.org/ceu

Questions and Answers

Please type your questions into your webinar control panel

We will read your questions out loud, and answer as many as time allows

#TRBwebinar



Sjohnna Knack, C.M
San Diego County Regional Airport Authority

- Director, Planning, Noise, & Environmental Affairs
- Responsible for airport master planning, corporate sustainability, environmental compliance, airport land use compatibility, and aircraft noise
- Co-Chair of AAAE Emerging Aviation Technologies Working Group
- Chair of the ACRP Report 261, Advanced Air Mobility and Community Outreach

Today's Speakers

Maranda Thompson
maranda.thompson@meadhunt.com
Mead&Hunt

Lisa Harmon
Lisa.Harmon@meadhunt.com
Mead&Hunt

Maranda Thompson, ENV SP
Principal Investigator

- Aviation Planning Manager
- Land Use Compatibility Policy Development and Stakeholder Engagement
- Heliport and Vertiport Siting
- AAM and Airport Electrification

Mead&Hunt

Lisa Harmon
Lead Planner

- Aviation and Environmental Planning
- Regulatory Compliance
- Policy Development
- Land Use Compatibility and Wildlife Hazards
- AAM and Space Port Development

Mead&Hunt

ACRP Report 261

Advanced Air Mobility and Community Outreach

Mead & Hunt

CAMI
Community Air Mobility Initiative

NATIONAL ACADEMIES Sciences Engineering Medicine
TRB TRANSPORTATION RESEARCH BOARD

ACRP AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP Report 261 Oversight Panel

Sjohnna Knack	San Diego Regional Airport Authority, Panel Chairman
Roy Fan	Frontier Airlines, Inc.
Rohini Kumarage	City of Austin (TX)
Kevin McDaniel	Capital Regional Airport Commission
Stephen Smith	Ricondo and Associates, Inc.
Anthony Tezla	Formerly with Hyundai Air Mobility Group (OEM)
Michael Branum	FAA Liaison
Christopher Oswald	Airports Council International, North America
Jeremy Valcich	American Association of Airport Executives
Sylvia Palmer	Airports Consultants Council
Andy Cebula	Airlines for America
Joseph D. Navarrete	ACRP Senior Program Officer
Stephanie Campbell	Senior Program Assistant

Research Problem

- **Advanced Air Mobility (AAM) is new with many unknowns**
  - New aircraft types
  - Diverse use cases
  - Operations at existing facilities
  - Dedicated facilities and routes in the future
- **AAM requires robust coordination and planning**
  - Involves diverse stakeholders
  - Community inclusion will be essential

Objective:

Identify emerging practices for successfully coordinating AAM-related community engagement.

Research Approach

State of the Practice Scan

Stakeholder Engagement

Case Studies

Scope of AAM

Emerging/Best Practices

Engagement strategies/toolkits

Results

State of the Practice Scan

- **What is known about AAM**
  - Industry basics (aircraft types, uses cases)

- **Research Gaps**
  - Role of stakeholders
  - Lessons learned from surface transportation
  - Similarities and differences between AAM and traditional aviation
  - Addressing airport land use compatibility considerations
  - Identifying stakeholders and community-based organizations
- **Application to Primer**
  - Primer chapter (AAM 101)

Peer Exchanges

- **Stakeholder Engagement**
  - Initiated by industry representatives
  - Depends upon proposed use case
  - May begin with small/targeted groups
  - Customize engagement type and messaging to the specific stakeholder/audience
- **AAM Use Cases**
  - Must meet a community need
  - Part of a multi-modal solution
- **Education**
  - Simulations and demonstrations are effective
  - Funding to support outreach is important

Case Studies

Agency Name	Type	Engagement Activities
North Central Texas Council of Governments (NCTCOG)	RTPA*	• Unmanned Aircraft System (UAS) Task Force (ongoing monthly working group meetings) • Workforce Development Consortium
City of Orlando, Florida	City	• Preparing a dedicated AAM Transportation Plan • Participant in the National Aeronautics and Space Administration's (NASA's) Community Annex
City of Los Angeles, Department of Transportation (LADOT)	City	• AAM Integration: Primer for Cities (2022)
City of San José, California	City	• Participant in 38-city mobility working group • Completed AAM Integration Case Study for the American Association of Airport Executives (AAAE)

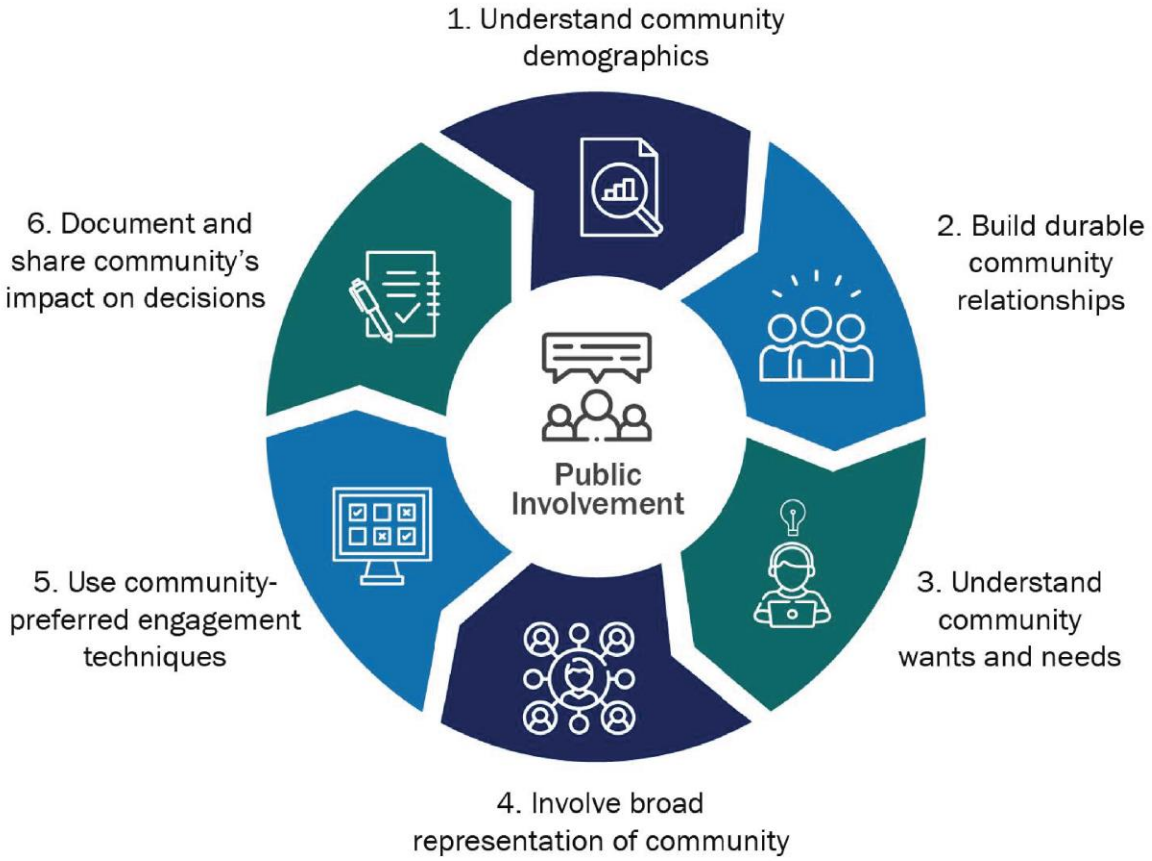
Case Studies Findings

- **Build** off existing plans and frameworks
- **Understand** agency roles and responsibilities
- **Define** the extent of stakeholder outreach
- **Explore** the value of AAM in the larger context of mobility and economic benefits
- **Apply** customized engagement techniques
- **Identify** data gaps and additional research

Examples of Stakeholders

- **Community**
  - Neighborhood groups
- **Federal / State Agency**
  - National Aeronautics and Space Administration (NASA)
  - U.S. Department of Transportation (USDOT) and its modal agencies
- **Local / Regional Agency**
  - Municipalities (County / City)
  - Regional agencies
- **Industry**
  - Aircraft manufacturers or service providers
- **Academia / Research**

Meaningful Public Involvement



Source: USDOT, 2022. Promising Practices for Meaningful Public Involvement in Transportation Decision-making.

Application

AAM Basics

- What is AAM?
- Where will AAM aircraft land?
- What are the potential benefits of AAM?
- How will AAM be integrated into airports?
- How will AAM be integrated into communities?
- What is the timeframe for AAM deployment?
- Will funding be available for AAM infrastructure?
- What is the status of AAM legislation?

AAM Basics (continued)

WHAT IS AAM?

Advanced Air Mobility Basics

WHAT IS AAM?

AAM is not a single technology, but a collection of new and emerging technologies that is being applied to the overall transportation system. Notional AAM use-cases include Urban Air Mobility (UAM), Regional Air Mobility (RAM), public services, large cargo delivery, and private or recreational vehicles. The objective of AAM is to move people and cargo between places more effectively, especially in underserved local, regional, urban, and rural environments. As AAM matures, AAM has the potential to provide customers with access to air mobility, goods delivery, and emergency services through an integrated and connected multimodal transportation network.

The intent of AAM is to move people and cargo between places more efficiently and sustainably.

WHEN WILL AAM START?

AAM is anticipated to begin in the U.S. within five years of FAA certification of the use of piloted AAM aircraft in specific locations. Although operations will be limited at AAM initiation, the volume of operations will continue to increase and become increasingly automated over time. Industry experts refer to this as phasing as emerging (crawl), growing (walk), and maturing (run) approach.

WHO WILL USE AAM?

AAM is envisioned to provide a variety of public and private uses. These uses or "use cases" can include new opportunities for passenger mobility, logistics and goods delivery, emergency response, or disaster relief.

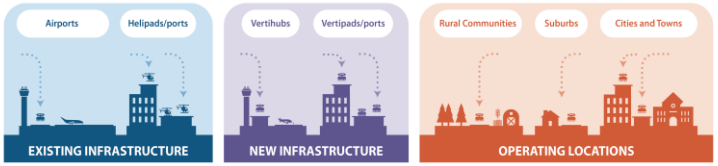
EMERGING	GROWING	MATURING
First 5 Years *(Short-Term)*	**5-10 Years** *(Mid-Term)*	**10+ Years** *(Long-Term)*
Testing, Federal Aviation Administration certification, and initial commercial use of piloted AAM aircraft in a few locations. Initial operations are conducted using new vehicle types that have been certified to fly within the current regulatory and operational environment	Piloted AAM operations could expand to additional locations with limited use of advanced / full automation. Higher tempo operations are supported through regulatory evolution and AAM corridors that leverage collaborative separation methodologies.	Operations could expand to numerous locations. Widespread advanced / full automtion is a common goal. New rules and infrastructure facilitate highly automated traffic management, enabling remotely piloted and/or autonomous vehicles to safely operate at increased operational tempos.
Development Testing Aircraft Certification Airspace Integration Infrastructure Planning/Development Stakeholder/Community Outreach Operational Readiness Low-Volume Operations	Expanding Markets Expanding Vertiport Infrastructure Increasing Network Sizes Ongoing Outreach Commercially Viable Operation Automation of Air Traffic Management Mid-Volume Operations	Expanded Markets Expanded Vertiport Infrastructure Increased Automation of Air Traffic Management and Vehicle Operations Frequent, High-Volume Operations

WHERE WILL FLIGHTS DEPART/LAND?

Initial AAM operations are envisioned to begin or end at an airport; initial passenger uses include transporting people between an airport and an urban center, another transportation facility, or nearby city. Since many VTOL aircraft do not require the use of runway to takeoff or land, AAM operations are envisioned to take off/land at new locations that have not been dedicated previously to aviation.

To support non-airport operations, new infrastructure known as vertiports or vertipads will be developed in locations that have not been previously associated with airports or heliports. Potential locations for vertiports/vertipads include rooftops in metropolitan areas, as part of multimodal transportation centers, where passengers can transfer to other modes, and dedicated vertiport/vertipad facilities.

New facilities are likely to be constructed in metropolitan and suburban areas to support air taxi/air shuttle services, and in rural and in remote areas to support regional air mobility, medical and emergency services. The FAA has released Engineering Brief 105 (EB-105), Vertiport Design, that describes the dimensions and requirements for future vertiports.



TYPE	DEFINITION & POTENTIAL	USES
Air Taxi/Shuttle Services	Provide short-distance air travel within a metropolitan region. Sometimes referred to as Urban Air Mobility (UAM).	- Single or multi-user air taxi - Air pooling - Personal flight - Corporate aviation (to and from corporate campuses) - Shuttles between Airports, city centers, and other transportation facilities (e.g., rail and intermodal stations)
Regional Air Mobility	Provide Transport between cities or from city centers to outlying areas (>50 miles). Potential to provide air transport to/from remote areas not usually served by aviation.	- On-demand transport between cities (city center to city center) or to outlying areas. - Regularly scheduled passenger transport
Emergency Services/ Emergency Response	Support emergency service providers (ambulance, firefighters, and police), utility providers, incident response, and medical support uses.	- Emergency medical evacuations to and between hospitals (from accident sites to medical centers) - Delivery of medical supplies and organ delivery - Support to search/rescue operations. - Post-disaster damage surveys - Delivery of supplies following an emergency - Humanitarian support
Cargo/Freight Delivery	Transportation of cargo, freight among and between airports, distribution centers, retailers, and end customers.	- Small package delivery (last-mile delivery) - On-demand commerce -

Engagement Roadmap Overview

AAM ENGAGEMENT ROADMAP

A Stakeholder Engagement Communications Plan sets out a process to connect with your stakeholders and assess their response and feedback. This checklist can be used to create and execute a communications plan. It is supported by the materials in the accompanying Primer.

AAM Stakeholder Engagement Communications Plan Tips for an Effective Stakeholder Engagement Communications Plan:

- ☐ Assign a primary communication leader who will lead and be responsible for the communications process.
- ☐ Consider your audience when you plan the methods and timing of information releases (steps 2 through 6).
- ☐ Ensure that information is clear, easy to understand, and complete.
- ☐ Listen to the responses and reactions that you receive from your stakeholders. The goal is to involve them in the process, not just relay information.
- ☐ Track communications, responses and results to ensure that stakeholders are heard and their feedback is considered as the project moves forward.
- ☐ Follow up with your stakeholders to keep them informed and to allow them to see how their participation has helped shape the project.

Remember the Public Engagement Spectrum and use it to more meaningfully engage with your stakeholders.

IMAGES AND GRAPHICS
AAM City (Bottom of page) : Mead & Hunt, Inc. 2022
Stakeholder Engagement : Mead & Hunt, Inc. 2022. Based on : IAP2, Spectrum of Public Participation.
Other Icons and Graphics : Mead & Hunt, Inc. 2023

1 Identify a Leader/Champion

WHO will lead these efforts?

Identify who will lead communication efforts. Potential leaders include professional public outreach firms, representatives from project proponents, and local community representatives.

2 Establish Core Goals/Objectives

WHAT do you want to accomplish?

During this step, your agency or organization will identify and articulate the goals and objectives of the project, issue, or proposal in a manner that is meaningful to your agency or organization and the stakeholders you hope to reach.

3 Identify Stakeholders

WHO do you want to reach?

Based on the goals and objectives identified, your communications plan can be tailored to its intended audience. While all stakeholder groups are equally important, the design of the communications plan will vary depending on the intended audience.

For example, do you hope to reach:

- Other agencies?
- Elected officials?
- Local businesses?
- Underserved communities/groups?
- The general public?

4 Develop Key Messages

WHY are you reaching out?

The next step is to develop the key messages that you want to share using the previously determined goals and objectives and keeping in mind the stakeholders you want to reach. During this step, think about why you are reaching out to these stakeholders.

Are you:

- Informing?
- Looking for feedback?
- Setting up meetings or focus groups?
- Establishing a collaborative process?

5 Create Communication Materials

HOW and WHERE will you communicate?

It is time to create the communication materials. Remember to think about your intended audience and what types of communications will be best to reach them. Do you need to accommodate different abilities and languages to ensure you reach everyone in the stakeholder group?

Should you use:

- Social media?
- Printed materials?
- Telephone calls?
- Face-to-face meetings?

6 Develop Outreach Plan/Timeline

WHEN will you reach out?

It is important to think about sequencing – when to reach out to specific stakeholders. Are there certain stakeholders who should be contacted first, or before other stakeholders?

For example, reaching out to the general public about a proposed infrastructure project without communicating with local officials and planners first may cause decision makers and agencies to be caught off guard when community members contact them.

Consider the cadence of communications. Do you plan to have a single set of communications or regularly timed updates?

Ensure that various types of communications are timed to provide necessary background and education in advance of project-related schedules and decision making.

7 Perform and Document Outreach

WHAT did you do?

Conduct and document all outreach activities through recordings, notes, etc. Be sure to document who was involved in each outreach activity and the response provided.

Tracking communications, responses, and results helps ensure that stakeholders are heard and that their feedback is considered as the project moves forward. It is important to let people know what they and their comments can effect. Framing the conversation is critical at this stage.

8 Monitor, Assess, and Follow Up

WHAT did you accomplish?

Once you have launched your outreach plan, be prepared to monitor and follow up with stakeholders. Follow-up techniques may include providing opportunities for passive response, such as web-based comment sections or simply providing contact information, or for developing a more active response format that allows your agency or organization to solicit specific types of responses, such as a survey, a request for specific feedback, or focus groups/town halls.

Finally, maintain regular communications with your stakeholders to keep them up to date and maintain a collaborative approach to outreach.

Engagement Roadmap

- **Step 1: Who?**
  Identify who will lead communication efforts
- **Step 2: What?**
  Articulate the goals and objectives of the project, issue, or proposal
- **Step 3: Who else?**
  Define stakeholders to include
- **Step 4: Why?**
  Articulate why you are reaching out

Engagement Roadmap (continued)

- **Step 5: How and Where?**
  Create communication Materials
- **Step 6: When?**
  Define sequencing plan (when and how often)
- **Step 7: What?**
  Document outreach efforts and outcomes
- **Step 8: What's next?**
  Monitor and follow up with stakeholders

Communication Plan

Checklist

- Assign a primary communication leader
- Consider your audience
- Ensure that information is clear, easy to understand, and complete
- Listen to the stakeholder responses and reactions
- Track communications, responses, and results
- Follow up with stakeholders
  - Keep them informed
  - Show them how their input is shaping the project

AAM Stakeholder Self-Assessment

STAKEHOLDER SELF-ASSESSMENT SURVEY

Directions: Rate where you think the region is with respect to the process activities by checking the appropriate boxes.

Planning Process Activities	Level 1 Beginner	Level 2 Competent	Level 3 Proficient
Familiarity with AAM	☐ Limited familiarity with AAM concepts and the regulatory environment	☐ Emerging familiarity with AAM concepts and the regulatory environment	☐ Strong familiarity with AAM concepts and the regulatory environment
Establishing Vision and Goals	☐ Specific plans, projects, and strategies for AAM do not address broader agency goals and objectives	☐ Specific plans, projects, and strategies for AAM partially address broader agency goals and objectives	☐ Specific plans, projects, and strategies for AAM must address broader agency goals and objectives prior to moving forward
Setting Objectives for AAM	☐ Minimal role in AAM in planning and policymaking ☐ AAM plans, projects, and strategies are not developed using a "SMART"* approach ☐ Disconnect between agency objectives and strategies	☐ Limited role in AAM in planning and policymaking ☐ Some AAM plans, projects, and strategies are developed using a "SMART"* approach ☐ Partial linkage between agency objectives and strategies	☐ Notable role in AAM in planning and policymaking ☐ All AAM plans, projects, and strategies are "SMART"* and drive identification and selection ☐ Strong link between agency objectives and strategies
Defining Performance Measures	☐ AAM not linked to performance-based planning, implementation, and management	☐ AAM is linked to performance-based planning, implementation, and management	☐ Performance measures are well developed for most AAM objectives
Assessing Strategies and Programs to Support Institutional Readiness	☐ Public benefit is not considered as part of AAM planning and implementation ☐ Plans, policies, and programs do not reflect any broad vision for AAM	☐ Public benefit is somewhat considered as part of AAM planning and implementation ☐ Plans, policies, and programs reflect an emerging vision for AAM	☐ Broad public benefit is considered as a core component of AAM planning and implementation ☐ Plans, policies, and programs reflect the broad vision for AAM

Engagement Toolkit

- AAM Engagement Roadmap
- Stakeholder Self-Assessment Survey
- AAM Fact Sheet / Brochure
- AAM Slide Presentation and Talking Points
- Community workshop-in-a-box
  - Invitation Template and Example
  - Stakeholder Survey
  - Agenda Template
  - Sign-In Sheet Template
  - Feedback Form Template
- Educational Resources

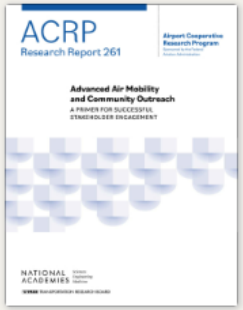
Engagement Toolkit (continued)

NATIONAL ACADEMIES Sciences Engineering Medicine

SEARCH GLOBAL MENU

NAP HOME BROWSE MYNAP HELP CART

Add to Bookshelf



VIEW LARGER COVER

Advanced Air Mobility and Community Outreach: A Primer for Successful Stakeholder Engagement

(2024)

Download Free PDF | Read Free Online | Buy Paperback: ~~$70.00~~ $63.00

Advanced air mobility (AAM) includes the use of new aircraft technologies to transport passengers and cargo, typically on demand. The AAM ecosystem will initially rely on existing airports, heliports, and routes, but in the future, new dedicated facilities and routes will likely be developed. The impacts of AAM may be far-reaching and affect many stakeholders.

[read full description]

Contributor(s): National Academies of Sciences, Engineering, and Medicine; Transportation Research Board; Airport Cooperative Research Program; Maranda Thompson; Lisa Harmon; Gemma Gibbons; Krista Robertson; Yolanka Wulff; Adam Cohen

If you or your organization are involved with TRB, log into MyTRB to secure potential publication discounts.

RESOURCES AT A GLANCE

Appendix C: Stakeholder Engagement Toolkit

FOR ADDITIONAL INFORMATION

Maranda Thompson
Maranda.thompson@meadhunt.com
Mead&Hunt

Today's Speakers

Maranda Thompson
maranda.thompson@meadhunt.com
Mead&Hunt

Lisa Harmon
Lisa.Harmon@meadhunt.com
Mead&Hunt

Subscribe to the newsletter for the most recent TRB news & research:

https://bit.ly/ResubscribeTRBWeekly

Get involved with TRB

Receive emails about upcoming webinars:
https://mailchi.mp/nas.edu/trbwebinars

Find upcoming conferences:
https://www.nationalacademies.org/trb/events

@NASEMTRB

@NASEMTRB

Transportation Research Board

Get Involved with TRB

Be a Friend of a committee bit.ly/TRBcommittees

- Networking opportunities
- May provide a path to Standing Technical Committee membership

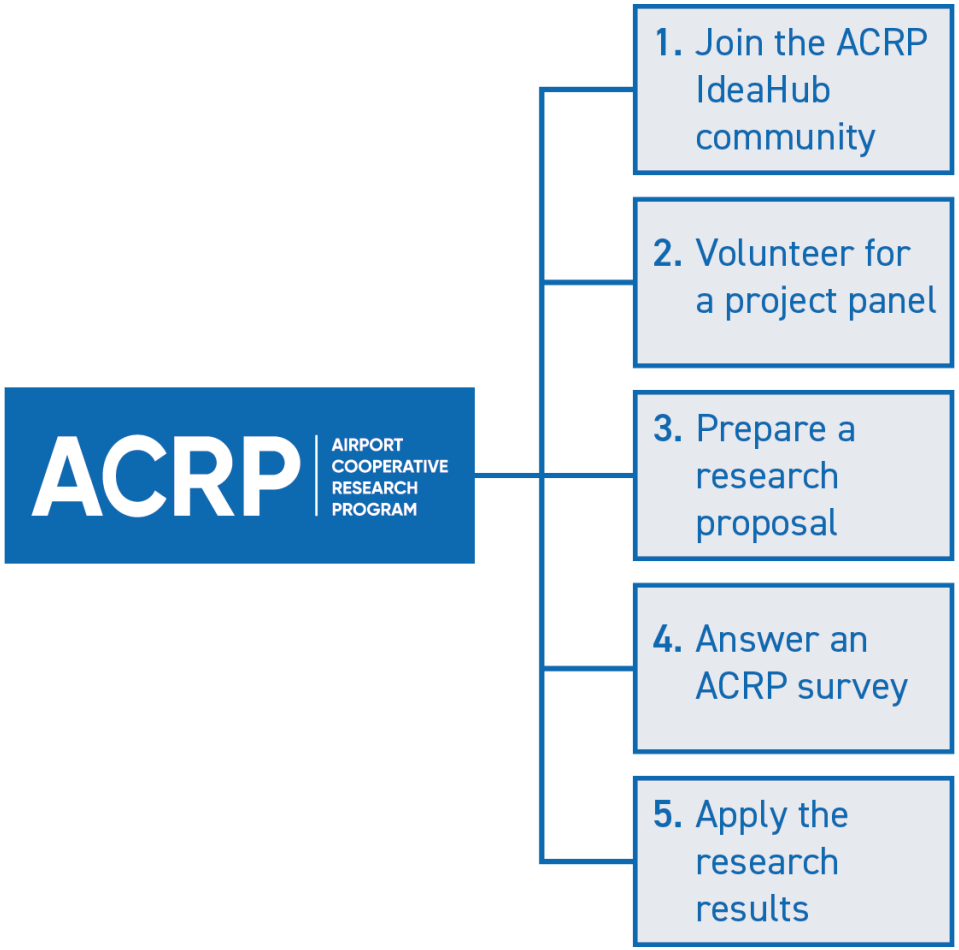
Join a Standing Committee bit.ly/TRBstandingcommittee

Work with CRP https://bit.ly/TRB-crp

Update your information www.mytrb.org

Getting involved is free!

Get involved with ACRP



Visit us online:

www.trb.org/ACRP

ACRP Recorded Webinars

Have you missed a past ACRP webinar that you wish you could have attended?

No worries! All ACRP webinars are recorded and posted to TRB's website for viewing at any time.

There are over 100 webinar recordings on a variety of aviation topics available to you at:

https://www.nationalacademies.org/events
Select "Past Events" tab and search for "TRB Webinars".