



Connected and Automated Transit Users Forum

2024 Purpose-Built Vehicle RFI
Industry Overview

January 10, 2024



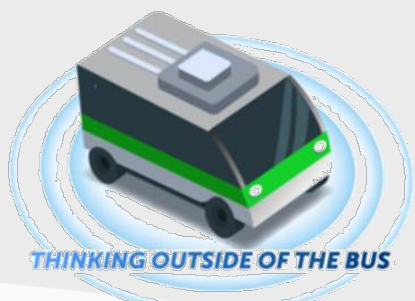
TODAY'S MODERATORS



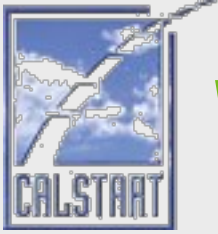
Maureen Marshall
CALSTART
Senior Director - Midwest
(248) 977-9523
mmarshall@calstart.org



Matt Stadnik
CALSTART
Program Manager – Advanced
Vehicle Technologies
(301) 367-9909
mstadnik@calstart.org

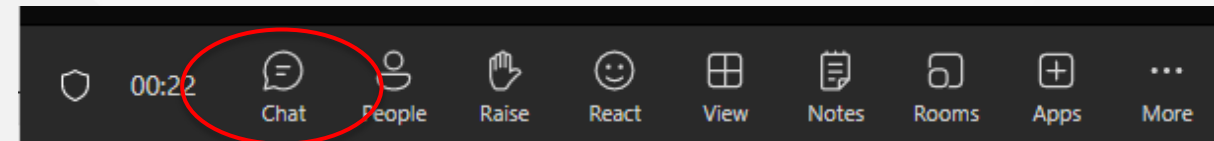
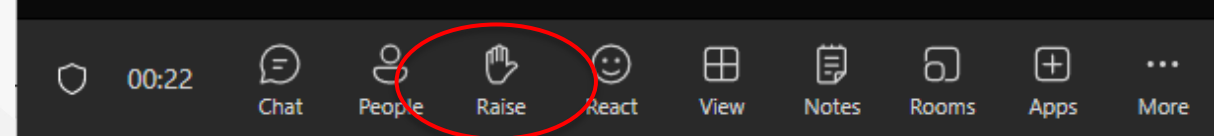


Planning today for tomorrow's transit future.



WEBINAR LOGISTICS

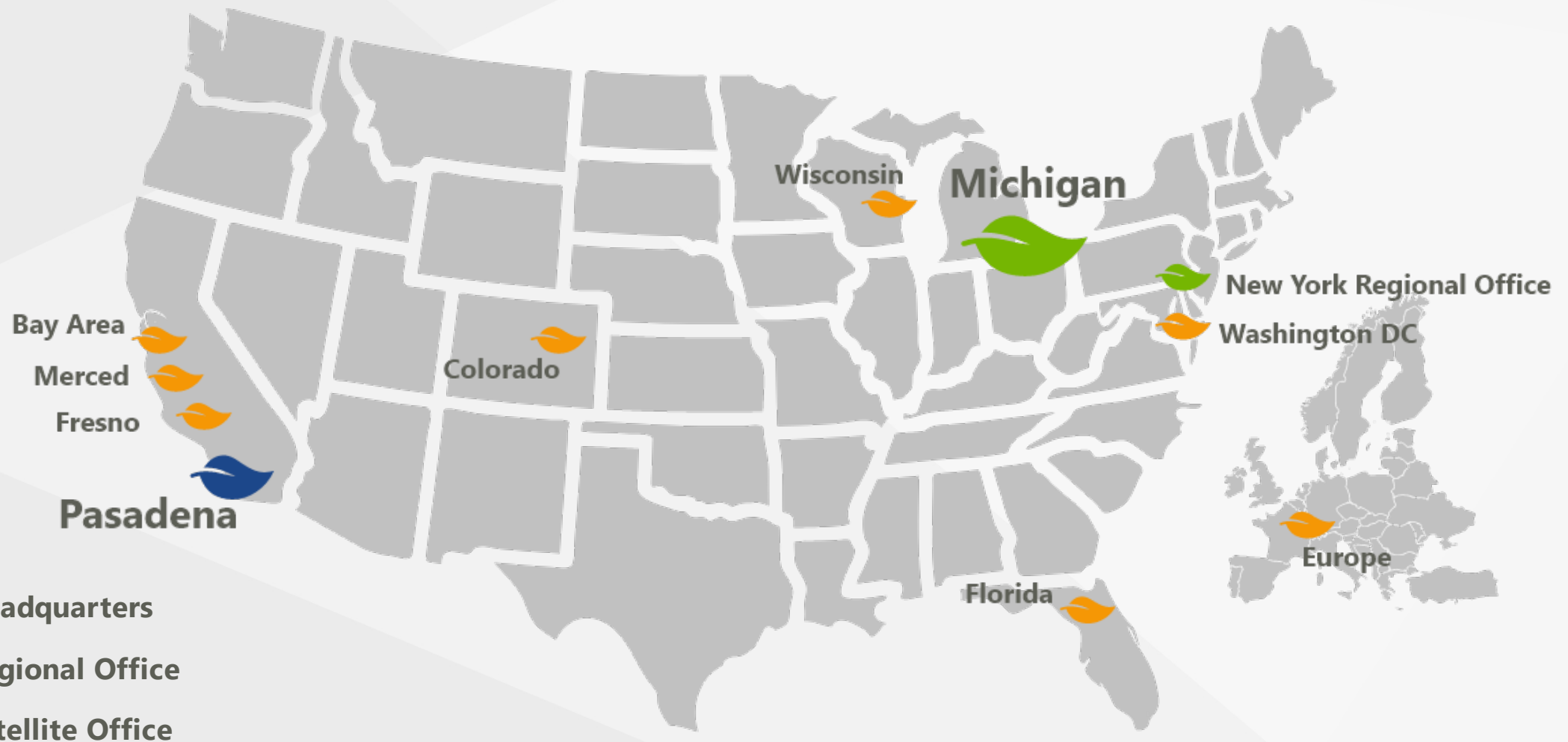
1. THIS MEETING WILL BE RECORDED
2. TO ASK A QUESTION OR PROVIDE INPUT DURING THE CALL, PLEASE USE THE RAISE HAND FUNCTION TO BE CALLED ON
3. OR TO SHARE YOUR QUESTION USE THE CHAT BOX



All Questions and Answers will be recorded and posted at www.catuf.org



A Global Organization Transforming Transportation for Good



Headquarters



Regional Office



Satellite Office

Over 325 Members





CONNECTED AND AUTOMATED TRANSPORTATION USERS FORUM (CATUF) - COHORT

Agency input and guidance on Transit Agency Needs, Design, Key Performance Parameters and Requirements

- Agencies are piloting transit AVs that do not meet standard operational needs
- Special focus on safety, crashworthiness and accessibility that meets needs of transits at a national level



Curb vehicle weight	29,330 lb (13,300 kg)
Gross vehicle weight (with full passenger capacity)	40,350 lb (18,300 kg)
Average vehicle weight (used in the model)	35,273 lb (16,000 kg)
Vehicle size	40 ft
Vehicle capacity	39 seated, 37 standing
Engine size	280 hp (209 kW)
Engine efficiency	96%
Final drive efficiency	95%
Engine response time	14 s
Frontal area	7.7 m ²
Rolling coefficient	0.015
Rotating mass factor	1.15
	0.7
	0.2
	0
	0 km/h



CATUF was established in 2018 which has led to a COHORT of more than 20 transit fleet operators





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV COHORT



Maryland
Transportation
Authority



JACKSONVILLE
TRANSPORTATION
AUTHORITY





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Purpose and Intent:

- Begin a dialogue with key stakeholders (e.g., vendors, OEMs, suppliers)
- Focused on the key design and performance parameters – derived from transit agency input, guidance and direction
- Moving the activity beyond pilots to commercially deploying a transit AV
- Gain an understanding of the current industry and product availability



Leading to several vehicle deployments across the United States



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Solicitation:

- Open to all vendors, manufactures, suppliers, engineering firms and their partners
- Feedback on key design and performance parameters
 - Mandatory requirements (i.e., automation, compliance)
 - ‘Nice to have’ requirements (i.e., video communications)
 - Local and regional requirements (i.e., safety)
- Submissions should attempt to address all KPP’s and provide adequate supporting information



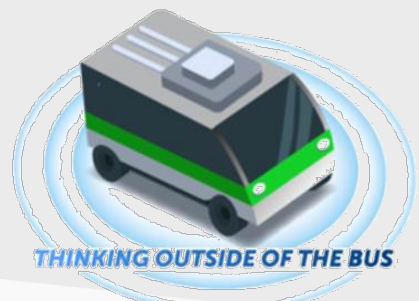
All Design and Key Performance Parameters were shared within the RFI



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Key Notes on Operation Design Domains and Safety:

- Vehicles must be highly reliable and flexible in nature to meet the needs of transit agencies
- Operational modes include, but are not limited to:
 - First/Last Mile
 - Circulator
 - Personal Rapid Transit (guard-railed operation or dedicated lane) or BRT
- Safety is paramount to the success of AV deployments and should be considered in all aspects of the design solution



Tomorrow's transit AV's will be a 'go – to' vehicle for at scale deployment



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

RFI Response Format:

- Responses should be limited to 25 pages (plus any supporting appendices)
- Responses should include:
 - Cover Letter
 - Body
 - KPP responses using shared Excel file
 - Rough order of Magnitude Budget
 - *Any appendices*



Industry's responses will shape the future of transit automation



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Cover Letter:

- Need all contact information
 - Point of Contact(s)
 - Address
 - Telephone number(s)
 - Email address(es)
 - Link to organization's website
 - Brief summary of your organization and experience related to autonomous vehicle and systems development





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Body:

- Clearly describe the vehicle solution(s)
 - *Providing a clear understanding of how the solution meets the KPPs (i.e. drawings, renderings and photos)*
- Technology Readiness Levels (TRLs)
- Detailed response to each of the KPPs
 - Solution
 - Reactions
 - Considerations
 - All applicable information
 - Reasoning if a KPP cannot be met and alternative solutions

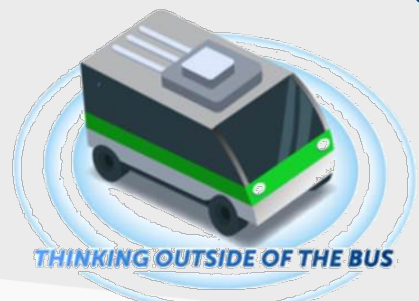




CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Rough Order of Magnitude:

- To the degree possible budget and timelines associated with the delivery your solution
- Considering the following and quantities and build types:
 1. up to 3 – prototypes
 2. up to 10 – pilots
 3. up to 50 - production units.



PLEASE NOTE: The ROMs will not be shared PUBLICLY



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Evaluation:

- Responses will be evaluated based on:
 - ☐ *Organization's knowledge and background in transportation and automation*
 - ☐ *Near term capabilities meeting design and KPPs*
 - ☐ *Ability to address each of the design and KPPs with innovative solutions that are achievable*
 - ☐ *Level of detail given in response to each of the KPPs*
 - ☐ *Ability to communicate openly about why a KPP could not be met and in doing so offering an achievable alternate solution(s)*





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Critical Dates:

- **Friday, January 12, 2024 (5pm EST):** Last day to submit questions.
 - All questions should go to: mmarshall@calstart.org
- **Monday, January 22, 2024:** All questions and answers will be compiled and uploaded to www.catuf.org
- **RFI Deadline - Monday, February 5, 2024 (5pm EST):** All RFI's to be submitted by this date





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Next Steps:

- RFI questions will be answered by January 22nd *(Please visit www.catuf.org)*
- RFI responses will be reviewed and compiled
- The CATUF cohort will review the responses
- Top responders will have an opportunity to showcase their solutions/products to the cohort during a scheduled webinar *(~Starting March)*

This effort is expected to lead to an RFP for vehicles





CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Funding Opportunities:

- ATTAIN Grant Program
- Deadline: February 02, 2024
- Funding Amount: \$120,000,000
- The ATTAIN Program will provide funding to develop model deployments of large-scale implementation and operation of a diverse set of advanced transportation technologies.



This effort is expected to lead to an RFP for vehicles



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Funding Opportunities:

- Rural Autonomous Vehicle Program
- Deadline: March 13, 2024
- Funding Amount: \$25,000,000
- Accredited universities are eligible to apply for this competitive, six-year cooperative agreement program. Recipients will use RAV program funding to conduct research regarding the benefits and responsible application of automated vehicles and associated mobility technologies in rural and Tribal communities. One \$15 million award will focus on passenger transportation, and a separate \$10 million award will focus on movement of freight to support and enable automated freight and delivery vehicles serving rural areas.



This effort is expected to lead to an RFP for vehicles



CATUF | 2024 PURPOSE-BUILT, TRANSIT AV RFI

Funding Opportunities:

- Active Transportation Infrastructure Investment Program (ATIIP)
- NOFO: Coming Soon With More Details
- Funding Amount: \$45,00,000 for Planning & Design and Construction Grants
- Construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines.

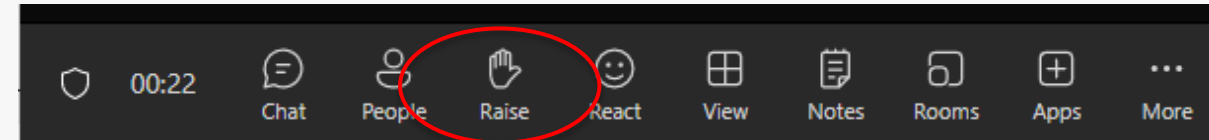
This effort is expected to lead to an RFP for vehicles



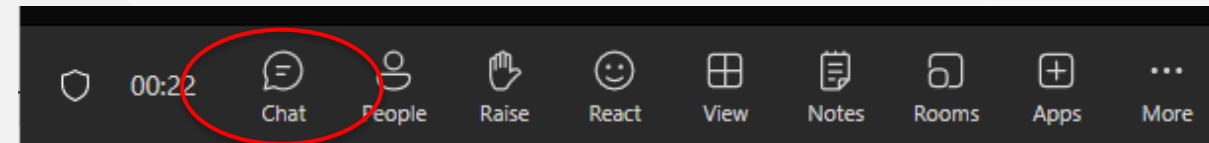


QUESTIONS AND ANSWERS

1. PLEASE USE THE RAISE HAND FUNCTION TO BE CALLED ON – LOCATED AT THE TOP OF THE SCREEN



2. OR USE THE CHAT BOX



All Questions and Answers will be recorded and posted at www.catuf.org

