

**CAT Coalition
Policy, Legislative, and Regulatory
Working Group
Webinar**

December 14, 2020

Welcome and Agenda Review

- Opening Remarks/Roll Call – 5 minutes
- Welcome – Paul Ajegba & Jennifer Toth – 5 minutes
- FCC Decision on Spectrum Reallocation –15 minutes
- Michigan’s Detroit to Ann Arbor CAV Corridor –20 minutes
- Update on Problem Statement Submitted to TRB Legal Research Program – 10 minutes
- Partner Updates – 15 minutes
 - AASHTO
 - ITE
 - ITS America
 - FHWA
- Other member updates – 5 minutes

FCC Decision on Spectrum Reallocation

Tim Drake, ITS America



Michigan's Detroit to Ann Arbor CAV Corridor

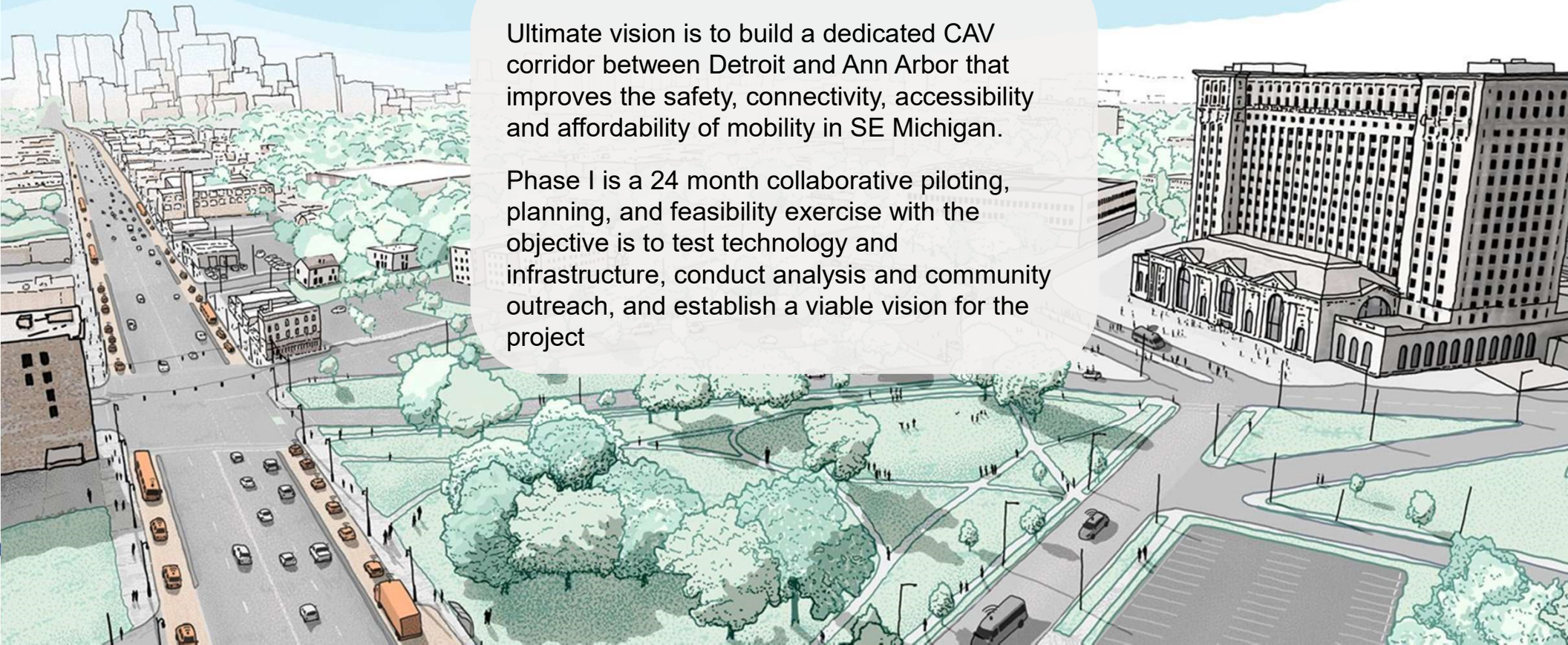
Collin Castle, MDOT

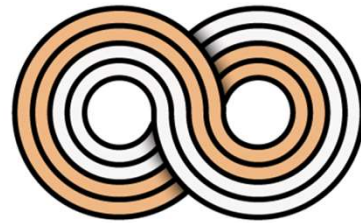


Michigan CAV Corridor Project

Ultimate vision is to build a dedicated CAV corridor between Detroit and Ann Arbor that improves the safety, connectivity, accessibility and affordability of mobility in SE Michigan.

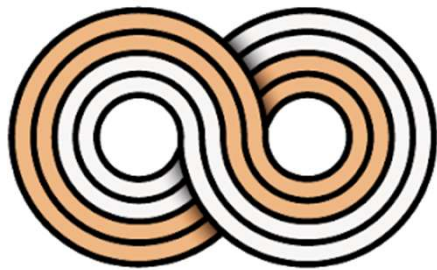
Phase I is a 24 month collaborative piloting, planning, and feasibility exercise with the objective is to test technology and infrastructure, conduct analysis and community outreach, and establish a viable vision for the project



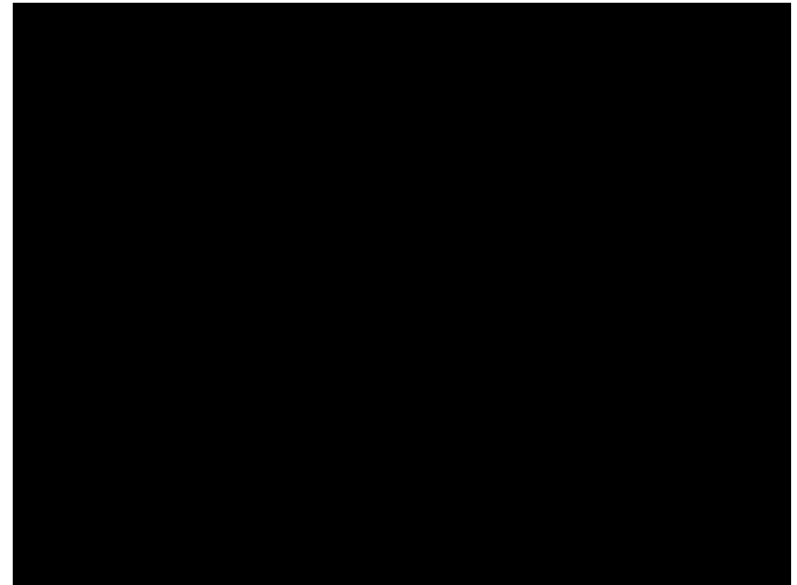


cavnue

The future of roads.



cavnue



Building the future of roads that are safer, more efficient, and improve transportation access, including dedicated rights of way for Connected Automated Vehicles.



Flagship Project Launched in Michigan

Cavvue Launch

Cavvue was officially launched out of stealth mode in August 2020 in Michigan to develop the future of roads.



Michigan Project Announcement

"The action we're taking today is good for our families, our businesses, and our economy as a whole. Here in Michigan, the state that put the world on wheels, we are taking the initial steps to build the infrastructure to help us test and deploy the cars of the future."

- Michigan Governor, Gretchen Whitmer



Governor of Michigan,
Gretchen Whitmer



Executive Chairman of Ford
Motor Co., Bill Ford

Who

Public Private Co-Creation Process



With involvement from a broad and growing set of additional partners:



OEM Advisory Committee

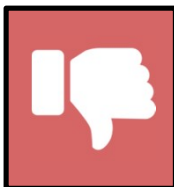


Why

There are two
disparate futures for
autonomous vehicles



*Integrated
Future*



*Siloed
Future*

What



Anatomy of a CAV Laneway

① Physical Infrastructure

- ↳ Well-maintained roadways
- ↳ Separation barriers to ensure efficiency and safety
- ↳ Enhanced, machine-readable markings, digital signage and signalling
- ↳ Enhanced maintenance to maximize pavement life, including levels of prediction and automation

② Digital Infrastructure

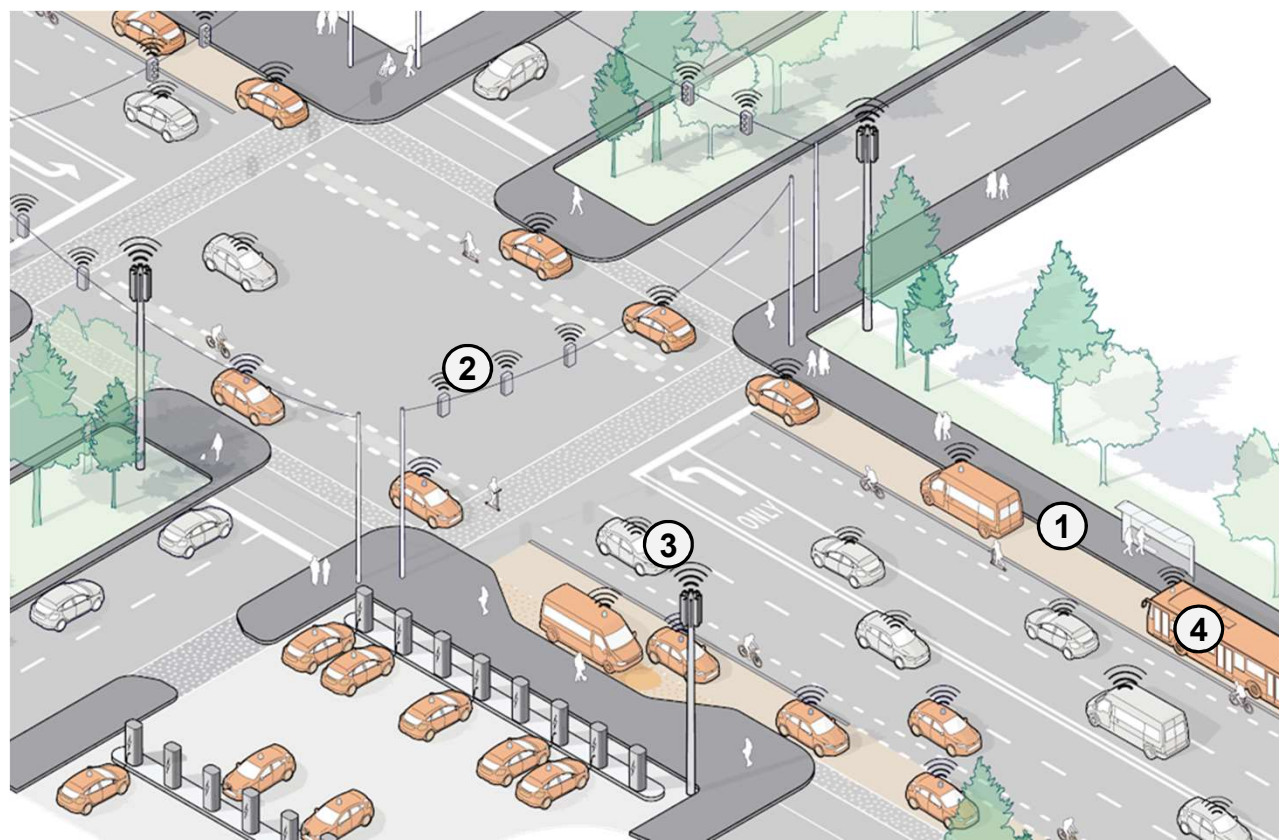
- ↳ Ubiquitous, highly reliable connectivity
- ↳ High-definition (HD) maps
- ↳ High accuracy ground-based GPS
- ↳ Road sensors for traffic, weather, road conditions

③ Coordination Infrastructure

- ↳ System to manage vehicle coordination and interoperability
- ↳ Ability for transportation authorities to set policy goals to maximize mobility and accessibility, and track their impact

④ Operational Infrastructure

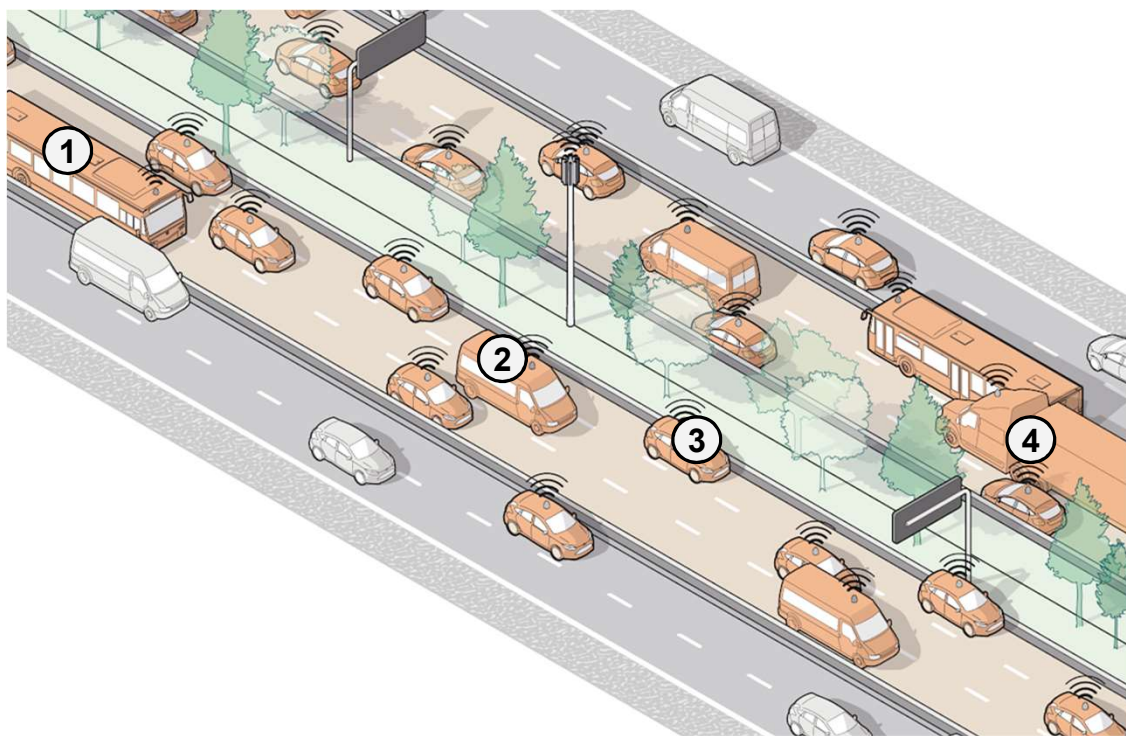
- ↳ Modified or purpose-designed connected autonomous buses or shared mobility vehicles to greatly enhance the performance and passenger experience
- ↳ Smart curbs, chargers and other supporting infrastructure



What



Project vision: A lane for everyone



A dedicated CAV laneway will have the flexibility and coordination capabilities to serve a wide variety of users

- 1 Public Transit Vehicles**
Bus rapid transit offering high frequency high efficiency routes with dedicated right of way
- 2 Shuttles**
Higher occupancy vehicles serving high demand destinations and employment centers
- 3 Personal Vehicles (Level 2+)**
Privately owned vehicles or robo-taxis with compatible L2+ technology
- 4 Freight Vehicles**
Commercial vehicles including heavy and light freight serving anywhere from long haul to last mile delivery

Where



40 Miles Across Southeast Michigan

Detroit-Ann Arbor Corridor
Illustrative Points of Interest and Potential Route Options



Why

Desired Benefits



Benefits to Individuals

- Safe, reliable, affordable high speed regional transit, providing connectivity to destinations including job centers not currently served through transit
- Increased optionality for more convenient, safe, faster trips for existing roadway users



Benefits to Michigan

- Improve on policy goals including improved accessibility for residents and visitors, safety, and sustainability of transportation options
- Upfront capital needed for mobility improvements
- Signal to industry of continued innovation in Michigan
- Improved connection and cross-pollination between three of top ten largest cities in the state



Benefits to Industry

- OEMs - open standards, smart infrastructure, and catalyst for CAV timeline
- Academia - access to cutting edge R&D, increase students connectivity with SE Michigan
- Local Businesses - low-cost, reliable commute options for employees, and increased accessibility for customers



Benefits to Cavnue

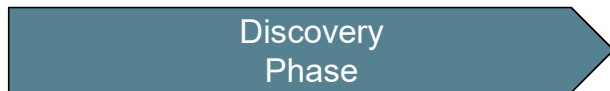
- Return on upfront capital
- Development of technology with long-term value
- Global deployments after proof-of-concept in Michigan

When

Project Roadmap



August 2020



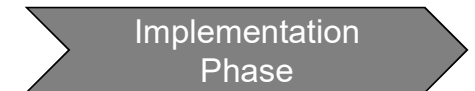
- What is this?
- What outcomes are we hoping to achieve?
- Where will it go?
- Who is this for? And what value does it provide?

March 2021



- What technology is needed to deliver the product?
- What partnerships are required to enable this (OEMs, suppliers, other vendors)?
- What policy and legislation is needed to enable the business model?
- Who will own and operate what?

December 2021



- Begin engineering design for prototype and additional studies for future phases
- What does an implementation agreement with MDOT entail?
- How will the product be financed?



Key Moments of Public Engagement ★

How



Project Working Groups

Phase I is a 24 month collaborative piloting, planning, and feasibility exercise with an objective to test technology and infrastructure, conduct analysis and community outreach, and establish a viable vision for the project across five topic areas:

Working Groups



Technology + Infrastructure

Design the infrastructure technology stack necessary to accelerate and scale the deployment of CAVs for shared mobility, personal transportation and freight use cases.



Policy + Regulation

Align on key principles and goals and evaluate necessary policy and regulatory changes at the federal, state, and local levels.



Community Engagement + Economic Development

Run a successful community engagement process, as well as demonstrate potential economic benefits associated with the project to impacted stakeholders.



Financing + Operations

Develop a robust business plan to design and deploy the project.



Planning + Design

Determine the staging of planning, construction, and development, and advance design, development, permitting, and approvals for the project.

Update on Problem Statement Submitted to TRB Legal Research Program

Pat Zelinski, AASHTO

**SUGGESTED FORMAT
FOR
TOPICS RECOMMENDED
FOR NCHRP PROJECT 20-06
*Legal Problems Arising Out of Highway Programs***

TITLE:

Multistate Coordination and Harmonization for AV Legislation

SUBMITTED BY:

Paul Ajegba, Director, Michigan DOT
On Behalf of Cooperative Automated Transportation Coalition (CAT Coalition) Working Group on Policy, Legislation, and Regulation

SCOPE:

More than two-thirds of states have enacted automated vehicle (AV) legislation, an executive order about AV, or both, resulting in a patchwork of legislation across state borders. However, these state laws haven't been enacted in coordination. AV laws and regulations differ in many aspects, including licensing, operator requirements, insurance, platooning, cell phone use, crash reporting, passenger restrictions (e.g., school buses), and operational restrictions (e.g., weather). AASHTO plays a crucial role in the development of highway standards that transition into federal and state law. Conversely, there are no federal laws regarding vehicle title and registration. Consequently, AAMVA's guidelines are voluntary and seemingly more difficult to incorporate into state laws. Differences in state AV laws can lead to friction in state border crossings and have negatively impact transportation safety and how companies deploy, as they focus their attentions on only a select set of locations across the nation. Without a consistent framework to deploy this life saving strategy unilaterally, AV technology will not be achieved nationwide.

USDOT's *Automated Vehicles 3.0: Preparing for the Future of Transportation and Automated Vehicles 4.0: Ensuring American Leadership in Automated Vehicle Technologies* documents include principles to "modernize regulations" in order to promote efficient markets. By promoting "regulatory consistency among State, local, tribal and territorial, and international laws and regulations ... AVs can operate seamlessly nationwide and internationally."

A TRB *Legal Research Digest* should propose a potential path forward for national harmonization of AV laws, with special consideration to which laws and regulations need to be harmonized to better encourage seamless national deployment and operations of highly automated vehicles. This path forward may include some or all of the following:

- A framework for all states to follow (e.g., focus on permitting shuttles first, then trucks, and so on).
- Identifying where state and federal compatibility seems to conflict, and the potential impacts of preemption issues.
- Providing specific language that states should use depending on what their needs on. For example, if they want freight first, use this language, if they prefer shuttle services, this is what they should say.
- Legal assessment of how legislation applies to commercial motor vehicles
- Review of traffic laws uniquely applicable to or dependent upon human drivers – Consideration to NCHRP 20-102(07) Implications of Automation for Motor Vehicle Codes
- Legal guidance on road design and maintenance – in a review of the NSCL AV legislation database last year, it was determined no state legislation identifies parameters for road design or state of maintenance and there is little guidance regarding measure of assessment that should be used. Consideration to NCHRP Project 20-102(06) Road Markings for Machine Vision and NCHRP Project 20-24(112) Connected Road Classification System.
- Examination of model state AV legislation that is being proposed by multiple groups.

This project should build on, not duplicate, the National Conference of State Legislatures (NCSL) work to track AV legislation that has been introduced in all 50 states and the District of Columbia. It should also coordinate with similar projects, such as the New England CAV Working Group's project to take a deep dive into the state AV laws and other laws likely to be impacted by AV in those six states.

INFORMATION SOURCES:

NCSL Autonomous Vehicles Legislative Database <https://www.ncsl.org/research/transportation/autonomous-vehicles-self-driving-vehicles-enacted-legislation.aspx>

Legal study topics may be submitted electronically via [this link](#). Suggested legal topics may also be submitted by e-mail to nchrp@nas.edu with an attachment to the e-mail message in Microsoft Word format.

Additional Information

- Selection date hasn't been set yet, but probably mid Feb. 2021
- 20-06 Project Oversight Panel oversees all projects
- Typical budget: \$50,000-\$100,000
- If this project is selected, we can discuss with TRB staff how to coordinate with other related projects from our members

Partner Reports

USDOT

AASHTO

ITE

ITS America



Other Member Updates

Upcoming CAT PLR WG Webinars

- **February 24, 2:00-3:30 PM Eastern**

<https://us02web.zoom.us/meeting/register/tZMtfu2uqj8pEtdWtnUhgzIfYaTaiWoRhtN1>

- Douglas Shinkle, National Conference of State Legislatures
- Ann Marie Lewis, Alliance for Automotive Innovation

- **April 28, 2:00-3:30 PM Eastern**

<https://us02web.zoom.us/meeting/register/tZwpc-GtrjsrH9CeXvfZRccZ8GVRSazg89Qg>

- **June 29, 1:30-3:00 PM Eastern**

<https://us02web.zoom.us/meeting/register/tZMlcuquqzwiGta9L1jmM6hKpdnVPHX7akUC>

- **August 25, 1:30-3:00 PM Eastern**

<https://us02web.zoom.us/meeting/register/tZYpceivrjlpG9O8FCo5VI4HUwbxVIQJ41rZ>

- **October 19, 3:30-5:00 PM Eastern**

https://us02web.zoom.us/meeting/register/tZEtcuiqrj4qHd1oITieRX3Oydk6Oj_S44Sv

- **December 13, 1:30-3:00 PM Eastern**

<https://us02web.zoom.us/meeting/register/tZAud-CrqTkoHdziMQZtDG4yYZdJzVpJE9EE>

Any Other Business / Adjourn