

# Governor's Advisory Council on Connected and Automated Vehicles

## Subcommittee on Accessibility

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# Welcome and Introductions



## Subcommittee Goals

## Subcommittee Goal

To formulate and recommend to the Advisory Council recommended changes to statutes, rules and policies related to accessibility, affordability, and greater access to transportation and independence for all.

# Subcommittee Process

- Participation
  - Meeting materials available on MnDOT website
  - Meeting updates at [www.dot.state.mn.us/automated/publicmeetings.html](http://www.dot.state.mn.us/automated/publicmeetings.html)
  - Participate in a meaningful way
- Discussion
  - Consider the themes of safety, risk, equity and environment
  - Consider immediate, short-term outcomes
- Recommendation
  - Clear, consensus-based recommendations (or reasons for differences)
  - Present recommendations to Advisory Council October 30th

# Subcommittee Charter

- Meetings open to the public
- Respectful discussion, opportunities to be heard and listen
- May submit written comments on comment cards
- Notes taken on consensus or summary of discussion
- Meeting notes approved by liaisons and sent to subcommittee members for additional comments
- Meeting evaluation emailed after meeting

# Key Dates

Public Survey

Tribal Government-to-Government Relations

Stakeholder and Public Engagement

June

July

August

Sept

Oct

Nov

Dec

Sept. 24  
Meeting

Oct. 1  
and 8  
Meetings

Nov. 1  
Draft  
Report

**Dec. 1  
Final  
Report**

**Oct. 30  
Advisory  
Council  
Presentation**



*Review of Executive Order & Goals*



# Governor's Executive Order Establishing the Advisory Council



# Governor's Advisory Council on CAV

Advisory Council

Interagency CAV Team

Transportation  
Infrastructure

Cyber Security  
& Data Privacy

Vehicle  
Registration,  
Driving  
Training,  
Licensing

Insurance and  
Liability

Traffic  
Regulations &  
Safety

Economic &  
Workforce  
Development,  
Business  
Opportunities

Accessibility  
and Equity

Land Use &  
Planning

Public  
Feedback

Public  
Feedback

Public  
Feedback

Public  
Feedback

Public  
Feedback

Public  
Feedback

Public  
Feedback

Public  
Feedback

# Advisory Council Priorities



# Advisory Council Goals

1. **Brand** Minnesota as a place to test and deploy CAV
2. **Engage the public**
3. **Educate** the general public
4. **Develop actionable recommendations** to facilitate the adoption of CAV in a manner that enhances our quality of life, while providing flexibility to account for evolving technology
5. **Recommend mobility strategies**

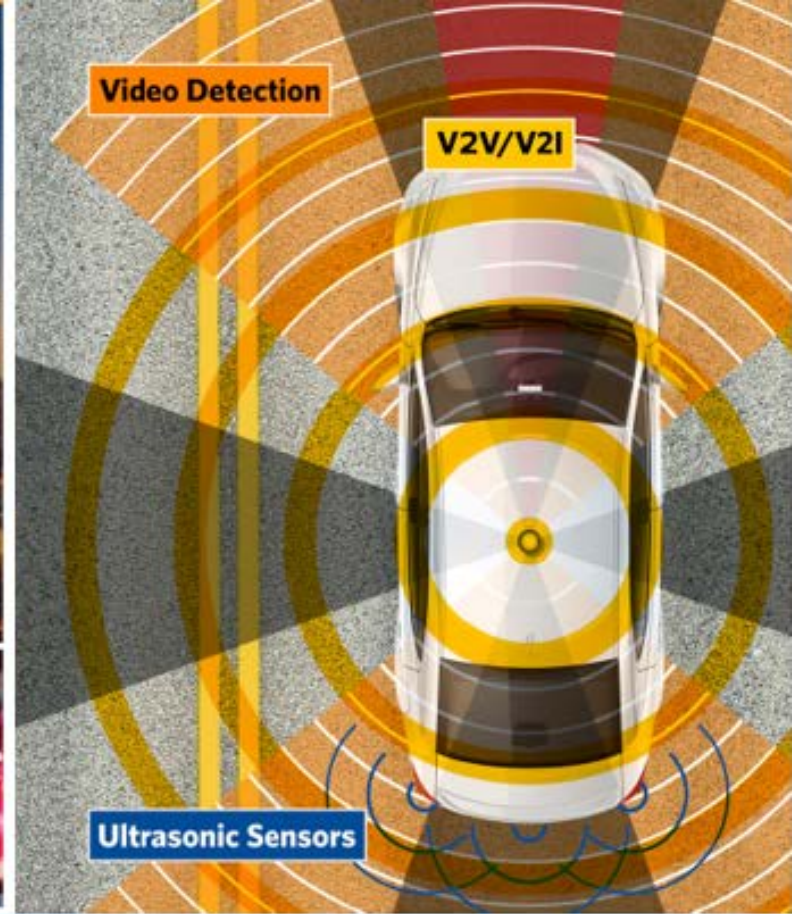
# Public Feedback Opportunities



# Interagency Team

- Policy position papers
- Branding
- Testing & Deployment
- Partnerships





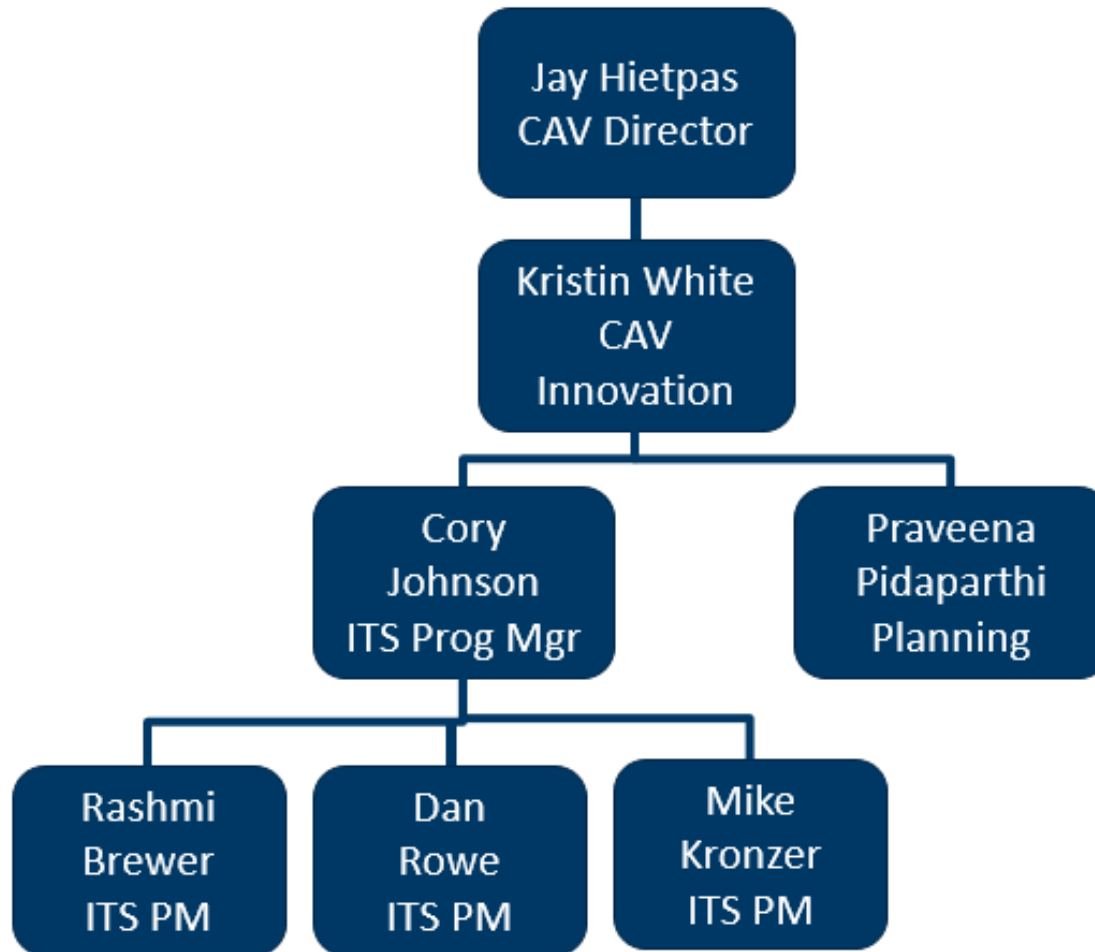
## Overview of Connected & Automated Vehicles



*Who We Are*



# MnDOT CAV-X Office





*Why We're Here*

# Automated Vehicles



Automated vehicles can **take control** of some or all aspects of **driving tasks.**

# Uses for Automation

## Types of **Automated Vehicles**



Passenger



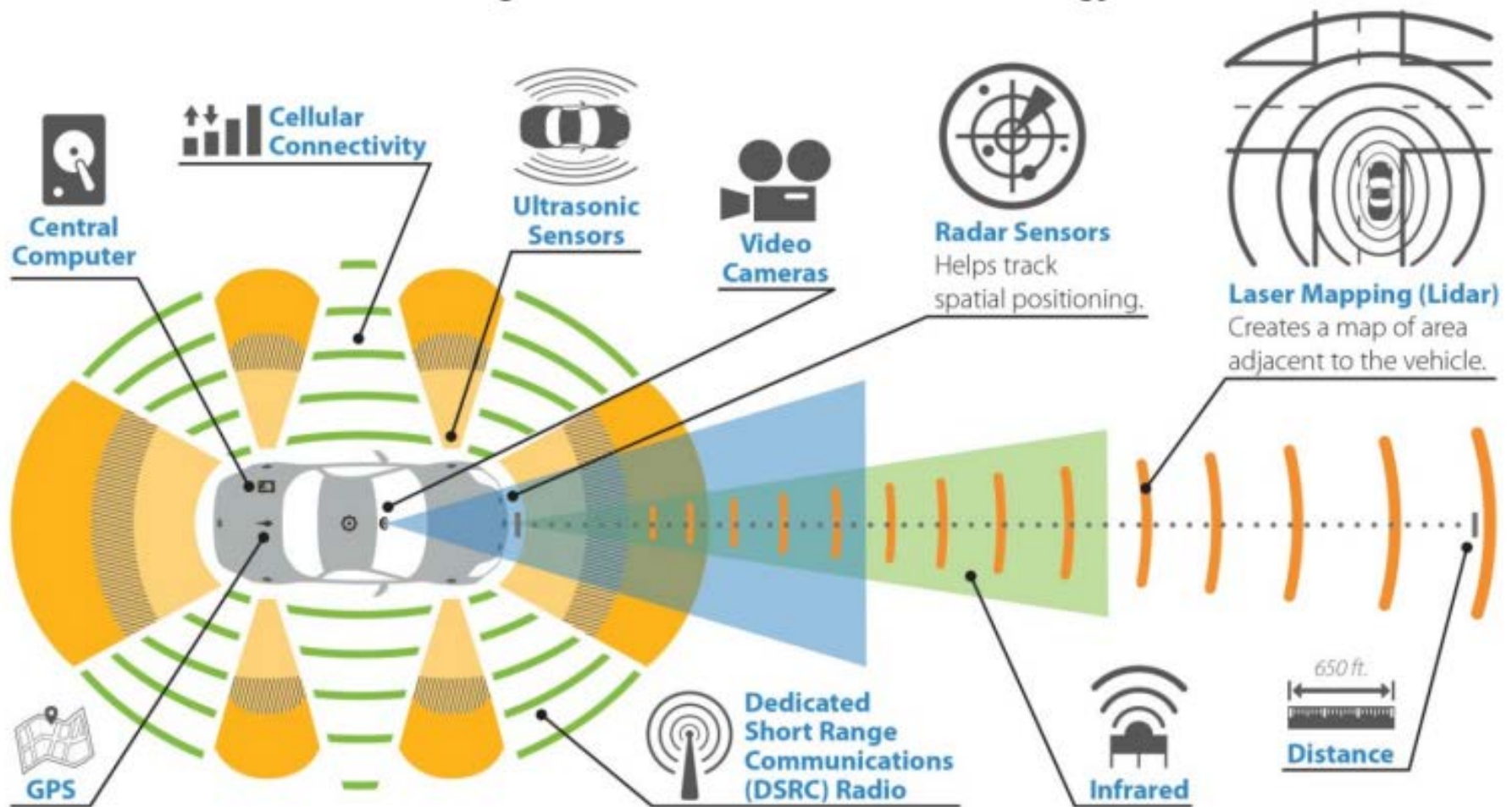
Commercial



Transit



# How does it work?





0

1

2

3

4

5

No  
Automation

Driver  
Assist

Partial  
Automation

Conditional  
Automation

High  
Automation

Full  
Automation

# Society of Automotive Engineers (SAE) Levels of Automation

# Types of Automated Vehicles

Available and Future **Automation**

## Today



### Levels of Automation:

Adaptive Cruise Control, Auto Emergency Braking, Automatic Lane Keeping, Partial "hands off"

## Future



### Levels of Automation:

Possibly no steering wheel, hands off technology

# Connected Vehicles



Connected vehicles **“talk”** to **infrastructure**, other vehicles, and potentially other modes (bikes, peds, transit)



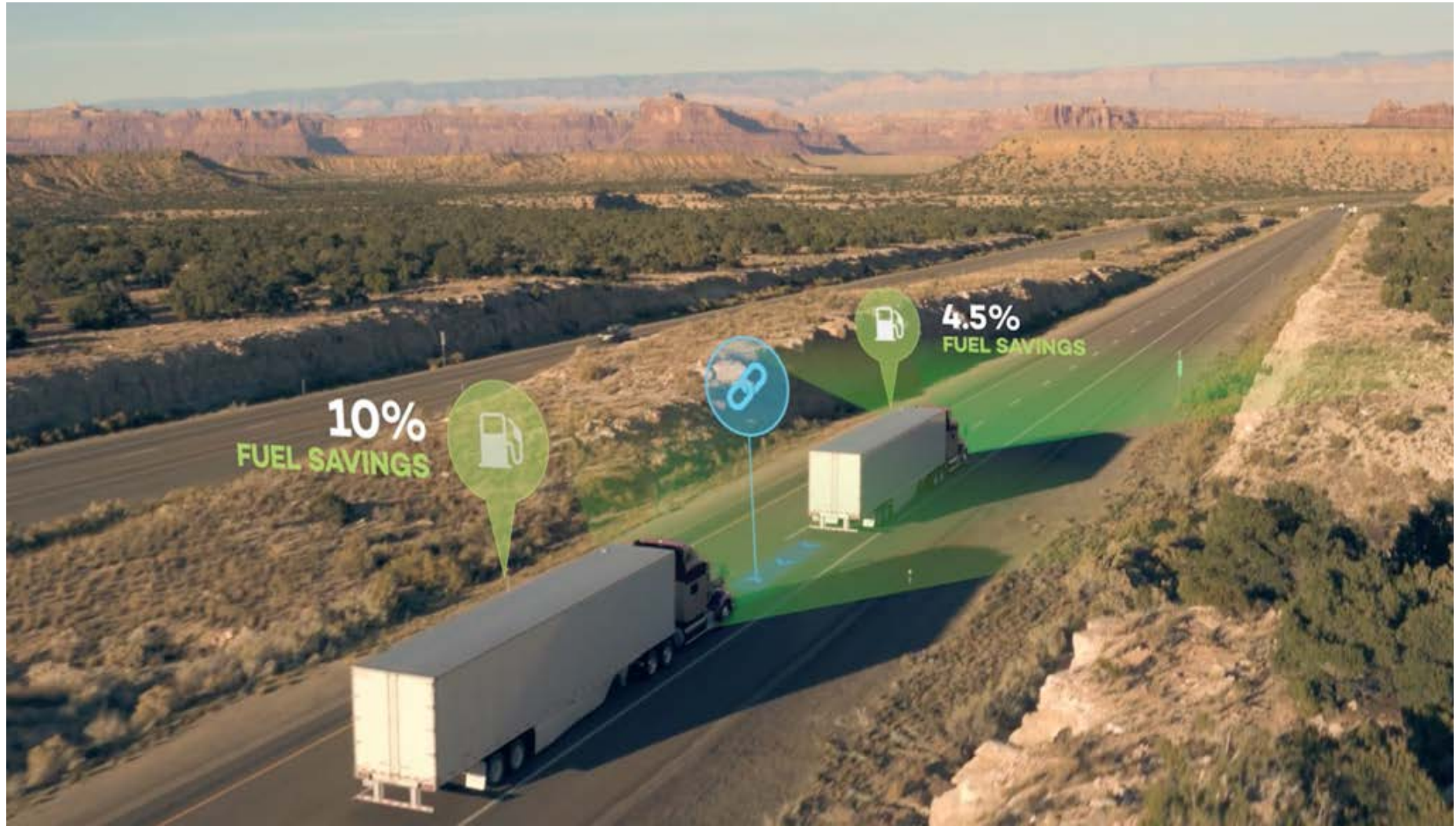
# Electric Vehicles



Majority of CAV being developed on **battery, solar, or electric-generator** platforms.



# Truck Platooning



# CAV Impacts

1. Increased safety
2. Infrastructure changes
3. Law and regulatory changes
4. Different titling and registration requirements
5. Changes to insurance premiums & liability
6. Greater mobility and equal access
7. Personal data and cyber security
8. Business and workforce opportunities
9. Public health impacts



*Liaisons - Accessibility Impacts*

# Accessibility Considerations

- Present status of
  - Urban
  - Rural
  - Rural Townships (populations of less than 1,000)
- Medical vs. Social Rides (school, work, church & friends)

# Accessibility Barriers

- Driver availability, especially on weekends and after-hours
- Affordability
- Accessibility: different needs for differently-abled (emotionally, physically, visually, etc.)
- No Lyft-like services for single trips
- Ride-share options
- Lack of cell phones or credit cards

# Accessibility Barriers (continued)

- GPS to find locations in remote areas
- Weather extremes, temperature, power access, precipitation
- User design of CAV
- Insurance coverage & liability issues
- Lack of legislative funding to support quality of life issues like transportation



# Minnesota's Transit System

- Minnesota has the 5<sup>th</sup> largest system of roads in the nation.
  - 143,318 miles to be exact!
- A variety of public transit options are available in the Twin Cities.
- Current public transit options in the Twin Cities include:
  - Regular and express bus routes, light rail transit, commuter rail, and bus rapid transit.
  - Dial a ride service is also available throughout the region.
- All 187 cities and townships in the seven county metro area have access to some form of public transit service.
- Ride services such as Uber, Lyft, or Transportation Network companies (TNCs).

# Learning Lessons

- Why is accessibility so important for CAVs?
- According to the CDC, approximately 1 in 4 people in the U.S. has a disability (or 81 million Americans).
- Transportation is key support that allows individuals to be able to live, work, and play in the community of their choice.
- We need to do it right with CAV, and learn lessons from the past. When the internet was invented it was not required to be accessible, which is the reason many websites are not accessible.

# Accessibility

- We need to make sure that these vehicles are accessible to all people with disabilities, aging, and veterans with disabilities.
- In passing the Americans with Disabilities Act, Congress sought to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities.
- There is a need for consistent federal and state guidelines to ensure that people with disabilities, aging, and veterans with disabilities are not prevented from operating these vehicles.

# Steering Without a Steering Wheel

- Level 4 and 5 vehicles do not have steering wheels
- There is a need to ensure that Level 4 autonomous vehicles may be operated by people with disabilities, particularly people with disabilities who are currently unable to obtain a driver's license.

# Potential Recommendations

1. No driver license or driver test required to operate CAVs.
2. Create disability coalition to ensure that these issues are addressed upfront in the planning stages and implementation stages as well.
3. Develop CAV pilot programs that includes people with disabilities, aging, and veterans with disabilities, with a focus on fostering independence.

# Self Driving Car



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# Discussion

- Topics
  - Review of themes and questions.
  - What are important topics for your liaison to present to the Advisory Council?
  - These topics will form the basis of today's discussion and draft recommendations to the Advisory Council.



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# Small Group Breakouts

# Breakout Session Directions

- Designate 1 recorder
- Designate 1 person to report-out
- Engage with participants in your group & ask questions
- Write thoughts on large poster or individual comments on post-it notes & add to poster

# Breakout Session Questions

- What themes and recommendations do you want the Council to share with the Governor & Legislature?
- What policy areas or themes do you want addressed in the 2019 Legislative session?

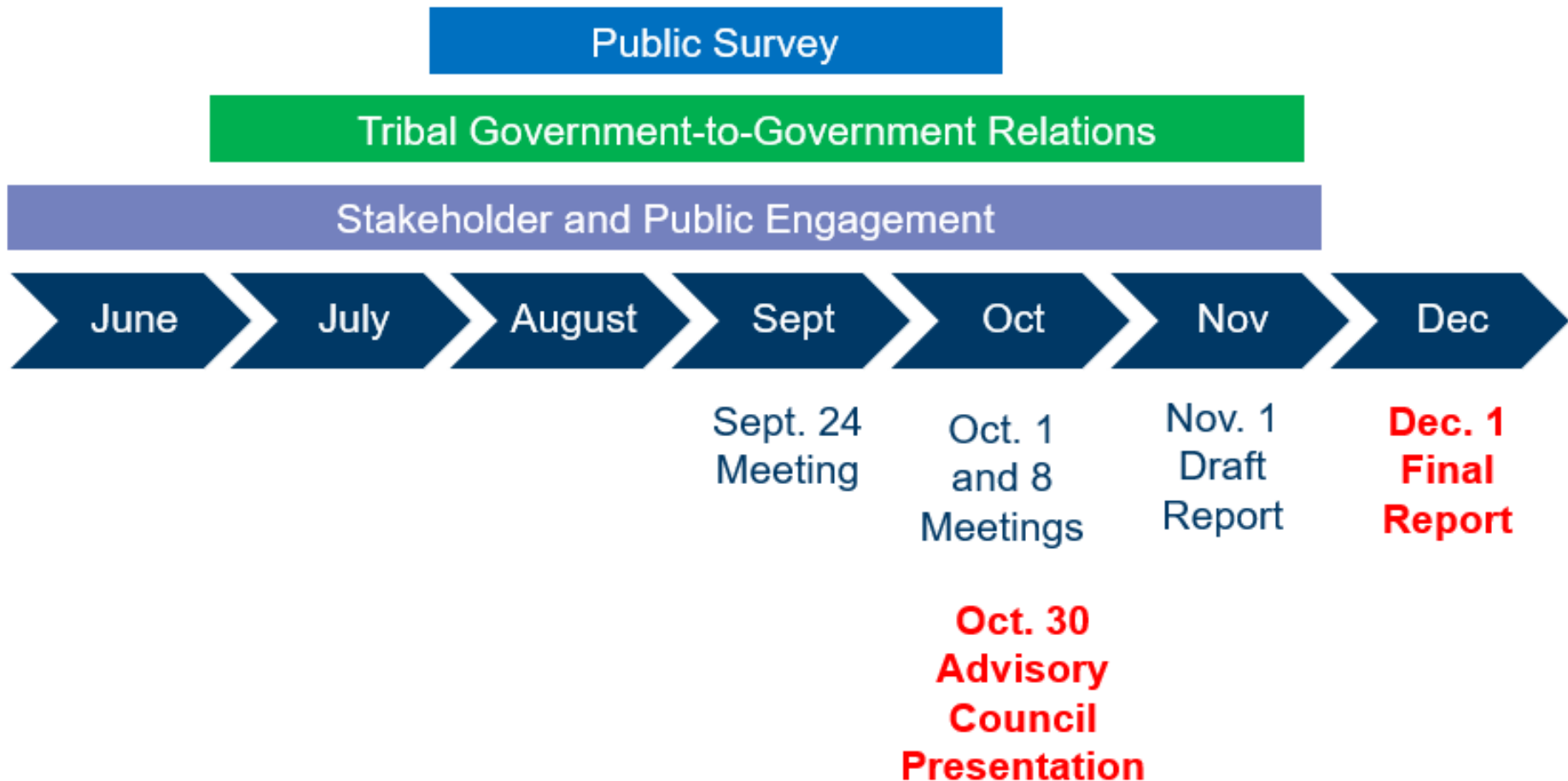
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# Next Steps & Closing

# Next Steps

- Comments and feedback via comment cards or [CAVfacilitators@mediationcentermn.org](mailto:CAVfacilitators@mediationcentermn.org)
- Participants review meeting minutes
- Post-meeting online survey
- Public CAV survey on [www.state.mn.us/automated/](http://www.state.mn.us/automated/)
- Next meeting if necessary
- October 30<sup>th</sup>: Present to Advisory Council

# Key Dates



# Thank you

**Liaisons:**

**Joan Willshire, MN Council on  
Disabilities**

**Myrna Peterson, Consumer**