

**Governor's Advisory Council on Connected and Automated Vehicles
Economic Development, Business Opportunities and Workforce
Preparation Subcommittee**

Meeting Notes

Meeting Date: August 21, 2018 10:00 AM-12:00 PM

General Meeting Notes

Summary of Comments from Liaisons

Economic Development

- Freight and product delivery
- Technology changes
- How do we compete in this space with what other states are doing? This is a crowded area. (Purdue Discover Park; Smart Cities; MI American Center for Mobility)
- Ideas: Moving people, moving freight, production of vehicles, product and supply chain, new businesses, workforce impacts and training, becoming and information center, testing and deployment. What could be MN's "specialization area?"

Workforce

- Public engagement is the most critical component. What are the long-term impacts to industry?
- Impact of labor and workers. The other states' CAV legislation doesn't include labor input
- Need to retrain and rebrand trucking industry
- Will have drivers for quite a while
- Long haul trucking, taxi service and other careers

Discussion of Key Questions (CAV-X Notes)

- Need to consider both federal and state legislation
- Need research and development
- Cost: building a supply chain or investment, where does the cost component come into this discussion? Return on investment of autonomous vehicles is an unknown, we will have to make some assumptions.
- CAV will mean dramatic changes from our current transportation needs, how do we develop revenue system which adapts to these changes, adequately funds our transportation needs and allows for emerging industry to grow?

- Impact to small businesses; “ma and pop” truckers
- Employment: interstate freight and what is authorized to haul interstate; different if driving a passenger car. Federal question ... what role does the Advisory Council have?
- Distinctions between private/commercial and public use
- Job training for younger people
- Training: technical for AV; could attract younger people into commercial driving
- Driver training standards, no commercial driver license training requirement
- MN is not creating MN specific standards that are barriers. Consider reciprocity/standards.
- Focus on automated and driver-assist, not driverless. The words we use are important
- Watch for emerging tech jobs, developing engineering and technical talent in MN?

Themes

- Policy considerations
- Impacted industries and workers
- Education and training considerations for the workforce
- Informing and educating the public and legislators
- Financial considerations: raising capital, investment opportunities and use of tax-payor dollars
- Interstate travel and movement
- Opportunities and areas strengths
- Cross-disciplinary expertise
- Equity, fairness, and impartiality regarding involvement, opportunities and gains

Economic Development

Policy

- Utilizing expertise and strengths in MN
- Developing new industries and strengths in MN
- Gap analysis regarding expertise
- Cross-disciplinary communication and involvement
- Technology: moving quickly
- “Unlock” intellectual property
- Public versus private – is there a current focus?
- Interstate travel: potential barriers
- Federal regulations/recommendations versus state regulations/recommendations

Impacted Industry Considerations

- Technology
- Hardware/software
- Automation
- Intellectual property

- Engineering
- Transportation: public and private
- Delivery services
- Tow trucks
- Small business (mom & pop shops, contractors), economic impact on
- Farming equipment
- Railroad

Education and Training

- Developing engineering and technical talent for IT and science industries
- Workforce shortages
- Apprenticeship programs for different sectors
- Bringing the training curriculum to MN for manufacturing and sales
- Training technicians for new technology

Financial considerations

- Investors
- Raising capital
- Startup companies
- Return on investment (ROI)
- Cost of development and implementation
- Including small business in the development and implementation of CAV

Employment

Policy

- Possibilities and probabilities for which workers need to prepare
- Accounting for workers' input during the policy consideration and implementation phases
- Engaging public and private sectors
- Leverage across platforms: research & development, cross-pollination
- Connectivity: considering MN as a whole, including Greater MN
- Involving contractors and small businesses
- Helping existing companies
- Liability

Impacted Industries

- Drivers
- Transportation
- Uber, Lyft (not present)
- Deliveries
- Tow trucks
- Utility companies

- Oil

Education and Training Considerations

- Training for emerging industries
- Helping existing companies

Financial & Capital Considerations

- Raising capital and investors
- Cost of development and implementation
- Use of tax payor dollars
- Cost of training development

Facilitators' Notes

Economic Development

Scope of CAV development is a big question: public vs. private use, state vs. federal regulations and recommendations. Potential for technology industries, especially in manufacturing, computer software/hardware, automation, and training. Broad policy concerns regarding the need to move quickly with technology and developing the communication lines to create truly cross-disciplinary gains. Focus on areas of expertise in MN, especially IT, science and large businesses and institutions (Xcel, Great Rivers, University of Minnesota, 3M); concern over the possibility for intellectual property and new technologies to become “locked up” by certain businesses and institutions, and the fear of slowing down development due to IP ownership.

Gap analysis needed to understand MN strengths and weaknesses regarding expertise and workforce. Partnerships between large corporations, small companies, start-ups, investors, “mom & pop” shops and independent contractors are necessary – connectivity and communication necessary. Big questions regarding the impact on workers, especially in the transportation industry (goods and people) – what will the training requirements be? Who will develop the training requirements? What will be the requirements for drivers? What about licensing requirements? How will travelers be affected? How will this effect interstate travel for commerce and travel?

Investment and raising capital are also unclear as to whether there will be investment opportunities, the use of tax payor dollars, the way in which capital will be raised. What are the overall costs for development and implementation? What will be the scope of development and implementation in the near future and over time?

The group would like to discuss the way in which CAV will affect infrastructure and be thoughtful in the planning stages. Thoughtful investment is also important, especially regarding access and equity. Training will be a serious consideration for all sectors: scientists, designers, engineers, manufacturers, developers, drivers, and so on. Bringing a training curriculum to MN for CAV could offer economic development opportunities as CAV become more widely known

and used.

Employment

Other states looking into development of CAV haven't considered workers and laborers input. Importance of the engagement of the public, expert opinions and the subcommittee highlighted. Subcommittee experts, interests? What are the responsibilities and liabilities of driver? Overlap between employment and economic development, including financial considerations, training considerations, cross-disciplinary considerations need for innovation and innovative thinking, and need for those with certain areas of expertise, need to develop certain areas of expertise. Reciprocity for drivers and technology is a concern if MN is to be at the forefront of CAV development; avoid creating barriers. CAV's impact on the workforce and potential workforce shortages were discussed. Partnerships, especially between the public (utility companies) and private sectors will be necessary. Shortages: training, workers and emerging industries. Leverage across platforms: more effectively engaging more parties in this process; connectivity; equity; diversification. Use of tax payer dollars referenced at least 3 times regarding the way in which tax dollars will be used. Information that goes out to the public regarding CAV development should be thoughtful, carefully crafted: "words are very impactful."

Tentative & Final Recommendations

Next Steps

The next subcommittee meeting is:

Tuesday, September 18
10:00 a.m. - 12:00 p.m.
MnDOT Central Office TEC Center
395 John Ireland Boulevard, St. Paul, MN 55155

Parking Lot