

Connected & Automated Vehicles through an Equity Lens

The Maryland CAV Working Group met at Morgan State University, on 29 April 2022. The primary theme of the event was CAV & Equity, and a number of demonstrations and conversations focused on the topic. A highlight of the meeting featured a distinguished panel of academic experts weighing in on the issue, as summarized below.

NOTABLE QUOTES

Equity is meeting the need and providing opportunity If we don't look at new mobility with an equity lens, we risk exacerbating existing flaws in our system	<i>Selika Josiah Talbott University of Southern California</i>
CAV's won't resolve all inequities in transportation - but can make a significant contribution If we demonstrate a social purpose for AVs they would be more acceptable to the general public	<i>Jeffrey Michael Johns Hopkins University</i>
Using CAVs to give access to jobs, medicine, and food to everyone – that's a golden opportunity and we have to jump on it Make sure that people who did not have access before will be the first ones to get it - not people who it's just another luxury	<i>Mansoureh Jeihani Morgan State University</i>

SUMMARY POINTS

There Are Many Definitions of Equity

- Who you are, where you live, and how much money you have shouldn't have an impact on your access to healthcare, food, and services. Transportation is a social determinant of health and quality of life. Without mobility you don't have the freedom to access healthcare, jobs, food.
- Too often we spend our time circling around low vs high income – black vs white – able vs disabled – old vs young. But there are additional areas where equity must be considered, such as in rural vs urban, or recognizing we have fewer truck drivers in America - everyone needs healthcare and food – we're going to need AVs.
- Equity is meeting the need and providing opportunity. Making sure we are understanding the full circle of transportation and how everybody is affected. We can't create an us against them, red against blue, city against farmlands – everyone has issues. Equity is looking at the big picture and getting at our needs.

We Need to Address Equity Now

- Inequities in transportation were built into past history – they are all around us. The opportunity to use CAV to make a contribution toward reversing some of those inequities shouldn't be passed over. If we don't look at new mobility trends with an equity lens, we risk exacerbating existing flaws in our system. But if we start with the equity lens, we immediately improve our options.
- There is a big gap in mobility for lower income persons, or those that can't drive, or those who live in disadvantaged neighborhoods. We can ignore history and CAV risks widening that gap – or we can be conscious of equity now and use CAV to reduce the gap and put us all in a better place. If we do it now, we can have better access, better mobility, and better safety for all.
- Because AV is still developing, we don't have to undo anything yet. We have an opportunity now to deal with the problem before it needs to be fixed – to get ahead of it.

We Need to Engage Communities and Stakeholders

- We need to involve neighborhoods and communities to see what the needs are, what they want, and bring that into policy development.
- The transportation industry is not accustomed to addressing this issue. Governments are not accustomed to addressing this issue. It's new to everyone, but it's important to start connecting with communities and get better at it.
- Education is very important – too many people think self-driving cars mean Tesla's, which are out of reach for many in the population. But they aren't aware of the many benefits and services that AV could enable – we can and should focus on better education across different stakeholders and community groups.
- The best way to educate parents is to educate their children – both ADAS understanding, and preparation for AV future.

There Are Lessons We Can Learn From

- During the early days of electric vehicles, locations for chargers were often placed in areas of high EV use – retroactively. By applying an equity lens to planning, we can begin encouraging EV use everywhere by placing chargers where they aren't, and recognize that some of the neighborhoods without expensive personal EVs might be neighborhoods where electric buses, shuttles, or Uber/Lyft might frequent – and they need charging infrastructure too. To extend that lesson to CAVs, the CAV infrastructure deployment (as well as EV charging stations) shouldn't follow where the most CAV-equipped vehicles are as well.
- Applying equity is essentially regulatable – the deployment of AVs can be controlled by city and state government. If they use models or scenario planning they could deploy where needs are most serious. For example, one city in MD is looking at the issue of scooters/micro-mobility, willing to try regulations and equity zones based on modeling. An analogy could be done with AV shuttles – if they had evidence-based models, a community could require that AV shuttles are used there before they get access to the high value downtown markets.
- Researchers recognized a problem – elderly/disabled folks in the airport, struggling with wheelchair attendants and unfamiliarity of airports. So the concept of introducing an AV wheelchair helps address this problem; user can scan their boarding pass, and wheelchair will take the person to their gate automatically. Reduces stress, addresses staffing shortages, provides comfort to the traveler.