# MEETING NOTES

**Iowa Advisory Council on Automated Transportation (ATC)**
**Joint Policy & Legislation/Public Safety & Enforcement Subcommittee Meeting**
Skype Conference Call – 319-467-1100, conference ID: 8442672#
Tuesday, November 12, 2019
2-3pm

1. Welcome and introductions – Anna Dizack, UI National Advanced Driving Simulator (5 minutes)

    - Dylan Mullenix (Policy & Legislation Subcommittee Chair) – Des Moines Area MPO
    - Nathan Fulk (Public Safety & Enforcement Subcommittee Chair) – Iowa State Patrol
    - Stephan Bayens – Iowa Department of Public Safety
    - Don Egli – Iowa Motor Truck Association
    - Shirley McGuire – Federal Motor Carrier Association
    - Susan deCourcy – National Highway Traffic Safety Administration
    - Jared Kirby, Travis Grassel – Iowa Insurance Division
    - Jennifer Banta – Iowa City Area Chamber of Commerce
    - Rick Peterson – Iowa Economic Development Authority (IEDA)
    - Chris Cournoyer – Iowa Senate
    - Mark Peterson – AAA – the Auto Club Group – Minnesota/Iowa
    - Catherine Lucas – Iowa State Patrol
    - Amanda Anderson – Peloton Technologies
    - Bruce Anderson – Iowa Automobile Dealers Association
    - Greg Shill – University of Iowa College of Law
    - Kristen Forret – EMC Insurance Companies
    - Mikel Derby, Melissa Spiegel, Jim Schnoebelen, Angel Robinson, Steve Gent, Alexander Jansen, Sara Siedsma, Garrett Pedersen, Renee Jerman, Mindi Nguyen, Adam Shell, Andrea Henry – Iowa DOT
    - Dan McGehee, Omar Ahmad, Anna Dizack, Jacob Heiden – UI National Advanced Driving Simulator
    - Peter Rafferty – Gannett Fleming

2. Update on ATC meeting held Thursday, September 12th – Dylan Mullenix, Policy & Legislation Subcommittee Chair and Nathan Fulk, Public Safety & Enforcement Subcommittee Chair (10 minutes)
    - Dylan Mullenix (Policy & Legislation Subcommittee Chair) – provided an update on the September 12th ATC meeting. The Automated Driving Systems (ADS) for Rural America demonstration grant award to the UI was announced. The bulk of the meeting was a presentation by David Kidd with the Highway Loss Data Institute (HLDI).
    - Nathan Fulk (Public Safety & Enforcement Subcommittee Chair) – provided an update on the September 12th ATC meeting and last quarter's Public Safety & Enforcement Subcommittee. Catherine Lucas, General Counsel at the Iowa Department of Public

Safety, joined the subcommittee meeting and discussed challenges with reasonable and prudent statute, as well as licensing and identification standards.

3. Communications update – Andrea Henry, Iowa DOT (5 minutes)
    - Andrea Henry provided information on the ATC communications work to date.
    - ATC communications group – currently have Andrea Henry (Policy & Legislation subcommittee) and Rachel Bennett (Infrastructure Readiness subcommittee) as communications representatives. Still need communications representatives for the Public Safety & Enforcement and Economic Development subcommittees.
    - Website – ATC website has been drafted and is now live. Will serve as a centralized hub where people can go for information. Primary purpose for now is to provide general info about the ATC (until the Communications group meets and can discuss postings).
        - IowaDrivingAV.org is website. Also redirects from the .com and .net link.
        - Right now just have notes posted. Will not post previous presentations for now but can in the future, ensuring with presenters that they can be shared publicly.
        - Contact Us page may be revised with a more general email address in the future.

4. Equity and accessibility – Mindi Nguyen, Iowa DOT (5 minutes)
    - Mindi Nguyen – provided a brief overview of her role as Community Outreach Coordinator with the Iowa DOT.
    - Over the last few weeks she's been reviewing the documentation that the ATC has been posting. Impressed with technology, priorities. With a conscious focus on equity, we can begin to decrease some of the inequality
    - In transportation, there is an urban vs. rural divide. On average, very low income families spend over 30% of their income on transportation. Can limit access to jobs, healthcare, etc. that impacts well-being
    - What are the right questions we should be asking in Iowa?
    - As shared mobility and autonomous vehicles (AVs) reshape our transportation system, they offer a critical chance to redress inequities.
    - Provided a brief on this topic, created by UC Davis.
    - Dan McGehee – important issue that needs to be addressed, would like to discuss with Mindi and report back to the group on aspects of this.

5. CAT challenge pilot program opportunity – Adam Shell, Iowa DOT (20 minutes)
    - See the Minnesota DOT program as an example: https://www.dot.state.mn.us/newsrels/18/10/15-avc.html
    - Adam Shell – presented information to bring awareness to the ATC subcommittees of the potential for a competitive Cooperative & Automated Transportation (CAT) Pilot Program. In a meeting with the CAV-X team at the Minnesota DOT, they informed the Iowa DOT about their program. This information is presented to recommend to the ATC subcommittees to consider and support the development of a CAT pilot program. This presentation was about what other states are doing and what Iowa could do.
    - Presented on the competitive grant challenge program examples with the Georgia DOT, Michigan DOT, and Minnesota DOT.

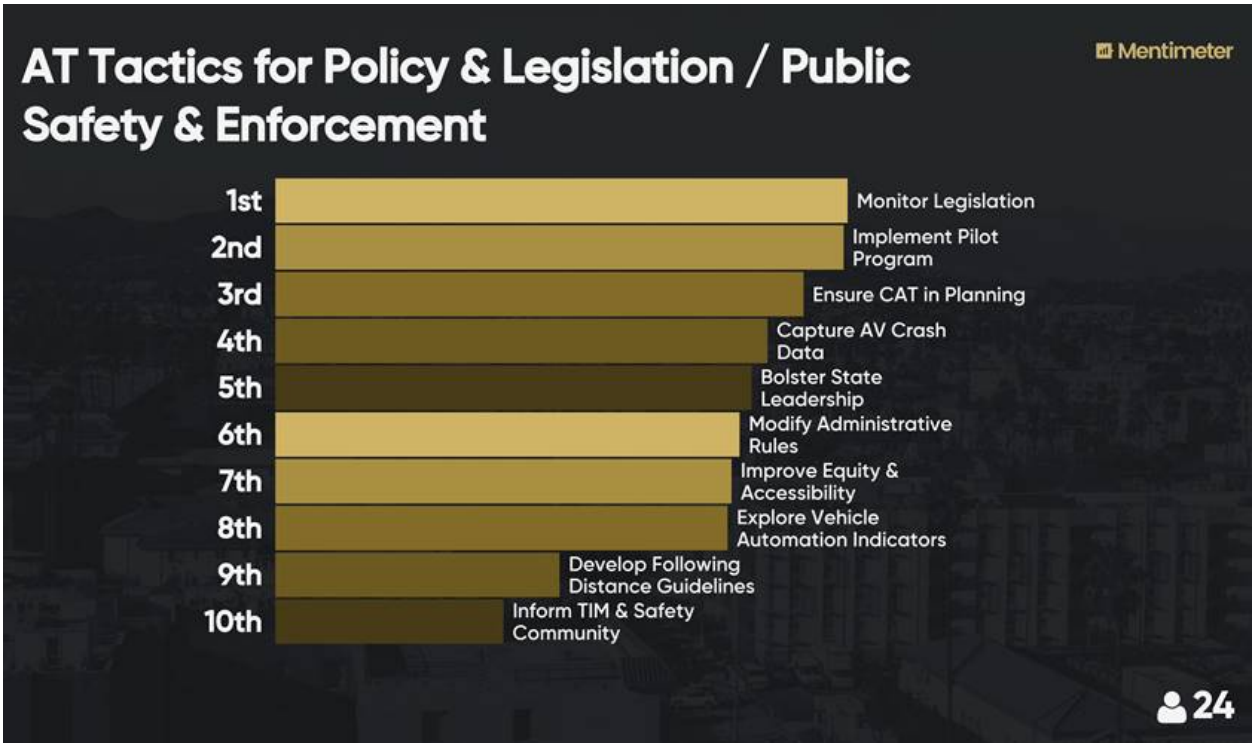
- Should Iowa pursue a CAT challenge pilot program? It would support the research, innovation, and pilot opportunities of emerging technologies under the umbrella of CAT. Could support possible economic opportunities and support business growth.
- Coordination and partnerships within and outside of Iowa.
    - Empower Rural Iowa Initiative has a clear tie and may provide further opportunities for the ATC to get involved and address rural Iowa mobility needs.
    - Future Ready Iowa program aligns well with the ATC and the need to ensure our workforce is prepared to support CAT.
    - Opportunities regionally and nationally with the Mid-America Association of State Transportation Officials and AASHTO.
- Primary challenge is to establish dedicated funding for such a competitive grant program.
- Provided a chart of possible responsibilities and a support structure for a possible CAT Challenge Program: Executive Committee would secure and approve funding, Evaluation Committee would perform an independent review of each proposal, Technical Advisors would serve as advisors to Executive and Evaluation committees as needed, and Contract administrator would support and facilitate the process.
- Timing is right to have the discussions, leading into the next legislative session as we seek possible support from ATC and legislature.
- Colonel Nathan Fulk – did Minnesota or Michigan use any federal funding (grants)? What opportunities do we have at the federal level?
    - Adam Shell – Minnesota and maybe Michigan developed their programs without federal so there'd be no match requirements.
- Dylan Mullenix – support something like this, but not sure on funding ideas yet.
- Anna Dizack – not just universities/colleges could propose under this, correct? Could be small businesses or others, too?
    - Adam Shell – yes. It's about establishing partnerships. Connecticut, Missouri, Ohio, and Washington looking to pursue this kind of a program as well.

6. ATC vision project – Peter Rafferty, Gannett Fleming (15 minutes)
    - Peter Rafferty – presented the AT tactics for the Policy & Legislation and Public Safety & Enforcement subcommittees (list attached after meeting notes). Noted that communications and research is not included in this work. Asked meeting participants to log on and rank these tactics.
    - Next steps – will conduct similar exercise with other subcommittee joint meeting. Will circulate draft vision plan at December 4th ATC meeting.
        - POLICY & LEGISLATION
            1. Monitor Legislation
            2. Implement Pilot Program
            3. Ensure CAT in Planning
            4. Bolster State Leadership
            5. Modify Administrative Rules
            6. Improve Equity & Accessibility

        - PUBLIC SAFETY & ENFORCEMENT
            1. Capture AV Crash Data
            2. Explore Vehicle Automation Indicators

3. Develop Following Distance Guidelines
4. Inform TIM & Safety Community

Ranking Outcome:




7. Information and key upcoming dates – Anna Dizack, UI National Advanced Driving Simulator
    - Iowa ATC Meeting: Wednesday, December 4th, 1-3pm, Iowa League of Cities

# Iowa AT Vision: Tactics Summary

DRAFT

*Please review these 10 items, then during the November 12, 2019 joint subcommittee meeting participants visit menti.com, enter a six-digit code, and submit priority rankings*

## POLICY & LEGISLATION

1. **Bolster State Leadership** – be proactive in keeping Iowa leadership informed about AT opportunities and needed efforts through targeted engagement with agency leadership, legislative committees, and non-profit advocacy associations

2. **Monitor Legislation** – stay abreast of new legislation needs, and as new legislation is considered, the Policy & Legislation subcommittee should assess and comment as appropriate; keep aware of legislative, legal, and regulatory developments occurring in all neighboring states

3. **Modify Administrative Rules** – actively underway in 2019 following May 2019 CAT legislation (HF387 regarding following distances and SF302 addressing ADS), and potentially an ongoing effort following legislation, regulatory changes, and shifting technology

4. **Ensure CAT in Planning** – both at the local and state levels, ensure CAT is considered in relevant policy, planning, and programming processes and documents

5. **Improve Equity & Accessibility** – for positive social impact from AT, leverage best practices to ensure underserved populations gain improved access to transportation and mobility from not only automation, but from related trends in the sharing economy, MaaS/MoD; also includes stakeholder outreach under Communication, Outreach, & Education area

6. **Implement Pilot Program** – (from Infrastructure Readiness) develop and fund the Iowa CAT Challenge to support AT innovation, advancement, and trials in Iowa; solicit proposals to bring emerging technologies forward more deliberately and quickly; entails engagement across agencies and with the legislature, and also included in Economic Development area

## PUBLIC SAFETY & ENFORCEMENT

1. **Develop Following Distance Guidelines** –under the leadership of the Iowa State Patrol and Motor Vehicle Enforcement, develop procedures for enforcing reasonable and prudent following distances, and communicate to law enforcement and trucking community statewide

2. **Explore Vehicle Automation Indicators** –identify resources for national and international assessment of best practices for vehicle automation indicators or external human-machine interfaces (eHMI)

3. **Capture AV Crash Data** – explore what additional data can and should be captured from crashes involving AVs, and implement Model Minimum Uniform Crash Criteria (MMUCC, 5th Ed, 2017) recommendation for ADS data capture from crashes, given necessary data systems changes and the need for crash form changes

4. **Inform TIM & Safety Community** – include ATC representation on the Statewide TIM Committee for ongoing coordination; develop and deliver an outreach presentation, emphasizing AT considerations specific to traffic safety, incident response, and responder safety, for the TIM Committee, Iowa MDST, and potentially other TIM and traffic safety stakeholder groups

Sharing, Electrification and Automation
3 REVOLUTIONS

ITS UCDAVIS
INSTITUTE OF TRANSPORTATION STUDIES

# Policy Brief

February 2017

## Can We Advance Social Equity with Shared, Autonomous and Electric Vehicles?

**Authors:**
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*For identification purposes only

Contributor:
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*In November 2016, the Institute of Transportation Studies at the University of California, Davis (ITS-Davis) convened leading academic, government, private industry, and public interest stakeholders to explore science-based policies that could steer the three transportation revolutions- shared mobility, electrification, and autonomous vehicles, toward the public interest.*

*This policy brief reflects the opinions of the authors and not UC Davis. This brief is one in a series that presents a range of policy concepts, recommendations and research needs discussed at the Three Revolutions Conference.*

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## Summary

A future with shared, electric autonomous vehicles holds many promises. But without an intentional focus on equity, it may exacerbate existing barriers and increase inequality. Policymakers must consider not only how to deploy this technology quickly and safely, but also how it can be used to improve the lives of those who need it most.

## Introduction

For more than half a century our transportation system has largely focused on moving cars, in part to support increasingly sprawling land uses. Over-reliance on vehicles has come at a high expense to personal budgets, public health and the environment. Very low-income families spend, on average, over 30% of their income on transportation. For those without a private vehicle, limited access to jobs, education, health care and other

opportunities is a barrier to self-sufficiency. Pollution from vehicles leads to asthma and a host of diseases that fall hardest on communities of color.[1]

As shared mobility and autonomous vehicles (AVs) reshape our transportation system, they offer a critical chance to redress these inequities. Without smart policy and planning, however, they may instead widen the access and inequality gap. This brief focuses on solutions that can benefit the following disadvantaged communities:

1. Low-income communities
2. Mobility-challenged people, including people with disabilities, seniors and youth
3. Other historically disadvantaged communities, including people of color, immigrant communities (including those with language barriers) and rural communities

Some early patterns already raise equity concerns, such as much longer wait times and cancellation rates for transportation network companies (TNCs) like Uber and Lyft in people-of-color communities, especially for black men.[2] [3] Even more concerning are public agencies that are cutting bus lines and replacing them with TNC subsidies, but often without analysis of cost to low-income riders.

The convergence of autonomous, shared, and electric vehicles will have a profound impact on society. Unlike our current transportation system, this new system may be largely designed and driven by the private sector. This makes it all the more urgent to put forward a framework that lifts social equity to the top of the policy agenda. It is critical to begin immediately exploring strategies and overcoming barriers for policies and practices that improve equity, including shared vehicles, shared rides, and equal access for people of every age, ability, and income.

## Background

### Equity Priorities

Dozens of measures and indicators can be used to evaluate the impact of transportation and land use on social equity. For this high-level analysis and discussion of different transportation futures and potential policy interventions, we propose four primary performance measures:

1. **Cost:** Low-income households spend a large proportion of their income on transportation, primarily because of reliance on vehicles for many trips. These transportation costs are much higher in sprawling areas.

   **For each new policy change or project involving fleets of autonomous vehicles that are electric and shared (FAVES), what is the impact on transportation costs for low-income households, in absolute terms and relative to others?**

1 http://www.who.int/kobe_centre/publications/hiddencities_media/who_un_habitat_hidden_cities_web.pdf?ua=1

2 https://www.theatlantic.com/business/archive/2016/10/uber-lyft-and-the-false-promise-of-fair-rides/506000/

3 https://economics.stanford.edu/sites/default/files/zoepf.pdf

## Can We Advance Social Equity with Shared, Autonomous and Electric Vehicles?

2. **Access:** Access to destinations is one of the main factors in lifelong earning potential, and unequal access is a major cause of overall inequality. About 70% of regional jobs, retail, and other opportunities are now outside of downtown centers. Lack of access to vehicles, reliable public transit, and safe active transportation options decreases those opportunities.

   ***For each new FAVES policy change or project, what is the change in access to jobs, education, health care and other destinations?***

3. **Public Health:** Disadvantaged communities often suffer the worst impacts of our current transportation system, from higher levels of air pollution to greater numbers of injuries and deaths from car crashes.

   ***For each new FAVES policy change or project, what are the likely health outcomes on disadvantaged communities?***

4. **Employment:** There is a growing income gap, with a dearth of middle income jobs. For example, TNCs disrupted the taxi industry in many communities, and AVs may have more profound impacts including on freight transportation including trucking. Advocates argue that FAVES will create jobs but it is important to consider the changes in not only the number of jobs by region but also the types of jobs and skills needed for those positions.

   ***For each new FAVES policy change or project, what is the impact on employment, particularly on access to stable, well-paying jobs?***

# Findings and Policy Recommendations

This section outlines several problems to achieving equity in costs, access, public health and employment, and proposes policy solutions. These solutions can be further prioritized at various geographic, political and temporal scales.

1. Problem: **Disadvantaged communities are not strongly engaged in issues of shared mobility, and have difficulty affording electric vehicles (EVs) or accessing the infrastructure for them.** As we enter into a period of faster change and disruption, these communities need to be part of the planning process to ensure solutions are tailored to community needs.

Possible Actions for Local Government and Transit Agencies:

a) Expand efforts to engage and include disadvantaged communities in transportation planning, especially regarding shared mobility.

b) Use the four equity priorities described above (cost, access, public health, and employment) as a

framework for evaluating equity goals and impacts of policy interventions.

c) Support demonstration projects and spread case studies, best practices, model policies and programs.

d) Create or support networks focused on overcoming barriers to shared mobility.

2. Problem: **Disadvantaged communities face barriers to using shared mobility including financial, technological, and language and cultural barriers.** This creates unequal access to many services. Since many new technologies rely on scaling up the number of users in a given area, this may mean services, such as carpooling and car-sharing, are simply unavailable.

Possible Actions for Local Government, Regional Agencies, Transit Agencies, and Private Sector Partners:

a) Support demonstration projects that overcome obstacles to shared mobility or EV penetration. Examples include the new low-income electric car-sharing project in Los Angeles called Blue California and Oakland's new Shared Mobility for All project.

b) Develop platforms for households that don't have bank accounts, credit cards or online payment systems to access shared mobility, and for platforms to include multiple mobility providers (e.g. Chicago's Ventra card and app).

c) Create new revenue streams to support equitable access to new mobility. For instance, Oakland sells permits for car-sharing curb space. These funds go to reduce car-sharing cost for low-income communities.

d) Reduce parking requirements for multi-family homes and commercial centers that include car- and bike-sharing, distribute transit passes or provide other trip reduction strategies. (See GreenTRIP Connect[4] for additional strategies and their impacts).

3. Problem: **Shared mobility does not always get priority in planning or infrastructure.** A critical way to promote both public transit and FAVES is to ensure that shared vehicles are faster and more convenient than solo driving trips. This is both an equity issue, since low-income commuters are more reliant on transit and other shared modes, and one of increasing transportation efficiency overall.

Possible Actions for Local Government, Regional Planning Agencies, Caltrans:

a) Enforce HOV lane laws to reduce growing congestion. Cite cheaters and increase carpooling to 3+ where appropriate.

4 http://www.transformca.org/greentrip/connect

b) Allow conversion of mixed-flow general purpose lanes to Express Lanes to allow priority for shared vehicles and to close gaps in the HOV/Express networks without requiring wider roads.

c) Provide priority for shared vehicles in urban areas, including designating curb space or shared mobility lanes (including Bus Rapid Transit).

d) Analyze how widespread use of shared mobility, and especially connected AVs, may be able to make more efficient use of road and parking space, freeing up space for other forms of transportation (such as BRT and bike lanes). This could lead to reduced spending on roadway expansion and justify additional investment in shared mobility. This should be an integral part of Regional and County Transportation Plans.

4. Problem: **Shared mobility may replace transit in some areas** without accounting for the barriers to disadvantaged communities (e.g., Dublin, CA ). [5]Shared mobility can be a great complement to public transit, and even improve access by replacing inefficient public transit, especially in suburban or rural areas. However, this strategy may increase cost or diminish access for populations that have structural or language barriers.

Possible Actions for Transit Agencies:

a) Re-examine transit routes and possible alternatives, coupled with subsidies, to serve populations more efficiently at lower costs. Create subsidy structures that specifically account for low-income riders, and work to keep their costs from increasing over current costs.
b) Account for travel time, cost implications, and other barriers as agencies implement first- and last-mile partnerships focused on increasing access to transit.

c) Encourage public-private partnerships between transit agencies, TNCs, car-sharing and bike-sharing, to create multi-modal transportation hubs in low-income communities.

d) Develop requirements for ADA access, especially as transit and taxi service are reduced in areas.

5. Problem: **Shared autonomous vehicles may increase driving and local air pollution,** impacting disadvantaged communities that already suffer from higher rates of asthma and other medical conditions.

Possible Actions for Local Government and State Agencies

a) Offer greater benefits or incentives to encourage shared AVs that are also zero emission vehicles.

b) Increase incentives and resources for implementing EV infrastructure, with a focus on low-income

5 http://www.wheelsbus.com/news/wheels-partners-uber-lyft-desoto-cab-offer-demand-real-time-travel-convenience-dublin/

communities.

6. Problem: **Higher rates of bicycle and pedestrian collisions in disadvantaged communities.**

Possible Actions for Local Governments

a) Utilize AVs to set pedestrian- and bike-friendly speed maximums, safe buffer zones, and standardized signalization for human-vehicle interface.

b) Ensure priority is given to repurposing parking and other infrastructure into activity and opportunity centers, such as parks, trails, bike paths, or affordable infill development, in disadvantaged communities. Such land uses have been demonstrated to increase physical activity and decrease health risks and costs.

## Opportunities for Future Research

**Insufficient data on impact of new technologies,** or of potential policy interventions. It is important to keep information open and widely available for the broadest benefit, while protecting customer and driver privacy.

Possible Actions for Local, State and Federal Agencies

a) Ensure data reciprocity from private sector players when they benefit from public policies or open public data.

b) Analyze data for accessibility of services to low-income, disabled and other populations, and use it to plan for policy interventions.

c) Evaluate possibilities for repurposing parking for public benefit.

## Conclusion

All new technologies, when distributed rapidly, create new inequities. Just as public agencies intervened to ensure electricity got to rural areas and phones are affordable to more, it is imperative we find ways to ensure that the promise of FAVES improves the lives of those who now face the most serious transportation barriers. Doing so successfully will require a clear framework to approach social equity, bold experimentation, and sharing successes across the private and public sectors. It will take constant vigilance.