

Autonomous and Connected Vehicle Framework

Mid-America Regional Council

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In June 2017, the Mid-America Regional Council launched a regional effort to examine autonomous and connected (AV) vehicle issues and create a policy framework that will help the region position itself to maximize opportunities and minimize negative impacts of these new and potentially disruptive transportation technologies. MARC formed an AV Task Force and convened a broad group of stakeholders, including seven work groups that each focused on a key policy area and identified priorities for moving forward.

POLICY FOCUS AREAS

- Travel demand management and system performance.
- Infrastructure, planning and investment.
- Data management.
- Environment and land use.
- Equitable access and mobility services.
- Economic and workforce opportunity.
- Certification, liability and insurance.

What are Autonomous and Connected Vehicles?

Autonomous vehicles are defined by the Society of Automotive Engineers (SAE) as having systems that perform part or all of the dynamic driving task on a sustained basis. SAE provides detailed definitions for six levels of driving automation, ranging from no driving automation (level 0) to full driving automation (level 5).

Connected vehicles are vehicles that use any of a number of different communication technologies to communicate with the driver, other cars on the road, roadside infrastructure, and the “cloud”.

RECOMMENDATIONS

As the working groups completed their discussions, common themes emerged. These overarching themes — each identified by two or more working groups — are recommended for initial action.

1 Identify ongoing opportunities to provide AV information, education and training to a wide range of stakeholders in the region.

The need for education and training was identified as a priority for all seven work groups. This includes general awareness for the traveling public, as well as more detailed, technical information for decision-makers and job training for workers who need new skills. Initial steps will focus on determining who needs information and what types of information, education and training they will need, both in the short term and as AV adoption rates increase.

2 Research, develop and build regional consensus on land-use policies related to AV implementation.

In the current funding climate, it is unrealistic to expect major new investments in infrastructure to support AVs. Instead, work group members suggest focusing on using existing infrastructure in different ways. For example, shared use of AVs might lead to more curb space devoted to drop-off/pick-up zones in lieu of parking spots. Efforts to maintain current transportation infrastructure in a state of good repair could be broadened to incorporate new uses.

3 Develop pricing strategies to address shifts in revenue sources.

Traditional revenue streams such as parking meters, fuel taxes and licensing and registration fees will be disrupted by widespread use of AVs. Ownership models are likely to shift from individual to shared, multi-party owners or subscription services. Initial work in this area could explore new fee structures, perhaps based on vehicle miles traveled, as well as new revenue opportunities, including charges for private companies to tap into public fiber networks or other existing infrastructure. As fleet operators are likely to be early adopters, pricing strategies involving the trucking industry, public transportation and other fleet services should be prioritized.

4 Develop agreements for sharing and storing data.

Regional strategies for sharing data — what data to share, how to share it, and with whom — will likely require the adoption of Memorandum of Understanding agreements by local governments, as well as investments in hardware and software systems to store and share data. Initial work in this area should also address privacy and security issues. Public/private partnerships may offer opportunities for revenue generation.

5 Ensure equitable access to the opportunities provided by AV technology.

AV technology could greatly expand access to opportunity for underserved populations, but it also has great potential to leave people behind. As policies and strategies are developed, public officials should be mindful of the digital divide. App-based AV services should offer alternatives for users who are not able to pay with a credit card or use a smart phone.

NEXT STEPS

As the metropolitan planning organization and association of local governments for the bistate Kansas City region, MARC has a unique capacity to lead regional efforts to prepare for AV implementation. Changing transportation technologies will not only cross state and local government boundaries, but will also impact much more than the transportation system. MARC staff will engage its strong network of partners across a broad range of regional initiatives to implement priority strategies and adopt a more detailed work plan and define expected outcomes over the next two years.



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