AV Shuttles: Purpose-Driven Deployments

Moving Forward

The USDOT’s recent award of $60 million in Automated Driving Systems grants solidified the notion that we’ve moved beyond simple demonstrations for these types of deployments, especially with Autonomous Vehicle (AV) shuttles. Available AV shuttles on today’s market typically accommodate six to 12 passengers in a vehicle that either resembles an elongated golf cart or a small transit vehicle.

While many practitioners have claimed we’ve moved beyond “we can deploy it” on a closed trail or in a parking lot, it is time for this practice to be put into more widespread use. The technology does work and can be used to solve real problems. For instance, Jacksonville, FL is looking to replace an aging monorail system that can no longer be maintained; Columbus, OH is looking to bridge a first-mile/last-mile gap between a community resource and a bus rapid transit line; and stakeholders in Madison, WI are investigating a convenient connection between a bustling district and downtown establishments. Those involved in each of these projects have looked at AV shuttle technology as the solution.

Approach Problems

The best types of projects begin with a community-sourced approach to finding a deployment area with a powerful use case. Providing a supplement to transit to solve a first-mile/last-mile problem could benefit users, municipalities, and transit agencies. This could link the community with jobs and services. Other circulator type of deployments can be beneficial to connect people to food and offices. Ultimately, communities should not be looking to replace transit but to feed and grow it.

Given the state of AV shuttle technology and the general public’s lack of exposure to it, human operators are still a key component of the deployment for safety and public outreach considerations. The current focus with AV shuttle deployments is for low-speed environments, not highways or higher-speed roadways.

Key Tips

While no deployment comes with a one-size-fits-all approach, there are a few key aspects that can help make a deployment a success to fulfill the needs of each community uniquely, including the following:

- Conduct a complete inventory of the roadway and test drive it with a low-speed shuttle, powered by a computer in mind. Parking lots with shopping carts and lots of people aren’t ideal.
- Engage local emergency responders to touch and feel the shuttle before deploying, as well as participate in a tabletop exercise. This can help should there be any incidents with the vehicle.
- Overall safety of shuttle users, pedestrians, cyclists, and motorists should be prioritized in the planning, design, and deployment of AV shuttle systems.
- Efforts should be made to educate the public on upcoming AV shuttle systems deployments and the benefits they provide. A public awareness campaign including routes, operating hours, cost, and benefits is a good way to communicate.

If you have questions or would like more information on the ITE Smart Communities initiative, please contact ITE Smart Communities Standing Committee (SCoSC) at smartcommunities@ite.org.