

SC 10 – Planning for Connected and Autonomous Vehicles



Project Lead:

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Description:

In the coming decades, Minnesota will likely see an increase in the number of electric vehicles and the deployment of autonomous vehicle technology. Building on recommendations from the Scott County 2040 Transportation Plan, this project will investigate the potential impact of connected and autonomous vehicles (CAVs) on the critical relationship between land use and transportation in a suburban and rural environment, and the role of local government in managing this relationship.

The project will focus on some issues and opportunities unique to Scott County: The county is home to a cluster of auto-dependent entertainment destinations (Canterbury Park, ValleyFair, Mystic Lake Casino Hotel, the annual Renaissance Festival) with abundant space devoted to parking cars, as well as concentrated freight land use clusters (the Ports of Savage, the Shakopee industrial park) that generate a significant amount of truck traffic.

Key Issues, Questions, and Ideas for Exploration:

- How will deployment of CAVs reshape urban design, land use, and transportation in rural and suburban communities? How are rural and suburban highway departments in Minnesota and the United States planning for CAVs, and how are city and county codes (zoning, subdivision, right-of-way), public works departments, and transportation planners and engineers anticipating such changes?
- How should large entertainment destinations/venues and freight land use clusters plan, design, and engineer for the coming of CAVs? What are recommended updates to parking, site design, internal circulation, building orientation, infrastructure, etc. based on current research and best practices around the nation?
- How can advanced traffic management systems accommodate CAVs?

How Will Student Work Be Used to Build Resiliency?

Student work will be shared with county and city planners and engineers in Scott County to inform implementation of their respective 2040 comprehensive plans, as well as other stakeholders potentially impacted by CAVs, to build resiliency and the capacity to adapt as these potentially transformational transportation technologies are deployed.

(continued)

Existing Plans and Reports:

- Scott County 2040 Comprehensive Plan
- Met Council 2040 Transportation Policy Plan

Potential Stakeholders and Partners:

- SCALE's *Live, Learn, Earn* mobility and transportation working group
- City planning and public works departments
- River South: Land of Big Fun (marketing and branding group for major county entertainment venues)
- Large local entertainment venues (Canterbury Park, ValleyFair, Mystic Lake Casino Hotel, Renaissance Festival)

To learn more about this project or discuss how to integrate it into a UMN course or an individual student project (such as a culminating experience, capstone, master's project, or independent study), please contact Sarah Tschida or Mike Greco with the Resilient Communities Project at rcp@umn.edu.