Minnesota Fiber Optic Feasibility & Partnership Study

Project Background

Connected and automated vehicle (CAV) technology is advancing rapidly. CAV can save lives and provide better access to transportation, jobs and health care, making communities safer, and more equitable. The Minnesota CAV Challenge is a new, open and rolling procurement process that allows public and private entities to propose CAV solutions to improve safety, efficiency, equity, outreach and mobility.

With significant private sector investment in communications infrastructure - including 5G technologies – Ernst & Young Infrastructure Advisors Group proposed a project to assess MnDOT’s current right-of-way assets and create a framework to work with the telecommunications industry to collaboratively build out communications infrastructure, including fiber optic. One such opportunity is to create a public-private partnership to leverage public infrastructure to expand statewide communications networks.

Project Tasks

- Conduct a regulatory review of state and federal laws and agency policy to understand what laws may impact a telecommunications partnership.
- Map and review the state’s current infrastructure and telecommunications assets
- Conduct a market assessment to evaluate partnership opportunities and valuate MnDOT right-of-way
- Prepare recommendations on a framework for a connected vehicle buildout and partnership model
- Convene confidential market discussions with telecommunications providers to assess their interest in a Minnesota partnership
- Prepare a final report with recommendations on next steps

MnDOT CAV Goals

- Develop partnerships • Create strategic partnerships with telecommunications industry and communications partners to advance CAV innovation
- Modernize policy • Modernize statewide and agency policies and laws to address CAV
- Promote accessibility and mobility • Expand transportation and telecommunications access across the state
- Public engagement • Build public trust in CAV through activities that engage key stakeholders and the public
- Strategic infrastructure investment • Support the state in strategic planning for CAV infrastructure, data, procurement, and implementation of public-private partnerships

Project Goals

1. Assess the potential commercial value of MnDOT ROW for broadband deployment along the trunk highway system.
2. Estimate the revenue raised by partnering with industry to construct broadband improvements.
3. Screen and prioritize different ROW segments and develop commercial network scope along those portions of highways to identify corridors most feasible for fiber buildout.
4. Develop a strategy to support the deployment of CAV technologies with broadband infrastructure and the telecommunications industry.
Schedule

August
- Project Kick-off
- Regulatory review

September-December
- Review and map current fiber optic network and CV assets
- Evaluate economic opportunities

January-May
- Market assessment
- Competitive analysis and ROW valuation

June
- Market sounding with telecommunications industry

July 2020
- Feasibility study report
- Partnership recommendations
- Corridor buildout recommendations

Project Stakeholders & Areas of Expertise

1. **Department of Employment and Economic Development Minnesota**: Office of Broadband Development, Telecommunications Management
2. **Minnesota IT**: Telecommunications And Network Management and Agency Leads
3. **MnDOT Chief Counsel**: Chief Counsel, Deputy Chief Counsel, Right-Of-Way Counsel
4. **MnDOT Connected and Automated Vehicles Office**: Management, CAV And Intelligent Transportation System (ITS) Leads, Project Management
6. **MnDOT Office of Land Management**: Management, State Utility Engineer, Surveys and Mapping, Permits
8. **MnDOT Office of Transportation System Management**: Transportation Data Analysis, Geographic Information Systems (GIS), Statewide Planning

Connected Vehicle Broadband Partnership Examples

To help identify the state’s telecommunication needs and how they align with MnDOT’s construction program and 10-year plan, CAV-X is hosting workshops with offices, districts, MnIT and DEED to discuss broadband needs. This feedback will be used to develop the state’s 10-year fiber buildout along MnDOT right-of-way.

This image shows an illustration of the tool that was developed with state data to help inform this process. This tool looks at traffic volumes, different facilities that need connection, and where the private industry plans to build out its fiber routes to help develop a statewide plan that can connect communities, support traffic operations, and advance connected and automated vehicles. This study will also look at 5G and small cell technology impacts on fiber.

Contact Information

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