

Impacts of Connected Vehicles and Automated Vehicles on State and Local Transportation Agencies NCHRP Project 20-102 and Other Efforts

The **National Cooperative Highway Research Program** (NCHRP) is funded by the state departments of transportation and managed by the Transportation Research Board, part of the National Academies of Sciences, Engineering and Medicine. **NCHRP Project 20-102** began in Dec. 2014 to tackle CV/AV issues and is being coordinated with the U.S. DOT, private sector, and other efforts. Contact Ray Derr (rderr@nas.edu) for more information.

Reports Available

[Foreseeing the Impact of Transformational Technologies on Land Use and Transportation](#) [NCHRP Report 924] helps agencies prepare for a broad range of disruptive technologies.

[Development of Transactional Data Specification for Demand-Responsive Transportation](#) [TCRP Report 210] can facilitate interactions between new mobility options.

[Partnerships Between Transit Agencies and Transportation Network Companies](#) [TCRP Report 204] presents lessons learned from dozens of cities, including a [Partnership Playbook](#).

[Updating Regional Transportation Planning and Modeling Tools to Address Impacts of Connected and Automated Vehicles](#) [NCHRP Report 896] addresses transportation supply, road capacity, and travel demand, with [Executive Summary](#) and [Presentation](#).

[Dedicating Lanes for Priority or Exclusive Use by Connected and Automated Vehicles](#) [NCHRP Report 891] evaluates opportunities, constraints and guiding principles.

[Implications of Connected and Automated Driving Systems](#) [NCHRP Web-Only Document 253] helps states review their laws and regulations. It includes six volumes: [Legal Landscape](#), [State Legal and Regulatory Audit](#), [Legal Modification Prioritization and Harmonization Analysis](#), [Autonomous Vehicle Action Plan](#), [Developing the Autonomous Vehicle Action Plan](#), and [Implementation Plan](#).

[Advancing Automated and Connected Vehicles: Policy and Planning Actions for State and Local Transportation Agencies](#) [NCHRP Report 845] presents potential societal effects and strategies to advance public interests, including a [briefing document](#).

[Impacts of Regulations and Policies on CV and AV Technology Introduction in Transit Operations](#) [NCHRP Web-Only Document 239] and [Challenges to CV and AV Application in Truck Freight Operations](#) [NCHRP Web-Only Document 231] present next steps for implementation.

[Unmanned Aerial Systems \(UAS\) at Airports: A Primer](#) [ACRP Report 144] describes potential uses of UAS and impacts on airports, including regulatory and community considerations.

[A Look at the Legal Environment for Driverless Vehicles](#) [NCHRP Legal Research Digest 69]

[Shared Mobility and the Transformation of Public Transit](#) [TCRP Report 188], [Broadening Understanding of the Interplay Between Public Transit, Shared Mobility, and Personal Automobiles](#) [TCRP Report 195], and [Private Transit: Existing Services and Emerging Directions](#) [TCRP Report 196] explore how transit agencies are adapting.

[Transportation Network Companies: Challenges and Opportunities for Airport Operators](#) [ACRP Synthesis 84] compiles effective practices by airports in facilitating TNC access.



Work Underway

Institutional & Policy

- [Business Models to Facilitate Deployment of CV Infrastructure to Support AV Operations](#) [NCHRP 20-102(12)]
- [Strategic Research in Support of the Cooperative Automated Transportation Coalition \(CAT\) Executive Committee](#) [NCHRP 20-24(119)]
- [State-of-the-Art Review of Cooperative Automated Transportation \(CAT\) Systems](#) [NCHRP 20-24(128)]
- [Workforce Capability Strategies for State and Local Agencies](#) [NCHRP 20-102(20)]

Transportation Planning

- [Connected Road Classification System \(CRCS\) Development](#) [NCHRP 20-24(112)]
- [Mobility-on-Demand and Automated Driving Systems: A Framework for Public-Sector Assessment](#) [NCHRP 20-102(11)]
- [Impact of Transformational Technologies on Underserved Populations](#) [TCRP B-47, includes NCHRP 20-102(23)]
- [Realistic Estimates of CAV Implementation Timing](#) [NCHRP 20-102(27)]
- [Incorporating New Mobility Operations into Transportation Demand Modeling](#) [NCHRP 20-102(29)]

Infrastructure Design & Operations

- [Road Markings for Machine Vision](#) [NCHRP 20-102(06)]
- [Impacts of Connected and Automated Vehicle Technologies on the Highway Infrastructure](#) [NCHRP 20-102(15)]
- [Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs](#) [NCHRP 14-42]
- [Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors](#) [NCHRP 08-120]
- [Connected and Automated Parking Feasibility/MDOT MTA Dorsey Run Pilot Project](#) [TCRP IDEA 95]
- [Preparing Traffic Incident Management \(TIM\) Responders for CVs and AVs](#) [NCHRP 20-102(16)]
- [Deployment Guidance for CV Applications in the Open Source Application Development Portal](#) [NCHRP 20-102(17)]
- [Assessing the Impacts of Automated Driving Systems on the Future of Transportation Safety](#) [NCHRP 17-91, includes NCHRP 20-102(18) and BTSCR-07]
- [Infrastructure Modifications to improve the Operational Domain of Automated Vehicles](#) [NCHRP 20-102(21)]

- [Infrastructure Enablers for Connected and Automated Vehicles and Shared Mobility—Near-Term and Mid-Term](#) [NCHRP 20-102(24)]
- [National Automation Readiness Framework: Coast-to-Coast Automated Mobility by 2025](#) [NCHRP 20-24(126)]
- [Readiness and Effectiveness of Freeway-Based Corridor V2X Applications for Improving Congestion and Safety](#) [NCHRP 20-102(25)]
- [Dynamic Curbside Management in the Era of CAVs, SAVs, Scooters, TNCs, and Traditional Vehicles](#) [NCHRP 20-102(26)]
- [Best Practices in Work Zones for AVs and CVs](#) [NCHRP 20-102(28)]

IT Infrastructure & Data

- [Cybersecurity of Traffic Management Systems](#) [NCHRP 03-127, includes 20-102(10)]
- [Framework for Managing Data from Emerging Transportation Technologies to Support Decision-Making](#) [NCHRP 08-116, includes 20-102(04)]
- [Algorithms to Convert Basic Safety Messages into Traffic Measures](#) [NCHRP 03-137]
- [Data Integration, Sharing and Management for Transportation Planning and Traffic Operations](#) [NCHRP 08-119, includes NCHRP 20-102(13) and 20-102(14)]

Modal Applications

- [Airports and Unmanned Aerial Systems](#) [ACRP 03-42]
- [Low-Speed Automated Vehicles \(LSAV\) in Public Transportation](#) [TCRP J-11/Task 27]
- [Transportation Network Companies: Impacts to Airport Revenues and Operations](#) [ACRP 01-35]
- [Advanced Ground Vehicle Technologies \(AGVT\) for Airside Operations](#) [ACRP 03-48]
- [Redesigning Public Transportation Networks for a New Mobility Future](#) [TCRP H-56]
- [State and Local Impacts of Automated Freight Transportation Systems](#) [NCHRP 20-102(22)]
- [Best Practices in Coordination of Public Transit and Ride Sharing](#) [NCHRP 08-130]

Other

- [Update AASHTO's Connected Vehicle/Automated Vehicle Research Roadmap](#) [NCHRP 20-102(19)]
- [Updated Research Roadmap for NCHRP 20-102](#) [NCHRP 20-102(19)B]