

# ADVANCED MOBILITY

## FUTURE READY TRANSPORTATION

Technology solutions and new private mobility partners are transforming how we deliver safe and accessible transportation. FHU is focused on helping communities and agencies understand and harness advanced mobility solutions that can elevate how to move people, data and goods by:

**EVALUATING & INTEGRATING** emerging mobility strategies and policies;

**BUILDING** relationships with peer organizations, government agencies and private sector mobility partners to identify best practices and funding opportunities; and

**DESIGNING & DEPLOYING** advanced mobility solutions, technologies and tools to solve mobility needs and build community.

### ADVANCED MOBILITY PRIMER & FHU & TEAM HIGHLIGHTS

#### INFRASTRUCTURE SERVICES

Shared Street Roadway Design | Mobility Hubs, Parking & Curb | ITS & Fiber Electrification Design | Connected & Automated Infrastructure Standards | Vulnerable Road User Detection

#### MOBILITY SERVICES

On Demand Services Planning  
Automated, Microtransit, Micromobility, Rideshare, Carshare Policies & Partnerships  
Mobility as a Service and Seamless Trip Platforms | Electrification Planning | Cargo Delivery and Automated Delivery

#### DATA AND OPERATIONS SERVICES

Mobility Data Specifications | Real-Time System Planning & Operations Management | Data Analytics and Machine Learning | Curb Management | Dynamic Fleet Management

#### PRICING/PAYMENT SERVICES

Mobility Services Fees | Road Usage Charge & Tolling | Curb Pricing | Universal Basic Mobility & Mobility Wallets

#### AGENCY SERVICES

Agile Procurement | Innovation Policies & Partnerships | Challenges & Grants Business Intelligence

Denver's 39th Avenue Shared Street Greenway  
Denver's Mobility Hub Framework  
Colorado DOT Wrong Way Driving Detection Systems  
Colorado Springs Bicycle/Pedestrian Detection Systems  
Denver ATSPM with CDOT Managed Motorways Project  
Arvada Traffic Engineering Standards & EV Charging Stations  
Omaha's Smart Roads Adaptive Traffic Signals  
Colorado DOT Connected Vehicle/V2X Program

Regional Transportation District Reimagine RTD  
Colorado DOT ZEV Transit Roadmap  
MMT Strategic Business Plan & Fleet Electrification Analysis  
Colorado Clean Fleet Enterprise 10-Year Plan  
Colorado's Automated Mobility Policy

Colorado DOT GHG Transit Dashboard  
West Colfax Pedestrian Detection Pilot Program  
Unnamed Aerial (UAS) GIS Asset Inventory  
Colorado Multimodal Freight Plan  
Colorado Truck Parking Assessment  
CDOT ITS Devices GIS Database & Fiber Optic Mapping  
CDOT I-70 Mountain Corridor Ramp Metering Project

Boulder Smart City Investment Program & Fiber Network Plan  
Colorado DOT Road Usage Charge Pilot  
Westminster Funding & Grant Database/Screening Tool

Denver Innovative Pilot Framework  
Denver COVID Mobility Task Force  
Arvada Innovation Pilots/Demonstration Projects  
CDOT Grant Assistance – FTA Low or No-Emission Bus Program/Buses & Bus Facilities Grant Program

#### CONNECTED



#### AUTOMATED



#### SHARED ON DEMAND



#### SUSTAINABLE



#### EMERGING



# The People Behind the Technology



**RACHEL ACKERMANN** is an interdisciplinary transportation and systems engineer with wide experience in traffic engineering, transportation operations and multimodal innovative solutions. In addition to serving as the lead traffic engineer developing microsimulation models on multiple municipal corridor studies, planning, and design projects throughout Colorado, Rachel has pursued opportunities to integrate emerging transportation technologies from a mobility and energy perspective. Prior to FHU, Rachel worked as an engineer and rate/financial analyst at the Colorado Public Utilities Commission where she became familiar with transmission/distribution systems, utility rate design, renewable energy integration and behavioral change and incentive programs. A few initiatives of note include Boulder's SmartGrid City pricing pilot program, the interruptible service option credit program, Xcel Energy's EV charging pilot program, and demand side management strategic planning and policy litigation. FHU project work at the intersection of energy and mobility includes the Regional Transportation District's fleet electrification plan, Denver's Smart Cities mobility hub and innovation pilot frameworks, and the creation of a Colorado ZEV Transit Roadmap and GHG Transit Emissions Dashboard. Rachel has her MSE in Interdisciplinary Engineering – Systems Engineering from Purdue University, as well as a BS in Civil Engineering and a BA in Environmental Studies from the University of Colorado.



**CADY DAWSON** has nearly 20 years of transportation planning experience ranging from municipal planning efforts to county, regional, and statewide plans. Her experience includes short- and long-range multimodal plans, corridor studies, strategic planning, feasibility studies, and the integration of new and emerging technologies. Cady's focus on optimizing multimodal network connections and integrating first- and final-mile solutions with supportive advanced mobility concepts results in recommendations that are human-centered and enhance quality of life. Her recent leadership as project manager for Colorado's Statewide Transit Plan, Mountain Metropolitan Transit's Fleet Electrification Analysis, and Colorado's Zero Emission Vehicle Transit Roadmap and GHG Transit Emissions Dashboard reflects her ability to lead diverse multidisciplinary technical project teams to guide the responsible adoption of new technologies as primary and complementary mobility options. Paramount to Cady's work is her creative style and personal touch, which result in inclusive, meaningful, and community supported plans that work to close the equity gap and improve mobility for all.



**VIJAY SABAWAT** consults with the Colorado Department of Transportation and local agencies to manage the planning, design, and implementation of Intelligent Transportation Systems. As a proven data analyst and asset manager, he is a problem-solving software developer and traffic engineer who improves tools and infrastructure to maximize productivity and to minimize system downtime. As a Traffic Engineer/Data Scientist working as an extension of CDOT staff, Vijay develops various performance metrics to improve the traffic signal efficiency in both maintenance and operations for Monthly Arterial Corridors Performance Reports, CDOT Region I Inventory Management, and CDOT Region I Asset Maintenance Needs. He also helps with new technology such as Wrong-Way Driving systems, Connected Vehicles, Adaptive Systems, and more. He also trains Region I staff as needed on various systems such as traffic signal controllers, central system, automated traffic signal performance measures, travel time devices, and connected vehicles. As a Doctoral candidate, Vijay worked closely with the Wyoming Department of Transportation to develop a machine learning algorithm for deploying variable speed limits on the Interstate 80 corridor.

One way to look at advanced mobility is how we holistically harness the human, digital and physical systems to build our transportation system – always keeping an eye on tomorrow by preparing the policy and partnership frameworks to deliver it; and then shifting down the innovation continuum to cut through the arm-waving and thoughtfully integrate sustainable, community-sized transportation strategies and technologies today.