



SMART MOBILITY TOOLBOX

CDTC Smart Communities Toolbox

FOCUS GROUP MEETINGS – KEY TAKEAWAYS FROM STAKEHOLDER INPUT

In November and December 2021, the CDTC Smart Mobility Team held three focus groups with local government officials, staff and representatives from regional transportation organizations. The discussions focused on learning about the challenges of adopting emerging technologies, managing big data, integrating new technologies into existing organizations and bureaucracies, and other real and perceived limits on implementing Smart Cities projects. CDTC solicited the perspective of numerous participants and organizations regarding what should be considered in the implementation of new transportation technologies.

The focus groups addressed the areas of 1.) traffic and parking management, 2.) non-vehicular mobility and transit and 3.) energy infrastructure and electric (EV), connected and autonomous (AV) vehicles. The first session covered traffic safety, incident management, regional traffic operations, and parking and curb management. The second focus group session addressed walking, bicycling, electric-micro mobility, transit, and shared mobility services. In the final focus group, participants discussed transportation system electrification and automation – including private vehicles, shared vehicles, and transit. It also addressed infrastructure that may be required to support the safe operation of these vehicle types. The following is a summary of conversation across all three focus groups, including specific ideas generated for the Smart Mobility Toolbox, existing conditions within the Capital Region, best practices described as currently underway in the Capital Region, and areas that participants believed deserve further research and discussion within the toolbox.

Ideas for Toolbox – Participants were interested in seeing the following ideas included in the list of Smart Community features addressed in the Smart Mobility Toolbox:

- Parking availability sensors
- Signal timing
- Universal intersections
- Audible crosswalks
- Transit Signal Priority (TSP)
- Pedestrian priority at crosswalks
- Curb management
- Parking Mobility as a Service (MaaS) (variable pricing)
- Parking districts
- Electric vehicle (EV) charging including integrated with streetlights/utility poles
- Campus autonomous vehicle (AV) shuttles
- Streamlined paperwork for NYS Smart Community programs
- Transit electrification
- Non-profit fleet electrification



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- Mobility hubs
- Electric bike charging stations
- Bike lane improvements (e.g., illuminated paint)
- FLEX service and microtransit

Best Practices/Peers – Specific metro areas and agencies that were mentioned as having programs or features that are of interest to the Capital Region:

- Rochester, NY GTC – facilitated operations
- Buffalo, NY – Transportation Management Center (TMC) and university cooperation
- Cambridge, MA – Neighborhood EV charging and equity
- Montreal, Canada – On street EV charging (snowy climate)
- New York, NY – Curbside EV charging stations (NYC DOT, Con ED & FLO)
- Various locations - SPaT challenge
- NYPA Smart Streetlights Program

Existing Conditions in Capital Region – Focus group participants mentioned these programs or smart technology successes in the Capital Region:

- Blue Line (Bus Rapid Transit) signal upgrades along the Albany-Cohoes-Watervliet corridor
- EV charging stations including Stewart’s program
- Route 5, Western, and Washington signal upgrades
- Conversion of streetlights to municipal ownership in Albany, Schenectady, and other communities
- Albany Airport parking availability system
- Various CDTA programs – bus occupancy, carshare, scooter share, bike share, EV charging stations, MaaS, FLEX, etc. Electric buses have been successfully incorporated into CDTA fleet. Local car share will roll out soon
- Albany Policy Department Traffic Safety Division is hub of many smart solutions in Albany
- Village of Scotia Police Department uses license plate recognition (LPR) technology in conjunction with Schenectady
- Audible crosswalks installed by City of Saratoga Springs Public Safety Department
- NYSERDA electrical vehicle programs
- NYSERDA testing of electric self-driving shuttles on University of Buffalo campus
- Schenectady Metroplex and City of Schenectady downtown parking garage with passport payment system

Research/Discussion Items – General Smart Community topics and challenges that attendees thought should be discussed in the toolbox.

- Can TSP help implement other Smart Community elements or features? – i.e., progressive signal timing, universal intersections, bike lane automations, curb management, etc.
- Fuel cells
- Digital divide and equity



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- Potential partnerships: Organizations focused on accessibility, universities, medical complexes
- Resiliency and hazard mitigation
- Proprietary data and the limits it places on use of data or the interoperability of equipment
- System coordination across municipal boundaries
- Funding for operations
- What does IIJA say about Smart Communities
- EV charging stations - Burden of maintenance and upgrade requirements, including cost of subscription services
- Data collection for planning purposes – parking usage, transit ridership, pedestrian volumes, etc.
- Need for education around smart technologies, their benefits, how they work and best practices.
- Potential for a simple needs assessment form for agencies and organizations
- Role of smart community features in land use, design of built environment and connections between places.
- Challenges to rural areas, such as fixed route transit service and need for cell service/connectivity for EV charging stations
- Range prediction tools for electric fleets (temperature, weather)