

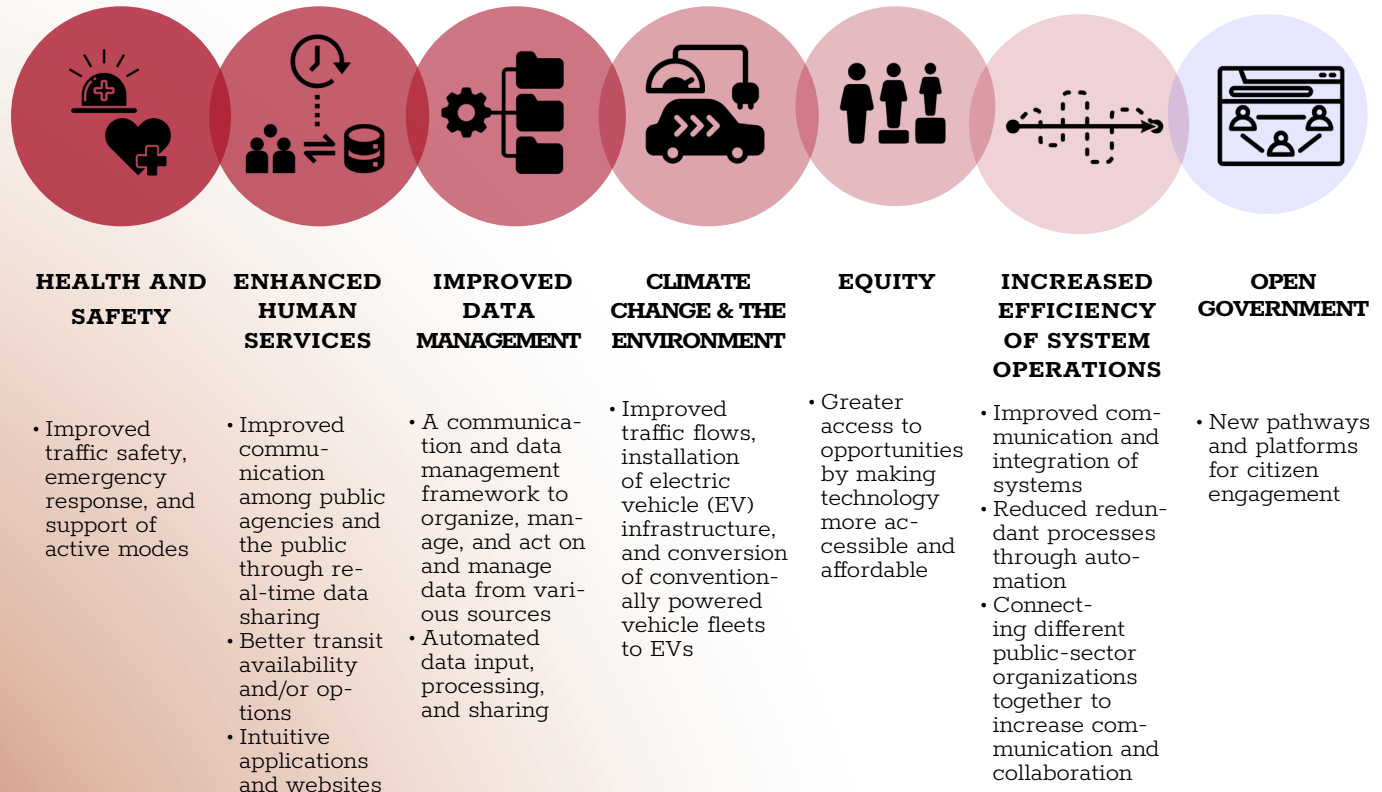
SMART COMMUNITY TOOLS

What is a Smart Community?

A 'Smart community' is a term used to describe a community that applies technologically enabled devices or systems to help the community perform more efficiently. The 'smart community' framework is an extensive strategy that can address the needs of a municipality by leveraging different technologies. Today, most cities and many smaller municipalities use smart strategies or communicate with the public through web-based applications. The recommendations for the Capital Region focused on the following areas of smart communities:

- Non-Vehicular Mobility
- Traffic Management
- Energy & Infrastructure
- Parking Management
- Smart Transit
- Electric/Connected/Autonomous Vehicles

Benefits of Smart Tools:



How to make your community a Smart Community?

In developing smart community solutions, strategies should integrate innovative principles and processes to facilitate sustainable, equitable, and appropriate solutions. The **Smart Mobility Toolbox: Smart Community Solutions for the Capital Region** is a resource for communities of all sizes within the Capital Region. If you are interested in expanding the smart community capabilities of your municipality visit the Smart Mobility Toolbox at:

<https://www.cdtcmo.org/what-we-do/smart-communities> or email cdtc@cdtcmo.org.

TOOLS IN PRACTICE

TRANSIT QUEUE JUMPS

Queue jump lanes are bus-only curbside lanes that allow buses to bypass general traffic queued up at traffic signals. Right turn lanes can double as queue jump lanes for buses traveling straight through an intersection.

MICROTRANSIT

Microtransit typically takes the form of a small bus or van that serves passengers by using dynamically generated routes. This service differs from typical transit services with fixed routes in that it provides flexible routes that serve a targeted geographic area. This service may be more accessible for some users who cannot benefit from other shared modes that are more physically demanding, such as bike, scooter, or moped share systems.

TRAFFIC SIGNAL PRIORITY

Traffic Signal Priority (TSP) is a system that can either lengthen green time when a bus is approaching a traffic signal or shorten red time while a bus is waiting at a signal based on predetermined parameters. It can be used to shorten bus travel time and improve schedule reliability. Parameters include schedule adherence, passenger load, side street traffic volume and others.

SMART CYCLE TRACK

A smart cycle track utilizes connected infrastructure technology that contains sensors to detect bicyclists and trigger traffic signals to respond to the presence of bicyclists and gives them priority to navigate the intersection through bicycle signals that turn green before vehicle signals.

ROADSIDE SENSORS FOR CV's

Roadside sensors (RSUs) are hardware embedded in pavement or on streetlight poles. These smart sensors are the component part of many smart city solutions that allow the system to collect data.

EV CHARGING

Electric vehicle supply equipment provides electricity to an electric vehicle. Commonly called charging stations or charging docks, they provide electric power to the vehicle to recharge its batteries. Electric vehicle supply equipment systems include electrical conductors, software, and communications protocols that deliver energy efficiently and safely to the vehicle.

MICROMOBILITY

Micromobility services use small, fully, or partially human-powered vehicles such as bikes, e-bikes, and e-scooters. Access to these devices is generally facilitated by mobile app or kiosk where the vehicles can be rented. These vehicles are picked up and dropped off in the public right-of-way and are meant for short trips of less than 10 minutes.

LED STREETLIGHT CONVERSIONS

Replacing traditional streetlights with LED lights provides energy savings, better quality light, and cost savings. Additionally, they can incorporate smart, connected technologies through sensors within the streetlights. The capabilities of smart technology with the streetlights can vary from basic capabilities like dimming lights to more complex tasks such as photographing speeding cars to assist with traffic enforcement.

UNIVERSAL INTERSECTION

Universally designed intersections are designed to increase safety for pedestrians with special consideration for differently abled populations. In the context of smart city solutions, the intersections are equipped with sensors that facilitate vehicle-to-infrastructure communication. These sensors then connect to an app on the pedestrian's phone that informs them that it is safe to cross.

