



Technology

The improvements of mobility and safety within the CO 7 Corridor from Brighton to Boulder can only be done through the application of new transportation technology and infrastructure expansion.

Benefits of Incorporating Technology

As the corridor continues to improve and grow, technology will be incorporated to provide all types of users with the following benefits:

- > **Improved reliability of transit travel**
- > **Safer driving experience**
- > **Enhanced safety for pedestrians and bicyclists**
- > **Improved air quality**

CO 7 Corridor Recommendations

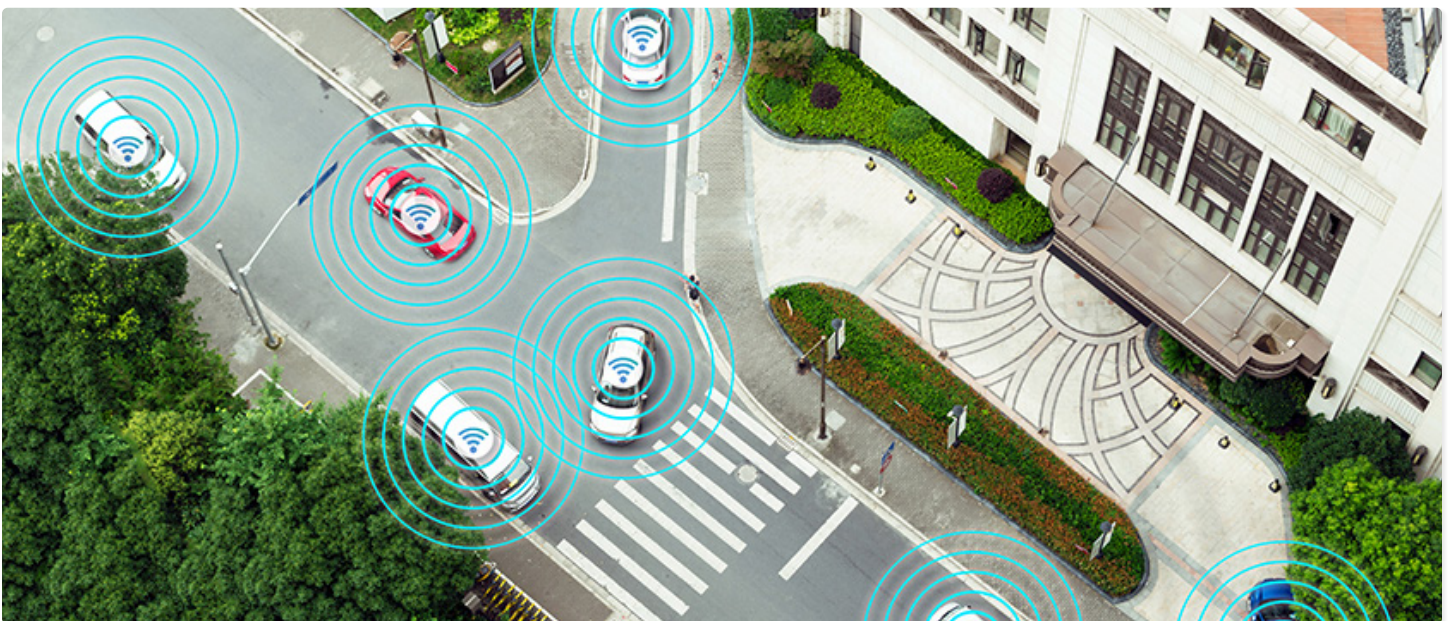
Consistent recommendations for all types of multimodal projects will be implemented across the CO 7 Corridor. Implementing technology will provide a safer and more reliable source of available transportation options.

Increase Transit Reliability

- > **Transit signal priority (TSP) enabled traffic signals:** The use of TSP technology at a signalized intersection reduces the time a transit vehicle spends waiting at a red light providing immediate benefits to transit reliability.
- > **Transit queue jump enabled traffic signals:** Transit queue jump operations require a dedicated lane at a signalized intersection in order for transit vehicle to bypass the general traffic in the through lanes.
- > **Transit traveler information:** Data published through general transit feed in real-time provides bus frequency information to use on dynamic signs at stops, stations, and in various transit apps.

Increase Pedestrian and Bicycle Safety

- > **Pedestrian/bicyclist detection at signalized intersections:** This type of detection increases pedestrian crossing time intervals to provide additional time for slower-moving pedestrians and/or bicyclists.





CO 7 Multimodal Corridor Brighton to Boulder



Improve Traffic Safety

All travel modes will operate along or adjacent to the CO 7 Corridor upon the future buildout. Improving the safety of the roadway network will be beneficial for all modes of travel and provide a solid technological foundation with implementation. Proposed improvements include:

- > **Traffic signals on Advanced Traffic Management System (ATMS).**
- > **Closed Circuit Television Cameras (CCTVs).**
- > **Automated Traffic Signal Performance Metrics (ATSPM).**
- > **Automated roadway de-icing treatment.**
- > **Dynamic roadway warning signs.**

Improve Intermodal Connectivity

A successful multimodal travel corridor facilitates the use of a combination of modes for various trip types and accessibility to switch between modes. Proposed improvements include:

- > **Electric Vehicle (EV) charging stations.**
- > **Smart Park-and-Ride (PnR) system.**
- > **Connected Vehicle (CV) technologies.**
(vehicle-to-infrastructure, vehicle-to-vehicle, vehicle-to-pedestrian, vehicle-to-everything)
- > **Autonomous Vehicle (AV) supporting technology.**
- > **Fiber communication network.**



Increase Synergy & Communication with Data-driven Insights

The ability to monitor corridor travel and the resulting data will increase synergy and communication by demonstrating progress and keeping corridor agencies within the long-term vision. An Intelligent Transportation System (ITS) Strategic Plan will identify specific technological elements, priorities, and costs. It will also ensure technology and system implementations on the corridor are following federal standards that are consistent across state, regional, and local levels.

Other Benefits of Technology:

- > **CV/AV drivers are safer with crash avoidance systems.**
- > **Encouraging use of EVs reduces carbon emissions.**
- > **Transit users can more easily predict travel times and plan connections.**
- > **Supports a cashless system to pay for parking or transit.**
- > **Use of cameras at intersections improves safety for every road user.**



How does this get implemented?

Technology cannot be implemented at once. The development of the Corridor Technology Plan will allow for a consistent approach to applying this technology as projects are constructed.