Technology

Improving mobility and safety on the CO 7 Corridor from Brighton to Boulder can't be done with infrastructure expansion alone. It's going to also take the application of knowledge and scientific principles to move people more efficiently. Think of it as working smarter, not harder.

Benefits of Incorporating Technology

As the corridor continues to improve and grow, and projects are built, technology will be incorporated to provide benefits for users making local trips or commuters traveling across the corridor. Users will experience the following benefits:

- Improved reliability of transit travel.
- Safer driving experience.
- Enhanced safety for pedestrians and bicyclists.
- Improved air quality.
- More seamless intermodal connections.

CO 7 Corridor Recommendations:

CO 7 will implement consistent recommendations for all types of multimodal projects. Implementing technology will provide for a safer and more seamless trip for walking, biking, driving or taking the bus!

Increase Transit Reliability

- **Transit signal priority (TSP) enabled traffic signals**
  Transit signal priority (TSP) technology at a signalized intersection reduces the time a transit vehicle spends waiting at a red light. It provides immediate benefits to transit reliability.

- **Transit queue jump enabled traffic signals**
  Transit queue jump operations require a dedicated lane at a signalized intersection so that transit vehicles can be given a head start to bypass the general traffic in the through lanes.

- **Transit traveler information**
  Data published through general transit feed specification real-time provides bus frequency information to use on dynamic signs at stops and 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.

Improve Traffic Safety

All travel modes operate along or adjacent to the CO 7 Corridor. Improving the safety of the roadway network will improve safety for all modes of travel and provides 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 makes it easier to switch between modes. Proposed improvements include:

- Electric Vehicle (EV) charging stations.
- Smart Park-and-Ride 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-driven insights will increase synergy and communication as it will demonstrate progress and keep corridor agencies on track with the long-term vision. An Intelligent Transportation System (ITS) Strategic Plan will identify specific technology elements, priorities, and costs. It will also ensure technology and system implementations on the corridor are following federal standards and are consistent across the 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? All of this technology can't be implemented all at once. The development of the Corridor Technology Plan will allow for a consistent approach to implementing this technology as projects are constructed.