

VISION

Transportation systems, serving all travel modes across the DRCOG region, are interconnected, and collaboratively operated, managed, and maintained to optimize safe, reliable, and efficient travel for all system users, contributing to the region's economic prosperity and high quality of life.

GOALS

Safe Operations	Efficient, Seamless Travel	Trip Travel Time Reliability	Equitable Access	Environmental Sustainability
Physical and technological improvements and intentional operations management deployed to both reduce crashes and achieve zero fatalities.	Interconnected systems across jurisdictions and modes are actively and cooperatively managed to optimize operator situational awareness, provide accurate and timely traveler information, and allow collaborative transportation systems operation.	Multimodal travel times are monitored in real-time, and operations are managed to limit disruptions affecting travel time reliability.	People of all ages, abilities, languages, backgrounds, and incomes have access to safe and reliable mobility options.	Apply technology, service and operations that reduce energy consumption, improved air quality, and reduced greenhouse gas emissions.

REGIONAL OBJECTIVES

- Increase trip time reliability for all travelers
- Minimize traveler delay due to signal operations
- Improve transit operations performance
- Reduce average incident duration and disruption
- Reduce occurrence of secondary incidents
- Reduce emergency responder/roadway worker struck-by incidents
- Improve air quality and reduce transportation-related emissions
- Collect travel data to inform real-time system management and traveler information
- Expand functional scope and geographic coverage of travel data sources
- Openly share travel data and performance analytics
- Expand capability and coverage of real-time monitoring and management by transportation operations staff to detect and respond to disruptions
- Improve real-time operations situational awareness both locally at a regional level
- Actively and cooperatively manage system operations across jurisdictional boundaries and between modes
- Improve and optimize real-time operations system performance across jurisdictional boundaries and between modes
- Improve access to traveler information that is regional, accurate and timely

OPERATIONAL CONCEPT

The operational concept is a high-level description of the roles and responsibilities of the regional stakeholders as they relate to systems and operations management and regional transportation operations.

Arterial Management

- Local Jurisdictions and CDOT Regions:
 - Deploy, operate and maintain interconnected traffic signal system infrastructure on arterials.
 - Deploy, operate and maintain communications network infrastructure on arterials to other arterial system infrastructure.
 - Deploy, operate, and maintain travel data* collection system infrastructure on arterials.
 - Deploy, operate, and maintain traffic camera system infrastructure on arterials.
 - Deploy, operate, and maintain traveler information dissemination system infrastructure on arterials.
 - Monitor roadway conditions and actively manage system to ensure optimal operations.
 - Monitor transportation management systems health.
 - Share system data with regional data platform.
 - Coordinate traffic camera access between neighboring jurisdictions and modes.
 - Actively and cooperatively coordinate arterial operations, especially when disruptions are detected, with neighboring jurisdictions and other modes.
 - Deploy, operate and maintain field system infrastructure necessary to support TSP operations.
 - Collaborate with DRCOG to develop and implement optimal signal timing plans and to address operation trouble spots.

* Includes detection systems, connected vehicle systems, travel time monitoring, road weather monitoring, etc.

- RTD:
 - Deploy, operate and maintain TSP field infrastructure.
 - Deploy, operate and maintain on-board infrastructure to support TSP operations.

- Deploy, operate and maintain computer-aided dispatch systems and other fleet monitoring systems necessary to support TSP operations.
- Lead necessary coordination to plan, implement, and operate TSP across the region.
- Using traffic signal system and transit operations data, develop and share performance monitoring analysis.

* Includes passenger counting systems, on-board communications, schedule data and logic processing units, etc.

- <UNDEFINED> [THE REGIONAL DATA PLATFORM APPLIES EACH SERVICE AERA]:
 - Access regional data platform* to calculate performance metrics and visualize the data as a real-time operations map for operators
 - Access regional data platform for the purpose of presenting regional traveler information to the public
 - Access regional data platform to calculate regional performance metrics, identifying negative trends and trouble spots.
 - Develop and maintain a library of data analytics modules for regional use.

* Regional data platform consolidates archived and real-time data from multiple jurisdictions and multiple sources.

Freeway Management

- CDOT ITS & Network Services
 - Deploy and maintain traffic monitoring and travel data* system infrastructure on freeways and major state highways.
 - Deploy and maintain traveler information dissemination system infrastructure on freeways and major state highways.
 - Deploy and maintain traffic camera system infrastructure on freeways and major state highways.

*Includes detection systems, connected vehicle systems, travel time monitoring, road weather monitoring, etc.

- CDOT Real-Time Operations Branch
 - Deploy, operate and maintain Advanced Traffic Management System (ATMS).
 - Deploy, operate and maintain Traveler Information System.

- Deploy, operate and maintain Video Management System (VMS).
- Monitor health of ATMS and field infrastructure
- Monitor conditions on freeways and other state highways
- Share system data with regional data platform.
- Coordinate traffic camera access between neighboring jurisdictions and modes.
- Actively and cooperatively coordinate freeway operations, especially when disruptions are detected, with neighboring jurisdictions and other modes.
- CDOT Regions
 - Deploy, operate, and maintain ramp metering system infrastructure.
- CDOT ITS & Network Services and High Performance Tolling Enterprise (HTPE) and Public Highway Authority
 - Deploy, operate, and maintain toll collection and violation enforcement infrastructure and systems.
 - Deploy, operate and maintain travel data* system infrastructure on tolled facility.
 - Deploy and maintain traffic camera system infrastructure on tolled facility.
 - Deploy, operate, and maintain traveler information dissemination system infrastructure on tolled facility.
 - Deploy and dispatch Motorist Safety Patrol.
 - Monitor toll facility operations to both track congestion and monitor transportation management systems health.
 - Conduct toll collection and violation enforcement on tolled facility.
 - Share system data with regional data platform.

*Includes detection systems, connected vehicle systems, travel time monitoring, road weather monitoring, etc.

Traffic Incident Management

- CDOT Real-Time Operations Branch and High Performance Tolling Enterprise (HTPE)

- Coordinate local Traffic Incident Management (TIM) Teams that lead development, implementation, and management of traffic incident management planning. This includes After Action Reviews (AAR) to improve joint response.
- Deploy and dispatch Motorist Safety Patrol.
- Integrate Public Safety Computer-Aided Dispatch (CAD) data with ATMS.
- Monitor freeway and other state highway operations for disruptions, assisted with automated incident detection and other data sources.
- Share system data with regional data platform.
- Use ATMS and other tools to provide details for the AAR.
- Coordinate traffic incident management roadway response on freeways and state highways (traffic monitoring, traffic management and traveler information) with Public Safety and Local Jurisdictions through Public Safety Dispatch.
- Coordinate equipment needs with Public Safety during traffic incident management roadway response.
- Local Jurisdictions and CDOT Regions
 - Participate in TIM Team with the development, implementation and management of traffic incident management planning.
 - Integrate Public Safety CAD data with traffic management center operations.
 - Monitor arterials operations for disruptions, assisted with automated incident detection and other data sources.
 - Share system data with regional data platform.
 - Coordinate traffic incident management roadway response on arterials (traffic monitoring, traffic management and traveler information) with Public Safety and Local Jurisdictions through Public Safety Dispatch.
- Public Safety Agencies
 - Participate in TIM Team with the development, implementation and management of traffic incident management planning.

- Deploy, operate and maintain an emergency call-taking and dispatch system.
- Deploy, operate and maintain CAD system to track and monitoring traffic incidents.
- Access regional data platform and share traffic cameras to assist with the dispatch of resources.
- Share CAD data with traffic management centers.
- Public Highway Authority
 - Lead development, implementation and management of traffic incident management planning for toll facility.
 - Deploy and dispatch Motorist Safety Patrol.
 - Integrate Public Safety CAD data with traffic management center operations.
 - Monitor toll facility operations for disruptions, assisted with automated incident detection and other data sources.
 - Coordinate traffic incident management response on toll facility (traffic monitoring, traffic management and traveler information) with Public Safety and other jurisdictions, as necessary, through Public Safety Dispatch.
 - Coordinate equipment needs with Public Safety during traffic incident management roadway response.