AGENDA

WORKING GROUP
Tuesday, February 4, 2020
2:30 p.m.

Denver Regional Council of Governments
1001 17th St.
Aspen Conference Room

1. **Welcome and Introductions**

2. **Technology Data Scrum**
   Ashley Nylen, Assistant Director of Mobility Technology, CDOT

3. **Regional Operations and Technology Planning Framework**
   Greg MacKinnon, Transportation Operations Program Manager, DRCOG

4. **MCB Tactical Action Prioritization**
   All partner agencies

5. **Election of Officers Discussion**

6. **Next Meeting: March 3, 2020**

ADVANCED MOBILITY PARTNERSHIP

WORKING GROUP
Tuesday, January 7, 2020
2:30 p.m.

Denver Regional Council of Governments
1001 17th St.
Aspen Conference Room

MEETING SUMMARY

Attendees

Steve Cook, DRCOG
Jay Decker, City and County of Denver
Paul DesRocher, RTD
Crissy Fanganello, Panasonic
Amy Ford, ITS America
John Firouzi, City of Arvada
Dorothy Jones, Denver Metro Chamber of Commerce
Christina Lane, City of Lakewood
Dave Levy, Mobilitynext
Adam Lind, City of Arvada
Emily Lindsey, DRCOG
Lily Lizarraga, CDOT
Jason Longsdorf, HDR
Sydney Lund, CDOT

Greg MacKinnon, DRCOG
Danny Montoya, RTO Representative, Douglas County
Ashley Nylen, CDOT
Ravi Palakurthy, RTD
Ron Papsdorf, DRCOG
Carson Priest, TAC Representative, Smart Commute Metro North
Chris Primus, HDR
Jacob Riger, DRCOG
Charlie Stanfield, RTD
Josh Sperling, NREL
Tyler Svitak, Colorado Smart Cities Alliance
Brian Welch, RTD
Tom Worker-Braddock, City of Aurora

1. **Welcome and Introductions**
   Emily Lindsey welcomed attendees to the first meeting of the Advanced Mobility Partnership Working Group, participants went around the room and introduced themselves.

2. **AMP Overview**
   Ms. Lindsey provided an overview of the Advanced Mobility Partnership, which includes the Denver Regional Council of Governments (DRCOG), Regional Transportation District (RTD), Colorado Department of Transportation (CDOT) and the Denver Metro Chamber of Commerce. Ms. Lindsey described the committee structure that supports the AMP, which includes an Executive Committee and Working Group.

3. **Mobility Choice Blueprint Overview and Status of Tactical Actions**

   Jacob Riger provided an overview of the Mobility Choice Blueprint (MCB), a plan completed in early 2019 by all of the partner agencies now part of the AMP. Mr. Riger provided planning context, reviewing the approach to the plan which was: collaborative, integrated and regional. Mr. Riger reviewed each of the objectives from the MCB including: regional collaboration, system optimization, shared mobility, data security and sharing, mobility electrification, driverless vehicle preparation and new transportation funding. Staff shared a short video that was developed to introduce people to the MCB. Mr. Riger noted that a key part of the plan was the identification of 34 tactical actions.

   Ms. Lindsey introduced the next section, a review of tactical actions and their latest status. Ron Papsdorf noted that participants would be encouraged to help prioritize tactical actions at a future AMP Working Group meeting to provide context for the review of tactical actions. Attendees went around and reviewed each tactical action, and action initiators (listed in MCB) provided relevant updates and status' of activities related to each tactical action.

4. **DRCOG Regional Transportation Operations & Technology Program**

   Greg MacKinnon introduced DRCOG's Regional Operations and Technology program, which is part of the Transportation Planning and Operations division at DRCOG. Mr. MacKinnon provided a brief overview of the regional transportation operations program which includes (a) a traffic operations (signal) program, which begin in 1989, in an effort to improve interjurisdictional timing and coordination and a capital element that related to system expansion and connections, (b) an Intelligent Transportation Systems (ITS) Pool/Deployment Program, which began in 2005 and funded capital and system projects including communications, cameras, control centers and traveler information, etc. and (c) a Regional Transportation Operations (RTO) Working Group, which includes technical staff from local jurisdictions, CDOT and RTD.

   Mr. MacKinnon shared the RTO perspective in the context of the Metro Vision planning framework, focusing on initiatives that would support improving performance and reliability of the network. Mr. MacKinnon reviewed the regional ITS Architecture Operational Concept and described the opportunity for the AMP to establish a regional framework for a coordinated operations philosophy. He highlighted some of the near-term RTO initiatives which include efforts related to situational awareness and management/control.

   Mr. MacKinnon also introduced a set-aside from the DRCOG Transportation Improvement Program (TIP), the Regional Transportation Operations and Technology Set-Aside program. This set-aside includes around $13 million and DRCOG plans to issue a Call for Projects in Spring 2020.

   Mr. MacKinnon provided some additional RTO Working Group thoughts on MCB Tactical Actions and posed several questions to the group to think about.

5. **Next Steps and 2020 Meeting Calendar**
   Ms. Lindsey shared the 2020 AMP Working Group meeting calendar with folks and thanked them for participating in the meeting. The next meeting is February 4, 2020 at the same time/place.

   Josh Sperling shared that NREL would be presenting on several interesting topics at the upcoming Transportation Research Board (TRB) conference and encouraged participants to join if they were in DC. Mr. Sperling also presented an upcoming funding opportunity through the US Department of Energy. The Funding Opportunity announcement is No. DE-FOA-0002197. Mr. Sperling noted there may be several interesting areas for potential collaboration around AMP-related topics in the Denver region.

DATE: February 4, 2020
TO: AMP Working Group
FROM: Ashley Nylen, Assistant Director of Mobility Technology, CDOT
SUBJECT: Technology Data Scrum
ACTION: Information

SUMMARY

CDOT, in partnership with the Harvard Kennedy School is hosting a Technology Data Scrum with the intent of improving data sharing and technology interoperability for the state of Colorado. The purpose of the scrum is to enable state, regional and local agencies to share mobility data effectively to achieve a broad range of transportation objectives.

Beyond a convening of stakeholders, the scrum is a structured process to achieve three objectives:

1. Establish and define a common understanding of the core issues surrounding data sharing, interoperability and deployment.
2. Engage stakeholders in a deep-dive on priority barriers to data sharing issues.
3. Create a path forward for CDOT and partners for continued Technology Data Sharing.

The scrum is meant to catalyze action. CDOT sees this as a way to accelerate the decision making process and provide a path forward to enable regional transportation data sharing among CDOT and various partners that will mutually benefit from a proposed technology data sharing framework. In order to ensure the best use of time during the Data Scrum a survey will be sent to participants prior to the workshop to gauge expectations, needs and interests.

The Technology Data Scrum will be hosted at CDOT Headquarters and take place over a two-day period. There will be no cost associated in attending the Data Scrum.

ATTACHMENT(S)

N/A

ADDITIONAL INFORMATION

CDOT is working to identify the workshop dates, but tentatively planning for May 2020.
For additional information, please contact Lily Lizarraga, Innovative Mobility Project Coordinator, CDOT, at 303-757-9789 or lily.lizarraga@state.co.us.

DATE: February 4, 2020
TO: AMP Working Group
FROM: Greg MacKinnon, Transportation Operations Program Manager, DRCOG
SUBJECT: DRCOG Regional Transportation Operations & Technology Program
ACTION: Discussion

SUMMARY

Last month, DRCOG staff provided an overview presentation of the Regional Transportation Operations (RTO) Working Group's current activities and perspectives. This included a summary of the RTO Working Group's perspectives for both the priorities contained in the Mobility Choice Blueprint Tactical Actions and the near-term priorities for regional transportation operations implementations.

The RTO Working Group is continuing to work on a Call for Projects for the RTO&T Set-Aside of the DRCOG Transportation Improvement Program (TIP). The RTO Working Group met on January 28th to discuss the draft eligibility rules and selection process that extends directly from the initiatives and priorities presented at the last AMP meeting.

The RTO Working Group is seeking further guidance and input from the AMP Working Group on both the overall process and on specific questions stemming from their January 28th discussion.

DRCOG staff will provide a presentation at this AMP Working Group meeting.

ATTACHMENT(S)

1. DRAFT RTO&T Eligibility Rules and Selection Process

ADDITIONAL INFORMATION

For additional information, please contact Greg MacKinnon, Transportation Operations Program Manager, DRCOG, at 303-480-5633 or gmackinnon@drcog.org.

Regional Transportation Operations & Technology Set-Aside
FY 2020 to FY 2023 Projects
Eligibility Rules and Selection Process
for 2020 Call-for-Projects
DRAFT for discussion

Program Purpose

The *Regional Transportation Operations & Technology (RTO&T) Set-Aside* funds transportation technology improvements to traffic signal systems, intelligent transportation system projects, and other technology projects associated with any travel mode. The specific outcomes and objectives of the RTO&T set-aside are listed below.

Program Objectives

The RTO&T program objectives extend from two objectives in the DRCOG Metro Vision:

Operate, manage and maintain a safe and reliable transportation system.

- Maintain existing and future transportation facilities in good condition.
- Improve transportation system performance and reliability.
- Improve transportation safety and security.

Improve and expand the regional's multimodal transportation system, services and connections.

- Improve the capacity of the multimodal regional roadway system.
- Improve the region's comprehensive transit system, including the timely completion of the FasTracks program.
- Improve bicycle and pedestrian accessibility.
- Improve interconnections of the multimodal transportation system within and beyond the region for people and freight.
- Expand travel demand management services and strategies.

The RTO&T program specifically focuses improvements to transportation system performance and reliability; the other objectives contribute to achieving that main objective.

Sponsor Eligibility Requirements

- Project sponsors must be eligible to be subrecipients of federal transportation funds, administered through the Colorado Department of Transportation. These include local governments, CDOT, RTD and other governmental agencies. Private, for-profit companies (e.g., contractors, suppliers, or consultants), nonprofits and transportation management associations/organizations (TMA/Os) are not eligible sponsors.

- Project sponsors must also be in good standing with the State of Colorado via the Secretary of State's business database:
  http://www.sos.state.co.us/pubs/business/businessHome.html

- All scopes of work must adhere to the federal Congestion Mitigation/Air Quality(CMAQ) program guidance:
  https://www.fhwa.dot.gov/Environment/air_quality/cmaq/policy_and_guidance/.

Project Eligibility Requirements

Funding background

The DRCOG 2020 – 2023 Transportation Improvement Program allocates $5,000,000 of federal CMAQ funds annually to this set-aside. It is estimated that at least $13,000,000 will be available for capital projects in this call-for-projects. Some funding is designated to DRCOG staff to provide support services to the project sponsors. Note: all selected projects become a "federal project" and must adhere applicable state and federal regulations.

Eligible project types

Sponsors are encouraged to consider the program goals in developing project concepts. The following is a list of requirements for all eligible projects:

- Projects must be a transportation project
- Projects must result in pollutant emissions reduction
- Projects must be located in or benefit DRCOG region's nonattainment or maintenance areas
- As this set-aside involves operations improvements, projects must be focused on improvements achieved along corridors identified in the 2040 Regional Roadway System
- As per 23 CFR §940.11, projects must be represented in the DRCOG Regional ITS Architecture.

The following is list of eligible types of projects focused on near-term regional transportation operations priorities:

- Extend reach of traffic signal system control to locations not currently under system control or locations having a demonstrated history of poor reliability.
- Implement traffic signal systems that are capable of both integrating with neighboring systems and supporting advanced signal control strategies.
- Implement infrastructure to support the implementation of regional advanced traffic signal performance measurement (ATSPM), including: upgraded controllers/cabinets, advance vehicle detection, connected vehicle roadside equipment, field communications, and traffic management center (TMC) infrastructure and software.
- Implement or expand infrastructure necessary to provide travel time monitoring and performance measurement. Additionally, such implementations must share data with CDOT's traveler information system.
- Implement servers, software and infrastructure to provide and support regional transportation data sharing. May include: the deployment of analytics and similar applications utilizing shared transportation data; and, expansion and deployment of improved regional traveler information services.
- Implement traffic camera system (field equipment, TMC equipment and communications infrastructure).
- Implement field infrastructure necessary to support advanced signal control strategies, including: detection equipment (all types), connected vehicle roadside equipment, field communications, field support equipment not related to signal system and TMC infrastructure and software.

Ineligible projects

- Projects submitted to and not selected the other DRCOG Transportation Improvement Program (TIP) set-aside programs (*Community Mobility Planning and Implementation*, *Regional TDM* or *Human Services Transportation Set-Aside*, or the *Regional Air Quality Council Set-Aside)* are not eligible under this set-aside.
- Projects that add new capacity for single-occupant vehicles are ineligible.
- Routine maintenance and rehabilitation projects (i.e. projects that solely maintaining existing functionality) are ineligible.
- Stand-alone studies or studies that fall outside the specific project development pipeline are not eligible.

Please reach out to DRCOG staff if there are questions about eligibility.

Funding Requirements

The funding minimum is $100,000 federal. Project sponsors must clearly describe how the funding request is supported by the work proposed for the project.

A non-federal cash match of at least 20% of the total project cost is required (federal share can be no more than 80%) except for projects noted below. CDOT is the steward of these funds and does not track overmatch. If a sponsor wants to commit a greater share of non-federal funding to the project, they may do so.

As per 23 CFR §120, certain safety projects are eligible for an increased federal share – up to 100 percent of the cost of construction. For the purpose of this call for projects, projects that include exclusively the items list below will be considered for the increased federal share:

- Traffic signal system (must have proven capability of integrating with neighboring traffic signal systems and support advanced signal control strategies)
- Traffic signal controllers (must meet Advanced Traffic Controller standard with hi resolution data logging capability) or dedicated data aggregator equipment
- Traffic signal cabinets (meeting jurisdiction's current standard specifications)
- Field communications equipment to connect to transportation communications network
- Communications infrastructure connecting field equipment to Traffic Management Center (TMC)
- Communications equipment at TMC
- Transit Signal Priority (TSP) field equipment, firmware, and software
- System/advance detectors (expressly for new traffic signal timing coordination functionality)
- Communications equipment and infrastructure connecting neighboring TMCs

Application Process

1. **Identify the project concept and begin early discussions with DRCOG staff** (strongly encouraged, not required)
2. **Attend a mandatory RTO&T set-aside pre-application workshop**
3. **Submit a letter of intent**

DRAFT for discussion

With a multi-step application process, interested applicants must first submit a letter of intent that include applicant's contact information, a project description, estimated project cost and an initial project risk assessment matrix. Supplemental materials will be accepted if they contribute to the understanding of project being proposed.

4. **Letter of intent discussion**

   DRCOG staff will review the letter of intent and request additional information as needed. As necessary, applicants may be contacted by DRCOG staff to clarify the proposal before next steps are taken. This will include screening of project proposals for eligibility and identification of potential partners and or project links. The RTO Working Group will assemble and discuss proposed project details and expected outcomes. If the letter of intent is accepted, sponsors will be invited to submit a full application.

5. **Invited applicants complete and submit an application**

   Applications must be submitted along with letters of support from impacted or participating entities. Those letters must formally acknowledge and commit to their respective roles and responsibilities for the project implementation and subsequent operations. Infrastructure projects requiring CDOT or RTD concurrence (projects on a state highway or within the state rights-of-way or involving RTD service) must provide an official agency response with the application submittal. Note that applications must also include the required preliminary systems engineering analysis documentation necessary to initiate the project.

6. **Project review, scoring and recommendation**

   Applications will be reviewed and scored based on the set-aside evaluation criteria. The internal project review panel will prepare a recommendation of projects to be funded to present to the RTO Working Group. DRCOG's Transportation Advisory Committee and Regional Transportation Committee will make further recommendation prior to a presentation to the Board of Directors for approval.

7. **Applicants are notified about approved projects**

Project Funding Evaluation and Selection Process

DRCOG will establish an internal project review panel to assist with scoring and evaluating projects. Participants may include staff from DRCOG divisions:

- Transportation Planning and Operations
- Regional Planning and Development
- Communications and Marketing (Way to Go)
- Area Agency on Aging, and/or
- Executive Office

Each member of the panel will review the applications and assign points to the criteria based on information contained in the project application forms. The panel will convene to discuss the applications and reach consensus on the final criteria points and total score for each project. The panel will recommend a list of projects to be funded by the *Regional Transportation Operations and Technology* Set-Aside. The recommended list of projects will be presented to the RTO Working Group and then taken through DRCOG committees for review and final approval by the DRCOG Board of Directors.

Evaluation criteria

Category	Description	Scoring	Weight
Alignment with Metro Vision	The project's ability to contribute to the implementation of Metro Vision.	low – minimal impact to implementation of Metro Vision medium – consistent relationship to several Metro Vision objectives high – strong relationship to Metro Vision objectives	XX
Alignment with RTO&T Objectives	The extent of the project's capability to contribute to program objectives, including the main objective: "Improve transportation system performance and reliability."	low – contribution to main objective only medium – strong contribution to main objective with contribution to at least one other objectives high – strong contribution to main objective with contribution to at least two other objectives	XX
Collaboration and Partnerships	The extent to which the project involves multi-agency and/or multi-jurisdictional collaboration.	low – no partnerships as part of project, sponsor-led and implemented medium – acknowledgement of partnership with other agencies and/or jurisdictions high – partnerships include financial support and resources and collaboration throughout the life of the project	XX
Innovation and Transferability	The extent to which the project involves an innovative practice or technique and/or potential transferability of project process or products.	low – no potential for outcome to provide proof of concept for a process or practice. No transferability locally or regionally. medium – limited potential for outcome to provide proof of concept for a process or practice. Concept may prove transferrable to other projects locally or regionally. high – strong potential for outcome to provide proof of concept for a process or practice including potential transferability to other projects locally and regionally	XX
Project Need	The extent to which the project location is an area needing improvement offered by the project.	low – Congestion Score and High Injury Network Score for corridor in bottom third of scale	XX

DRAFT for discussion

Category	Description	Scoring	Weight
		medium – Congestion Score and High Injury Network Score for corridor in middle third of scale or mixed results high – Congestion Score and High Injury Network Score for corridor in top third of scale	
Project Impact	The extent to which the project provides improvements in air quality, congestion and travel reliability	low – the lower third of projects submitted medium – the middle third of projects submitted high – the upper third of projects submitted	XX
Risk Management Plan.	The extent to which project development prepared for the rigors of implementation.	low – minimal effort to identify risks and mitigation strategies or unrealistic assessment of risk and consequences medium – realistic assessment of project risks and consequences without notable mitigation plans high – rigorous review of the project risks and consequences addressed by intentional and specific mitigation strategies	XX

Award Conditions

- Project sponsors will formally acknowledge that federal funding is allocated and that adherence to applicable state and federal regulations (and DRCOG TIP policy) is mandatory for all phases of the project.

- Funding provided to local government sponsors must not replace existing local funding for staff.

- Applicants must not request funding for projects, activities, or services that are currently performed by other agencies or government entities. Applicants must not request funding for projects, activities, or services that are currently performed by, or may compete with, the private sector.

- All project scopes of work are subject to review and approval by DRCOG and CDOT.

- Each applicant awarded funds will sign an IGA and enter into a contract with the Colorado Department of Transportation (CDOT) to implement the project depending on the type, location and other characteristics of the project. CDOT is the ultimate steward of these federal funds. CDOT will specify requirements for status reporting and reimbursement requests.

- Each awarded project sponsor will be required to attend reimbursement training (approximately 4 hours) that defines the documentation required for tracking expenses and requesting reimbursement.

- All funded projects must include a DRCOG staff representative as a member of the project management team or equivalent group.

- Each awarded project sponsor will be required to attend a post-project debrief with DRCOG staff.

DRAFT for discussion

ADVANCED MOBILITY PARTNERSHIP

DATE:	February 4, 2020
TO:	AMP Working Group
FROM:	Emily Lindsey, Transportation Technology Strategist, DRCOG
SUBJECT:	MCB Tactical Action Prioritization
ACTION:	Discussion

SUMMARY

The Mobility Choice Blueprint is a collaborative strategy to help the Denver region prepare for the rapidly changing technology that is revolutionizing transportation mobility. Completed in 2019, this effort was a unique planning and funding partnership between DRCOG, RTD, CDOT and the Denver Metro Chamber of Commerce. The planning process included stakeholder engagement, travel trend analysis, evaluation of innovative mobility services and solutions, and identification of planning and implementation partnerships. The Advanced Mobility Partnership (AMP) will work together with partners to implement the Mobility Choice Blueprint.

The Mobility Choice Blueprint report outlines seven objectives including: regional collaboration, system optimization, shared mobility, data security and sharing, mobility electrification, driverless vehicle preparation and new transportation funding. A critical outcome of the Mobility Choice Blueprint was the development of tactical actions related to the objectives, these tactical actions outline specific process, program and pilot implementation guidance. The AMP Working Group reviewed the tactical actions and heard from partner agencies about the latest status of each action at their January 2020 meeting. The Working Group will discuss prioritization of the tactical actions at their February meeting.

ATTACHMENT(S)

1. Mobility Choice Blueprint Final Report[1]
2. Mobility Choice Blueprint Summary[2]

ADDITIONAL INFORMATION

For additional information, please contact Emily Lindsey, Transportation Technology Strategist, DRCOG, at 303-480-5628 or elindsey@drcog.org.

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[1] https://www.mobilitychoiceblueprintstudy.com/assets/docs/MCB_Final_Report_.pdf
[2] https://www.mobilitychoiceblueprintstudy.com/assets/docs/MCB_Summary_Brochure.pdf

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