

## **AGENDA**

### **TRANSPORTATION ADVISORY COMMITTEE**

**Monday, January 25, 2016**

**1:30 p.m.**

1290 Broadway

Independence Pass Board Room - Ground floor, West side

1. Call to Order
2. Public Comment
3. December 21, 2015 TAC Meeting Summary  
(Attachment A)

#### **INFORMATIONAL ITEMS**

4. Discussion on addressing HOV, managed lanes, and toll highway policies in the transportation planning process.  
(Attachment B) Jacob Riger
5. Discussion of the transit component of the new 2040 Metro Vision Regional Transportation Plan (2040 MVRTP).  
(Attachment C) Matthew Helfant
6. Update on the Regional Bicycle Network Vision and relation to new 2040 MVRTP and upcoming DRCOG Active Transportation Plan.  
(Attachment D) Melina Dempsey

#### **ADMINISTRATIVE ITEMS**

7. Member Comment/Other Matters
8. Next Meeting – February 22, 2016
9. Adjournment

Persons in need of auxiliary aids or services, such as interpretation services or assisted listening devices, are asked to contact DRCOG at least 48 hours in advance of the meeting by calling (303) 480-6744.



**ATTACHMENT A**

**MEETING SUMMARY  
TRANSPORTATION ADVISORY COMMITTEE  
Monday, December 21, 2015**

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**MEMBERS (OR VOTING ALTERNATES) PRESENT:**

Jeanne Shreve	Adams County
Maria D'Andrea (Alternate)	Adams County – City of Commerce City
Travis Greiman	Arapahoe County-City of Centennial
Dave Chambers	Arapahoe County –City of Aurora
Tom Reed (Alternate)	Aviation
Phil Greenwald (Alternate)	Boulder County-City of Longmont
George Gerstle	Boulder County
Debra Baskett (Chair)	Broomfield, City and County
Steve Klausing	Business/Economic Development
Debra Perkins-Smith	Colorado Dept. of Transportation, DTD
David Gaspers	Denver, City and County
Tykus Holloway	Denver, City and County
Doug Rex	Denver Regional Council of Governments
Art Griffith	Douglas County
John Cotten	Douglas County-City of Lone Tree
Greg Fischer	Freight
Bob Manwaring (Vice Chair)	Jefferson County-City of Arvada
Berten Weaver	Non-MPO
Tex Elam (Alternate)	Non-RTD Transit
Kate Cooke (Alternate)	Regional Air Quality Council
Bill Sirois (Alternate)	Regional Transportation District
Aylene McCallum	TDM/Nonmotor

**OTHERS PRESENT:**

Kent Moorman (Alternate)	Adams County – City of Thornton
Bryan Weimer (Alternate)	Arapahoe County
Jeff Sudmeier (Alternate)	Colorado Dept. of Transportation, DTD
Janice Finch (Alternate)	Denver, City and County
Dave Baskett (Alternate)	Jefferson County-City of Lakewood
Ted Heyd (Alternate)	TDM/Nonmotor

Public: Keith Borsheim, HDR; Larry Squires, FTA; Bill Holloway, SSTI; Catherine Manzo, Streetlight Data

DRCOG staff: Steve Cook, Todd Cottrell, Matthew Helfant, Mark Northrop, Will Soper, Casey Collins

Call to Order

Chair Debra Baskett called the meeting to order at 1:35 p.m.

Public Comments

There were no public comments.

Summary of November 23, 2015 Meeting

The meeting summary was accepted.

### **ACTION ITEMS**

#### Discussion of amendments to the 2016-2021 Transportation Improvement Program (TIP)

Todd Cottrell presented the 3 requested amendments.

Sponsor	TIP ID		Proposed Amendment
Longmont	2016-015	RTD Route #324 Frequency Improvements	Update project scope (to extend weekday service hours and add Sunday service) and name (from Frequency to <i>Service</i> Improvements)
CDOT Reg. 4	2016-055	I-25: 120 <sup>th</sup> Ave to E-470 Managed Lanes	Add \$25 million new funding (bank loan, backed by CDOT program funds, to be paid off by future toll revenues)
CDOT Reg. 1	2016-059	C-470 Managed Toll Express Lanes: Wadsworth to I-25	Transfer funds between fiscal years and funding types (change bond/loans from local to state, as loans are backed by CDOT program funds).

No discussion was heard.

George Gerstle MOVED to recommend to the Regional Transportation Committee amendments to the *2016-2021 Transportation Improvement Program (TIP)*. The motion was seconded and was passed unanimously.

#### Election of a TAC Chair and Vice Chair for the 2016/2017 term.

The nominating committee (Debra Baskett, Ken Lloyd, Bill Sirois, Paul Jesaitis, and George Gerstle) recommended the following TAC members to serve as TAC officers for the 2016-2017 two-year term: Bob Manwaring as Chair and John Cotten as Vice-Chair. There were no other nominations from the floor.

George Gerstle MOVED and the committee voted by acclamation to elect Bob Manwaring (City of Arvada) as Chair and John Cotten (City of Lone Tree) as Vice Chair to serve a two-year term beginning January 2016.

#### Discussion of actions regarding TIP project delays for FY 2015.

Todd Cottrell presented the FY 2015 report of projects that are considered delayed as of end of fiscal year 2015 (September 30, 2015). Sponsors have discussed with DRCOG staff reasons for delays and their action plans to timely initiate delayed projects.

Three projects (Boulder, Greenwood Village, and Thornton) were reported as second-year delayed. After appearing before the DRCOG Board in October 2015, all three were granted a 120-day extension to implement their phases no later than January 28, 2016.

Fourteen project phases were reported as first-year delayed in the report; two projects have since been initiated. Staff recommended continuance of first-year delayed projects with associated actions and conditions.

George Gerstle MOVED to recommend to the Regional Transportation Committee actions proposed by staff regarding *2012-2017 Transportation Improvement Program (TIP)* project delays for Fiscal Year 2015. The motion was seconded and was passed unanimously.

### **INFORMATIONAL ITEMS**

#### Review of FY 2015 Annual Listing of Federal Projects

Todd Cottrell presented the federally-required fiscal year report listing all obligated projects in a MPO region for a given year. In the DRCOG region, \$306 million was obligated on 69 projects in

FY 2015. Amounts listed are for all federal transportation funding obligations (CDOT, DRCOG, RTD, etc.).

#### CDOT's Big Data Origin-Destination Analysis

Steve Cook introduced Erik Sabina, CDOT's Information Management Branch Manager, who presented an overview of a project that CDOT, in collaboration with the University of Wisconsin's *State Smart Transportation Initiative* (SSTI), is working on to compile passively-collected big data on tripmaking and travel movement in the region. The objective is to help develop systems for using big data to assist in making wiser transportation decisions. Streetlight Data and INRIX are also involved in the collaboration.

Mr. Sabina introduced Eric Sundquist from SSTI to speak on the effort. Mr. Sundquist distributed a map handout and asked the TAC for feedback to identify any key activity centers, roadway corridors, or other traffic generators the SSTI team should be aware of. DRCOG staff will email the presentation and contact information to the TAC, who can provide their feedback to SSTI.

### **ADMINISTRATIVE ITEMS**

#### Member Comment/Other Matters

On behalf of TAC, Doug Rex thanked Debra Baskett for her two-year service as Chair in 2014-2015.

Non-RTD and Senior Interests Alternate Tex Elam has resigned from the TAC and was thanked for his 10 years service.

Doug Rex commented the TIP Review Work Group has met for 5 of the scheduled 8 meetings to develop a White Paper, as requested by the Board in October, 2015. Staff is expected to present the draft White Paper to the Board in February.

Ted Heyd noted a Dec. 20, 2015 Denver Post article on traffic congestion:  
[http://www.denverpost.com/news/ci\\_29283375/think-traffic-is-bad-around-denver-area-just#disqus\\_thread](http://www.denverpost.com/news/ci_29283375/think-traffic-is-bad-around-denver-area-just#disqus_thread)

Debra Baskett mentioned Denver's Arapahoe Street bike lane was listed as one of [America's 10 best new bike lanes of 2015](#).

The meeting adjourned at 3:08 p.m. The next meeting is scheduled for January 25, 2016.

## ATTACHMENT B

To: Chair and Members of the Transportation Advisory Committee

From: Jacob Riger, Transportation Planning Coordinator  
303-480-6751 or [jriger@drcoq.org](mailto:jriger@drcoq.org).

Meeting Date	Agenda Category	Agenda Item #
January 25, 2016	Information	4

### SUBJECT

This item pertains to how DRCOG could address High Occupancy Vehicles (HOV), managed lanes, and toll highway policies in its transportation planning process.

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

In the past, the Metro Vision Issues Committee (MVIC) has discussed the possibility of developing HOV and managed lanes policy at the regional or project levels.

At the January TAC meeting, staff will seek committee input on three components of this topic: 1) MVIC-requested HOV background research; 2) CDOT's new HOV policy; and 3) updates to DRCOG information requirements for tolled projects proposed for inclusion in the *Fiscally Constrained Regional Transportation Plan (FC-RTP)*.

Each component is discussed in more detail below:

#### 1. MVIC-requested HOV background research

MVIC asked staff to conduct background research about the current use of HOV facilities in the Denver region; benefits of HOV/managed lanes; and other considerations and policy options. That information is included in Attachment 1.

#### 2. CDOT's new HOV policy

In October 2015, the State Transportation Commission approved a resolution regarding the assessment of HOVs on tolled managed lanes on the state highway system. The impetus for the new resolution was a February 2013 policy resolution passed by the Transportation Commission requiring, as of January 1, 2017, all tolled HOV lanes on the state highway system to be limited to free access only by HOVs with three or more total occupants (HOV 3+). However, the resolution did not provide guidance as to whether a facility "should" include HOV 3+ lanes. The October 14, 2015 CDOT agenda memo to the Transportation Commission addressing this issue and adopted resolutions are provided in Attachment 2.

CDOT's new HOV policy begins with the assumption that HOV 3+ will be free for all proposed CDOT toll facilities. However, the policy notes three conditions under which this assumption may not be feasible. Specifically, if HOV 3+: 1) causes safety

concerns; 2) leads to corridor performance measures not being met; or 3) renders the transportation improvements financially infeasible. CDOT will use the new policy to assess HOV on all new managed corridors/lanes projects.

**3. Updates to DRCOG information requirements** for tolled projects proposed for inclusion in the *Fiscally Constrained Regional Transportation Plan*.

Per state statutes (linked in attachments), in 2009, DRCOG adopted requirements for additional information to be submitted whenever a project with a tolling component is proposed for inclusion or amendment in the FC-RTP. Now is an opportune time to update these requirements. Attachments 3 and 4 show proposed changes to the 2009 requirements to incorporate CDOT's HOV policy (Attachment 3), and to reflect other updates (Attachments 3 and 4).

PREVIOUS DISCUSSIONS/ACTIONS

[July 2, 2014](#) – MVIC

[November 6, 2013](#) – MVIC

PROPOSED MOTION

N/A

ATTACHMENTS

1. Background research on HOVs and managed lanes in the Denver region
2. CDOT memo and resolution to Transportation Commission regarding High Occupancy Vehicle (HOV) Policy Guidance (October 14, 2015)
3. Proposed updates to DRCOG 2009 Information Requirements (CTE/HPTE additional information requirements for FC-RTP amendment submittals with a tolling component) (3a – track-changes and 3b – clean versions)
4. Proposed updates to DRCOG 2009 Information Requirements (Non-HPTE additional information requirements for FC-RTP amendment submittals with a tolling component) (4a – track-changes and 4b – clean versions)

Links:

- [C.R.S 43-4-805.5 \(HB05-1148\): CDOT/HPTE toll highway construction MPO review requirements](#)
- [C.R.S. 7-45-105/106 \(HB06-1003\): Private Toll Company toll highway construction MPO review requirements](#)

ADDITIONAL INFORMATION

If you need additional information, please contact Jacob Riger, Transportation Planning Coordinator, at 303-480-6751 or [jriger@drcog.org](mailto:jriger@drcog.org).

# ATTACHMENT 1

## Summary Information on Toll/HOV Facilities and Policies (January 15, 2016)

At its November 6, 2013 meeting, MVIC discussed questions and implications of the Board setting policies regarding the use of tolled managed lanes (e.g., toll express lanes adjacent to free general purpose lanes). Staff conducted initial research regarding example policies, their effect on use and revenues, and the relation to income of users. Draft findings were presented to the MVIC on July 2, 2014.

Staff was asked to address three additional questions:

### 1. How many people use the current HOV/HOT facility in the Denver area?

#### Estimated Average Weekday Users - 2015

(DRAFT - January 13, 2016)

<b>Express Lanes</b>	<b>US-36: West of I-25</b>	<b>I-25: South of US-36</b>	<b>Percent of Persons</b>
<b>Toll Paying Vehicles *</b>	<b>15,770</b>	<b>7,390</b>	
<i>Est. Persons (x1.2 per veh.)</i>	<i>18,924</i>	<i>8,868</i>	2.9%
<b>Free HOVs *</b>	<b>4,560</b>	<b>1,900</b>	
<i>Est. Persons (x2.2)</i>	<i>10,032</i>	<i>4,180</i>	1.4%
<b>Non-Rev./Hybrid Vehs.</b>	<b>1,140</b>	<b>400</b>	
<i>Est. Persons (x1.3)</i>	<i>1,482</i>	<i>520</i>	0.2%
<b>Transit Passengers</b>	<b>11,200</b>	<b>12,100</b>	4.0%
<b>Total Persons Express Lanes</b>	<b>41,638</b>	<b>25,668</b>	
<b>General Purp. Lane Vehs.</b>	120,000	220,000	
<i>GP Lane Est. Persons (x1.25)</i>	<i>150,000</i>	<i>275,000</i>	91.5%
<b>Grand Total Persons</b>	<b>191,638</b>	<b>300,668</b>	100.0%
Persons per Express Lane	20,819	Operates limited hours of day	
Persons per GP Lane	25,000		

Sources: *October 2015 Monthly Operations Report (HPTE, Plenary Roads)*

\* - Free HOVs likely underestimated due to "learning curve."

of installing new transponder. Some HOVs charged a toll.

Staff compilation from *RTD 2013 Annual Service Report (Boardings)*

# ATTACHMENT 1

## Summary Information on Toll/HOV Facilities and Policies (January 15, 2016)

### **2. What are the benefits of providing HOV facilities? And, what are the impacts of HOV facilities on the Metro Vision goals to reduce SOV share of travel, per capita VMT, and per capita greenhouse gases?**

- HOV facilities encourage and provide incentive to SOVs to form and join car/van pools, or ride transit.
- Operational improvements for transit vehicles are often incorporated.
- Car/vanpooling and transit offer a viable mobility option for many people.
- HOV facilities and the associated avoidance of SOV trips will help reduce regional GHG, pollutants, and VMT. The regional scale of reductions will be relatively minor, with greater benefits within a specific corridor.
- Though the impact of individual HOV facilities on total regionwide measures and goals is minor, the collective impact of all VMT reduction strategies is meaningful, to the established goals, and also to expanding personal mobility options. Examples include bicycle, transit, and pedestrian projects, and TDM services of the DRCOG Way to Go program.
- Studies are mixed in their conclusions about the effectiveness of HOV lanes. Some studies conclude “underused” HOV lanes may be more effective in reducing fuel use and pollutants if converted to general purpose lanes, by enabling all traffic collectively, to flow a little smoother during rush hour – as opposed to the managed lane(s) operating at 55 mph+ and the adjacent general purpose lanes operating stop-and-go. Other studies conclude differently – that opening an HOV lane to general purpose vehicles will induce significant additional regional VMT offsetting corridor traffic flow improvements.
- Factors unique to each corridor will affect the results for individual HOV facilities, such as the level of congestion in the corridor, speed difference between HOV and general purpose lanes, length of the facility, ingress/egress points, or adjacent rail transit service.

### **3. What is the relation of free or toll-paying HOVs to revenues for managed lanes?**

- There are many factors and it is impossible to draw a perfect conclusion. However, using the basic assumptions that 1) a certain amount of total revenue must be derived to operate, maintain, and pay for the facility; and 2) the facility has a capacity limit on the number of vehicles that may efficiently use it at peak times, staff offers the following observations:
  - Allowing free use by HOVs, or any type of vehicle, decreases the potential number of toll paying vehicles.
  - If a minimum amount of total revenue is required (e.g., per funding plan), fewer toll-paying vehicles equates to either: higher required tolls for some or all vehicles; or a longer payback period for bonds, etc.
  - There is additional net cost associated with the enforcement of rules regarding free HOVs versus charging a toll for all vehicles.
  - It is an economic balancing act, as is the case with any business or public service.



## ATTACHMENT 1

### Summary Information on Toll/HOV Facilities and Policies

(January 15, 2016)

- A 2012 study (<http://www.drcog.org/documents/HPTE%20Amendment.pdf>) prepared by Resource Systems Group, Inc. for the change of the US-36/North I-25 Tolloed Express Lanes from HOV 2+ free to HOV 3+ free, estimated the following behavioral modifications for 2-person HOVs after the toll is imposed:
  - Most will remain in the managed lanes and pay (split) the toll (~70%)
  - Some will attract a 3<sup>rd</sup> occupant (e.g. through from Way to Go Program) and travel for free (~6%)
  - Some move to free adjacent “general purpose” lanes or a parallel roadway (~22%)
  - Some will switch to transit (~1%)
  - Some will switch back to SOV (~1% to 2%)

#### Example HOV policy approaches

If DRCOG wishes to establish specific policies regarding the accommodation of HOVs on public roadway managed/tolled facilities, there are different approaches that could be considered:

- Planning Process: Where to apply policies? Only DRCOG specific actions and responsibilities – 2040 MVRTP, TIP, etc.? Or also, recommendations to CDOT/ HPTE?
- Should blanket policies apply for all future facilities, or case by case (i.e. corridor by corridor)
- Should policies apply to only projects that receive or are considered for DRCOG funding? Or also apply or to ANY public tolling/HOV project (CDOT/HPTE).
- Should policies be the basis for Board “support” or “opposition” to projects?

## ATTACHMENT 2



**COLORADO**  
Department of Transportation  
Division of Transportation Development

**DATE:** October 14, 2015  
**TO:** Transportation Commission  
**FROM:** Debra Perkins-Smith, Director, Division of Transportation Development (DTD)  
**SUBJECT:** High Occupancy Vehicle (HOV) Policy Guidance

### Purpose

To provide guidance on proposed policy for High Occupancy Vehicle (HOV) lanes.

### Action

Transportation Commission (TC) approval of revised HOV Policy resolution.

### Background

Managed lanes are being considered with increasing frequency as a potential solution on many corridors (see Attachment A). HOV lanes, bus only, bus on shoulder, Bus Rapid Transit (BRT), Tolloed Express Lanes (TEL), and congestion pricing are all examples of managed lanes. Guidance is currently being developed on how to apply the Managed Lanes Policy Directive 1603.0 (Resolution #TC-3039, December 2012), which states:

“Managed Lanes provide the ability for the Department to respond to changing traffic conditions and provide operational flexibility and efficient operation of the multi-modal transportation system infrastructure by maximizing the number of vehicle or the number of people traveling in a given corridor. As congestion increases in a corridor, managed lanes can provide greater reliability of travel and also promote alternative travel choices. The challenge for transportation planners and highway engineers is to maximize the operation of transportation infrastructure by considering flexible, cost-effective strategies for sustaining or enhancing the movement of people and goods.”

There are a number of managed lanes currently in the planning stages, including potential HOV and TEL projects and combinations thereof; therefore guidance is being developed on how to consider these strategies within a corridor. With a number of planned or future projects considering HOV lanes as part of a managed lanes strategy, the timing is appropriate for the TC to consider providing additional guidance on how HOV lanes should be considered on CDOT projects.

### Details

As a state DOT, we recognize the benefits of HOV:

- To increase the person throughput of the transportation system (by providing incentives to use buses, vanpools, and carpools)
- To provide mode choice
- To reduce congestion
- To reduce the number of vehicles, and therefore reduce vehicle emissions

HOV lanes in Colorado have most often been implemented as part of a TEL. The goal of a TEL strategy is to optimize throughput of the transportation system, provide travel time reliability, reduce congestion, provide choice, and generate revenue to offset operations, maintenance, or project costs of a transportation investment. When developing a TEL strategy, the consideration of HOV lanes must also be balanced with the goals of the TEL.

PD 1603.0 requires that the use of managed lanes be strongly considered during the planning and development of capacity improvements on state highway facilities in Colorado, but does not provide guidance specific to HOV lanes. Resolution #TC-3052 (February 2013) required that as of January 1, 2017 all tolled HOV lanes on the state highway system be limited to vehicles with three or more total occupants (HOV-3+). It did not, however, provide guidance as to how it should be determined whether a facility should include HOV-3+ lanes. Staff is currently developing guidance on the implementation of

PD 1603.0 and requests TC input on how to address the consideration of HOV-3+ lanes. Staff has developed the following general concepts to guide the consideration of managed lane strategies, including HOV:

*Establish Performance Measures* - For managed corridors/lanes, set performance measures for corridor goals. For example, if the goal of the managed corridor/lane is to provide travel time reliability, a performance measure related to level of service (LOS) or speed should be established. (These performance measures are sometimes expressed as triggers at which an action is taken.)

*Consider HOV-3+ Free* - For managed corridors/lanes, in recognition of the benefits of HOV, begin with the assumption that HOV-3+ is free; however, there are conditions under which this strategy may not be feasible. For example, if HOV-3+ results in any of the following issues:

- Safety concerns
- Corridor performance measures will not be met
- Renders the transportation improvements financially infeasible

Each managed corridor/lane can be assessed based on its specific characteristics and may be reassessed as conditions change over time. See attached example of an HOV assessment. Attachment B provides example assessments for US 36, I-70 PPSL, and C-470.

At the TC Workshop, staff will review the proposed policy approach, as well as the specifics of its application on the I-70 PPSL and C-470 projects (see Attachments B and C). Given the need for a decision in the near future for C-470, staff requests TC input and consideration of an approval action on an updated resolution to replace Resolution #TC-3052 (see Attachment D). Staff will incorporate the direction provided by the TC in the PD 1603.0 guidance currently being developed.

#### **Next Steps**








- Transportation Commission adoption of revised HOV Policy resolution

#### **Attachments**

- Attachment A - Colorado Toll/HOV/BRT Facilities
- Attachment B - Example HOV Assessment
- Attachment C - C-470 Express Toll Lanes Exemption Analysis
- Attachment D - Updated Resolution #TC-3052 (HOV 3+ Policy)

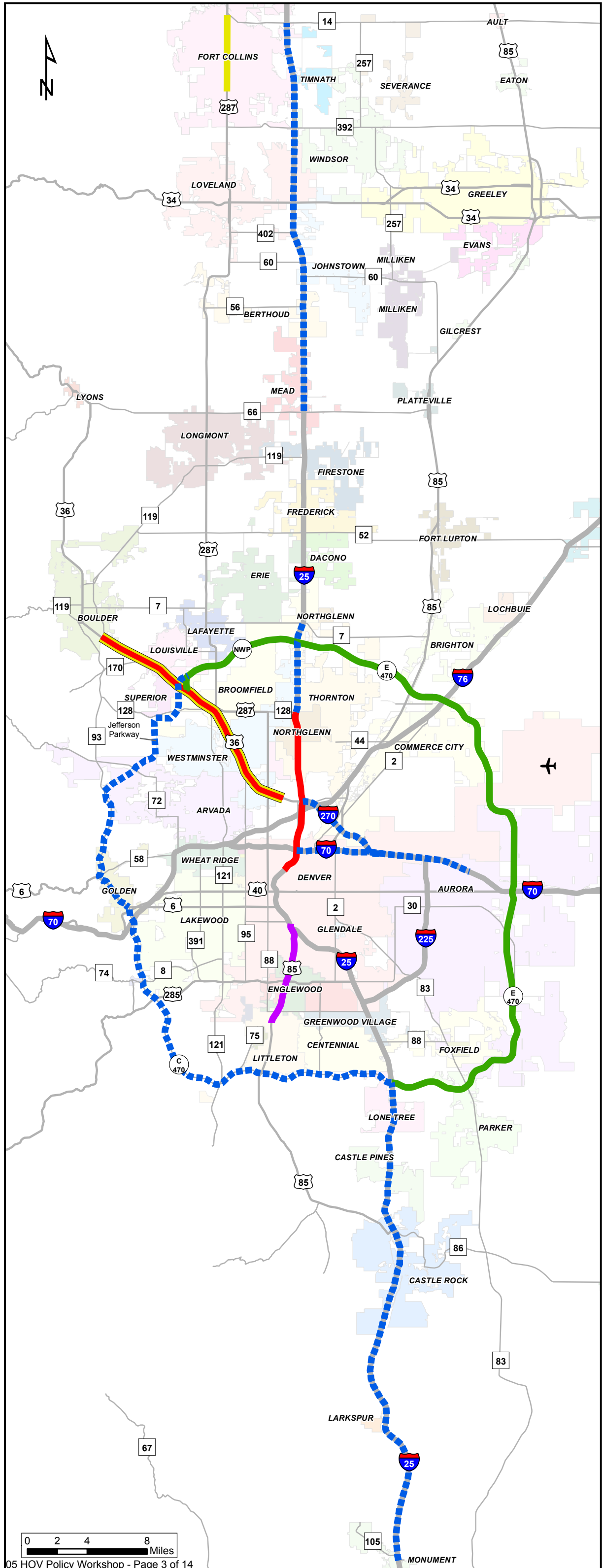
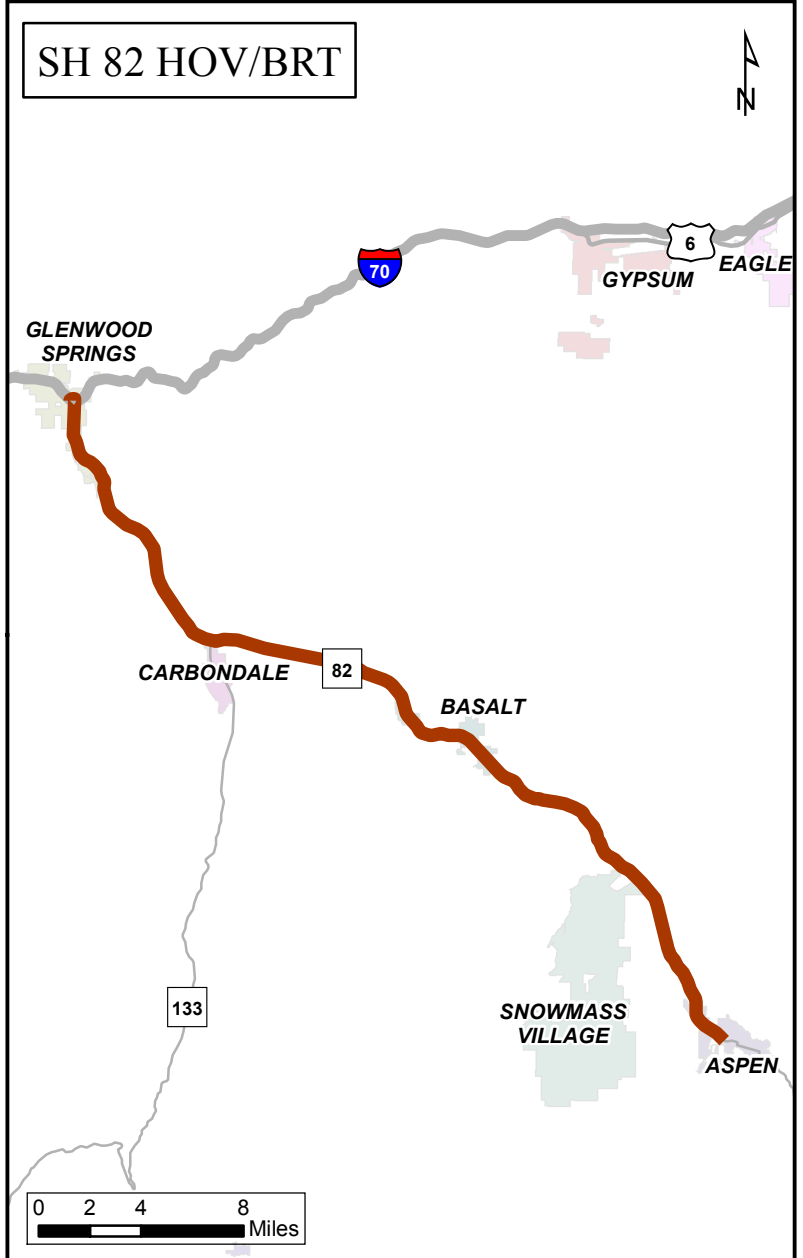
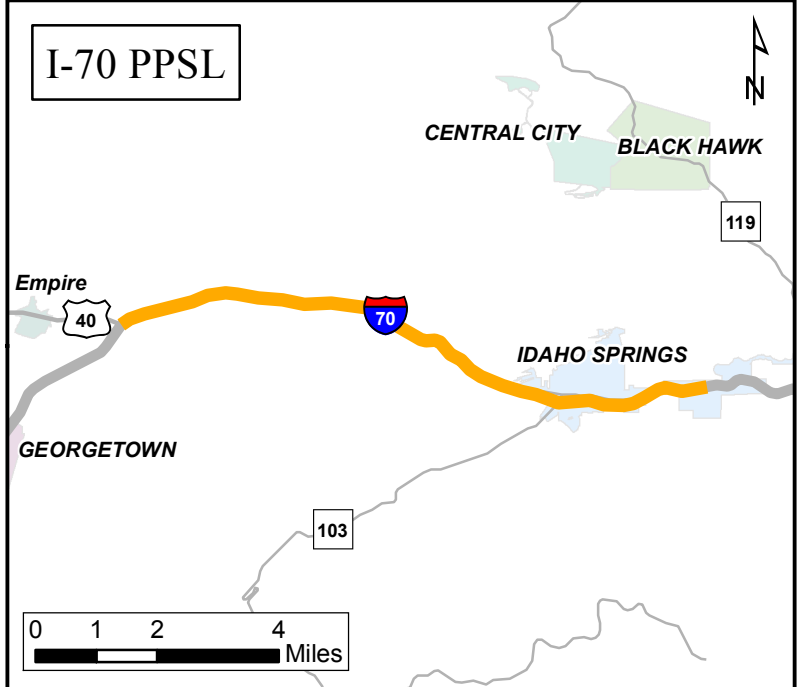
# Colorado Managed Lane Facilities October 2015

## Managed Lanes - Operational or Under Construction

-  BRT Only
-  HOV Only
-  HOV + BRT
-  Toll Only - Transportation Authority
-  Toll Only
-  Toll + HOV
-  Toll + HOV + BRT

## Managed Lanes - Future

-  TBD





**Corridor/Project:** US 36 Express Lanes

**Project Description:** Express lane in each direction of US 36 between Pecos and Table Mesa for BRT, HOV, and tolled vehicles.

**Purpose:** Provide travel time reliability and mode choice

**Performance Measures:**

1. Ensure motor vehicle speeds of:
  - a) An average of 55 miles per hour for the portion of the US 36 Managed Lanes from Table Mesa to the Broomfield Park-n-Ride
  - b) An average of 50 miles per hour for the portion of the US 36 Managed Lanes from the Broomfield Park-n-Ride to Pecos Street
2. Maintain a travel time of no more than 8.75 minutes for the portion of the Managed Lanes from Pecos Street to Denver Union Station

**HOV Criteria:**

*Safety:* No current concerns related to HOV-3+.

*Performance Measures:* No current concerns related to HOV-3+. Facility is currently HOV-2+. Pursuant to Resolution #TC-3052, facility will change to HOV-3+ on January 1, 2017. Concessionaire agreement also includes triggers including transit delays, average vehicle speed, and hourly volumes that could result in conversion to HOV-3+ at an earlier date.

*Financial Feasibility:* No current concerns related to HOV 3+.

**Corridor/Project:** I-70 Peak Period Shoulder Lanes (PPSL)

**Project Description:** Upgraded shoulder that will function as an optional, tolled express lane during peak driving periods on eastbound I-70 between Exit 232 at US 40/Empire Junction 13 miles east to MP 243.5, just east of the Veteran's Memorial Tunnels. As a temporary strategy the initial implementation will be limited to 72 days per year. During non-peak times, the lane will function as an extra-wide shoulder.

**Purpose:** Provide travel time reliability

**Performance Measures:**

1. Shoulder tolled express lane operates at a speed of 45 mph or higher (congestion pricing strategy will be used to maintain travel reliability)

**HOV Criteria:**

*Safety:* No current concerns related to HOV 3+.

*Performance Measures:* HOV-3+ would result in performance measure not being met because of the high level of auto occupancy on the corridor during peak periods. The "I-70 Mountain Corridor PEIS Travel Demand Technical Report" (reissued March 2011) determined that the average auto occupancy on the corridor during peak periods is 2.6. If HOV-3+ were implemented, the majority of vehicles on the corridor during peak periods would be eligible to use the tolled express lanes without incurring a toll, precluding the possibility of achieving the established performance measure of 45 mph or higher speeds.

*Financial Feasibility:* HOV 3+ would eliminate or reduce the travel time advantage, thereby eliminating or significantly reducing the ability to toll the facility, and finance the project.



**Corridor/Project:** C-470 Express Lanes

**Project Description:** Addition of two tolled express lanes westbound from I-25 to approximately Colorado Blvd., one tolled express lane westbound from Colorado Blvd. to Wadsworth Blvd., and one tolled express lane eastbound from Platte Canyon Road to I-25, with future plans to extend the tolled express lanes in each direction to Kipling.

**Purpose:** Provide travel time reliability

**Performance Measures:**

1. Tolled express lane operates at 45 mph or better (congestion pricing strategy will be used to maintain travel time reliability)

**HOV Criteria:**

*Safety:* No current concerns related to HOV-3+.

*Performance Measures:* No current concerns related to HOV-3+.

*Financial Feasibility:* Accommodating HOV-3+ is not currently financially feasible as accommodation is projected to result in an initial funding gap of approximately \$40M in the preferred financing scenario. HOV-3+ accommodation is also projected to reduce excess toll revenues by approximately \$100M over 40 years. The Transportation Commission could choose to allocate additional funds, such as RAMP, to this project, but currently there are no other funding sources identified to close the funding gap that would result from the accommodation of HOV-3+. Additionally, the projected \$100M reduction could delay additional corridor improvements outside the current construction project. Two additional improvement opportunities potentially impacted would be the ultimate buildout between I-25 & Kipling and the C-470 West Connect extending west from Kipling. More details can be found in the C-470 HOV 3+ Exemption Analysis.



## 1. Summary

To support the ongoing development of the C-470 Express Lanes Project (the Project) and related toll policy discussions, the Colorado Department of Transportation (CDOT)—in partnership with the High Performance Transportation Enterprise (HPTE)—undertook an analysis to determine the potential impacts associated with a carpool exemption policy for high occupancy vehicles with three or more passengers (HOV3+).

Current and prior planning has assumed that all vehicles, regardless of occupancy, would be subject to tolls in the Express Lanes; however, a final policy recommendation regarding HOV exemptions has not yet been formulated. To support that decision, this analysis evaluates the potential traffic, revenue and financing implication associated with an HOV3+ exemption policy.

It is currently estimated that the implementation of an HOV3+ exemption policy in the Express Lanes would generate limited long-term growth in the share of HOV3+ carpools relative to other classes, and negatively impact CDOT/HPTE's project financials. Fully funding the project would necessitate a more leveraged and risky financial structure that would require, for example, additional draws on and/or a longer repayment period for the CDOT O&M loan. Depending on the type of debt and market terms and conditions at the time of financing, a financing sufficient to fund the project as designed may not be executable.

Lower net cash flows—particularly in the early years of operation when revenues are disproportionately impacted by HOV3+ exemptions—would reduce net construction proceeds by as much as \$40 million. Furthermore, excess toll revenues accruing to HPTE would be reduced by approximately \$100 million<sup>1</sup> in net present value, impacting the ability to fund future phases of the C-470 Express Lanes Project.

## 2. Project Background

C-470 has a history of severe congestion, and for well over a decade has operated at failing levels of service. As a solution to this issue, CDOT and its partners began evaluating alternatives to improve mobility and reduce congestion along the corridor, culminating in the proposed C-470 Express Lanes Project. As analyzed in the Revised Environmental Assessment (EA), the Project will be delivered in two phases. The first phase (Interim Project) will provide managed express lanes as follows:

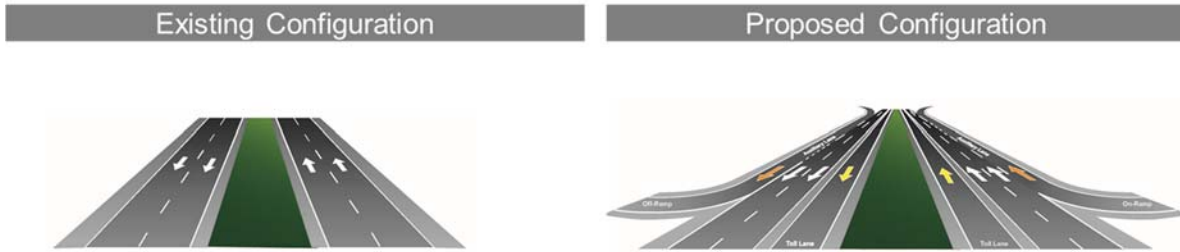
- Westbound: two express lanes from I-25 to approximately Colorado Boulevard, and one lane from Colorado Boulevard to Wadsworth Boulevard
- Eastbound: one express lane from Platte Canyon Road to I-25

Currently, available funding has limited construction scope the Interim project; however, future construction of the Ultimate configuration would extend and add lanes to achieve two express lanes in each direction between I-25 and Kipling Parkway. Exhibit 1 illustrates the existing and proposed corridor configurations associated with the Interim Project.

<sup>1</sup>Net revenues available after debt service, operations and maintenance costs and repayment of any O&M loan balances (as needed) discounted at 5%.



Exhibit 1: C-470 Lane Configurations



### 3. Cost and Revenue Impact

One of the key considerations in evaluating a toll exemption policy is the potential impact on the Project's cash flows, both in terms of reduced revenue collection resulting from both the exemption itself and toll evasion / occupancy violations, as well as increased operations and maintenance costs (O&M). The following sections describe each of these items and their estimated impact on project cash flows, and ultimately its financial feasibility.

#### a. Traffic and Revenue

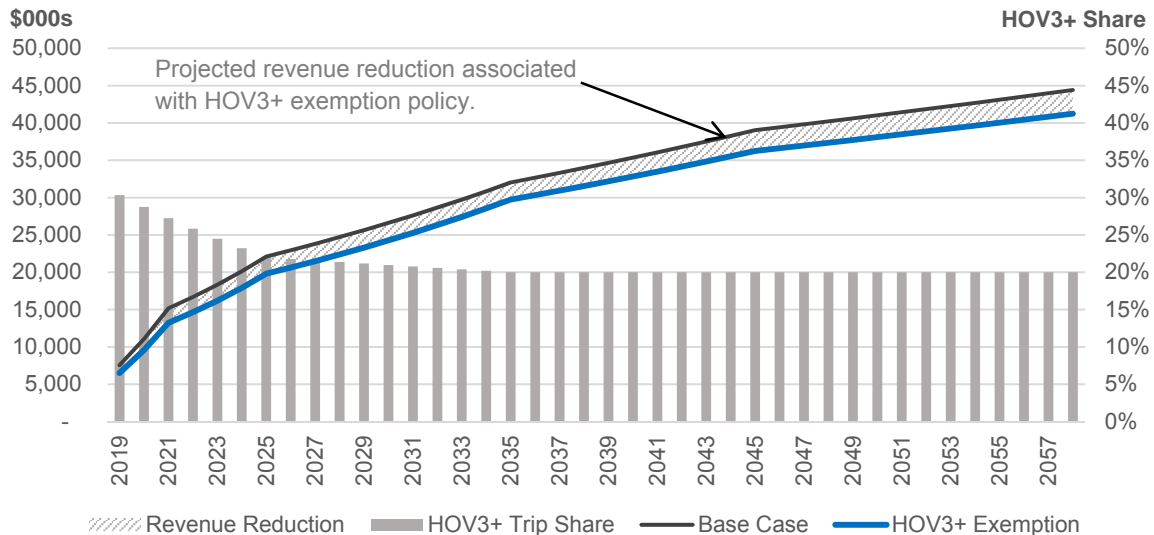
As an initial step toward understanding the impact of an HOV3+ exemption policy, the Project's investment grade T&R consultant, Louis Berger Group (LBG), prepared an estimate of the potential share of HOV3+ vehicles that would use the Express Lanes and the extent to which that usage would impact gross toll revenue. This preliminary effort, which was conducted using a traffic simulation model, indicated that HOV3+ users would account for approximately **32%** of Express Lane trips in 2018 and approximately **20%** by 2035. Gross revenue is anticipated to be 15% and 7% lower in 2018 and 2035, respectively, when compared to revenues forecasted without an HOV3+ exemption policy ("Base Case"). A table detailing the approximate HOV3+ trip shares and revenue impacts by model year is provided below.

Exhibit 2: Estimated HOV3+ Trip Shares and Gross Revenue (2015 \$000s)

Model Year	HOV3+ Trip Share (%)	Gross Revenue (HOV3+ Exempt)	Gross Revenue (Base Case)	Gross Revenue Delta (%)
2018	32%	\$9,789	\$11,460	-15%
2025	22%	\$19,806	\$22,114	-10%
2035	20%	\$29,736	\$32,021	-7%

**Note:** Values shown in the above exhibit are expressed in 2015 dollars; gross revenues do not include ramp-up, toll collection costs, leakage, or other adjustments associated with an investment grade financing analysis.

Exhibit 3: Comparison of Gross Base Case and HOV3+ Exemption Revenue (2015 \$)



**Note:** Values shown in the above exhibit are expressed in 2015 dollars. However, the impacts cited in the following discussion are expressed in nominal terms.

While the overall share of Express Lane toll-exempt trips is anticipated to decline over the forecast horizon, LBG also indicated that HOV3+ trips (by volume) are projected to grow by approximately 1% per year between 2018 and 2035 – well below the rate of growth in toll trips, which is anticipated to be 5% per year over the same period.

<b>2035 Nominal Cash Flow Impact:</b>	<b>-\$3.2mm</b>	<b>-7%</b>
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### b. Revenue Leakage

Based on a survey of all-electronic toll facilities across the U.S., a baseline revenue leakage assumption of 10% per year was established for the Base Case (i.e., where HOVs do not receive a toll exemption in the Express Lanes) cash flows. This amount reflects a variety of factors that may result in revenue leakage, including toll equipment errors, non-payment by customers, weather-related events, etc.

As noted in the prior section, the introduction of HOV3+ exemptions would create additional opportunity for leakage resulting from occupancy violations. Data for existing CDOT HOV facilities suggests that occupancy violation rates can reach as high as 25% without routine enforcement (this is reduced to 15% with enforcement).

For the purpose of this analysis, it is assumed that an HOV3+ exemption policy would increase the 10% Base Case leakage rate to 15% per year.

<b>2035 Nominal Cash Flow Impact:</b>	<b>-\$2.2mm</b>	<b>-5%</b>
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## c. Toll Collection O&M

### Transaction Processing

The process of collecting tolls requires a complex system of in-lane toll equipment and back office software to record and collect the applicable toll from customers using the corridor. As an all-electronic system, customers will be encouraged to establish a prepaid transponder account, whereby readers placed throughout the corridor will automatically detect the customer's transponder and deduct the appropriate toll from that account. In cases where a transponder is not present, cameras at each toll location will automatically record the customer's license plate number and either match that license plate to a pre-registered account, or generate an invoice for non-account customers.

To handle these transactions, a third-party vendor will be procured to operate and maintain the toll collection system, interface with customers, and provide back office support. For the purpose of this analysis, it is assumed that the cost of such services will be transaction-based, whereby the selected vendor will charge CDOT each time a transaction in the C-470 Express Lanes is processed (similar to existing contracts for the US-36 and I-25 Express Lanes with the E-470 Public Highway Authority). Depending on the type of transaction that is incurred (i.e., transponder or license plate), a different price will be charged to CDOT.

Toll rates on C-470 will be designed, at a minimum, to offset transaction processing costs to remain "net revenue neutral," even during periods of low usage. This pricing methodology is only possible when all vehicles in the Express Lanes are required to pay a toll. In an HOV3+ exemption scenario, transaction processing would still be required, but a toll would not be collected to offset the cost. In effect, these transactions are net revenue negative, since they only generate a cost but not an offsetting revenue.

*Exhibit 4: Hypothetical Revenue of Base Case and HOV3+ Exemption Policy*

Scenario	Transponder Toll (Hypothetical)	Transponder Processing Cost <sup>2</sup>	Net Revenue
Base Case (HOV3+ Tolled)	\$1.00	(\$0.18)	<b>\$0.82</b>
HOV3+ (Toll Free)	\$0.00	(\$0.001)	<b>(\$0.001)</b>

As illustrated in the above table, each HOV3+ toll transaction generates a net loss of \$0.001 on a simple comparison of average revenue to average cost, before any losses (leakage) associated with intentional or unintentional occupancy violations.

<b>2035 Nominal Cash Flow Impact:</b>	<b>+\$0.1mm</b>	<b>&lt;1%</b>
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### Enforcement

Similar to the US-36 and I-25 Express Lanes, customers who are eligible to receive an HOV3+ toll exemption would be required to install a multi-switch transponder in order to declare their HOV3+ status each time they use the corridor. By default, non-switchable transponders and license plate transactions would be treated as full toll customers, since the system would have no way to determine the occupancy of those vehicles.

However, by allowing customers to self-declare their HOV3+ status (and thus toll exemption), this introduces the risk that customers will intentionally or unintentionally select the incorrect transponder occupancy setting.

<sup>2</sup> 2010 dollars (Parsons Brinckerhoff, 2015)

In the case of unintentional user error, a vehicle may travel as an HOV3+ in one direction, then re-enter the corridor as a single occupant vehicle (SOV) without changing the transponder setting. As a result, the toll is waved and revenue is not collected for that transaction.

To counteract these situations, visual enforcement at select locations throughout the corridor would be provided by Colorado State Patrol (CSP), the cost which would be paid out of toll revenues. While the annual cost of CSP enforcement will vary according to violation trends, it is assumed that C-470 would allocate approximately \$250,000 (2015 dollars) for targeted and routine enforcement activities within the corridor.

Although violators will be ticketed and fined for occupancy violations, it is not assumed that any violation revenue will flow back to the Project. Enforcement would be provided with the sole purpose of reducing losses (revenue leakage) attributed to occupancy violations.

<b>2035 Nominal Cash Flow Impact:</b>	<b>-\$0.2mm</b>	<b>&lt;1%</b>
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#### d. Capital Costs

Beyond increased operating costs and financing adjustments, HOV3+ exemptions would also necessitate additional upfront capital to cover:

- Additional engineering/design/construction to accommodate “toll enforcement zones”
- Additional in-lane toll equipment to support visual enforcement efforts

The total combined cost of these items is estimated to be approximately \$1 million (about 0.4% of the Project’s base capital costs), requiring additional upfront financing and associated debt service.

<b>2035 Nominal Cash Flow Impact:</b>	<b>-\$0.1mm</b>	<b>&lt;1%</b>
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## 4. Financing & Credit Impact

### a. Credit Rating Implications

Toll exemption policies are generally viewed as a credit negative due to the direct impact those vehicles have on lane performance, travel reliability, and available capacity for toll paying vehicles. In a November 2013 report titled *U.S. Managed Lanes: Empirical Data Steers Credit Analysis*, Fitch Ratings notes that the “nature of the HOV and transit policies can significantly impact revenues” and that “a key rating driver going forward will be the HOV policy and other policies governing access to [managed lanes].” The report further explains that exemption policies for HOV2+ vehicles are inherently more risky than facilities with HOV3+ policies; however, despite lower upfront revenue risk, it should be noted that as demand for the corridor increases with population and employment, an increasing number of toll-free HOV3+ vehicles will absorb Express Lane capacity, thus decreasing capacity available for toll-paying vehicles.

A similar outlook report by Moody’s Investor Service in May 2013 suggests that “a small diversion of traffic onto tolled lanes frees up capacity on non-tolled alternative, hence decreasing the incentive for additional users to move to the tolled lane.” In the context of C-470, providing toll exemptions may cause a portion of those vehicles to shift to the Express Lanes, which would reduce capacity for toll paying vehicles and open capacity in the general purpose (GP) lanes. The increased capacity in the GP lanes could induce vehicles that would have otherwise paid to enter the Express Lanes.

To compensate for the increased revenue variability associated with the implementation of a toll exemption policy (e.g. the risk of additional HOV 3+ traffic above projected levels using the lanes, potential unforeseen impacts on overall corridor congestion and mobility), rating agencies and investors would be expected to take a slightly more conservative view on the credit (manifested through increased coverage ratios, additional liquidity measures, and/or an additional haircut to revenues). The total impact of these considerations has been assumed to be equivalent to a 5% additional reduction in toll revenues. This would result in a cash flow reduction of \$2.2 million in 2035 for debt sizing purposes.

<b>2035 Nominal Cash Flow Impact:</b>	<b>-\$2.2mm</b>	<b>-5%</b>
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## 5. Summary of Impacts

### a. Project Cash Flows

The table below summarizes all impacts to project cash flows in 2035.

*Exhibit 4: Revenue Impact Summary*

<b>2035 Nominal Impacts</b>	<b>Amount (\$mm)</b>
Gross Revenue	-\$3.2
Rev. Adjustments: Leakage	-\$2.2
O&M: Transaction Processing	+\$0.1
O&M: Enforcement	-\$0.2
Additional Debt Service: Increase Capital Cost	-\$0.1
Credit: T&R Risk Adjustment	-\$2.2
Total of Individual Impacts	-\$7.8
<b>Total Combined Impacts*</b>	<b>-\$7.3</b>

\*Nominal impacts noted above are not additive, given the interrelated nature of gross revenues, leakage, and the T&R risk adjustment factor. As such, the "total combined impacts" row provides a bottom line summary of all impacts in the HOV3+ exemption scenario.

### b. Funding Impact

Design and construction funding for the C-470 Express Lanes Project will be provided in the form of public monies (RAMP, FASTER, HSIP, and other public contributions) as well debt backed by toll revenues. The extent to which debt can be raised for the project is primarily a function of the near- and mid-term cash flow available for interest and principal payments on project debt. Based on the anticipated Project cash flow under an HOV3+ exemption policy, it is estimated that debt capacity could be reduced by as much as **\$40 million**, requiring a substantial amount of additional funding to be identified to fully fund the Project (which is also based on an estimated capital cost of \$269 million).

In addition, the HOV3+ financial structures would place added risks on CDOT in case of revenue shortfalls or cost overruns as the CDOT O&M loan amount increases and/or is repaid over a longer period of time.

Finally, In addition to the reduction of net proceeds available to fund project construction, the present value of excess toll revenues accruing to HPTTE would diminish significantly – by as much as \$100 million (assuming a 5% discount rate) – under an HOV3+ toll exemption policy. Excess cash flow, or surplus revenue after debt service and operating costs, is a key indicator of potential funding that could be contributed to future projects, including the second phase of the C-470 Express Lanes or other corridor improvements.

**Resolution #TC-15-10-5**

Adopting a requirement that as of January 1, 2017, toll-free travel offered to High Occupancy Vehicles on all tolled managed lanes that are part of the state highway system shall be limited to vehicles with three or more occupants; and

Adopting an approach for the consideration of toll-free travel for High Occupancy Vehicles with three or more occupants on all tolled managed lanes that are part of the state highway system.

**Approved by the Transportation Commission on: October 15, 2015**

**WHEREAS**, the Transportation Commission is responsible, pursuant to C.R.S. 43-1-106(8), for formulating the general policy of the Colorado Department of Transportation (CDOT); and

**WHEREAS**, the Transportation Commission recognizes the importance of consistency among tolled managed lane corridors with regard to High Occupancy Vehicle exceptions; and

**WHEREAS**, the Transportation Commission recognizes the benefits of toll-free travel for vehicles carrying three or more occupants (HOV-3+) to increasing person throughput and encouraging carpooling and transit use, with resulting reductions in vehicle emissions, to reduce congestion, and improve the safety, capacity, and accessibility of the surface transportation system; and

**WHEREAS**, the General Assembly created the Colorado High Performance Transportation Enterprise (HPTE) as a government-owned business within CDOT, pursuant to Section 43-4-806 C.R.S., to aggressively pursue innovative means of more efficiently financing important surface transportation projects that will improve the safety, capacity, and accessibility of the surface transportation system; and

**WHEREAS**, to facilitate the financing of important transportation projects, the HPTE Board of Directors has recommended that the Transportation Commission require toll-free travel offered to High Occupancy Vehicles on tolled managed lanes that are part of the state highway system to be limited to HOV-3+; and

**WHEREAS**, the Transportation Commission recognizes the benefits of toll-free HOV-3+ and the importance of considering toll-free HOV-3+ on all planned or future tolled managed lanes that are part of the state highway system; and

**WHEREAS**, the Transportation Commission recognizes that the feasibility of toll-free HOV-3+ must be considered with respect to its impacts on safety, the ability to achieve established performance measures on tolled managed lanes, financial feasibility, and other factors that may be applicable.

**NOW THEREFORE BE IT RESOVLED**, the Transportation Commission hereby requires that as of January 1, 2017 toll-free travel offered to High Occupancy Vehicles on tolled managed lanes that are part of the state highway system shall be limited to HOV 3+; and

**BE IT FURTHER RESOLVED**, the Transportation Commission hereby directs that, for all planned or future tolled managed lanes that are part of the state highway system, consideration be given as to the feasibility of offering toll-free HOV-3+, including an evaluation of factors including, but not necessarily limited to, its impact on safety, the ability to achieve established performance measures on the tolled managed lanes, and financial feasibility of the tolled managed lane proposal.

Herman J. Stockinger III  
Herman Stockinger, Secretary  
Transportation Commission of Colorado

10-20-15  
Date

## **Resolution #TC-15-10-6**

Determining Not to Include Toll-Free HOV3+ Travel for the C-470 Tolled Express Lanes Project

**Approved by the Transportation Commission on October 15, 2015**

**WHEREAS**, pursuant to § 43-1-106(8), C.R.S., the Transportation Commission is responsible for formulating the general policy of the Colorado Department of Transportation (CDOT) with respect to the management of public highways in the state; and

**WHEREAS**, the Transportation Commission is authorized, pursuant to § 42-4-1012(1)(a), C.R.S., to designate exclusive or preferential lanes that carry a specified number of persons; and

**WHEREAS**, the Transportation Commission recognizes the benefits of HOV accessibility in encouraging carpooling and transit use, with resulting reductions in vehicle emissions, congestions mitigation, and improvements in the safety, capacity, and accessibility of the surface transportation system; and

**WHEREAS**, by Resolution #TC-3052, approved February 21, 2013, the Transportation Commission recognized the importance of consistency among tolled managed lane corridors with regard to encouraging high occupancy vehicle (HOV) use; and

**WHEREAS**, by Resolution #TC-XXXX, approved October 15, 2015, the Transportation Commission updated Resolution #TC-3052 to provide that the feasibility of toll-free travel for vehicles carrying three or more occupants (HOV-3+) be considered with respect to its impact on safety, the ability to achieve established performance measures on tolled managed lanes, financial feasibility, and other factors which may be applicable, for all planned or future tolled managed lanes that are part of the state highway system; and

**WHEREAS**, pursuant to § 43-4-806, *et seq.*, C.R.S., the General Assembly created the High Performance Transportation Enterprise (HPTE) as a government-owned business within CDOT to pursue innovative means of more efficiently financing important surface transportation projects that will improve the safety, capacity, and accessibility of the surface transportation system; and

**WHEREAS**, HPTE and CDOT are currently undertaking the procurement of the C-470 Express Lanes Segment 1 Project, which is planned to add two tolled express lanes westbound from I-25 to Colorado Blvd., one tolled express lane westbound from Colorado Blvd. to Wadsworth Blvd.; and one tolled express lane eastbound from Platte Canyon Road to I-25, with a desire to extend the tolled express lanes in each direction to Kipling Blvd. as funding allows; and



**WHEREAS**, in accordance with the general policy in favor of HOV-3+, HPTE and CDOT staff undertook a HOV-3+ Analysis with respect to the C-470 Tolloed Express Lanes Project; and

**WHEREAS**, the HOV-3+ Analysis determined that accommodating HOV-3+ is not currently financially feasible for the C-470 Express Lanes Segment 1 Project, as it would result in a funding gap of approximately \$40 million in the preferred financing scenario for the project and there are currently no other funding sources available to close the gap; and

**WHEREAS**, the analysis further determined that accommodation of HOV-3+ is projected to reduce excess toll revenues by approximately \$100 million over 40 years, potentially delaying future additional corridor improvements; and

**WHEREAS**, in order to facilitate the financing of the C-470 Express Lanes Segment 1 Project, the Board of Directors of the HPTE has recommended that the Transportation Commission not include toll-free HOV-3+ travel for the C-470 Tolloed Express Lanes; and

**WHEREAS**, the Transportation Commission's determination in the resolution with respect to toll-free HOV-3+ travel is not intended to affect or prejudice in any way the ongoing NEPA process, and the determination not to include toll-free HOV-3+ travel for the C-470 Tolloed Express Lanes is contingent upon a final determination from FHWA on a Proposed Action based on the C-470 Corridor Revised Environmental Assessment.

**NOW THEREFORE BE IT RESOLVED**, the Transportation Commission hereby determines that offering toll-free HOV-3 travel in the C-470 Tolloed Express Lanes is not feasible at this time, and declares that the C-470 Tolloed Express Lanes will be exempted from the general policy that tolloed managed lane corridors permit HOV-3 vehicles toll-free.

**BE IT FURTHER RESOLVED**, if financing conditions permit reconsideration of this determination at a future date, HPTE and CDOT staff should evaluate a re-designation of the C-470 Tolloed Express Lanes as an HOV-3+ corridor in accordance with Transportation Commission HOV policy guidance and, if conditions warrant such re-designation, present such findings to the Transportation Commission for its consideration.

  
Herman Stockinger, Secretary  
Bridge Enterprise Board of Directors

10-20-15  
Date

## ATTACHMENT 3a

### ~~Colorado Tolling Enterprise (CTE)~~

# **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion ~~Amendment Submittals~~ in ~~for~~ the DRCOG Fiscally Constrained ~~RTP~~ Regional Transportation Plan**

~~Adopted~~ Amended by DRCOG Board ~~January 21~~ TBD, 2016/09

~~CTE~~ New projects proposed by CDOT or HPTE with a tolling component for inclusion ~~amendment submittals~~ in the DRCOG Fiscally Constrained Regional Transportation Plan (FC-RTP) will include all base information ~~the federally and DRCOG required~~ of all sponsors ~~items currently required to be provided~~ to support ~~roadway amendment requests for the Fiscally Constrained 2035 RTP~~ the project requests.

The DRCOG Board also requires the information described below be submitted regarding the project's managed lanes component (tolling, High Occupancy Vehicle (HOV), and/or related aspects).

In particular, C.R.S. 43-4-805.5 (pursuant to HB05-1148) requires that five categories be addressed in ~~CTE HPTE Plan~~ tolling submittals to ~~Metropolitan Planning Organizations~~ DRCOG for inclusion or amendment in the FC-RTP. ~~These items are:~~ operations, technology, project feasibility, project financing, and ~~any~~ other federally required information. ~~The additional~~ CDOT/HPTE will submit the following information ~~that would be submitted by CTE/CDOT to DRCOG to address these categories is as follows:~~

1. Operations – ~~Please describe~~ Description of the tolling component, including the following items: ~~—all items listed under Information requested and process to support roadway amendment requests for the Fiscally Constrained 2035 RTP will be addressed.~~

- Variable (time of day) or fixed toll rates
- Barrier protected or buffered lanes
- Locations of slip ramps to general purpose lanes and “direct connect” ramps to interchanges and/or other toll facilities
- Relationship to overall toll system

1.2. Technology: ~~Please confirm~~ Confirmation that the toll facility ~~—DRCOG will assume that the system will not require no~~ stopping to pay cash ~~(using transponders and/or tag readers)~~ and will ~~be use~~ transponders and/or tag readers that are interoperable with E-470, I-25 and NW Parkway ~~unless stated otherwise in the plan amendment submittal~~. If this is not the case, please explain.

## ATTACHMENT 3a

### ~~Colorado Tolling Enterprise (CTE)~~

# **DRAFT Additional-Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion ~~Amendment Submittals~~ in ~~for~~ the DRCOG Fiscally Constrained ~~RTP~~ Regional Transportation Plan**

~~Adopted~~ Amended by DRCOG Board ~~January 21~~ TBD, 2016/09

#### ~~2.3.~~ Project Feasibility:—

- Summarize ~~the tolling component's~~ technical feasibility, including ~~the context for the project and the~~ implementation opportunities and constraints at a planning level of ~~information~~ detail
- Provide ~~planning level information for~~ estimated daily, directional traffic volumes ~~facility usage~~ for (as applicable):
  - Base Year General Purpose Lanes
  - Forecast Year General Purpose Lanes
  - Forecast Year Toll Facility
  - Forecast Year Total

#### ~~3.4.~~ Project Financing— ~~the following will be provided:~~

- Capital costs for the project with major components and key assumptions, including inflation and contingencies
- Operation and maintenance add-ons – costs that are in addition to normal ~~non-toll~~ CDOT roadway O&M – and inflation assumptions
- Financial assumptions, including non-traditional financing sources and innovative financing
- ~~Relationship to a system, if applicable~~
- Identification of public sector financial responsibility if revenue is not sufficient to meet annual costs after toll facility is built and operating
- Description of how excess revenues will be allocated, should toll revenues exceed those needed to build, maintain, and operate the facility

#### ~~4.5.~~ Any other federally required information:

- ~~None at the plan amendment submittal~~

~~CTE/CDOT will also provide the following:~~

## ATTACHMENT 3a

### ~~Colorado Tolling Enterprise (CTE)~~

### **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion ~~Amendment Submittals~~ in ~~for~~ the DRCOG Fiscally Constrained ~~RTP~~ Regional Transportation Plan**

~~Adopted~~ Amended by DRCOG Board ~~January 21~~ TBD, 201609

6. CDOT HOV Policy (October 2015) – How does the proposed tolling component address CDOT’s HOV Policy and Transportation Commission Resolution (TC-15-10-5) regarding the feasibility of toll-free HOV3+?

- If the proposed project does not include toll-free HOV, why not?
- Are there conditions (technical, financial, other) under which the project may include toll-free HOV in the future?

7. Other Information ~~and assistance~~

- A summary of the environmental examinations and other studies completed to date and those anticipated in the future with key milestones and timeline.
- A commitment to follow CDOT environmental stewardship guide during project development, including the identification of impacts and mitigation measures.
- A summary of consultation with local governments and other MPOs/TPRs completed to date, with issues and resolution; a plan for future additional consultation with local governments and other MPOs/TPRs during project development; and the relationship of the project to local transportation plans.
- Assistance to DRCOG staff with response to public comment as needed.

## **ATTACHMENT 3b**

# **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan**

Amended by DRCOG Board TBD, 2016

New projects proposed by CDOT or HPTE with a tolling component for inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan (FC-RTP) will include base information required of all sponsors to support project requests.

The DRCOG Board also requires the information described below be submitted regarding the project's managed lanes component (tolling, High Occupancy Vehicle (HOV), and/or related aspects). In particular, C.R.S. 43-4-805.5 (pursuant to HB05-1148) requires that five categories be addressed in HPTE tolling submittals to DRCOG for inclusion or amendment in the FC-RTP: operations, technology, project feasibility, project financing, and other federally required information. CDOT/HPTE will submit the following information to DRCOG:

1. Operations – Description of the tolling component, including the following items:
  - Variable (time of day) or fixed toll rates
  - Barrier protected or buffered lanes
  - Locations of slip ramps to general purpose lanes and “direct connect” ramps to interchanges and/or other toll facilities
  - Relationship to overall toll system
2. Technology: Confirmation that the toll facility will not require stopping to pay cash and will use transponders and/or tag readers that are interoperable with E-470, I-25 and NW Parkway. If this is not the case, please explain.
3. Project Feasibility:
  - Summarize the tolling component's technical feasibility, including implementation opportunities and constraints at a planning level of detail
  - Provide estimated daily, directional traffic volumes for (as applicable):
    - Base Year General Purpose Lanes
    - Forecast Year General Purpose Lanes
    - Forecast Year Toll Facility
    - Forecast Year Total

## **ATTACHMENT 3b**

# **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan**

Amended by DRCOG Board TBD, 2016

### 4. Project Financing:

- Capital costs for the project with major components and key assumptions, including inflation and contingencies
- Operation and maintenance add-ons – costs that are in addition to normal non-toll CDOT roadway O&M – and inflation assumptions
- Financial assumptions, including non-traditional financing sources and innovative financing
- Identification of public sector financial responsibility if revenue is not sufficient to meet annual costs after toll facility is built and operating
- Description of how excess revenues will be allocated, should toll revenues exceed those needed to build, maintain, and operate the facility

### 5. Any other federally required information:

### 6. CDOT HOV Policy (October 2015) – How does the proposed tolling component address CDOT’s HOV Policy and Transportation Commission Resolution (TC-15-10-5) regarding the feasibility of toll-free HOV3+?

- If the proposed project does not include toll-free HOV, why not?
- Are there conditions (technical, financial, other) under which the project may include toll-free HOV in the future?

### 7. Other Information and assistance

- A summary of the environmental examinations and other studies completed to date and those anticipated in the future with key milestones and timeline.
- A commitment to follow CDOT environmental stewardship guide during project development, including the identification of impacts and mitigation measures.

## **ATTACHMENT 3b**

### **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by CDOT or the Colorado High Performance Tolling Enterprise (HPTE) for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan**

Amended by DRCOG Board TBD, 2016

- A summary of consultation with local governments and other MPOs/TPRs completed to date, with issues and resolution; a plan for future additional consultation with local governments and other MPOs/TPRs during project development; and the relationship of the project to local transportation plans.
- Assistance to DRCOG staff with response to public comment as needed.

## ATTACHMENT 4a

### Toll Highway Company

# DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in Amendment Submittals for the DRCOG Fiscally Constrained RTP Regional Transportation Plan ~~Adopted~~ Amended by DRCOG Board ~~January 21, 2009~~ TBD, 2016

New projects proposed by private ~~Toll highway company~~ toll companies for inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan (FC-RTP) ~~amendment submittals~~ will include all the base ~~federally and DRCOG~~ information required of all sponsors ~~items currently required to be provided~~ to support ~~roadway amendments requests for the Fiscally Constrained 2035 RTP~~ the project requests. ~~The submittals will also include the information items required of the Colorado Tolling Enterprise.~~

In particular, C.R.S. 7-45-105 and 106 (pursuant to HB06-1003) require that five categories be addressed in private toll company ~~amendment~~ submittals to ~~Metropolitan Planning Organizations~~ DRCOG for inclusion or amendment in the FC-RTP. ~~Those items are:~~ the operating plan, technology, project feasibility, long-term project viability (project financing), and final environmental documentation. ~~The additional project sponsor will submit the following information to be submitted to DRCOG to address these categories is as follows:~~

1. Operating plan – ~~Please describe~~ Description of the tolling component, including the following items:

- Variable (time of day) or fixed toll rates
- Barrier protected or buffered lanes
- Locations of slip ramps to general purpose lanes and “direct connect” ramps to interchanges and/or other toll facilities
- Relationship to overall toll system

~~1. Plan; all items listed under Information requested and process to support roadway amendments requests for the Fiscally Constrained 2035 RTP will be addressed.~~

2. Technology: ~~Please confirm~~ Confirmation that the toll facility ~~DRCOG will assume that the system will not require no~~ stopping to pay cash (using transponders and/or tag readers) and will ~~be use~~ use transponders and/or tag readers that are interoperable with E-470, I-25 and NW Parkway ~~unless stated otherwise in the plan amendment submittal~~. If this is not the case, please explain.

3. Project feasibility:

- Summarize the tolling component’s technical feasibility, including the ~~context for the project and the~~ implementation opportunities and constraints at a planning level of ~~information~~ detail



## ATTACHMENT 4a

### Toll Highway Company

# DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in Amendment Submittals for the DRCOG Fiscally Constrained RTP Regional Transportation Plan Adopted Amended by DRCOG Board January 21, 2009 TBD, 2016

- Provide ~~planning level information for facility usage~~ estimated daily, directional traffic volumes for (as applicable):
    - Base Year General Purpose Lanes
    - Forecast Year General Purpose Lanes
    - Forecast Year Toll Facility
    - Forecast Year Total
  - Identify any proposed non-compete clauses (probable restrictions on improvements to other roadways or transit facilities)
4. Long-term ~~project~~ viability; ~~the following will be provided~~ (project financing):
- Capital costs for the project with major components and key assumptions, including inflation and contingencies
  - Operation and maintenance costs and inflation assumptions for the toll facility
  - Financial assumptions, including non-traditional financing sources and innovative financing.
    - ~~Identification of any~~ public funding sources or public financing instruments, if applicable assumed
  - ~~Relationship to a system, if applicable~~
  - Identification of public sector financial responsibility if revenue is not sufficient to meet annual costs after toll facility is built and operating
5. Final environmental documentation, including:
- Description of environmental, social, and economic effects of the proposed toll ~~road~~ facility
  - Identification of feasible measures, and cost, to avoid or otherwise mitigate adverse impacts
  - Defined commitment of acceptable environmental mitigation activities and cost
6. Other information and assistance:
- A summary of studies completed to date and those anticipated in the future with key milestones and timeline

## ATTACHMENT 4a

### ~~Toll Highway Company~~

**DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in ~~Amendment Submittals~~ for the DRCOG Fiscally Constrained ~~RTP~~ Regional Transportation Plan ~~Adopted~~ Amended by DRCOG Board ~~January 21, 2009~~ TBD, 2016**

- A summary of consultation with local governments and other MPOs/TPRs completed to date, with issues and resolution; a plan for future additional consultation with local governments and other MPOs/TPRs during project development; and the relationship of the project to local transportation plans
  - Identify land use assumptions within 5 miles of the toll highway corridor
  - Discuss consideration given to available mitigation of demonstrable negative impacts on the local governments or its citizens
  - Identify commitments to offset incremental costs of public services that will be necessary as a result of development of the project
- Assist DRCOG staff with response to public comment as needed

## ATTACHMENT 4b

# DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan

Amended by DRCOG Board TBD, 2016

New projects proposed by private toll companies for inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan (FC-RTP) will include base information required of all sponsors to support project requests.

In particular, C.R.S. 7-45-105 and 106 (pursuant to HB06-1003) require that five categories be addressed in private toll company submittals to DRCOG for inclusion or amendment in the FC-RTP: operating plan, technology, project feasibility, long-term project viability (project financing), and final environmental documentation. The project sponsor will submit the following information to DRCOG:

1. Operating plan – Description of the tolling component, including the following items:
  - Variable (time of day) or fixed toll rates
  - Barrier protected or buffered lanes
  - Locations of slip ramps to general purpose lanes and “direct connect” ramps to interchanges and/or other toll facilities
  - Relationship to overall toll system
2. Technology: Confirmation that the toll facility will not require stopping to pay cash and will use transponders and/or tag readers that are interoperable with E-470, I-25 and NW Parkway. If this is not the case, please explain.
3. Project feasibility:
  - Summarize the tolling component’s technical feasibility, including implementation opportunities and constraints at a planning level of detail
  - Provide estimated daily, directional traffic volumes for (as applicable):
    - Base Year General Purpose Lanes
    - Forecast Year General Purpose Lanes
    - Forecast Year Toll Facility
    - Forecast Year Total
  - Identify any proposed non-compete clauses (probable restrictions on improvements to other roadways or transit facilities)

## **ATTACHMENT 4b**

# **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan**

Amended by DRCOG Board TBD, 2016

### 4. Long-term project viability (project financing):

- Capital costs for the project with major components and key assumptions, including inflation and contingencies
- Operation and maintenance costs and inflation assumptions for the toll facility
- Financial assumptions, including non-traditional financing sources and innovative financing.
  - Identify public funding sources or public financing instruments, if applicable
- Identification of public sector financial responsibility if revenue is not sufficient to meet annual costs after toll facility is built and operating

### 5. Final environmental documentation, including:

- Description of environmental, social, and economic effects of the proposed toll facility
- Identification of feasible measures, and cost, to avoid or otherwise mitigate adverse impacts
- Defined commitment of acceptable environmental mitigation activities and cost

### 6. Other information and assistance:

- A summary of studies completed to date and those anticipated in the future with key milestones and timeline
- A summary of consultation with local governments and other MPOs/TPRs completed to date, with issues and resolution; a plan for future additional consultation with local governments and other MPOs/TPRs during project development; and the relationship of the project to local transportation plans
  - Identify land use assumptions within 5 miles of the toll highway corridor
  - Discuss consideration given to available mitigation of demonstrable negative impacts on the local governments or its citizens

## **ATTACHMENT 4b**

# **DRAFT Additional Information Requirements for New Roadway Tolling Projects Proposed by Private Toll Companies for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan**

Amended by DRCOG Board TBD, 2016

- Identify commitments to offset incremental costs of public services that will be necessary as a result of development of the project
- Assist DRCOG staff with response to public comment as needed

## ATTACHMENT C

To: Chair and Members of the Transportation Advisory Committee

From: Matthew Helfant, Senior Transportation Planner  
303-480-6731 or [mhelfant@drcog.org](mailto:mhelfant@drcog.org)

Meeting Date	Agenda Category	Agenda Item #
January 25, 2016	Information	5

### SUBJECT

Draft transit component of the *Metro Vision Regional Transportation Plan (MVRTP)*.

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

The focus of this month's MVRTP discussion is the preliminary draft of the transit component (Attachment 1).

In addition to being part of the MVRTP, the transit component will also serve as the federally-required "coordinated transit plan" for the DRCOG region. The coordinated transit plan inventories existing services and forecasts service and funding gaps. It also identifies strategies to address the region's transit needs, focusing on individuals with disabilities, older adults, and others with mobility challenges.

The 2035 MVRTP's transit component was a stand-alone [Transit Element](#) document. The updated transit component will be integrated directly into the new MVRTP. This will emphasize the region's integrated approach to coordinating fixed route and human service transit with other transportation modes to better connect people with destinations.

DRCOG staff will provide an overview of the draft transit component at the TAC meeting and seek TAC input to further revise the document.

### PREVIOUS DISCUSSIONS/ACTIONS

[April 27, 2015](#) - TAC

### PROPOSED MOTION

N/A

### ATTACHMENT

1. [Draft Coordinated Transit Plan](#)

### ADDITIONAL INFORMATION

If you need additional information, please contact Matthew Helfant, Senior Transportation Planner, at (303) 480-6731 or [mhelfant@drcog.org](mailto:mhelfant@drcog.org).

Denver Regional Council of Governments

# Coordinated Transit Plan

Draft for TAC Review: January 25, 2016







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# 1. Introduction

Transit is a vital part of the DRCOG region’s multimodal transportation system. In 2014, more than 105 million one-way trips were provided by public transit agencies. Transit provides mobility by connecting people to jobs, schools, shopping, medical care, and recreation. It also promotes independence and economic development. The region’s transit system must also increasingly address major trends, such as a rapidly aging population, new technology, an evolving economy, and changing residential and workplace preferences. Transit services are available throughout the DRCOG region in rural, suburban, and urban areas.

Though the region is making unprecedented investments in transit service and facilities through FasTracks and other efforts, the envisioned (desired and needed) transit system far exceeds anticipated revenues through 2040. Thus, coordination is increasingly important to optimize existing funding, services, and facilities. Innovative funding alternatives, technology, and other new approaches are also important.

## A. Plan Purpose & Federal Requirements

The DRCOG Coordinated Transit Plan is the:

1. Transit component of DRCOG’s Metro Vision Regional Transportation Plan (MVRTP), and
2. Federally-required Coordinated Public Transit Human Services Transportation Plan (CPTHSTP) for the DRCOG region.

The Coordinated Transit Plan inventories existing transit services and identifies fiscally constrained and envisioned transit service and system needs for the DRCOG region. It looks at both general public transit and human service transportation. These services are not mutually exclusive. For example, while many older adults and individuals with disabilities will be served by transit modes specifically designed for their needs, many more will use general public transit. This plan integrates transit modes intended for specific populations and for the general public. The Federal Transit Administration (FTA) requires that projects selected under the FTA 5310 grant program (Enhanced Mobility for Seniors and Individuals with Disabilities) be included in a Coordinated Transit Plan like this one.

The purpose of this plan is to improve mobility for older adults, individuals with disabilities, low-income individuals, and others with mobility challenges. Existing service providers are identified, service gaps

are forecasted, and strategies are identified to address mobility needs. As the CPTHSTP, the Coordinated Transit Plan also addresses the following FTA requirements:

- An assessment of available services that identifies current transportation providers (public, private, and non-profit);
- An assessment of transportation needs for individuals with disabilities and older adults. (This assessment can be based on the experiences and perceptions of the planning partners, and/or on more sophisticated data collection efforts, and gaps in service.);
- Strategies, activities, and/or projects to address the identified gaps between current services and needs, as well as opportunities to achieve efficiencies in service delivery; and
- Priorities for implementation based on resources, time, and feasibility for implementing specific strategies and/or activities identified<sup>1</sup>.

As noted previously, FTA requires projects funded in the FTA 5310 program be included in the Coordinated Transit Plan. However, “FTA maintains flexibility in how projects appear in the Coordinated Plan. Programs and projects may be identified as strategies, activities, and/or specific projects addressing an identified service gap or transportation coordination objective articulated and prioritized in this plan<sup>2</sup>.” For example, a proposed 5310 project to expand transportation services for individuals with disabilities is consistent with the section of the Coordinated Transit Plan defining the needs for expanded services for that population.

## **B. Public and Stakeholder Outreach**

Public and stakeholder participation was essential in preparing this plan. Older adults; individuals with disabilities; representatives of public, private, and nonprofit transportation and human service providers; and other members of the public actively participated in developing this plan.

Staff received valuable input from key partners, including the Denver Regional Mobility and Access Council (DRMAC), the Regional Transportation District (RTD), and the Colorado Department of Transportation (CDOT). A variety of techniques were used to provide information and solicit public comment, including public forums and meetings, surveys, and community planning sessions. Major outreach and engagement activities that helped develop the Coordinated Transit Plan include:

---

<sup>1</sup> FTA Circular C 9070.1G Enhanced Mobility of Seniors and Individuals with Disabilities Program Guidance and Application Instructions- June 6, 2014

<sup>2</sup> FTA Circular C 9070.1 G Enhanced Mobility of Seniors and Individuals with Disabilities Program Guidance and Application Instructions- July 7, 2014

### **DRCOG and DRMAC Forum**

DRCOG and DRMAC jointly hosted a public forum in 2014 to solicit input for the Coordinated Plan. More than 30 people attended and more than 20 organizations directly involved in serving older adults, individuals with disabilities, and low-income individuals were represented.

### **2016-2019 DRCOG Area Plan on Aging – Public Input from Community Conversations**

The DRCOG Area Agency on Aging (AAA) conducted 17 Community Conversations and talked with almost 500 people between February and May of 2015. In each Community Conversation, the role of the AAA was described, service categories were explained and examples given of services in each category. Participants identified services most needed to increase or sustain independence for older adults in their community.

### **CDOT Statewide Transit Plan and DRCOG Open House**

DRCOG and CDOT jointly hosted an open house for CDOT’s Statewide Transit Plan and DRCOG’s Metro Vision Regional Transportation Plan in 2014.

### **CDOT Statewide Transit Survey of Older Adults and Adults with Disabilities**

For its Statewide Transit Plan, CDOT conducted a statewide survey of older adults (65 years or older) and disabled (18 years or older) residents of Colorado regarding their travel behavior, transportation priorities, needs, and preferences. Of the 3,113 participants statewide, 626 were from the DRCOG region. Please refer to [CDOT’s Statewide Transit Plan](#) for more information.

### **Local Coordinating Councils**

A Local Coordinating Council (LCC) is a formal, multi-purpose, long-term alliance of community organizations, individuals, and interest groups that work together to achieve common goals regarding human service transportation. LCCs promote efficient, accessible, and easy to arrange transportation options in their communities.

There are LCCs representing each county in the DRCOG region. These organizations are in various stages of assessing and prioritizing needs. In 2013, DRMAC partnered with four LCCs in the DRCOG region and the University of Colorado-Denver to develop needs assessments and service gaps analyses. Studies were prepared for the LCCs in Adams, Arapahoe, Boulder, and Broomfield Counties. Douglas and Jefferson Counties completed needs assessments with help from consultants. All of the needs assessments and gaps analyses were reviewed as important input for this plan.

### **Community Assessment Survey for Older Adults (CASOA™)**

DRCOG's AAA contracted with the National Research Center to conduct a CASOA™. The 2015 CASOA™ is a statistically valid survey of the needs of older adults as reported by older adults themselves in communities throughout the DRCOG AAA's planning area. The Boulder and Weld County AAAs both conducted their own surveys.

### **County Council on Aging Surveys**

DRCOG AAA staff conducted this survey at County Council on Aging meetings for each of the eight counties the DRCOG AAA serves. The survey provides important input for:

- Developing the AAA Four Year Plan (2015-2019);
- AAA 2015-2017 Older Americans Act/State awards for Senior Services, and
- This Coordinated Transit Plan.

The Boulder and Weld County AAAs also conducted similar surveys.

### **2013 RTD Paratransit Customer Satisfaction Survey**

A random sample of about 6,800 certified paratransit customers (approximately 50 percent of the active user database) participated in the survey. The survey is important because RTD uses its results to:

- learn customers' overall perceptions;
- compare service types or service areas;
- monitor the success of improvement efforts, and
- prioritize projects.

### **United States of Aging Study of Denver Region**

The United States of Aging Study was created by the National Council on Aging, the National Association of Area Agencies on Aging, and United Health Care in 2012 to study community preparedness for an aging population. Each year, different metropolitan areas across the country are chosen to be oversampled in a national survey. The 2015 survey conducted a more thorough sampling and analysis for the Denver region. DRCOG staff served on the Local Engagement Committee.

### **DRMAC Membership Meetings**

DRMAC holds regular membership meetings which are open to the public. The members represent specialized transportation providers, riders, advocacy groups and funders.



### **DRCOG Board & Committee Meetings**

All DRCOG meetings are open to the public. The meetings provide a forum for citizens to provide input on various topics including transportation topics covered in this plan.

### **RTD Board & Committee Meetings**

RTD is governed by a 15-member publically elected Board of Directors. Directors are elected to a four-year term and represent a specific district. Each RTD Board and committee meeting (several per month) includes time for public input.

### **RTD FasTracks Citizens Advisory Committee**

RTD's Citizens Advisory Committee meets quarterly to advise RTD on FasTracks implementation. Committee members are appointed by the RTD Board of Directors to three-year terms. The meeting venue alternates around the region to make it easier for stakeholders to offer input.

### **RTD Local Government Meetings**

RTD holds regular meetings with its local government planning partners including municipalities, counties other transit providers, community based organizations, and DRCOG.

## C. Definitions and Acronyms

Several important terms and acronyms are used throughout the Coordinated Plan and are defined in Figures 1 and 2.

**Figure 1: Definition of Terms**

- **demand response:** any non-fixed route system of transporting individuals that requires advanced scheduling by the customer, including services provided by public entities, nonprofits, and private providers
- **door-through-door services:** personal, hands-on assistance for persons who have difficulties getting in and out of vehicles and buildings
- **fixed route:** a system of providing designated public transportation in which a vehicle is operated along a prescribed route according to a fixed schedule
- **general public transportation:** regular, continuing shared-ride surface transportation services that are open to the general public
- **human service transportation:** shared-ride surface transportation services (often demand response) that are open to segment(s) of the general public defined by age, disability, or low income
- **Local Coordinating Council (LCC):** an alliance of community organizations and individuals that work together to achieve common goals regarding human service transportation
- **paratransit:** complimentary transportation service required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems
- **public transportation:** regular, continuing shared-ride surface transportation service (demand response or fixed route) that are open to the general public and/or segment(s) of the general public defined by age, disability, or low income
- **Regional Coordinating Council (RCC):** an alliance of community organizations and individuals that works together to identify and fulfill the public and human service transportation needs of their region focusing on travel across local jurisdictional boundaries
- **transit:** transportation by a conveyance that provides regular and continuing general or special transportation to the public
- **transit dependent person:** someone who must use public transportation for his/her travel

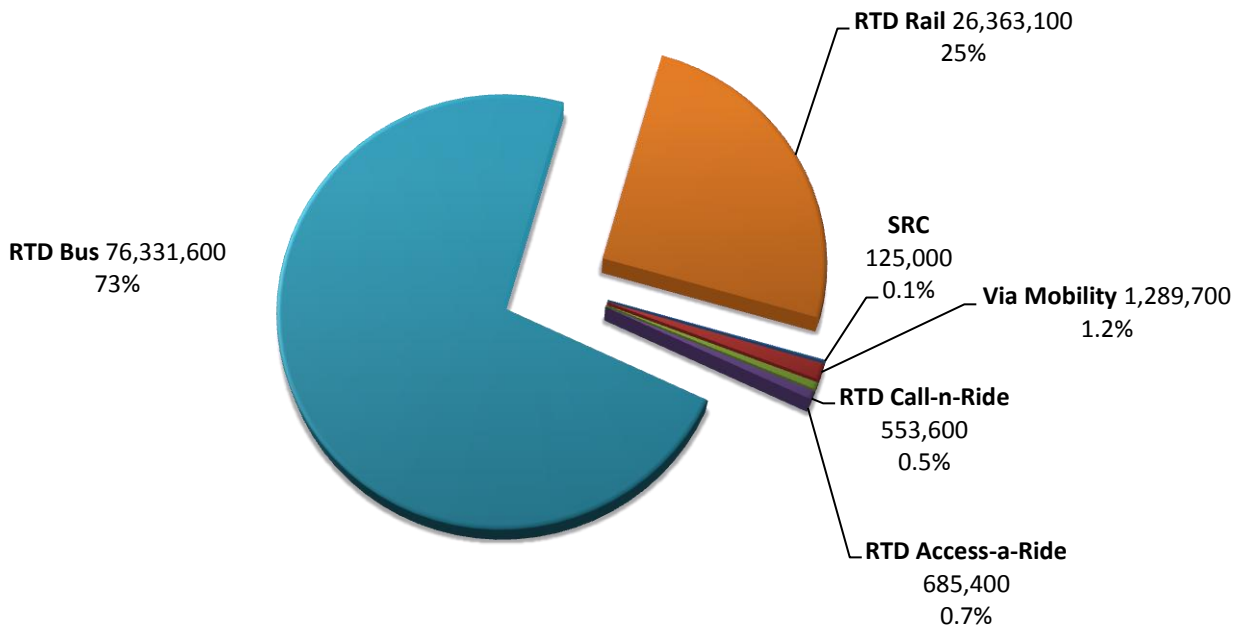
## Figure 2: Acronyms

- AAA: Area Agency on Aging
- ADA: Americans with Disabilities Act
- BRT: Bus Rapid Transit
- CDOT: Colorado Department of Transportation
- CPTHSTP: Coordinated Public Transit-Human Services Transportation Plan
- DRMAC: Denver Regional Mobility and Access Council
- FTA: Federal Transit Administration
- FHWA: Federal Highway Administration
- JARC: Job Access- Reverse Commute
- LCC: Local Coordinating Council
- MAP-21: Moving Ahead for Progress in the 21st Century
- NEMT: Non Emergent Medical Transportation (for Medicaid clients)
- RCC: Regional Coordinating Council
- RTD: Regional Transportation District
- SRC: Seniors' Resource Center
- TCS: Transportation Coordination Systems
- TNC: Transportation Network Company
- US DOT: United States Department of Transportation

## 2. Assessment of Available Transit Services

This section profiles existing transit services and facilities in the DRCOG region and their ridership. The region's transit services include general public transportation, paratransit, and human service transportation. RTD is the major operator of general public transportation and paratransit. Conversely, human service transportation is provided by several non-profit, for-profit, and volunteer organizations. Figure 3 shows the total annual boardings for RTD and the region's two largest human service transportation providers (Via Mobility<sup>3</sup> and Seniors' Resource Center<sup>4</sup>). In 2014, the three agencies provided more than 105 million one-way trips on all transit modes (fixed route, light rail, human service, and others), with RTD comprising more than 98 percent of the total.

**Figure 3: 2014 Annual Ridership – RTD, Via Mobility, & Seniors' Resource Center**



<sup>3</sup> Includes contracted RTD services

<sup>4</sup> SRC 2014 data from FTA 5310 Application; Via Mobility 2014 data from Via *2014 Annual Report to the Community* (includes regular services and contract services – duplication with RTD subtracted from RTD totals); RTD 2014 Data from *Service Performance 2014 Networked Family of Services*

## **A. Bus Service**

### **RTD Fixed Route**

The largest operator of public transportation in the DRCOG region is the Regional Transportation District (RTD). RTD serves 2.8 million people within its 2,340 square mile district that includes all or parts of eight counties. RTD has almost 150 local, express and regional fixed bus routes serving approximately 10,000 bus stops and more than 70 Park-n-Rides with 30,000 parking spaces. There were almost 77 million boardings on RTD's fixed route bus system in 2014.

### **RTD Bus Rapid Transit**

The term "Bus Rapid Transit" (BRT) is not easy to define. It refers to a variety of operational service, and technology characteristics that enable greatly improved bus service. RTD currently operates bus service in several corridors that include BRT features. Examples include the 16<sup>th</sup> Street MallRide in exclusive ROW, bus routes in designated lanes on Broadway and Lincoln with signal priority, and as of January 2016, Flatiron Flyer BRT service between Boulder and Denver in managed lanes along US 36 and I-25.

### **RTD Call-n-Ride**

RTD's Call-n-Rides offer personalized bus service within defined areas. It is a hybrid of fixed route and demand response bus service that is open to the general public and generally operates in more suburban settings. Customers call to reserve a trip within each Call-n-Ride service boundary. RTD offers subscription service for the Call-n-Rides. Select Call-n-Ride service areas offer flex route service. The flex routes offer commuters a reservation-free ride during morning and evening rush-hours at scheduled stops and times along the route. There were over a half million Call-n-Ride boardings in 2014.

### **Other Fixed Route**

#### **Boulder Community Transit Network**

The Boulder Community Transit Network is a network of bus routes throughout Boulder and connecting to surrounding cities and RTD's regional routes. The network has 10 bus routes: HOP, SKIP, JUMP, LONG JUMP, BOUND, STAMPEDE, DASH, BOLT, CLIMB, and H2C (Hop to Chautauqua, summer only). All routes are part of the RTD system and are operated by RTD except the HOP and CLIMB, which are operated by Via Mobility.

### **Englewood Art Shuttle**

The City of Englewood provides a free circulator shuttle with 19 stops between the Englewood light rail station, downtown Englewood, and several hospital and medical buildings. Englewood contracts with RTD to operate the service, which operates every 15 minutes on weekdays between 6:30 am and pm.

### **University of Colorado at Boulder (Buff Bus)**

The Buff Bus is a transportation service for students living in residence halls. The shuttle connects students with the Main Campus when classes are in session.

### **Black Hawk Tramway**

Black Hawk Tramway connects major destinations in Black Hawk seven days a week. The free service is supported by the city's casinos.

### **Lone Tree Link**

The Lone Tree Link (initiated in 2014) is a free shuttle service connecting major employment centers along Park Meadows Drive with restaurants, retail, and the RTD system. The Link is funded through a public private partnership of businesses, non-profits, and local government.

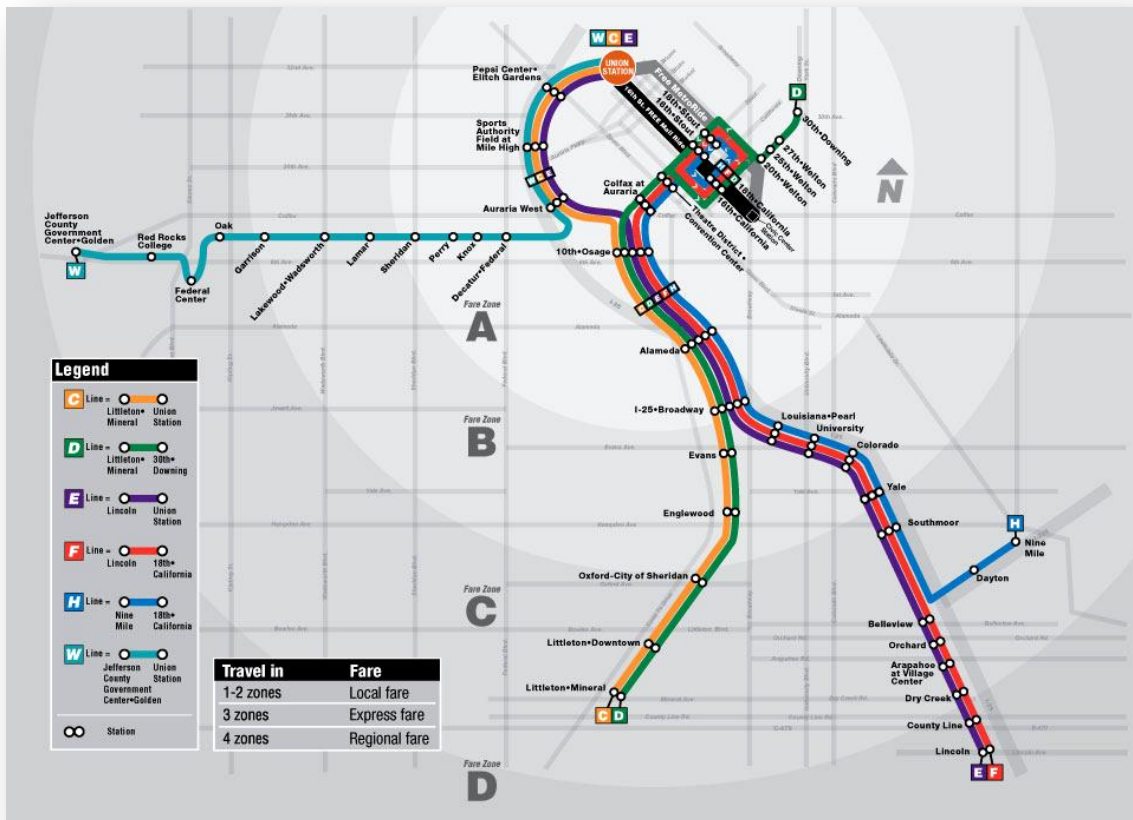
### **Intercity and Regional Bus**

Other regional and intercity transit services include Amtrak service, Greyhound, CDOT's Bustang service, and other intercity bus service. Intercity and regional buses link the DRCOG region to the rest of the state and beyond.

## B. RTD Rail

RTD currently operates six light rail routes using 173 vehicles, 48 miles of track and 46 stations. There were about 26 million boardings in 2014. Figure 4 shows RTD’s existing (2015) light rail routes.

Figure 4: Existing RTD Light Rail Map (2015)



## C. Intermodal Facilities

### Denver Union Station (DUS)

At the heart of RTD’s bus and rail network is Denver Union Station (DUS). DUS is a major intermodal passenger terminal connecting commuter rail, light rail, Amtrak, RTD buses, intercity buses, cars, taxis, trucks, bicyclists, and pedestrians.

### Other Major Facilities

Several park-n-ride lots and transit stations exist for people to access transit via car, walking, or bicycling. Examples of major stations serving as key transfer points include:

- Civic Center Station
- Boulder Transit Center and Boulder Junction
- Peoria Station
- I-25/Broadway
- An additional 70+ Park-and-Ride lots spread across the region

## **D. Paratransit, Human Service Transportation, and Other Services**

### **RTD Paratransit (Access-a-Ride)**

Under the Americans with Disabilities Act (ADA), transit agencies must provide complementary transportation services for people with disabilities who are unable to use fixed route bus or rail services. ADA complementary paratransit service must be provided within  $\frac{3}{4}$  of a mile of a bus route or rail station, at the same hours and days, for not greater than twice the regular fixed route fare. RTD's service is branded as Access-a-Ride. Under contract with RTD, Easter Seals evaluates potential clients to determine ADA eligibility. Access-a-Ride provided almost 700,000 boardings in 2014.

### **Other Human Service Transportation**

Several agencies provide human service transportation throughout the region. Many offer services that go beyond the requirements of ADA: door-through-door services and in areas not covered by paratransit. Human service transportation includes specialized services for older adults and individuals with disabilities. It can also include services for persons with low-income offered in areas where there is limited or no fixed route services. Major providers of human service transportation in the region include Via Mobility, Seniors' Resource Center (SRC), and Douglas County (contracts with multiple providers).

Via Mobility is a private, non-profit agency that offers a variety of transportation services. Their portfolio includes demand responsive and fixed route. Via Mobility's transportation services operate in 19 communities in five counties, including Boulder and Boulder County, Brighton, rural Adams and Arapahoe Counties (Watkins, Strasburg, Bennett, Byers, and Deer Trail), and other communities. Via also conducts travel training: a comprehensive, intensive instruction designed to teach participants how to travel safely and independently on public transportation.

SRC is also a private, non-profit agency that provides human service transportation among other services. SRC directly transports and/or brokers transportation in multiple counties: Adams, Arapahoe, Broomfield, Denver, Douglas, Jefferson, Clear Creek, Gilpin, and Park. SRC also operates A-Lift



transportation via contract with Adams County for county residents who are 60+ or are mobility challenged, regardless of age.

Douglas County contracts with a wide range of providers in a brokerage model for transportation for older adults, individuals with disabilities, and low-income individuals. Contracted providers include:

- Castle Rock and Parker Senior centers;
- Love, INC of Littleton, and Neighbor Network volunteer driver programs;
- SRC; and
- To the Rescue.

Each entity (Via, SRC, and Douglas County) integrates FTA 5310 funding, federal Older Americans Act funding, other federal funds, local funds, and other sources to pay for services.

A recent DRMAC study (Transportation Coordination Systems or TCS) notes the “region appears to be divided into three or four natural sub-regions: Boulder County, Denver metro and environs (Jefferson County, Broomfield, Adams, Denver, and Arapahoe counties), and Douglas County.” Each sub-region has a primary human service transportation agency that directly provides and often brokers trips with other smaller providers.

Other agencies that currently receive federal funding to provide human service transportation include but are not limited to:

- City and County of Broomfield (Broomfield Easy Ride)
- Lakewood Rides
- Developmental Pathways
- Developmental Disabilities Center (Imagine!)
- Easter Seals Colorado
- Boulder County

In addition, the following agencies provide human service transportation and are members of DRMAC:

- Amazing Wheels
- Boulder County CareConnect
- Colorado Cab Company
- First Transit
- Littleton Omnibus and Shopping Cart

- Metro Taxi and South Suburban Taxi
- Town of Castle Rock
- Veterans Helping Veterans Now (receives FTA funding through Via Mobility)

It is important to note the list of providers currently receiving or potentially eligible to receive federal funding to provide human service transportation is always changing. This is because federal eligibility requirements change and because providers evolve over time (existing ones change, new ones are created). The Colorado Association of Transit Agencies (CASTA) maintains a database of transit agencies in the Denver region and across the state. DRMAC maintains a web-based interactive tool to help connect clients with service providers, called Transit Options. DRMAC also annually publishes the *Getting there Guide* which lists transportation providers and resources.

### **Volunteer Drivers**

A significant portion of trips for the transit-dependent population are provided by volunteer drivers. Volunteer drivers include friends, neighbors, and relatives providing transportation in informal arrangements (such as taking a home-bound neighbor to a doctor appointment). It also includes formalized volunteer driver programs. SRC, Douglas County, and others also coordinate volunteer driver programs with their other services. They often reimburse volunteer driver mileage with grant funding through programs like FTA 5310.

## **E. Other Transit Services**

### **Gilpin Connect**

Gilpin Connect is a demand response service for people to access health care and other destinations outside of Gilpin County. This service is funded by gaming revenues.

### **Taxi Cabs**

Taxi services play an important role in the provision of transit in the DRCOG region. This includes RTD's Access-a-Cab program and job access taxi voucher programs. Access-a-Cab is offered to current eligible Access-a-Ride customers as an alternative. Access-a-Cab does not meet the requirements for complementary paratransit service under the ADA and is not meant to replace the Access-a-Ride program. However, Access-a-Cab provides a more flexible schedule and is often less costly to RTD and the user. Douglas County and the Town of Castle Rock offer employment access trips using a taxi voucher program. This enables people who live and/or work where RTD service is limited or unavailable one way to get to and from work.

**Transportation Network Companies**

Transportation Network Companies (TNCs) like Uber and Lyft supply prearranged transportation services for a fee using an online-enabled application or platform (such as smart phone apps) to connect drivers using their personal vehicles with passengers. The State Public Utilities Commission (PUC) regulates these services.

**Other Private Operators**

Several private operators offer transportation for recreational travelers to the mountains. Many ski resorts have shuttle services for their employees. Additionally, many private operators provide rides to ski areas. Multiple providers offer bus service from the metro area to the casinos in Black Hawk and Central City; scheduled trips are made daily to the gaming communities. Super Shuttle and other airport shuttles provide service to and from Denver International Airport (DIA). Colorado Mountain Express (CME) offers shuttle service from DIA to mountain resorts.

### 3. Funding and Coordination

Funding for transit is complex. The US Department of Health and Human Services has conducted two inventories to ascertain how many federal programs provide funding that can be used for public transportation. The most recent inventory found 70 programs across 14 federal departments or independent agencies. This section provides an overview of local, state, and federal transit funding sources and how they are used in the DRCOG region.

Table 1 shows the major federal and state transit funding programs, and the “typical” annual allocation from each program for the DRCOG region. Each funding program is described in more detail later in this chapter. The region directly receives about \$73 million annually through federal allocations. Transit agencies and providers in the region are eligible to compete for a portion of another \$27 million annually in federal and state funds that are competitively awarded statewide. The largest single federal funding source is the FTA 5307 program, which funds capital and operating assistance in urbanized areas; RTD directly receives FTA 5307 funds as an annual formula allocation.

Transit funds can be categorized in three broad terms:

- *How the funds are distributed:* Federal and state transit funding is provided either directly through a specific allocation, such as through formula funding programs (FTA 5307, 5310, etc.), or is awarded competitively through a merit-based program (such as CDOT’s FASTER transit program). In a complicated twist, formula funding programs can also be competitive. For example, the DRCOG region has a history of awarding FTA 5310 funds competitively. Conversely, competitive funds can be awarded by formula – RTD directly receives \$3 million annually from CDOT’s FASTER transit program and is eligible to compete for additional FASTER transit funds.
- *Where/how the funds can be spent:* All transit funds have some restrictions on eligible activities, and many come with geographic restrictions. For example, the DRCOG region’s FTA 5310 large urban funds can be spent only on specific eligible activities in the Denver-Aurora urbanized area.
- *Who controls the allocation of funds to specific projects/services:* RTD directly receives FTA 5307 funds from FTA. It also controls FTA 5307 funds for the small urban areas in the DRCOG region. In contrast, FTA 5310 large urban funds for the Denver region are currently allocated by CDOT, but must be spent within the Denver-Aurora Urbanized Area. And while RTD receives FTA 5307 funds directly, CDOT competitively awards FTA 5311 rural funds statewide.

**Table 1: Estimated DRCOG Region Annual Transit Funding Amounts**

<b>FTA Formula Funding for DRCOG Region</b>	
<i>Program</i>	<i>Estimated Annual Allocation</i>
FTA 5307 for Denver-Aurora Urbanized Area	\$48 million
FTA 5307 for Boulder Urbanized Area	\$3.4 million
FTA 5307 for Lafayette-Louisville-Erie Urbanized Area	\$1.1 million
FTA 5307 for Longmont Urbanized Area	\$2.3 million
FTA 5310 for Denver-Aurora Urbanized Area	\$1.6 million
FTA 5337 High Intensity Fixed Guideway State of Good Repair for Denver-Aurora Urbanized Area	\$8 million
FTA 5337 High Intensity Motorbus State of Good Repair for Denver-Aurora Urbanized Area	\$800,000
FTA 5339 for Denver- Aurora Urbanized Area	\$4.5 million
<b>Total</b>	<b>\$69.7 million</b>

<b>FTA Formula Funding Controlled by CDOT (projects in DRCOG region may be eligible to compete)</b>	
<i>Program</i>	<i>Estimated Annual Allocation</i>
FTA 5310 for Urbanized Areas under 50,000 population	\$550,000
FTA 5310 for Urbanized Areas 50,000 to 199,999 population	\$970,000
FTA 5311 for the entire state	\$11 million
FTA 5339 for Urbanized Areas under 50,000 population	\$1.3 million
FTA 5339 for Urbanized Areas 50,000 to 199,999 population	\$1.2 million
<b>Total</b>	<b>\$15 million</b>

<b>Statewide FASTER Transit Funding</b>	
<i>Program</i>	<i>Estimated Annual Allocation</i>
FASTER Statewide and Regional Pool <sup>5</sup>	\$10 million
FASTER Local Pool	\$5 million
<b>Total</b>	<b>\$15 million</b>

<sup>5</sup> RTD and Bustang each receive a \$3 million set aside from this pool annually.

## A. Human Service Transportation

Human service transportation includes a broad range of service options designed to meet the needs of the transportation disadvantaged, including persons with disabilities, low income individuals, and older adults. These individuals have different needs and require a variety of transportation services to ensure quality of life. Typically, these services are separate from those available to the general public and are often available only to qualified persons based age, disability, and/or income. Key funding sources are described below.

### Local Entities

Municipalities, counties, non-profits, and other local entities typically contribute towards the cost of providing human service transportation. Many state and federal grants require a local match. Local project sponsors can provide matching funds or may choose to contribute resources above and beyond grant requirements. Some local services are provided solely with local funds, forgoing state and federal grants. Fares and donations also make up an important part of local funding.

### FTA Section 5310 (Enhanced Mobility for Seniors and Individuals with Disabilities)

The FTA 5310 program funds transportation for older adults and individuals with disabilities. In the DRCOG region, project funding decisions are currently made by CDOT through a competitive funding process in consultation with DRCOG and other stakeholders. FTA has the following specific project-type criteria for allocating 5310 funds:

- *At least 55 percent of program funds must be used on capital or “traditional” 5310 projects. Examples include:*
  - *Buses and vans; wheelchair lifts, ramps, and securement devices; transit-related information technology systems including scheduling/routing/one-call systems; and mobility management programs.*
  - *Acquisition of transportation services under a contract, lease, or other arrangement. Both capital and operating costs associated with contracted service are eligible capital expenses. User-side subsidies are considered one form of eligible arrangement.*
- *The remaining 45% is for projects formerly allowed under the 5317 New Freedom program. Capital and operating expenses for new public transportation services and alternatives beyond those required by the ADA, designed to assist individuals with disabilities and older adults are eligible under this category. Examples include:*
  - *Travel training; volunteer driver programs; building an accessible path to a bus stop including curb-cuts, sidewalks, accessible pedestrian signals or other accessible features; improving signage, or way-finding technology; incremental cost of providing same day service or door-to-door service; purchasing vehicles to support new accessible taxi, rides sharing and/or vanpooling programs.*
- *Mobility Management is an allowable expense in both categories.*

### **Area Agencies on Aging (Older Americans Act Funding)**

Area Agencies on Aging (AAA) were established under the Older Americans Act (OAA) of 1965 to respond to the needs of Americans 60 plus years of age. The DRCOG AAA covers the DRCOG region except for Boulder and southwest Weld Counties, who each have county-run AAAs. The Boulder County AAA is a division of the Boulder County Community Services Department. The Weld County AAA is the County's Department of Human Services.

All three AAAs administer Title III Federal OAA and Older Coloradans Act State funding. A significant portion is available for transportation for adults over the age of 60. The DRCOG AAA contracts with counties and transportation agencies in the DRCOG region for transportation. The Boulder and Weld County AAAs manage OAA transportation funding in their counties.

### **Medicaid – Non-Emergent (Emergency) Medical Transportation (NEMT)**

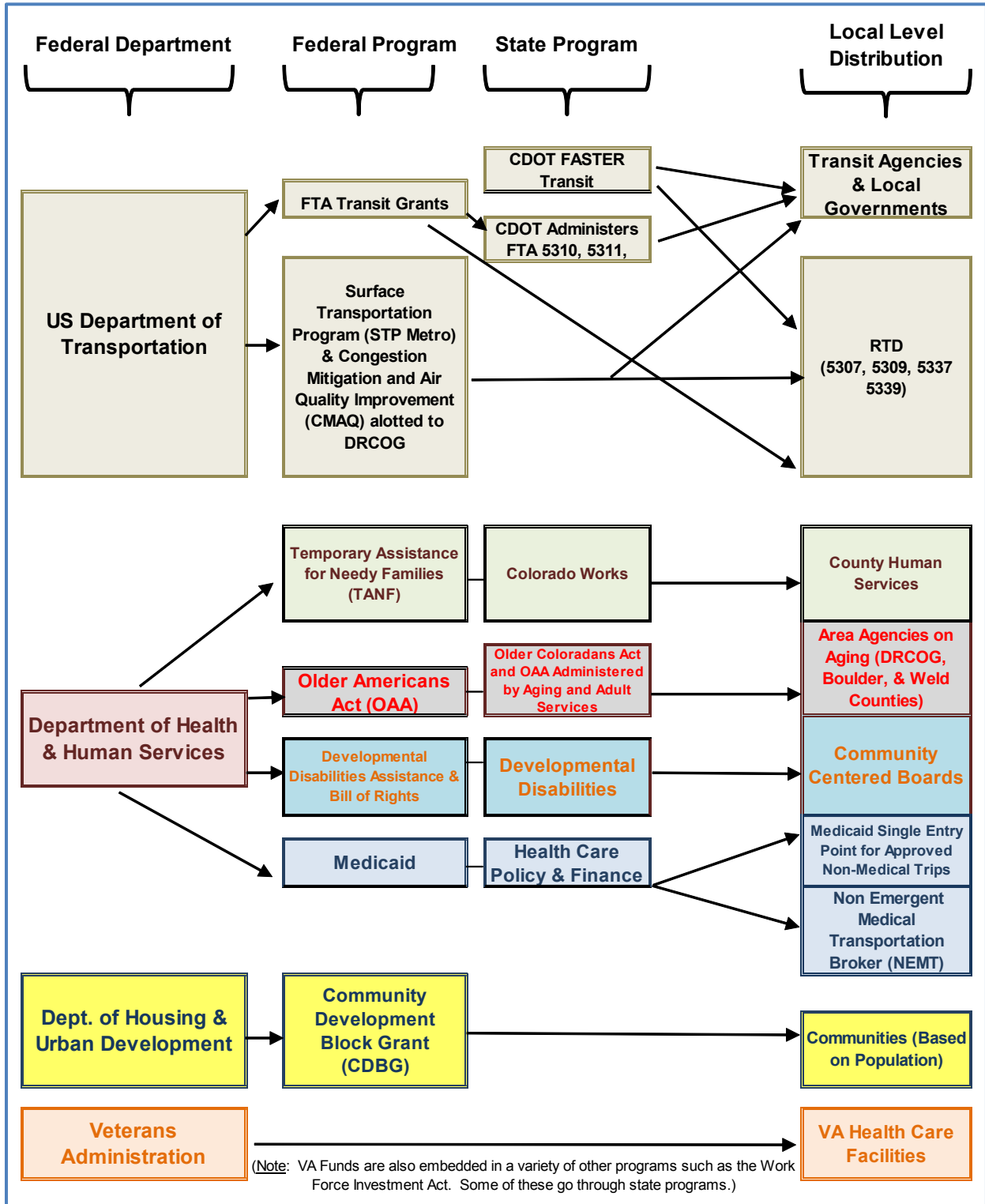
NEMT is transportation for Medicaid clients with no other means of transportation to and from Medicaid medical appointments. In addition to directly paying for transportation, reimbursement also may be given for gas, bus tokens, and bus passes.

In the DRCOG region, the Colorado Department of Health Care Policy and Financing (HCPF) contracts with a private company to broker this service. This contract covers Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties.

### **Coordination of Funding Sources for Human Services Transportation**

Figure 5 paints a broad – but simplified – picture of funding sources for transit in the DRCOG region. It shows key federal funding sources, where they come from, and how they are distributed from the federal to the local level. However, it is not an exhaustive list. For example, many local sources of funding are not included, such as RTD's sales and use tax revenue.

Figure 5: Schematic of Federal Funding Sources, Distributors, & Recipients





It is important to emphasize the FTA allows non-US DOT federal funds to be used toward the required local match for FTA grants in many circumstances. Of significance to the DRCOG region is the ability to use Older Americans Act funds as local match for FTA funds. In the October 16, 2012 Federal Register in the 5310 Section under the subheading of “Local Match” it states the following:

*“Funds provided under other Federal programs (other than those of the Department of Transportation, with the exception of the Federal Lands Transportation Program and Tribal Transportation Program established by sections 202 and 203 of title 23 U.S.C.) may be used for local match for funds provided under section 5310, and revenue from service contracts may be used as local match.”*

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Figure 6 is federal policy guidance on co-mingling of federal and local transportation funds. Co-mingling of eligible funds is encouraged by the federal government, and is a key strategy identified in Section VI to improve human service transportation.

## Figure 6: Policy Statement Summary on Resource Sharing from the Federal Interagency Coordinating Council on Access & Mobility

### Background:

Often Federal grantees at the State and local levels restrict transportation services funded by a Federal program to clients or beneficiaries of that Federal program. Some grantees do not permit vehicles and rides to be shared with other federally-assisted program clients or other members of the riding public. Federal grantees may attribute such restrictions to Federal requirements. This view is a misconception of Federal intent.

### Purpose:

This policy guidance clarifies that Federal cost principles do not restrict grantees to serving only their own clients. To the contrary, applicable cost principles enable grantees to share the use of their own vehicles if the cost of providing transportation to the community is also shared. This maximizes the use of all available transportation vehicles and facilitates access for persons with disabilities, persons with low income, children, and senior citizens to community and medical services, employment and training opportunities, and other necessary services.

### Applicable Programs:

This policy guidance applies to Federal programs that allow funds to be used for transportation services. This guidance pertains to Federal program grantees that either directly operate transportation services or procure transportation services for or on behalf of their clientele.

### Federal Cost Principles Permit Sharing Transportation Service:

A basic rule of appropriations law is that program funds must only be used for the purposes intended. Therefore, if an allowable use of a program's funds includes the provision of transportation services, then that Federal program may share transportation costs with other Federal programs and/or community organizations that also allow funds to be used for transportation services, as long as the programs follow appropriate cost allocation principles.

None of the standard financial principles expressed in any of the OMB circulars or associated Federal agency implementing regulations preclude vehicle resource sharing, unless the Federal program's own statutory or regulatory provisions restrict or prohibit using program funds for transportation services. For example, one common financial rule states the following. "The grantee or sub grantee shall also make equipment available for use on other projects or programs currently or previously supported by the Federal Government, providing that such use will not interfere with the work on the project or program for which it was originally acquired. First preference for other use shall be given to other programs or projects supported by the awarding agency. User fees should be considered if appropriate."

In summary, allowability of costs is determined in accordance with applicable Federal program statutory and regulatory provisions and the cost principles in the OMB Circular that applies to the entity incurring the costs. Federal cost principles allow programs to share costs with other programs and organizations. Program costs must be reasonable, necessary, and allocable. Thus, vehicles and transportation resources may be shared among multiple programs, as long as each program pays its allocated (fair) share of costs in accordance with relative benefits received.

**Source: Federal Interagency Coordinating Council on Access and Mobility Final Policy Statement. October 1, 2006**

## **B. General Public Transportation**

General public transportation is not restrictive to the type of user. It can be fixed route or demand responsive. The ADA does require that public transportation be accessible for individuals with disabilities.

### **RTD**

#### **Sales and Use Tax**

A one penny sales tax within the RTD District helps pay for RTD services: \$0.04 funds FasTracks and \$0.06 funds RTD's base system (all services excluding FasTracks). This revenue accounts for almost 60 percent of RTD's base system operating budget.

#### **Fares**

Passenger farebox revenues (known as farebox recovery) account for about 25 percent of RTD's base system operating budget revenue. Farebox recovery is the second-largest source of revenue after the sales and use tax.

### **Local Governments**

Douglas County, the Town of Parker, and RTD formed a partnership to save RTD's Call-n-Ride service in Parker from elimination. The agreement includes financial and in-kind contributions from Douglas County and the Town of Parker in order to fund the service, and an agreement to collaborate to improve and promote the service to grow ridership.

The Longmont Free Fare Pilot Program provides free rides on local Longmont bus service. This program is managed and paid for by Boulder County and the City of Longmont, through grants and the voter-approved Transit and Trails sales tax. The program is designed to benefit income-limited residents and increase ridership on the local Longmont transit routes. Some communities, such as Boulder, also fund "buy ups" of RTD service to provide more service (such as better headways) than what RTD can afford on a particular route.

## State

### **FASTER Transit**

The Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER) provides \$15 million annually to transit projects. Of this total, \$5 million is competitively awarded to “local” projects and \$10 million to state and regional projects. RTD and Bustang each receive a \$3 million set-aside from the state-wide and regional pool. FASTER is for capital projects only, with the exception of the set-aside for Bustang and a small allocation for interregional operating assistance.

## Federal

### **FTA Section 5307 (Urbanized Area Formula Program)**

Funds are for urbanized areas with more than 50,000 people. The funding formula takes population and population density into account. This program is generally used for transit capital expenditures, but under certain circumstances, funds may also be used for operating assistance and transportation planning. Additionally, up to 10 percent of formula funds can be used for ADA service. Projects previously eligible under the Section 5316 Job Access Reverse Commute (JARC) program are now eligible under Section 5307. RTD is the Designated Recipient for the Denver-Aurora Urbanized Area. RTD also receives funding for the small urbanized areas within the RTD District: Boulder, Louisville-Lafayette, and Longmont. In total, RTD is typically allocated about \$50 million annually, which it typically uses for vehicle maintenance and procurements.

Pockets of the DRCOG region, mostly in southern Douglas County, were added to the Denver-Aurora Urbanized area based on the 2010 Census, but are outside RTD boundaries. Those communities are eligible to receive this funding through RTD, or become an additional designated recipient.

### **Section 5309 (Transit Capital Investment Program)**

#### ***Fixed Guideway Capital Investment Grants (New Starts, Small Starts, and Core Capacity)***

This program funds new and expanded rail, bus rapid transit, and ferry systems that reflect local priorities to improve transportation options in key corridors. Eligible projects include:

- New fixed-guideways or extensions to fixed guideways (projects that operate on a separate right-of-way exclusively for public transportation, or that include a rail or a catenary system);
- Bus rapid transit projects operating in mixed traffic that represent a substantial investment in the corridor, and

- Projects that improve capacity on an existing fixed-guideway system.

The New Starts and Small Starts programs fund new and expanded rail and BRT systems. Projects with total net capital cost of less than \$300 million are eligible to apply for up to \$100 million from Small Starts. Core Capacity, a new category of projects, funds projects that expand capacity by at least 10 percent in existing fixed-guideway transit corridors that are already at or above capacity today, or are expected to be at or above capacity within five years. Grant awards are competitive, not formula based.

The Eagle P3 Project (East Rail Line, Gold Line, and Northwest Rail Phase I), the West Rail Line, and the Southeast Extension have received or are receiving grants from this program, as follows:

- Approximately \$1 billion for the Eagle P3 Project
- Approximately \$300 million for the West Rail Line
- Approximately \$92 million for the Southeast Rail Extension

#### **Section 5311 (Formula Grants for Rural Areas)**

This program provides capital, operating, and administrative assistance for general public transit in areas with fewer than 50,000 people. Transit services in rural portions of the DRCOG region are eligible; applicants must apply through CDOT. Both SRC and Via Mobility have received funding for service in rural parts of the DRCOG region, such as rural Jefferson and Boulder Counties. As with the FTA 5307 program, projects previously eligible under the FTA 5316 JARC program are now eligible under FTA 5311. CDOT coordinates with DRCOG in selecting projects in the DRCOG region.

#### **Section 5337 (State of Good Repair)**

The formula-based State of Good Repair program is FTA's first stand-alone initiative dedicated to repairing and upgrading the nation's rail transit systems and other rapid transit such as BRT. Transit systems in urbanized areas with fixed guideway public transportation facilities operating for at least seven years are eligible. RTD plans to use this funding to upgrade existing rail corridors and the 16th Street Mall.

#### **Section 5339 (Bus and Bus Facilities Program)**

This program allocates capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. RTD receives most of the funds in the DRCOG region and uses them for vehicle purchases and improvements to transit stations.

Under MAP-21, the FTA 5339 program replaced the portion of the FTA 5309 program that used “earmarks” for distributing bus and bus facility capital funds. Colorado previously submitted one unified 5309 application, and earmarks typically totaled about \$8-13 million annually. This program now distributes funds to states on a formula basis. Colorado receives about \$1.75 million for small urban and rural areas. The three large urbanized areas (Denver-Aurora, Colorado Springs, Fort Collins-Loveland) each receive their own formula funding. RTD receives about \$3 million annually for the Denver-Aurora urbanized area.

### **Public Private Partnerships**

RTD pioneered efforts to generate revenue for FasTracks through public private partnerships. The Eagle P3 project is a nationally-renowned example of a public private partnership. RTD contracts with a "concessionaire" selected through a competitive process to design, build, finance, operate, and maintain the Eagle project, with RTD making an annual payment to the concessionaire. This allows RTD to spread out large upfront costs over approximately 30 years. The Eagle project is comprised of RTD's East Rail Line, Gold Line, Commuter Rail Maintenance Facility and Northwest Rail Line Westminster segment. Other FasTracks projects that use public private partnerships are North Metro, Southeast Extension, and US 36.

At the local level, the Lone Tree Link, mentioned in Section II, is funded through a public private partnership of businesses, non-profits, and local government.

## 4. Demographics and Forecasted Growth

DRCOG staff forecasted the growth for major populations groups that may be more likely than the general public to need and use transit services in the future. The population groups identified are: individuals with disabilities, older adults, youth, zero car households, low income, minority, and limited English proficiency. Each group is analyzed separately with acknowledgement of overlap between groups (such as a disabled older adult without access to a car).

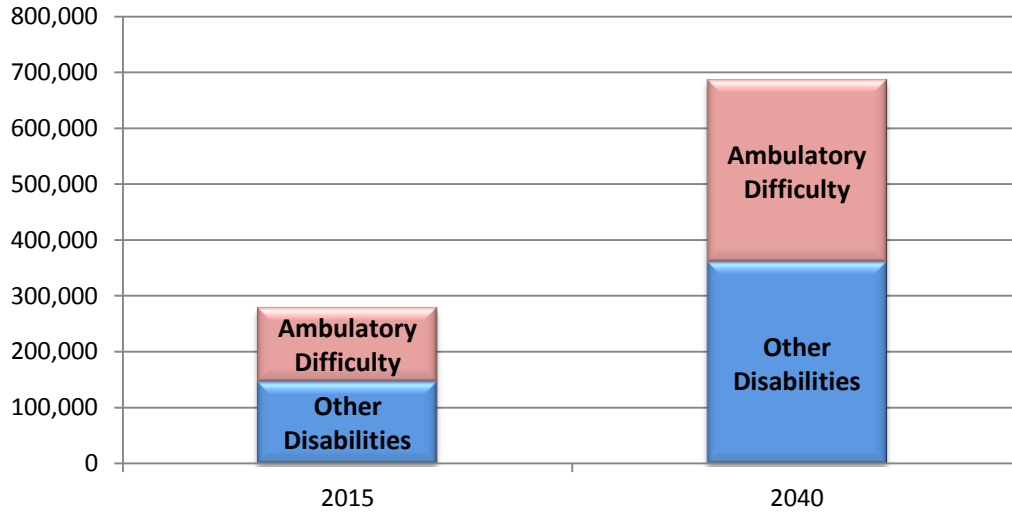
### A. Individuals with Disabilities

Individuals with disabilities often lack transportation options. Many rely on public transit, human service transportation, or other means to fulfill activities of daily living. The ADA requires public transportation to be accessible and complementary paratransit to be available for individuals with disabilities when barriers prevent them from riding fixed route.

The current (2015) population for individuals with disabilities in the Denver region is about 280,000, or roughly 9 percent of the region's total population. Of those with disabilities, more than 130,000 have an ambulatory difficulty. About one-third of all people in the Denver region older than 65 have a disability. This percentage is more than double the percentage of those under 65 with a disability. If the proportion of persons with a disability in each age group remains the same, by 2040 the region could have over 685,000 persons with a disability. Over 325,000 of those could have an ambulatory disability if the proportion remains the same. These data are shown in Figure 7.

### Figure 7: Individuals with Disabilities in the DRCOG Region

Sources: 2015 – Colorado Demography Office; 2040 – DRCOG Forecast with proportional increase by age group



In 2008, the US Census Bureau introduced new questions related to disabilities. These new questions enable the Census to classify the following disability types:

- Hearing difficulty
- Vision difficulty
- Cognitive difficulty
- Ambulatory difficulty
- Self-care difficulty
- Independent living difficulty

Table 2 shows the estimated population in the DRCOG region by disability type.



**Table 2: Estimated 2015 Population in the DRCOG Region by Disability Type**

<b>Disability Type</b>	<b>Total</b>
With a hearing difficulty	92,134
With a vision difficulty	52,471
With a cognitive difficulty	65,446
With an ambulatory difficulty	133,111
With an independent living difficulty	91,675
With a self-care difficulty	50,724
<b>Total</b> persons with a disability (not equal the sum of all disability types because some have more than one disability)	<b>91,675</b>

*Source: 2009-2013 American Community Survey 5-Year Estimates*

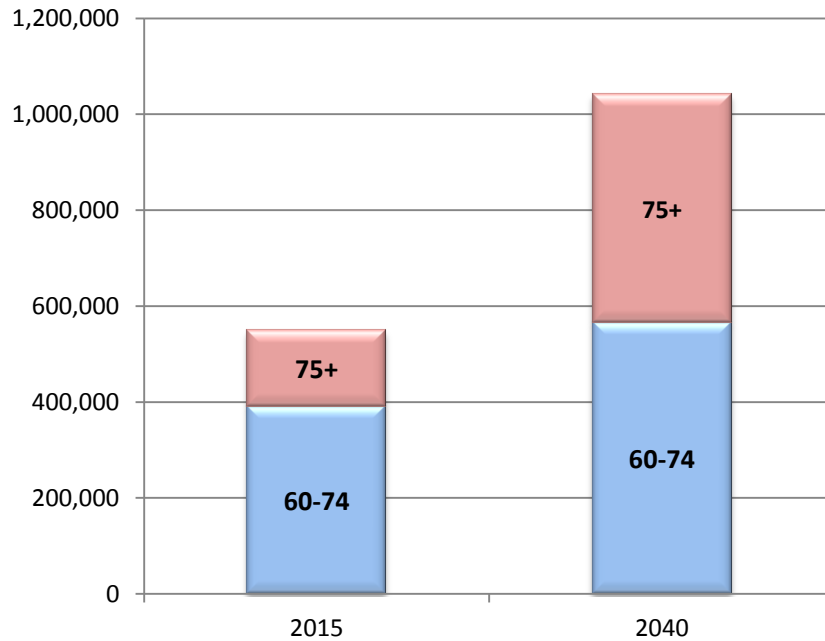
Figure 8 shows disability types by age group in the DRCOG region. The number of people within disability categories is roughly the same in both the 18-64 and 65+ age groups.

## **B. Older Adults**

Many older adults are reluctant to stop driving for fear of losing their independence. Like individuals with disabilities, many older adults that do not drive rely on public transportation and other means to maintain their independence.

The older adult population is increasing much faster than the general population. While the 60+ population is expected to almost double, the population under 60 is expected to grow by roughly a third. As shown in Figure 8, more than a half million residents in the DRCOG region are currently 60 years old or older. Between 2010 and 2015, this group grew by 27 percent as Baby Boomers (born between 1946 and 1964) entered this age group. The 60+ population in the region is anticipated to increase to over one million by 2040. By then, one in four persons in the region will be over the age of 60. Further, the population of adults age 75 and older is forecast to be 476,000 by 2040, an increase of about 200 percent from 2015.

**Figure 8: Forecast Growth of Age 60+ Population in the DRCOG Region**



Sources: 2015 – Colorado Demography Office; 2040 – DRCOG Forecast with proportional increase by age group

### 2013 RTD Paratransit Survey Demographic Profile

A recent survey of paratransit users was conducted by RTD. The following demographic information obtained is noteworthy for planning purposes:

- RTD paratransit customers tend to be older than users of other RTD service types. 56 percent of Access-a-Ride customers and 59 percent of Access-a-Cab customers are 65 years of age or older, compared to 7 percent for fixed route riders.
- RTD’s paratransit services frequently provide transportation for low income populations. About 50 percent of Access-a-Ride and 60 percent of Access-a-Cab customers report household incomes of less than \$15,000 per year, compared to about 26 percent for fixed route riders.
- Paratransit customers tend to have lower education levels when compared to customers using other services. Nearly half of all customers indicated they graduated high school or have less than 12 years of formal education, compared to 28 percent of fixed route riders.
- About 86 percent of paratransit customers are retired or are unable to work; about 10 percent of fixed route riders indicated they are retired or are unable to work.

- Nearly two thirds of Access-a-Ride customers and 80 percent of Access-a-Cab customers are female.
- 25 percent of paratransit customers indicated they used a fixed route service in the 12 months preceding the survey.

### **C. Youth**

Growth is also anticipated for the youth cohort (12-20 years of age). High school students receive a discounted rate on RTD buses and often use them to get to and from school. For example, an estimated 2,400 Denver Public high school students use RTD to go to and from school<sup>6</sup>. Between 2015 and 2040, this population is expected to increase by over 20 percent, from approximately 377,000 to 460,000.

### **D. Zero Vehicle Households**

Households without a motor vehicle are by definition dependent on modes of transportation other than a privately-owned automobile. These modes include transit, walking, bicycling, taxi, carshare, and others. Many zero vehicle households have no vehicle by choice, while other households cannot afford to purchase and maintain an automobile or do not have a resident legally permitted to drive.

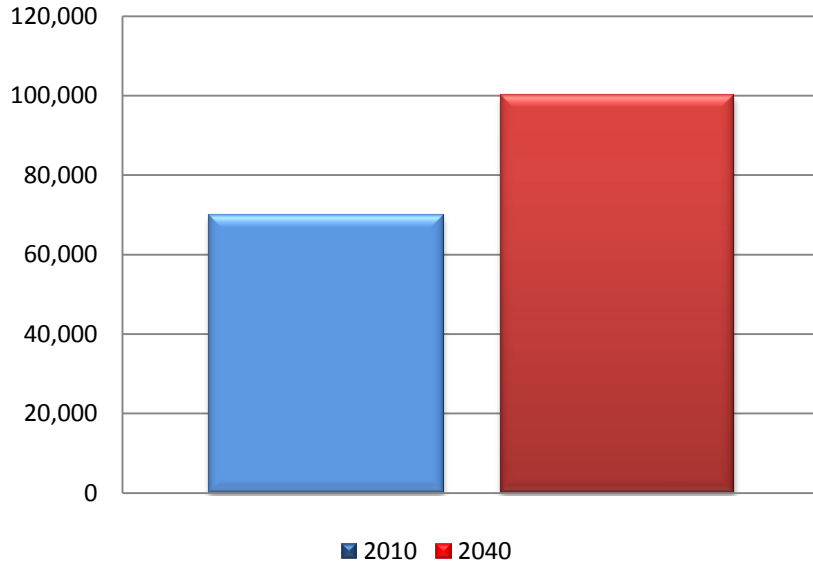
Based on 2010 Census (CTPP) data, about 70,000 households in the DRCOG region have no vehicle available. If this number grows proportionately with the overall population, then there could be almost 100,000 zero-vehicle households by 2040 (Figure 9).

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<sup>6</sup> [http://www.dpsk12.org/docs/hs\\_transportation/](http://www.dpsk12.org/docs/hs_transportation/)

**Figure 9: Zero Vehicle Households in the DRCOG Region**

Source: US Census, 2010 Census Transportation Planning Package; proportional increase to 2040

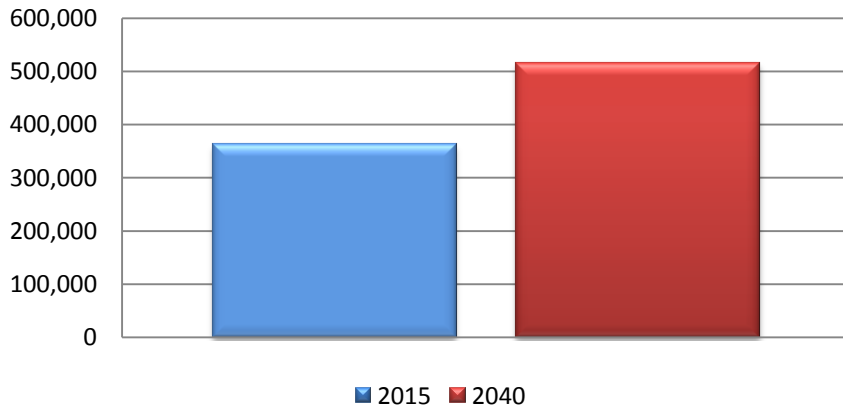


**E. Low Income Population**

The current estimate for population below 100 percent of poverty is 363,000, or about 12 percent of the total population for the DRCOG region. 100 percent of poverty is \$11,770 for a one person household; it is \$24,250 for a household of four. If this population is the same proportion of the current total population in 2040, there could be approximately 516,000 low-income individuals in the Denver region (Figure 10).

**Figure 10: Population in Poverty in the DRCOG Region**

Source: US Census for 2015; proportional increase to 2040



## **F. Limited English Proficiency**

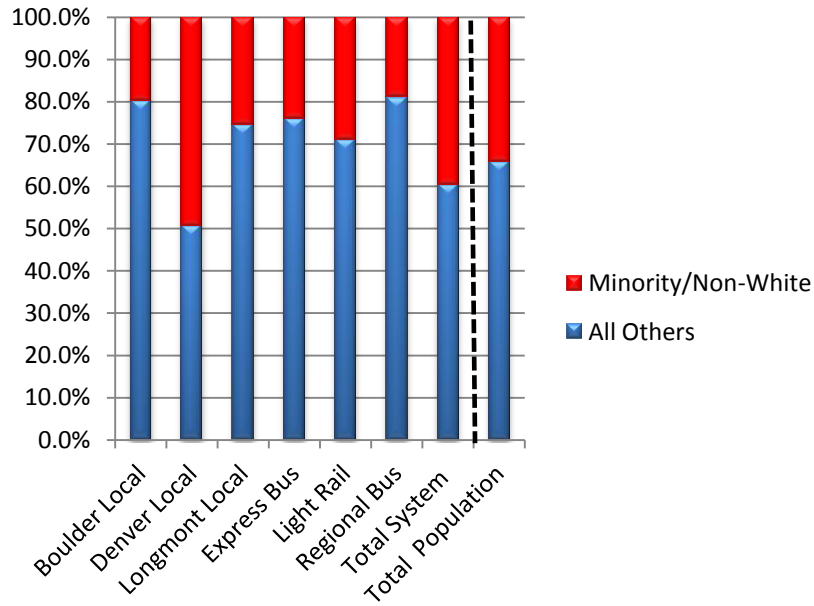
Limited English Proficiency (LEP) refers to a person who is not fluent in the English language, often because it is not their native language. The most common language spoken at home other than English among the LEP population in the DRCOG region is Spanish or Spanish Creole (161,576 or about 6 percent). The population of individuals that speak English less than “very well” increased significantly between 1980 and 2010 (a twelve-fold increase). However, recent estimates indicate a downward trend. The American Community Survey 2007-2014 estimate for this population is 217,257, or about 7 percent of the total population. Despite a recent downward trend, there will continue transportation need in this community through 2040.

There is also a growing immigrant and refugee population in the DRCOG region. Colorado resettles nearly 2,000 refugees a year; approximately 90 percent settle in the DRCOG region. These newcomers are given legal and permanent status, work authorization, five years of English classes, and access to public assistance to help them obtain financial self-sufficiency. DRCOG’s Elder Refugee Program offers assistance and guidance, including transportation assistance, to refugees who are older adults. In partnership with the Colorado Refugee Service Program and the federal Office of Refugee Resettlement, DRCOG’s Elder Refugee Program has created a gathering place for elder refugees to decrease social isolation, increase integration and interaction, and build community connections.

## **G. Minority Population**

Minorities (non-Caucasian) make up a significant portion of RTD ridership. On many RTD routes, minority ridership is higher than their proportion of the region’s total population. RTD conducted a transit ridership demographic comparison for their 2013-2015 Title VI Report. Figure 4.11, adapted from RTD’s report, compares the non-Caucasian population with all others for RTD’s bus service categories. RTD condensed the minority definitions used for this specific analysis from the definitions the Census uses.

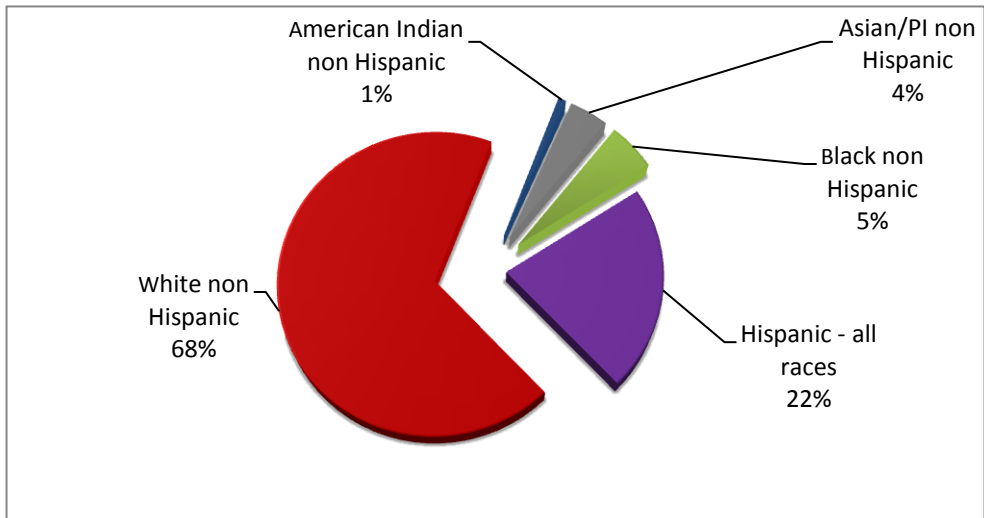
**Figure 11: 2011 RTD Minority/Caucasian Ridership**



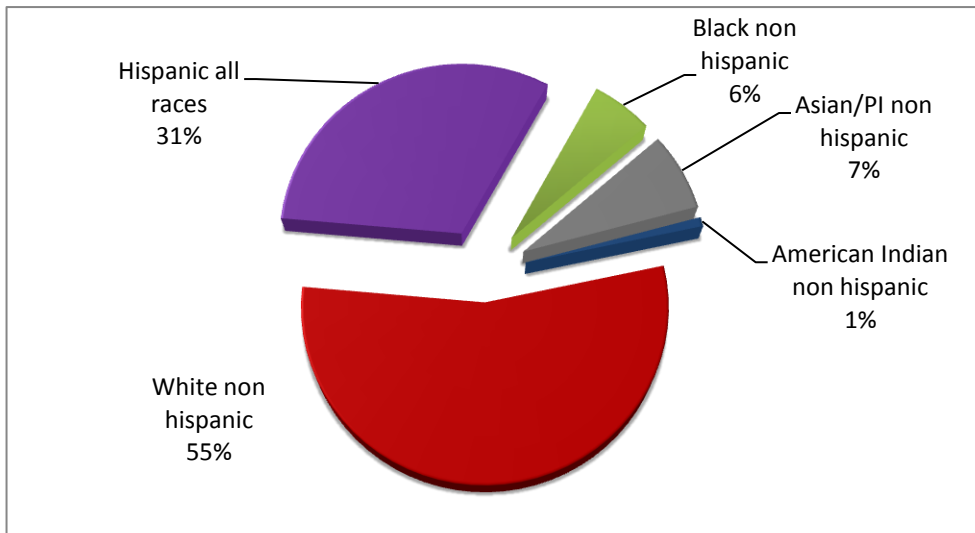
*Source: RTD 2013-2015 Title VI Report and 2010 US Census*

According to Census data, almost 2 million white non-Hispanic residents live in the DRCOG region, or over two thirds of the total population. About 630,000, or almost a quarter of the population, is Hispanic (all races). Applying the state demographer’s statewide growth rates to the 2010 DRCOG region population data, the Hispanic (all races) share grows by 9 percent and the white, non Hispanic share decreases by 13 percent in 2040 (Figures 12 and 13).

**Figure 12: 2010 DRCOG Minority Population**



**Figure 13: 2040 Estimated DRCOG Minority Population**



Source: Colorado Demography Office

## 5. Assessment of Transportation Needs

The previous section illustrated in broad terms the potential demand for all types of transit service, particularly human service transportation, by 2040. This section discusses and identifies transit capital, operating, and related needs to assist in responding to the potential demand. FasTracks will help serve this demand, but RTD's base services and service from other agencies must also increase.

### A. Transit Agency Capital and Operating Needs

Based on grant-funded projects and interviews with transportation agencies in the region, over-arching needs include vehicles (replacement and expansion), operating assistance (personnel, drivers, maintenance, fuel, etc.) mobility management, and capital expenditures to keep fleet, facilities, and other key assets in a state of good repair.

In 2013, FTA estimated that, nationwide, more than 40 percent of buses and 25 percent of rail transit assets were in marginal or poor condition. Estimates from the National State of Good Repair Assessment identified an \$86 billion backlog in deferred maintenance and replacement needs, a backlog that continues to grow<sup>7</sup>. RTD's State of Good Repair Dashboard indicates a 2014 score of 3.7 (out of 5) for bus vehicle assets and 4.1 (out of 5) for light rail vehicle assets, where a score of 5 is excellent condition.

CDOT has developed a statewide asset inventory database to track transit capital needs and to help inform state and federal grant project funding decisions. The asset inventory database shows that RTD has 89 percent of rolling stock in the DRCOG region (1,023 vehicles). Among other agencies in the region, Via and SRC have the most with 53 and 36 respectively. Transit agencies are also able to use the database to track their capital inventory.

### Access to Employment

*Where the Jobs Are: Employer Access to Labor by Transit (Brookings Institution – 2012)* combined detailed data on employment, transit systems, and household demographics to determine transit accessibility within and across the country's 100 largest metro areas. The share of jobs in the Denver-Aurora Metropolitan Statistical Area in neighborhoods with transit service is 87 percent; this ranked 12<sup>th</sup> among the 100 largest metros. This coverage is expected to improve when more FasTracks lines and stations open in the next few years. Despite this, there are still pockets of the region where transit-job

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<sup>7</sup> <http://www.fta.dot.gov/13248.html>



access is needed or can be improved. The Brookings study did not take into account time of day. Many low income workers have jobs with nontraditional hours (e.g. evenings and weekends).

## **B. Human Service Transportation Needs**

Human service transportation needs are more complex and are identified from a variety of input sources, including surveys, studies, and public meetings. Stakeholders and the general public contributed significantly to this process. Key input sources and a high-level summary of major needs are listed below.

### **Input Sources**

- DRCOG and DRMAC Forum
- 2016-2019 DRCOG Area Plan on Aging – Public Input from Community Conversations
- County Council on Aging Survey
- Older Americans Act/Older Coloradans Act Transportation Agencies
- CDOT Statewide Transit Survey of Older Adults and Adults with Disabilities
- Local Coordinating Councils (LCCs)
- 2013 RTD Paratransit Customer Satisfaction Survey
- Community Assessment Survey for Older Adults for the DRCOG, Boulder, and Weld AAAs
- United States of Aging Study Oversample of Denver Region

### **Summary of Needs**

- Transportation ranked as a top service priority for older adults and individuals with disabilities
- Affordable fares, especially for older adults, individuals with disabilities and/or low incomes
- More cross-jurisdictional trips, better trip coordination, and more accessibility
- Better regional coordination to build on improving local coordination
- Demand for transportation will increase as the population increases and ages
- Expand volunteer driver programs
- Continue to work with DRMAC to implement the Transportation Coordination Systems (TCS) project and other technological improvements
- Accessible and understandable transportation information and referral services
- Increase service areas, frequency, and service hours (nights and weekends) where gaps exist
- Remove barriers to ride fixed route, including improving access to bus stops and rail stations and providing travel training

## 6. Strategies and Activities to Address Identified Needs & Service Gaps

### A. Future Transit Services

This section identifies strategies and activities to address service gaps between current services and identified needs. Strategies and activities addressed in this section include opportunities to achieve efficiencies in service delivery.

#### MVRTP 2040 Fiscally Constrained Rapid Transit System & Base Rapid Transit System

Figure 15 shows the fiscally constrained rapid transit system contained in the Metro Vision Regional Transportation Plan (MVRTP). By definition, revenues needed to complete these improvements are reasonably expected to be available by 2040. The majority of the rapid transit network is open to the public or currently under construction. Two BRT corridors (East Colfax and SH-119) must secure programmed funding and complete environmental studies before construction can begin.

The Tier 1 Base Rapid Transit System (depicted in Figure 14) is a 269-mile system of light rail, commuter rail, and BRT corridors and bus/HOV facilities that are operating, under construction, or included in FasTracks (see below). Most of Tier 1 is fiscally constrained through 2040, with the exception of some FasTracks projects funded beyond 2040.

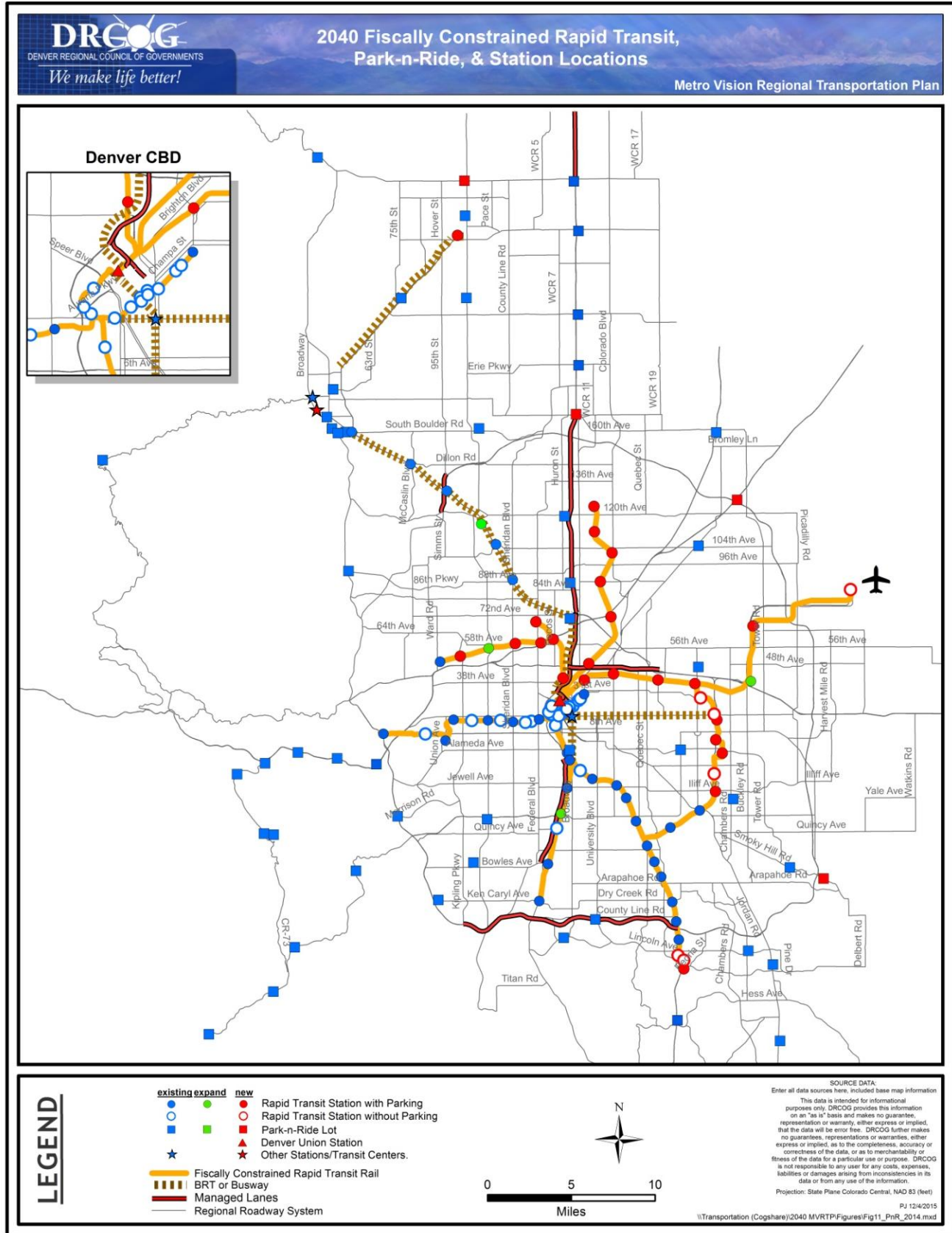
#### FasTracks

RTD's FasTracks is a multi-billion dollar comprehensive transit expansion plan. This plan includes 122 miles of new commuter rail and light rail, 18 miles of bus rapid transit (BRT), and 21,000 new parking spaces at light rail stations and park-and-rides.

The West Rail line was the first FasTracks corridor to open in spring 2013. Several other corridors are set to open in 2016; two more are scheduled to open by 2019. All FasTracks projects are funded in the FasTracks Plan. However, RTD's current financial forecasts indicate not all projects will be constructed by 2040; these are:

- Central Rail Extension (30<sup>th</sup>/Downing to 38<sup>th</sup>/Blake)
- North Metro Rail Line from 124th/Eastlake to 162nd/SH-7
- Northwest Rail Line from South Westminster/71st Avenue Station to Longmont
- Southwest Extension.

Figure 14: 2040 Fiscally Constrained Rapid Transit, Park-n-Ride, & Station Locations



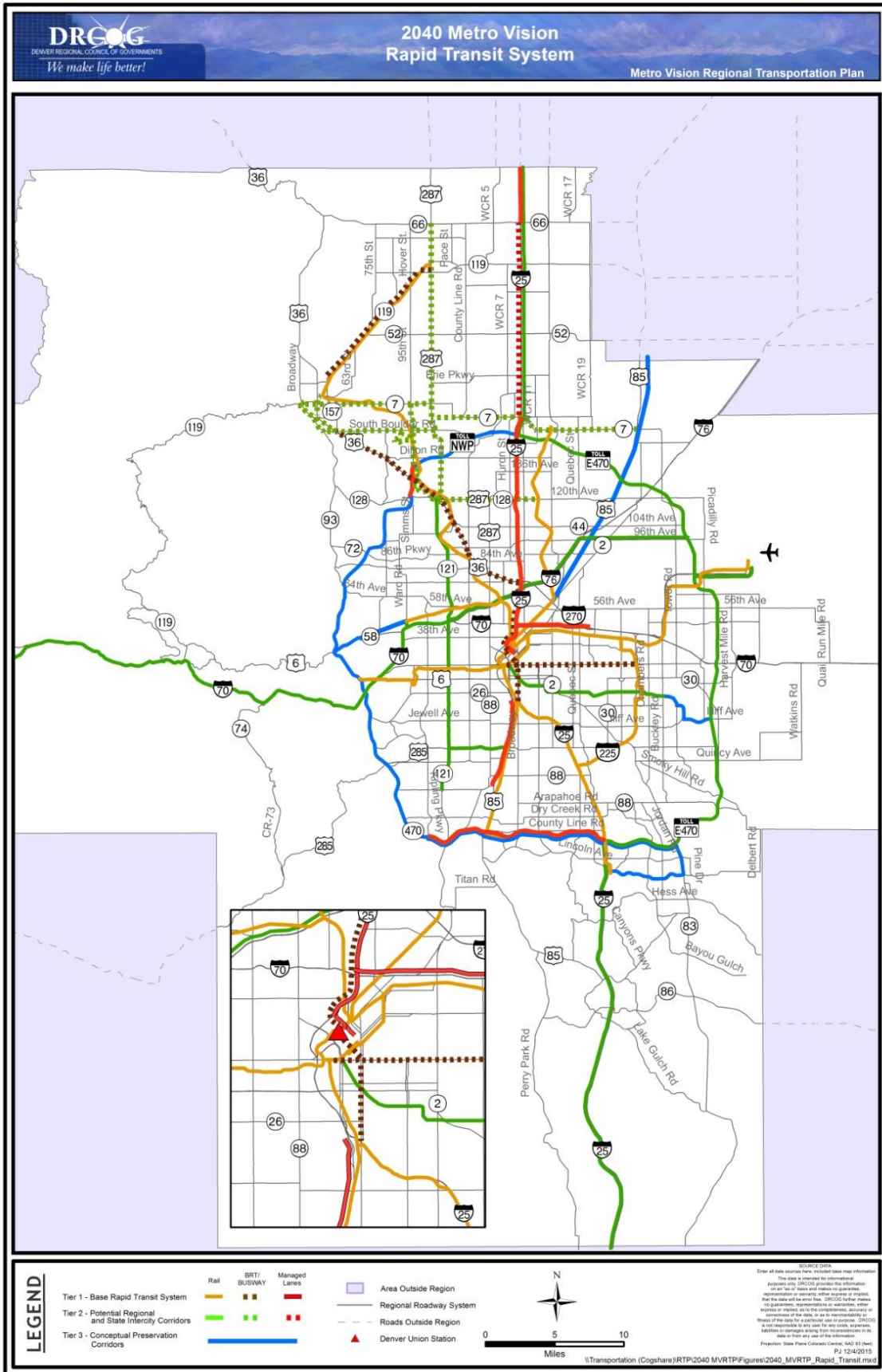
## Additional Envisioned Rapid Transit Corridors

The 2040 vision rapid transit network is an inventory of unfunded projects that are illustrative only. It is separated into three system tiers in Figure 15, including the fiscally constrained portion of the entire envisioned regional transit network. The following tiers, shown in Figure 18, represent relative priorities for implementation based on resources, time, and feasibility:

**Tier 2: Potential Regional and State Intercity Corridors.** Regional corridors that could have future rapid transit include Wadsworth Boulevard, C-470, and Speer/Alameda Avenue. Intercity corridors are envisioned to include rapid transit service west to the mountains (CDOT Advanced Guideway Study or AGS) and north to Fort Collins and south to Colorado Springs and Pueblo along Interstate 25 (CDOT Interregional Connectivity Study or ICS). The approximate mileage for Tier 2 projects within the DRCOG region is 350 miles. Tier 2 also includes arterial BRT projects identified in RTD’s Northwest Area Mobility Study (NAMS).

**Tier 3: Conceptual Preservation Corridors.** These future prospective rapid transit corridors are located along major highways or freight railroad lines such as E-470, Jefferson Parkway, and the US-85/I-76 corridor. Projects in this tier would cover about 82 miles, though depicted alignments are very conceptual. Rights-of-way will be preserved to the extent possible in these corridors for potential rapid transit use in the future.

Figure 15: 2040 Metro Vision Rapid Transit System



## RTD General Public Bus and Rail System

RTD's *2015-2020 Strategic Plan* identifies seven overall strategies serving its mission. Each strategy is accompanied by a goal statement, narrative describing the strategic theme in more detail, and a set of initiatives that articulate short-, medium-, and long-term implementation. Most of these initiatives are ongoing in nature, and will be a continuous effort during the five-year plan time-frame. Below are those strategies and some associated initiatives.

1. Deliver Customer Oriented Service
  - Provide a seamless customer interface between RTD and contracted services
  - Enhance policies for accommodating needs of passengers on vehicles
  - Provide opportunities for customer engagement
2. Foster a safety culture
  - Build a strong alliance and partnership between management, employees and customers
  - Establish and implement an internal safety audit system for Bus Operations
  - Create training modules for management and supervisory staff focused on safety training, accident prevention, team building, hazard recognition, and safety communication
3. Strengthen fiscal resiliency and explore financial innovation
  - Direct funding to highest-priority projects and enhance strategic budget planning
  - Seek innovative funding opportunities to expand revenue sources
  - Preserve financial sustainability and maintain a structurally balanced long-range budget
4. Improve customer access and support transit-oriented communities
  - Support and coordinate investments to improve first and final mile connections to transit facilities
  - Foster livable, equitable, and accessible communities at transit facilities
  - Optimize District-wide parking resources
5. Optimize service delivery
  - Pursue ongoing enhancements and improvements to the existing transit system (services and facilities)

- Work with partners to develop, fund and complete FasTracks and increase ridership
  - Continuously improve service delivery and reliability, including integration of new corridors with existing services
6. Use technology to operate efficiently and improve the customer experience
    - Integrate technology systems to automate data transfers and improve service delivery
    - Establish agency-wide information governance strategy
    - Improve the rider experience with easy fare payment options through Smart Card Technology
  7. Foster a Dynamic and Sustainable Workforce
    - Establish transition paths for workforce as the agency evolves
    - Attract and train skilled workers in key trades
    - Strengthen workforce by building on the success of Leadership Programs

## **B. Other Future Services**

### **Removing Barriers to Ride Fixed Route**

Removing barriers to ride fixed route service can help reduce costs and provide independence. There is significant interest in this objective based on information gathered from public outreach. In addition, DRMAC facilitates a Transit and Accessibility Taskforce that focuses on this issue. Projects that can improve access to fixed route service and decrease reliance by individuals with disabilities on complementary paratransit include, but are not limited to, travel training and construction projects that improve accessibility to transit stops.

### **Infrastructure Improvements**

Improving the accessibility of transit stops, especially bus stops, and the surrounding pedestrian infrastructure is a key strategy for enabling older adults and individuals with disabilities to use fixed route transit. Bus stops have been a focal point for many accessibility improvements since the ADA was enacted. The need for accessibility, however, extends beyond the actual stop to the pathways that connect to the stop.

Connections to and from bus stops are not always provided. Transit agencies do not always have the authority or ability to make these improvements. Sometimes improvements are not made due to lack of funding. Incomplete or poorly maintained sidewalks, difficult street crossings, lack of curb cuts, and obstacles in the pathway such as utility poles create barriers for people with disabilities, limiting or preventing access to fixed-route transit service.

### **First and Last Mile Connections**

Another key strategy to remove barriers to riding fixed route transit is providing first and last mile connections. First and last mile connections are improvements that can help better connect people from bus stops and transit stations to final destinations (and vice versa). Such improvements may include infrastructure such as sidewalks, shuttle buses, and bike sharing services.

### **Travel Training**

Travel training is instruction offered to those who need assistance to increase their mobility and travel on public transportation independently. It includes a variety of plans, methods and strategies used by professional trainers to increase the independent travel skills of the people they serve. Via Mobility offers this service to older adults, people with disabilities, and others living with mobility limitations who reside within the RTD system boundaries. In addition to one-on-one training, Via offers an abbreviated travel training program for groups, Seniors on the Move and Train the Trainer programs.

Improvements that remove physical and nonphysical barriers to using transit, making it more accessible for older adults, individuals with disabilities, and the general public, are a key strategy emphasized by this Coordinated Transit Plan.

### **Affordable Fare Programs**

A common theme among public and stakeholder input was a need for affordable transportation for people with low incomes. This is an important but difficult issue to address given limited financial resources for low income riders and for RTD without an influx of additional funding to replace the farebox revenues that would be lost from offering discounted fares. The Free Ride Longmont program provides fare free local bus service in Longmont. In 2012, the town of Nederland, working with Boulder County's transportation department, administered a grant that provided Nederland residents free RTD transit passes. This program was funded through DRCOG's Regional Transportation Demand Management (TDM) Program Pool.



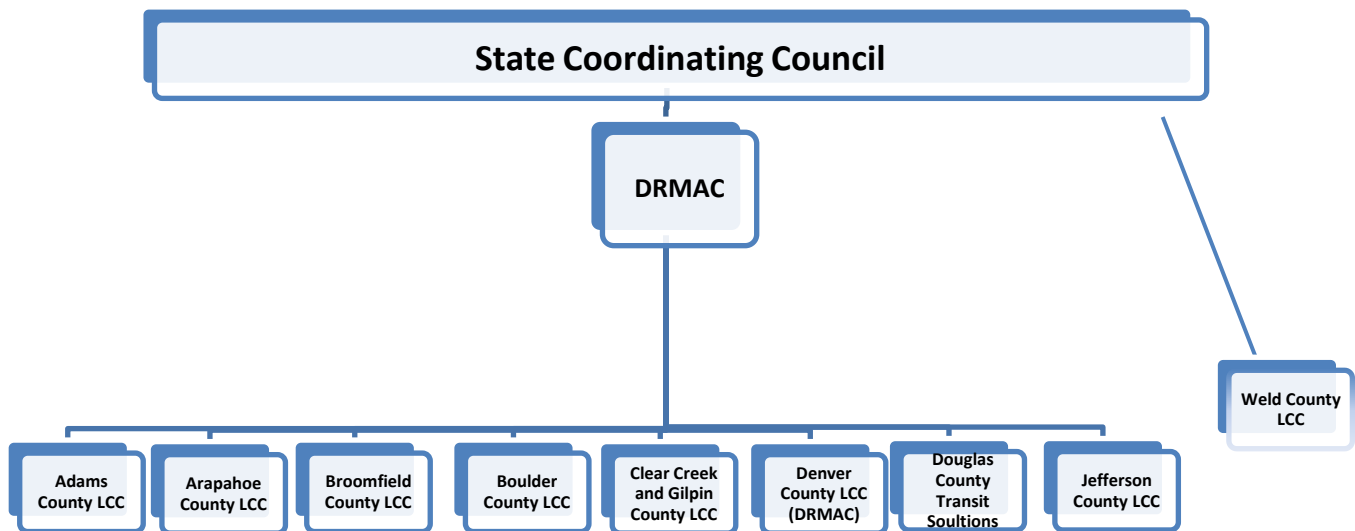
RTD is currently working with non-profits and stakeholders to develop a new income-qualified fare discount program. Details of this program will become available in 2016.

### C. Future Human Service Transportation Coordination Efforts and Strategies

#### Coordination Efforts

Nine Local Coordinating Councils (LCC's) are active in the DRCOG region including the Weld County Mobility Council supported by the North Front Range Metropolitan Planning Organization (NFRMPO). Clear Creek and Gilpin Counties share an LCC. DRMAC serves as the LCC for Denver County and the Regional Coordinating Council for most of the DRCOG region. As the Regional Coordinating Council, DRMAC facilitates coordination between them. The State Coordinating Council supports the LCCs and RCCs across the state. Figure 16 illustrates these relationships.

**Figure 16: Human Service Transportation Coordination Organizations**



The Colorado Interagency Coordinating Council for Transportation Access and Mobility (State Coordinating Council) was created in 2005 in response to the federal *United We Ride* initiative. The State Coordinating Council brings together various state departments with programs that either provide or

depend on transportation services for their clients. The Council addresses issues related to funding and regulatory requirements at the state level. The Council's goals include:

- More rides for target populations for the same or fewer assets;
- Simplify access, and
- Increase customer satisfaction.

DRMAC works to ensure people with mobility challenges have access to the community by increasing, enhancing, sharing, and coordinating regional transportation services and resources. DRMAC initiated the Transportation Coordination Systems project (TCS) to improve coordination of human service transportation programs and service delivery in the Denver region. This study examined ways to coordinate trip requests, booking, scheduling. Based on TCS recommendations, DRMAC recently initiated a trip exchange database technology development project. This technology is anticipated to help multiple human service transportation agencies share trips to use existing resources (such as vehicles) more efficiently and provide more and better service.

## Strategies

The following are suggested strategies to address human service transit coordination. These strategies are based on public meetings, other plans, surveys, and other input sources.

### **Fund transit projects that address identified needs and FTA program guidelines**

The project selection process for FTA Section 5310 should focus on service needs relative to these and other program goals:

- Enhance mobility for seniors and persons with disabilities;
- Serve the special needs of transit-dependent populations beyond traditional public transportation services and ADA complementary paratransit services, and
- Coordinate human service transportation and transit.

### **Spend local, regional, state, and federal funds more efficiently**

It is important to find ways to do more with existing resources. A key strategy is blending multiple funding sources. Transportation providers and local governments should work with state and regional partners to combine funds like FTA 5310 with Older Americans Act, Medicaid, and others to fill more

seats on each vehicle to reduce inefficiencies. In addition, there is also the opportunity to blend federal funds to reduce or eliminate the need for transportation grantees to contribute toward the local match.

### **Increase human service transportation coordination efforts**

Greater coordination is a critical strategy to fund more trips with existing revenues. DRMAC coordinates with many organizations and agencies to better meet the needs of the region by increasing efficiencies. Stakeholders and transportation providers should continue to work with DRMAC and other groups on efforts to improve coordination of human service transportation.

### **Address cross-jurisdictional, cross service boundary, and interregional trips**

Mobility needs do not stop at city, county, or even regional boundaries; residents across the Denver region often travel across jurisdictions to get to their destinations. For example, The Veterans Affairs Medical Center in Denver is a destination that draws veterans throughout the region and beyond. One of the key needs and strategies is to improve service and coordination across jurisdictional boundaries.

The Via Mobility Services and RTD Coordination Pilot Project uses automated, mobile technology to coordinate RTD and Via Mobility demand response services in Longmont. Goals for this ongoing project include increasing trips while maintaining or reducing the combined vehicles in service, decreasing cost, and developing a model that can be used in other places around the region and the country. The initial funding for this pilot program was provided by FTA 5317 (New Freedom), RTD, the City of Longmont, and Via Mobility.

Figure 3 from the 2040 RTP shows workflow patterns into and out of the DRCOG region. One significant commuting pattern that crosses MPO boundaries is between Boulder and Fort Collins. Local agencies are currently collaborating across jurisdictional and MPO boundaries on a project to extend bus service between these two cities. As the project moves forward, those involved are designing a blueprint for similar future projects.

### **Implement trip exchange technology initiatives from transportation studies**

Two studies were recently conducted to evaluate strategies for coordination of human service transportation in the Denver region: the Transportation Coordination Systems (TCS) and the *Evaluation*

*of the DRCOG Area Agency on Aging Transportation Support Service Program* prepared by BBC Research and Consulting.

Both studies share the same overarching goal: accessible and affordable transportation that is easy to book and meets current and future demand. Shared components recommended by both studies include:

- Leverage funding to support human service transportation
- Offer region-wide support and incentives to all transportation agencies
- Enable electronic data interchange capability within information technology (IT) systems
- Explore new sources of funding with a long term focus
- Foster regional coordination and cooperation
- Strengthen county partnerships

A key difference between the two studies – the structure of a potential regional “one call, one click center” – needs to be further defined. The TCS study recommended a sub-regional brokerage approach, while the BBC study recommended the region explore a single call center for scheduling and dispatch. After the trip exchange database is developed, stakeholders should address other TCS and BBC recommendations and re-evaluate the structure of the one-call-one-click center.

## 7. Conclusion

In addition to providing a broad view of the region's transit system and serving as the transit component of the Metro Vision Regional Transportation Plan, this document also serves as the Coordinated Public Transit and Human Services Transportation Plan for the DRCOG region (Coordinated Transit Plan). A Coordinated Transit Plan is federally required, particularly in selecting projects for funding in the FTA 5310 grant program. This integrated plan addresses transit geared for specific populations and transit available for the general public because both are important to increase mobility. For example, while many older adults and individuals with disabilities will be served by transit modes specifically designed for their needs, many more will use general public transportation.

Transit is a vital component in the DRCOG Region's multimodal transportation system. It provides mobility and access for many. There are around 350,000 transit boardings each weekday. Not only does transit connect residents, employees, and visitors to jobs, schools, shopping, medical care, and recreation, it promotes independence and economic development. Transit services are available throughout the DRCOG region in rural, suburban, and urban areas.

## ATTACHMENT D

To: Chair and Members of the Transportation Advisory Committee

From: Melina Dempsey, Transportation Planner  
303-480-5628 or [mdempsey@drcog.org](mailto:mdempsey@drcog.org)

Meeting Date	Agenda Category	Agenda Item #
January 25, 2016	Information	6

### SUBJECT

Update on the Regional Bicycle Network Vision and relation to new *2040 MVRTP* and upcoming *DRCOG Active Transportation Plan*.

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

#### **Regional Bicycle Network Vision**

Last spring (2015), staff began working on a review and update of the Regional Bicycle Corridor System Vision (Attachment 1), which was contained in the *2035 Metro Vision Regional Transportation Plan*. The purpose of the map was to define key corridors that connect activity centers across the region, and to encourage cooperation among neighboring communities along those corridors. For several TIP cycles, the map was also used as a basis to award points for TIP application projects (4 points in previous TIP).

It was initially thought this would be a minor update to an existing product, and the final map could be folded into the new 2040 MVRTP. Staff worked closely with stakeholders at several meetings across the region in 2015. At the November 2015 TAC meeting, staff presented a working draft of an updated Regional Bicycle Network Vision map for initial input. TAC requested staff work with stakeholders to further define what the 'regional network' should represent, its purpose, and to develop criteria for determining what should be included on the map.

After further discussions, staff is uncertain if it is best to move forward with the network vision map immediately at this time. Though the map has been included in RTPs since 1998, there is still much uncertainty and varying opinions about the map's function and role. As a result, staff is concerned about the ability to complete the network vision in time for inclusion in the 2040 MVRTP in late spring or summer.

Before moving forward, staff poses the following overall questions for TAC discussion:

1. Is it necessary or beneficial to have a regional bicycle network vision map?
2. What should be the map's purpose(s)?
3. Should the map be a consideration for awarding points to bicycle projects applying for TIP funds, supplementing other typical criteria dealing with safety, number of users, gaps/missing links, and connections to transit?
4. Should the map be prepared ASAP for inclusion in the new *2040 MVRTP* (summer 2016) or be developed later, for inclusion in the upcoming *DRCOG Active Transportation Plan* (2017)?

### **Bicycle and Pedestrian Stakeholder Meeting**

Staff will hold a Bicycle and Pedestrian stakeholder meeting on February 10 to discuss follow up items from this TAC meeting, and to obtain initial thoughts regarding the development of the *Active Transportation Plan* and other bicycle and pedestrian-related activities to be conducted in fiscal years 2016-2017.

#### PREVIOUS DISCUSSIONS/ACTIONS

[November 23, 2015](#) - TAC

#### PROPOSED MOTION

N/A

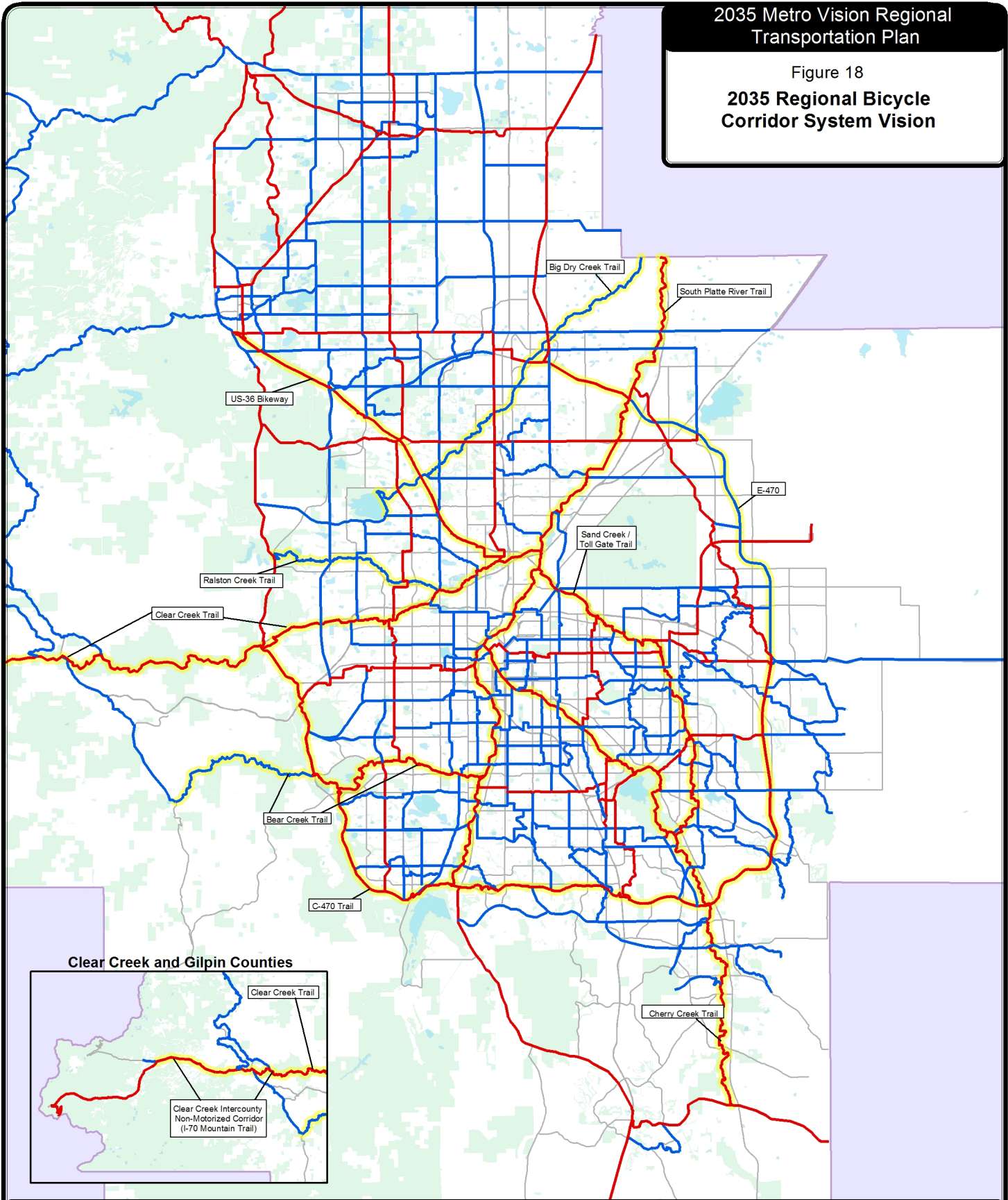
#### ATTACHMENT

2035 MVRTP Regional Bicycle Corridor System Vision

#### ADDITIONAL INFORMATION

If you need additional information, please contact Melina Dempsey, Transportation Planner, at 303-480-5628 or [mdempsey@drcog.org](mailto:mdempsey@drcog.org).

Figure 18  
2035 Regional Bicycle Corridor System Vision



This map and the data it depicts are intended for informational purposes only. DRCOG provides this information on an "as is" basis and makes no representation or warranty that the data will be error free. DRCOG is not responsible to any user for any costs or damages arising from inconsistencies in its data.

Source: DRCOG  
Projection: Colorado State Plane, NAD 83  
PJ 9/10

- Regional Roadway System
- Roads Outside Region
- Lakes and Reservoirs
- Open Space and Parks
- Regional Corridors
- Community Corridors
- Key Multi-use Trails

Corridors Note: The specific facility representing a corridor may be directly on the route depicted or may be parallel within 1/4 mile. No more than one facility may represent the defined corridor.

