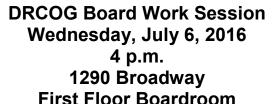




Elise Jones, Chair
Bob Roth, Vice Chair
Herb Atchison, Secretary
Bob Fifer, Treasurer
Jackie Millet, Immediate Past Chair
Jennifer Schaufele. Executive Director

AGENDA





- 1. Call to Order
- 2. Roll Call
- 3. <u>Summary of June 1, 2016 Board Work Session</u> (Attachment A)
- 4. Public Comment

The chair requests that there be no public comment on issues for which a prior public hearing has been held before the Board of Directors. Please note the public will have an opportunity to speak on specific items in the Metro Vision Plan between the staff presentation and committee discussion.

- 5. Review of a Metro Vision 2040 plan performance measure not previously reviewed or recommended by MVIC
 - (Attachment B) Brad Calvert, Metro Vision Manager, Regional Planning & Operations Time will be allotted after the staff presentation for the public to provide comment on this item prior to discussion. Those providing comment will be limited to 3 minutes.
- 6. Review strategic initiatives to be included in the *Metro Vision* draft (Attachment C) Brad Calvert, Metro Vision Manager, Regional Planning & Operations
- 7. Review introductory text for Metro Vision 2040 Plan draft
 (Attachment D) Brad Calvert, Metro Vision Manager, Regional Planning & Operations
- 8. <u>Discussion of HOV Policy</u> (Attachment E) Douglas W. Rex, Director, Transportation Planning & Operations
- 9. Adjourn

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) 480-6701



ATTACH A

BOARD WORK SESSION SUMMARY June 1, 2016

Directors present:

Bob Roth, Vice Chair Aurora

Eva Henry Adams County
Bill Holen Arapahoe County
Elise Jones Boulder County

David Beacom

Robin Kniech

Anthony Graves

City and County of Broomfield
City and County of Denver
City and County of Denver

Roger Partridge Douglas County

Bob Fifer Arvada
Bob Roth Aurora
Aaron Brockett Boulder
George Teal Castle Rock
Doris Truhlar Centennial

Laura Christman Cherry Hills Village Rick Teter Commerce City Steve Conklin Edgewater Joe Jefferson Englewood **Daniel Dick** Federal Heights Lynette Kelsey Georgetown **Scott Norquist** Glendale Saoirse Charis-Graves Golden Shakti Lakewood

Phil Cernanec Littleton
Jackie Millet Lone Tree
Ashley Stolzmann Louisville
John Diak Parker

Directors participating via WebEx

Phil Cernanec Littleton

Gary Sanford Metro Denver Homeless Initiative

Others present: Wynne Shaw, Lone Tree; Jeanne Shreve – Adams County; Mac Callison – Aurora; Mark Ambrosi – Boulder County; Joe Fowler – Douglas County; Glenda Lainis – Thornton; James Tyson – Citizen; Jennifer Schaufele, Executive Director, and DRCOG staff.

Board Vice Chair Bob Roth facilitated the work session. The session began at 4:05 p.m.

Summary of May 4, 2016 Board Work Session

Director Truhlar noted her name did not appear on the list of Directors attending the meeting. Director Truhlar's name will be added to the list of Directors present.

Public Comment

No public comment was received.

Board Work Session Summary June 1, 2016 Page 2

Review of performance measures previously recommended by MVIC for inclusion in Metro Vision

Brad Calvert provided background information for this item. The Metro Vision Issues Committee (MVIC) previously recommended these performance measures be included in Metro Vision. Five of the measures were carried over from the previous Metro Vision Plan. It was noted these are regional performance measures.

Staff is seeking a preliminary endorsement from participants to revise performance measure #7 as previously recommended by MVIC from person delay per trip to daily person delay per capita.

Director Millet asked for specific language in the preamble that success depends on DRCOG and regional partners. Mr. Calvert noted that the language Director Millet is referencing does appear in the full preamble.

Director Brockett asked if the delay per capita was calculated using all modes of travel. Staff noted the calculation does not capture every single mode, particularly bicycle/pedestrian. The calculation captures everything on the major roadways, and is based on what is observed through traffic counts, rather than what is modeled. Director Brockett asked if delay for light rail and transit could be included. Staff noted they could look into it.

The revised performance measure will be forwarded to the full Board.

The Chair asked for public comment at this time. No public comment was received.

Review of performance measures not previously reviewed or recommended by MVIC for inclusion in Metro Vision

Brad Calvert provided an overview of the proposed performance measures. He noted performance measures A and B are similar, one includes transportation with housing costs and one is housing cost only. The staff recommendation is for Option A; primarily because the data for Option B is not historically released annually.

Members discussed the pros and cons of moving A, B, or both options to the Board for discussion, or not. Members discussed the two options at length. Housing supply and cost are major issues in the region. There was consensus to move measure B forward to the Board.

Suggested new measure C, regional employment – No discussion occurred on this measure. Consensus of the group is to move measure C forward to the Board.

Suggested new measure D, protected open space – Directors discussed measure D at length. Concern was expressed regarding the definition of "protected open space." Staff noted the definition of open space is determined by individual communities, and varies. DRCOG staff takes what is reported as open space by the communities surveyed and aggregates it up to a regional level. Director Partridge asked how the target of 2,100

Board Work Session Summary June 1, 2016 Page 3

square miles was established. Staff reported the target shows a 40 percent overall increase in open space. Director Partridge expressed concern with the unscientific methodology for arriving at the target. After discussion, consensus of the group is to move measure D forward to the Board.

Suggested new measure E, share of the region's housing and employment near high frequency transit. Director Teal asked if the 29.7 percent baseline housing number is a measured amount throughout the region. Staff stated it is; however it is a 2014 number. Additional transit service has come online since that time. Consensus of the group is to move measure E forward to the Board.

Suggested new measure F, share of the region's housing and employment in high risk areas. A comment was made that if housing is added in other areas, the percentage will go down. The purpose of the measure is to guide development to less-risky areas. Concern was expressed if this measure discourages brownfield cleanup. Staff stated it does not. The conversation on this topic will continue at the next work session.

Executive Director Schaufele noted the June Regional Transportation Committee, Finance and Budget, and Board of Director's meetings are cancelled.

The work session ended at 6:01 p.m.

ATTACH B

To: Chair and Members of the Metro Vision Issues Committee

From: Jennifer Schaufele, Executive Director

303-480-6701 or jschaufele@drcog.org

Meeting Date	Agenda Category	Agenda Item #
July 6, 2016	Information	5

SUBJECT

Review of a Metro Vision 2040 plan performance measure not previously reviewed or recommended by MVIC.

PROPOSED ACTION/RECOMMENDATIONS

N/A

ACTION BY OTHERS

N/A

SUMMARY

The Metro Vision Issues Committee (MVIC) initiated the Board's review and markup of the 2040 Metro Vision Draft Plan. Previous discussions by MVIC and at the Board Work Session focused on overarching themes, outcomes and objectives included in the draft plan. In June, Directors reviewed plan performance measures.

June Work Session Recap

The Directors reviewed eight measures previously recommended by MVIC, providing preliminary endorsement of seven of those measures. Staff suggested an alternative measure for the eighth measure – the Directors also preliminarily endorsed the staff substitute measure. The Directors also reviewed five of six additional measures not previously recommended by MVIC, providing feedback that four of those five should be included in the draft Metro Vision plan.

Today's Discussion

Staff is seeking a preliminary endorsement from Work Session participants to advance one final Metro Vision plan performance measure and target for inclusion in the draft Metro Vision plan. Directors began discussion of this staff suggested measure in June.

Associated Plan Outcome	New Staff Suggested Measure	2040 Target	Baseline
The risks and effects of natural and human-	Share of the region's housing and	Less than 1 percent	Housing: 1.2 percent (2014)
created hazards is reduced.	•	Less than 2.5 percent	Employment: 2.9 percent (2014)

High risk areas reflected here represent two well-mapped types of hazard prone areas:

- Special Flood Hazard Areas (SFHAs): Areas with at least a 1 percent chance of inundation per year (often referred to as the "100-year floodplain") as mapped by the Federal Emergency Management Agency (FEMA)
- Wildfire Threat: Areas with a high or very high threat of wildfire, as mapped by the Colorado State Forest Service.

Metro Vision Issues Committee July 6, 2016 Page 2

Currently these areas include 14,800 dwellings (Source: DRCOG's 2014 Master Housing dataset) and 44,700 jobs at 3,200 establishments (Source: DRCOG's 2014 Master Employment dataset).

Questions from June Discussion

- Should the focus be on reducing the extent (acreage) of high risk areas?
- Should the focus be on the absolute number of housing units and employment, rather than the regional share as proposed in the staff suggested target?
- How does this measure incorporate human created hazards?

Staff Feedback:

Staff suggests that if there is support for this measure that the measure format remain regional shares of housing and employment located in hazard prone areas.

- The two high risk areas represented in the measure change infrequently:
 - SFHAs change with projects that physically modify the floodplain or after major engineering studies.
 - Wildfire threat area determination requires a data intensive assessment of factors that are not likely to change significantly over short periods.
- Local and regional datasets for housing and employment are subject to continuous improvement.
 - Placing a measure in relative terms, i.e. share of regional total, reduces the impact of this "noise" on the reporting.
 - The baseline amount and share of housing shown previously in high risk areas may actually be higher than currently estimated. The Master Housing dataset is compiled from the best available data sources. At the regional scale these data sources provide reliable estimates of housing units but there areas in the region where the data are the "weakest". These areas include high risk wildfire areas in the western and southwestern portions of the region. It's important to note that there is not an absence of housing unit counts in these areas, but rather that the counts are likely more accurate in more densely populated areas.
- If all anticipated new housing and employment between 2014 and 2040 located outside these areas, the shares would decrease to just below 1 percent and 2 percent, respectively.
- The proposed target for employment in high risk areas is more conservative because some types of employment will continue to locate in high risk areas (e.g. agriculture, aggregate facilities, etc.)
- Brownfields data from the U.S. Environmental Protection Agency (EPA) consists of coordinates and addresses. The actual spatial extent of the contamination area is not available. Consequently, it is not possible to calculate the area or population impacted, as it is with wildfire and flood hazard areas.

PREVIOUS DISCUSSIONS/ACTIONS

Previous MVIC Metro Vision Performance Measurement Discussions/Actions:

March 4, 2015 – MVIC Meeting Summary

April 1, 2015 – MVIC Meeting Summary

May 6, 2015 – MVIC Meeting Summary

June 3, 2015 – MVIC Meeting Summary

Metro Vision Issues Committee July 6, 2016 Page 3

Previous Work Session Performance Measurement Discussions/Actions:

May 4, 2016 – DRCOG Board Work Session June 1, 2016 – DRCOG Board Work Session

PROPOSED MOTION

N/A

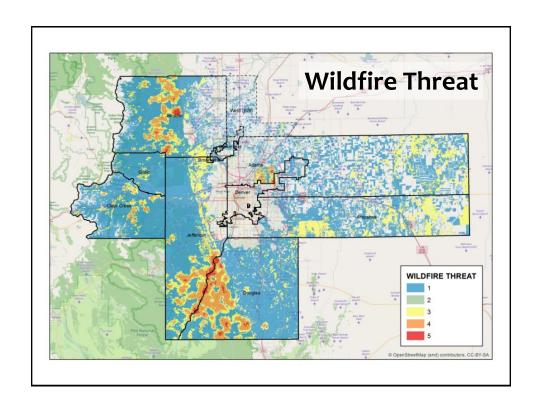
ATTACHMENT

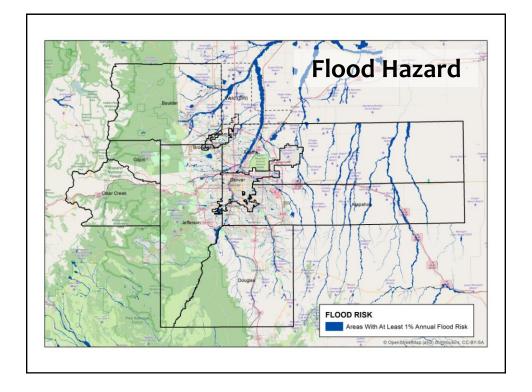
Presentation Slides: High Risk Areas

ADDITIONAL INFORMATION

If you need additional information, please contact Jennifer Schaufele, Executive Director, at 303-480-6701 or ischaufele@drcog.org; Brad Calvert, Metro Vision Manager, Regional Planning and Operations at 303-480-6839 or bcalvert@drcog.org







High Risk Areas

Wildfire Threat

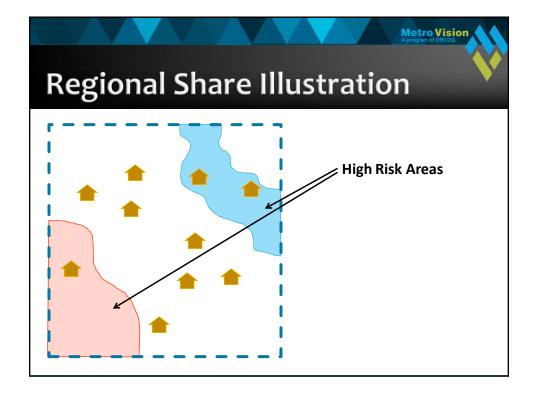
- ◆ Likelihood of an acre burning
- Reflects:
 - ◆ Surface fuels
 - Canopy fuels
 - Anticipated fire behavior
 - ◆ Historical fire occurrence
 - Historical weather observations
 - ◆ Terrain conditions
- ◆ Represented by the Fire Threat Index (FTI)
 - ◆ 1 (lowest) to 5 (highest)
 - ◆ Draft measure includes levels 4 & 5

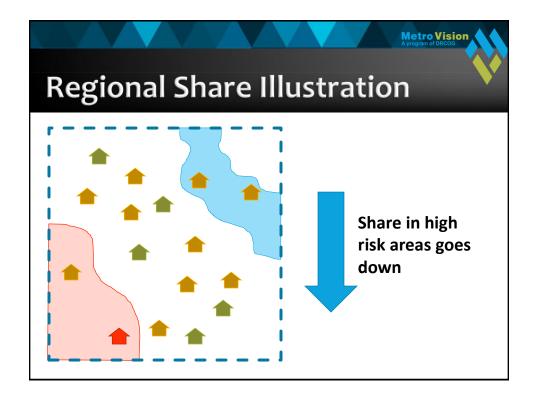
Flood Hazard

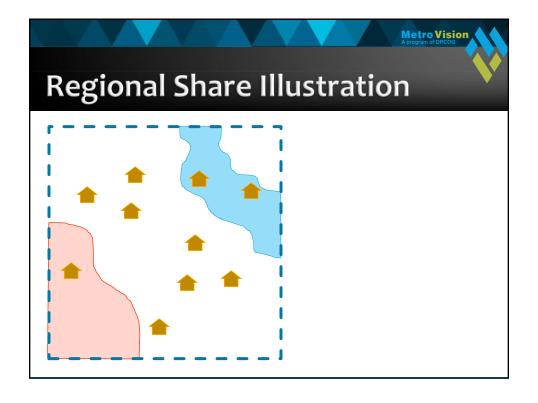
- At least 1% chance of inundation per year
- ◆ Reflects:
 - ◆ River/stream flow
 - Hydrologic analyses
 - Rainfall surveys
 - Topographic surveys
 - Physical floodway modifications and controls

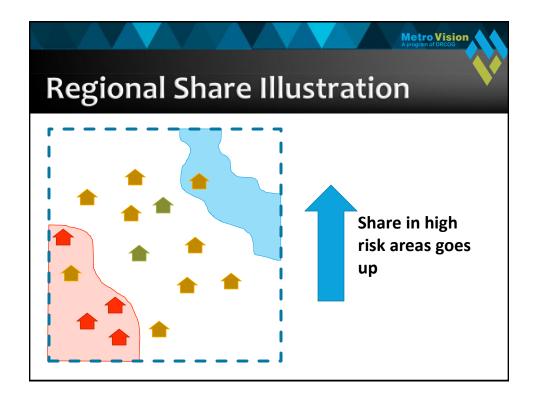
Metro Vision

 Represented by the Special Flood Hazard Area (SFHA)









To: Chair and Members of the Board of Directors

From: Jennifer Schaufele, Executive Director

303-480-6701 or jschaufele@drcog.org

Meeting Date	Agenda Category	Agenda Item #
July 6, 2016	Information	6

SUBJECT

Using DRCOG's Strategic Framework, review strategic initiatives to be included in the *Metro Vision* draft.

PROPOSED ACTION/RECOMMENDATIONS

N/A

ACTION BY OTHERS

N/A

SUMMARY

The Directors have used DRCOG's Strategic Framework (Attachment 1) to guide the Board's review (during MVIC and Work Session meetings) of the draft Metro Vision plan. The Directors will consider the potential final plan performance measure under Agenda Item 5. A complete set of plan performance measures means the Directors can focus on the final piece of the draft Metro Vision plan (and final step in the planning model) – strategic initiatives.

As noted in the "preamble" (Agenda Item 7) Metro Vision's ultimate success depends on both regional and local implementation efforts. With this in mind, the plan outlines a set of strategic initiatives (regional and local) to promote the implementation of each objective and achievement desired outcomes.

- Regional Initiatives generally reflect ways in which DRCOG and other regional partners can support achievement of desired outcomes, including efforts to support local implementation efforts.
- Local Initiatives identify opportunities local governments can consider implementing, on their own or in collaboration with DRCOG or other partners, if they align with local circumstances and aspirations.

The proposed initiatives (see Attachment 2) are a 'menu of options', as such they should be considered voluntary and flexible. Each candidate initiative identified in Attachment 2 has the potential to promote the achievement of previously approved Outcomes and Objectives. Attachment 2 includes all Board approved Metro Vision components, as well as items that have been preliminarily endorsed during a Work Session (plan performance measures). As noted in the attachment, the plan performance measure discussed under Agenda Item 5 is included as a placeholder.

Unlike previously reviewed items (i.e. outcomes, objectives and regional performance measures,) strategic initiatives should <u>not</u> be viewed a shared statement of the region's vision for the future. Rather the strategic initiatives provided in Attachment 2 identify opportunities that can be pursued if consistent with the priorities of the potential initiative

Board of Directors Work Session July 6, 2016 Page 2

owner (e.g. DRCOG, local governments, regional planning partners, special districts, etc.).

Today's Discussion

Due to the fact that the strategic initiatives noted in Attachment 2 are a 'menu of options' staff does not anticipate the Directors will discuss the initiatives presented in great detail.

For today's discussion staff is looking for possible additions to the initiatives listed in Attachment 2. Suggested additions might answer the question:

What else could we do to drive the achievement of the Outcomes and Regional Objectives noted in Attachment 2, and previously approved by the Board?

Next Steps

Next steps in the Board's review of the Metro Vision plan are highlighted below – schedule based on preliminary endorsement of all Metro Vision items included on the July Work Session agenda:

- Revise the current Plan draft to reflect Board actions to date the revised draft will also include the "preamble" discussed in May 2016 and under Agenda Item 7
- Board approval of Metro Vision plan performance measures and strategic initiatives (July 2016)
- Board releases public review draft and sets public hearing (August 2016)
- Board consideration and approval (October/November 2016)

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

Ν/Δ

ATTACHMENTS

Attachment 1 – DRCOG Strategic Planning Model

Attachment 2 – Strategic Initiatives List

ADDITIONAL INFORMATION

If you need additional information, please contact Jennifer Schaufele, Executive Director, at 303-480-6701 or ischaufele@drcog.org or Brad Calvert, Metro Vision Manager at 303-480-6839 or bcalvert@drcog.org.

ATTACH 1

DRCOG Strategic Planning Model



ATTACH 2

Overarching Theme: An Efficient and Predictable Development Pattern

Outcome 1: The region is comprised of diverse, livable communities.

Regional Objective:

Improve the diversity and livability of communities.

The Denver metro region will continue to embrace its diverse urban, suburban and rural communities. Varied housing and transportation options, access to employment and a range of services and recreational opportunities will promote livable communities that meet the needs of people of all ages, incomes, and abilities.

Urban, suburban, and rural communities support a stronger, more livable region by building on their individual strengths and assets. This diverse range of communities will contribute to the achievement of regional outcomes in a variety of ways based on local needs and preferences. Communities throughout the region will pursue greater livability through built environments and development patterns that accommodate the widest spectrum of people – regardless of age, income or ability.

Supporting Objectives:

- Encourage development patterns and community design features that meet the needs of people of all ages, incomes, and abilities.
- Preserve and leverage the unique characteristics of the region's communities.
- · Promote investment/reinvestment in existing communities.

Measures Related to Overarching Theme

Performance Measure	2040 Target	Baseline
Share of the region's housing and employment located in urban centers	Housing: 25 percent	Housing: 10.0 percent (2014)
	Employment: 50 percent	Employment: 36.3 percent (2014)
Housing density within the urban growth boundary/area (UGB/A)	25 percent increase from 2014	1,200 units per square mile (2014)

Initiatives

Local

Collaboration

- Provide opportunities for local governments to learn from and adapt diverse local approaches to livability issues as appropriate to their unique characteristics.
- Foster the region's commitment to the Western values of cooperation and individualism.
- Coordinate with local governments, developers, and other potential partners to establish an online clearinghouse of potential development sites and funding opportunities, searchable by specific parameters.

Education and Assistance

- Convene forums for small and/or rural communities that cover topics of interest to maintain and improve vitality and livability.
- Encourage local government use of DRCOG's Boomer Bond assessment tool to help address the needs of the region's rapidly increasing aging population.
- Provide education and technical assistance in support of local efforts to integrate land use and transportation, promote increased diversity in housing options, and meet the needs of people of all ages, incomes and

Collaboration

 Participate in forums that allow other communities to learn from local successes that advance livability.

Policies and Regulations

- Adopt land use policies and development regulations to support compact, mixed-use development patterns and expanded housing options where appropriate.
- Adopt policies, regulations, and incentives to support the implementation of universal design strategies.
- Establish guidelines, and/or standards that improve the public realm for users of all ages, incomes, and abilities as appropriate to the local context (i.e. street design guidelines).
- Adopt policies, regulations, and incentives to support the preservation and rehabilitation of significant historic structures and cultural resources that contribute to authenticity of place and ability to attr act tourism.
- Promote infill and redevelopment through zoning changes.
- Encourage growth and redevelopment in and adjacent to established, rural communities; limit rural growth outside areas where basic infrastructure can be

abilities.

- Provide data and tools that help identify opportunities for strategic regional and local investments.
- Provide information and resources to help communities identify opportunities to retrofit suburban communities with design features that meet the needs of people of all ages, incomes, and abilities.

Investments

 Continue to make investments that help people live independently as long as possible in their own homes and communities. provided cost-effectively.

• Foster economic development that supports the ability for rural communities to meet the current and future needs of residents in their surrounding rural trade area.

Investments

- Consider investments in public infrastructure, public/private partnerships, and catalytic projects that encourage infill, redevelopment, and reinvestment in existing communities.
- Target local funds to create community design features that meet the needs of people of all ages, incomes, and abilities (i.e. create pedestrian-friendly environments, expand bicycle facilities).

Overarching Theme: An Efficient and Predictable Development Pattern

Outcome 2: New urban development occurs within the contiguous and designated areas identified in the Urban Growth Boundary/Area (UGB/A).

A defined UGB/A leads to an orderly and more compact pattern of future development. While locally adopted policies and market demand determine the location of urban development, commitment to the UGB/A leads to better use of regional resources for infrastructure, reduced regional vehicle travel and conservation of open land outside the boundary/area.

Regional Objective:

Contain urban development within the Urban Growth Boundary/Area (UGB/A).

Metro Vision will help focus and facilitate future urban growth in locations where urban-level infrastructure already exists or areas where plans for infrastructure and service expansion are in place. DRCOG will work with member communities to maintain the UGB/A and update the growth allocations for each community in the region annually or as needed.

Supporting Objectives:

- Identify and monitor the Urban Growth Boundary/Area (UGB/A).
- Increase and prioritize funding to serve areas within the Urban Growth Boundary/Area (UGB/A).

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Share of the region's housing and employment located in urban centers	Housing: 25 percent	Housing: 10.0 percent (2014)
	Employment: 50 percent	Employment: 36.3 percent (2014)
Housing density within the urban growth boundary/area (UGB/A)	25 percent increase from 2014	1,200 units per square mile (2014)

Initiatives

Regional	Local
----------	-------

Collaboration

- Work with local governments to monitor the extent of current and future urban development patterns as determined by the Metro Vision Growth and Development Supplement.
- Coordinate with local communities and infrastructure service providers to identify urban reserve areas that should be conserved for future growth.
- Facilitate coordinated local and regional investment in datasets to improve forecasting and other analysis related to the extent of urban development patterns.

Education and Assistance

- Provide access to data and information that local governments can use to continue planning for future urban growth (i.e. amount of land consumed by different development types outside the UGB/A; location of natural resources of local and regional significance; and areas with commercially viable deposits of sand, gravel, quarry aggregate, or other extractive resources).
- Offer data, analyses, or other technical assistance that helps identify opportunities for urban development within the UGB/A (i.e. infill and redevelopment on overlooked vacant or underutilized parcels).

Collaboration

- Coordinate with DRCOG on local urban growth area allocation and adjustments to the location of UGB/A as needed.
- Coordinate and establish intergovernmental agreements to address planning and service delivery issues in areas of mutual interest, such as in unincorporated portions of a community's planning area and/or areas planned for future annexation.
- Use intergovernmental agreements to identify, jointly, urban reserve areas where contiguous urban development will occur beyond 2040.

Policies and Regulations

- Reflect local growth aspirations through the location of UGB/A, including aligning land use, transportation and infrastructure planning to focus urban development within the UGB/A.
- Align the UGB/A with local policies:
 - To direct growth to areas with adequate facilities and services.
 - That limit development in of natural resources of local and regional significance;
 - o That limit development in or near areas with

 Provide education, technical assistance, and other tools to help local governments track, monitor, and update their UGB/A.

Investments

 Invest in infrastructure and transportation systems within the UGB/A.

- commercially viable deposits of sand, gravel, quarry aggregate, or other extractive resources; and
- That seek to prevent land use incompatibility near significant regional facilities (i.e. airports, solid waste disposal) over the long-term.
- Adopt policies and regulations that limit development occurring outside the UGB/A - location and service provision requirements for development that occurs outside the UGB/A should be shaped by local plans and policies.
- Adopt policies and regulations that conserve opportunities for urban development beyond 2040 (i.e. urban reserve areas).

Investments

 Ensure development outside the urban growth boundary/area pays its own way, to the extent practical.

Overarching Theme: An Efficient and Predictable Development Pattern

Outcome 3: Connected urban centers and multimodal corridors accommodate a growing share of the region's housing and employment..

The location and context of each center define its unique character. They are transit-, pedestrian-, bicycle-friendly places that contain a more dense and diverse mix of land uses than the surrounding areas; are designed to allow people of all ages, incomes and abilities to access a range of housing, employment, and services without sole reliance on having to drive. Urban centers provide public spaces where people can gather; aid in reducing per capita VMT, air pollution, greenhouse gas emissions and water consumption; and respect and support existing neighborhoods.

Regional Objective:

Increase housing and employment in urban centers.

Collectively, urban centers will increase their share of the region's total housing and employment. The ability for individual urban centers to absorb future growth will vary based on the characteristics of each center. Specific projects and initiatives will establish a network of clear and direct multimodal connections within and between urban centers, as well as key destinations. Public and private partners will direct investment toward programs and infrastructure improvements that help local governments and the private sector develop successful urban centers and multimodal connections.

Supporting Objectives:

- Increase public/private investment and partnerships in urban centers
- Increase transit service and ridership within and to urban centers.
- · Invest in multimodal enhancements along corridors.

Measures Related to Overarching Theme			
	Performance Measure	2040 Target	Baseline
	Share of the region's housing and	Housing: 25 percent	Housing: 10.0 percent (2014)
	employment located in urban centers	F	F

Housing density within the urban growth boundary/area (UGB/A)

Employment: 50 percent

Employment: 36.3 percent (2014)

1,200 units per square mile (2014)

Initiatives

Regional Local

Collaboration

- Engage in continuous dialogue with local governments and the private development community to address issues and opportunities with development in urban centers.
- Coordinate with local governments, developers, and other potential partners to establish an online clearinghouse of potential development sites in urban centers
- Help coordinate a network of clear and direct multimodal connections between urban centers and major destinations within the region, especially across local jurisdictional boundaries.

Education and Assistance

- Continue to support ongoing local planning for existing and future urban centers throughout the region.
- Encourage the local government designation of corridors as urban centers by adjusting the urban

Collaboration

 Seek opportunities for public/private partnerships as a means to leverage available resources and implement infrastructure improvements or other catalytic projects within urban centers.

Policies and Regulations

- Adopt policies and development regulations that support the implementation of higher-density, mixeduse development, pedestrian activity, and accessible public spaces within urban centers.
- Consider a range of parking management strategies in and near urban centers, including but not limited to shared, unbundled, managed, and priced parking.
- Consider the use of regulatory tools and/or incentives to support the implementation of housing in urban centers that can meet the needs of people of all ages, incomes, and abilities.
- Adopt policies and development regulations that

center evaluation criteria.

Investments

- Continue to allocate resources to support corridor planning efforts, infrastructure improvements, and other efforts to spur further public/private investment.
- Continue to allocate resources in local planning for existing and future urban centers throughout the region.
- support the implementation of multimodal enhancements and compact development and/or redevelopment along corridors, particularly those that connect and support urban centers.
- Direct new housing and employment growth to urban centers.
- Manage parking near rail and along corridors with frequent bus service to promote increased ridership.

Investments

- Prioritize investments in first-and final-mile connections to transit.
- Provide direct, multimodal connections between urban centers and surrounding neighborhoods.

Overarching Theme: A Connected Multimodal Region

Outcome 4: The regional transportation system is well-connected and serves all modes of travel.

Regional Objective:

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

The transportation system integrates regional and local roadways and streets, transit (bus and rail), bicycle and pedestrian facilities, and air and freight rail linkages. The transportation system connects the region to the rest of the state and beyond, and will evolve to include future technology and mobility innovations as appropriate.

The region will continue to invest in a well-connected, multimodal transportation system to improve mobility and accommodate the anticipated increase of 1.2 million people and half a million jobs by 2040. Transportation system investment initiatives may include expanding transit service and coverage, improving on-street and off-street bicycle and pedestrian facilities, widening and adding new roadways and promoting travel options. The resulting transportation system will increase mobility choices within and beyond the region for people, goods, and services.

Supporting Objectives:

- Improve the capacity of the multimodal regional roadway system.
- Improve the region's comprehensive transit system.
- Improve bicycle and pedestrian accessibility.
- Improve interconnections of the multimodal transportation system within and beyond the region.
- Expand Travel Demand Management (TDM) services and strategies.

Measures Related to Overarching Theme		
Performance Measure	Performance Measure 2040 Target	
Non-SOV (single occupancy vehicle) mode share to work	35 percent	25.1 percent (2014)
Daily vehicle miles traveled (VMT) per capita	10 percent decrease from 2010	25.5 daily VMT per capita (2010)
Average travel time variation (TTV) (peak vs. off-peak)	Less than 1.30	1.22 (2014)
Person delay per trip	No more than 2 minutes	1.7 minutes (2015)
Number of traffic fatalities	Less than 100 annually	185 (2014)

Initiatives

Regional Local

Collaboration

- Maintain a fiscally-constrained regional transportation plan that defines long-range multimodal projects, services, and programs to address mobility needs.
- Adopt Transportation Improvement Program (TIP) project selection policies that consider all transportation users.
- Coordinate with RTD and other transit providers to implement major projects and services.
- Coordinate with Denver Regional Mobility and Access Council (DRMAC) and transit operators to increase transportation for vulnerable populations, such as older adults, persons with disabilities, and low income

Collaboration

- Coordinate with RTD and other transit providers on transit facilities and infrastructure components of development projects.
- Coordinate with neighboring jurisdictions to ensure a well-connected system across boundaries.
- Coordinate local comprehensive plan and transportation plan updates with neighboring and affected jurisdictions.
- Coordinate transportation system improvements and operations to consider issues of land use compatibility.

Policies and Regulations

· Implement parking supply and pricing mechanisms,

- populations.
- Facilitate coordination between jurisdictions in expanding and connecting the region's bicycle and pedestrian network.
- Encourage integrated land use and transportation planning among state and regional agencies, local governments, and the development community.
- Coordinate information and services among all transportation providers.
- Work with partners to expand the regional TDM program consisting of outreach, promotion, tripplanning, and marketing activities to shift commute choices to non-single occupant vehicle modes, including carpools, vanpools, transit, bicycling, and walking, as well as telework and alternative work schedules. Continue and expand marketing consisting of advertising campaigns such as "Stop Being an SOV" and events such as Bike to Work Day.
- Conduct a region-wide evaluation of potential BRT corridors via a joint effort of RTD, DRCOG, CDOT, and other stakeholders.
- Coordinate with local governments to balance primary park- and ride-functions with opportunities for transit oriented development.
- Collaborate with local and regional stakeholders to address the needs of mobility-limited populations in transportation planning activities.
- Facilitate coordinated local and regional investment in datasets to improve transportation planning and investment.

Education and Assistance

- Encourage and support fare structures and subsidy programs that keep transit service affordable to all users.
- Provide tools, informational forums, and resources to jurisdictions regarding bicycle and pedestrian design, guidance, and implementation.
- Conduct activities to inform and promote the use of TDM strategies and services by Transportation Management Associations/Organizations (TMA/O) and local TDM providers, such as ride sharing, vanpools, carpools, and schoolpools..

Investments

- Consider the use of managed lanes in new capacity projects where feasible.
- Support bicycle sharing programs throughout the region.
- Include major roadway and transit capacity projects in DRCOG's fiscally constrained Regional Transportation Plan once construction funding is identified for such projects.
- Invest in and manage in the region's multimodal transportation system to improve freight and goods movement within and beyond the region.
- Upgrade existing facilities (sidewalks, crosswalks, bus stops/shelters) to improve transit access for older

- such as shared, unbundled, managed, and priced parking in major activity centers to manage parking availability and incentivize walking, bicycling, carpooling, and transit use.
- Adopt and implement street and development standards to improve multimodal connectivity in a variety of contexts—urban, suburban, and rural—while considering unique land use settings, such as schools, parks, and offices.
- Adopt transit-supportive policies and development regulations.
- Address the needs of mobility-limited populations in local transportation plans and policies.
- Adopt and implement local street standards and other development codes/standards that address multimodal connectivity objectives in a variety of land use contexts, such as pedestrian and bicycle cul-de-sac cutthroughs.
- Ensure Americans with Disabilities Act (ADA) standards are met or exceeded in constructing or retrofitting facilities, such as curb cuts, ramps, etc.
- Adopt local multimodal transportation plans that address connections within and between jurisdictions and communities.
- Adopt land use standards around airports to guide compatible long range development.
- Develop supporting infrastructure and local regulations, policies, and ordinances regarding alternative fuels, fleet conversions, environmental preservation, and related topics.
- Reserve adequate rights-of-way in newly developing and redeveloping areas, as feasible, for pedestrian, bicycle, transit, and roadway facilities.

Investments

- Fund roadway preservation, operational, and expansion projects through local capital improvement programs.
- Improve multimodal connectivity.
- Fund projects that address multimodal connectivity through non-MPO programs.
- Provide on-street and off-street bicycle and pedestrian infrastructure that is comfortable, safe, and convenient to help users reach key destinations.
- Provide wayfinding signage for bicyclists, pedestrians and transit users to reach key destinations.
- Provide first and final mile bicycle and pedestrian facilities and connections to transit, such as sidewalks and bicycle facilities, bikesharing, wayfinding, bicycle parking and shelters, and carsharing at transit stations
- Implement off-street sidewalks and multi-use paths that are comfortable to a wide array of users by providing separation from traffic, such as landscaping.
- Conduct local activities to inform and promote the use of TDM strategies and services by Transportation Management Associations/Organizations (TMA/O) and local TDM providers.

- adults and mobility-limited populations.
- Fund first and final mile bicycle and pedestrian facilities and connections to transit, such as sidewalks and bicycle facilities; and bikesharing, wayfinding, bicycle parking and shelters, and carsharing at transit stations.
- Continue to allocate resources to support corridor planning efforts, infrastructure improvements, and other efforts to spur further public/private investment.
- Provide funding, tools, informational forums, and resources to jurisdictions, TMA/Os, non-profits, and other TDM stakeholders to increase TDM awareness and use.
- Maintain and enhance airport capacity throughout the region.
- Improve transportation linkages to major destinations and attractions beyond the region.
- Connect populations in need of transportation service.
- Develop transportation service options to address mobility needs of older adults and mobility-limited residents.

- Conduct education and promotional events to encourage bicycling and walking.
- Reserve adequate rights-of-way in newly developing and redeveloping areas, as feasible, for pedestrian, bicycle, transit, and roadway facilities.
- Expand mobility options within urban centers and other major activity centers.
- Implement transportation improvements that enhance transit oriented development opportunities.

Overarching Theme: A Connected Multimodal Region

Outcome 5: The transportation system is safe, reliable and well-maintained.

Educational, enforcement, and engineering approaches enhance safety to reduce crashes, serious injuries, and fatalities.
Coordinated operations and management of the system maximizes capacity and reliability for all users. Transportation system physical components are well-maintained to extend their useful life and provide a quality travel experience.

Regional Objective:

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

The region will optimize the multimodal transportation system to improve the safe and reliable flow of people and goods. System optimization will include projects and initiatives that make the multimodal transportation system's capacity as productive as possible. The multimodal system will require maintenance to continue safe and sound conditions. Safety projects and other related initiatives will reduce fatalities and serious injuries for all travel modes. The region will also increase the deployment of technology and mobility innovations as they occur to improve reliability and optimize capacity.

Supporting Objectives:

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

Measures Related to Overarching Th		
Performance Measure	2040 Target	Baseline
Non-SOV (single occupancy vehicle) mode share to work	35 percent	25.1 percent (2014)
Daily vehicle miles traveled (VMT) per capita	10 percent decrease from 2010	25.5 daily VMT per capita (2010)
Average travel time variation (TTV) (peak vs. off-peak)	Less than 1.30	1.22 (2014)
Person delay per trip	No more than 2 minutes	1.7 minutes (2015)
Number of traffic fatalities	Less than 100 annually	185 (2014)

Initiatives

Regional	Local
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Collaboration

- Collaborate with CDOT, RTD, local governments, and other regional stakeholders to implement and monitor asset management techniques.
- Work with CDOT, RTD, and other regional stakeholders to expand effective Transportation Systems Management and Operations (TSM&O) projects, incident management procedures and processes, transportation demand management initiatives, and other innovative tools and techniques to safely optimize performance.
- Coordinate efforts of the Colorado Department of Transportation (CDOT), the Regional Transportation District (RTD), local governments, and other regional stakeholders to get the most efficient use of the existing multimodal system while planning for future

Collaboration

- Monitor and manage transportation systems (including traffic signal systems) in collaboration with neighboring iurisdictions.
- Participate in federal, state, and regional initiatives related to safety and homeland security initiatives.
- Partner with local law enforcement agencies and advocacy groups on education and enforcement activities related to all road users.
- Accurately monitor and maintain crash and traffic safety data for all transportation modes.
- Support the use of congestion pricing and other tolling techniques.

Policies and Regulations

use.

- DRCOG Way to Go and TDM stakeholders continue to work with local jurisdictions and employers to distribute information about and encourage the use of technology, including multimodal real-time trip planning.
- Collaborate with public safety stakeholders to assess threats to and vulnerabilities of the transportation system, including consideration of national and regional homeland security initiatives, and establish and implement resolution processes in response.
- Coordinate with federal, state, regional, and local agencies to implement applicable homeland security plans and initiatives.
- Facilitate interagency coordination on safety and homeland security initiatives.

Education and Assistance

 Consider supporting alternative pricing and revenue producing strategies that directly reflect the cost of vehicle travel to the user.

Investments

- Support cost-effective improvements to driver, passenger, pedestrian, and bicyclist safety.
- Maintain transportation system assets (vehicles and facilities) in a state of good repair per federal requirements.

- Develop specific plans and strategies to operate roadways more efficiently (e.g., traffic signal coordination and better manage traffic incidents).
- Develop and implement access management principles along major streets.
- Enforce traffic and ordinances as they apply to all users of the transportation system.
- Implement Transportation Systems Management and Operations (TSM&O) projects.
- Implement other active demand management strategies.
- Develop and implement strategies that enhance security.

Investments

- Maintain transportation facilities in good condition and implement asset management principles and techniques.
- Implement access management projects to optimize the efficiency of roadways, reduce conflict points, and improve safety.
- Implement projects that reduce the likelihood and severity of crashes involving motor vehicles, freight and passenger trains, buses, bicycles, and pedestrians.

Overarching Theme: A Safe and Resilient Natural and Built Environment

Outcome 6: The region has clean water and air, and lower greenhouse gas emissions.

Regional Objective:

Improve air quality and reduce greenhouse gas emissions.

Local and regional initiatives will reduce ground level ozone, greenhouse gas emissions (GHG), and other air pollutants. Collaboration with regional partners, such as the Regional Air Quality Council (RAQC), CDOT, and RTD will be integral to improving air quality through reductions in ground level ozone concentrations, carbon monoxide (CO), and particulate matter (PM10). Additional initiatives will raise public awareness of the direct role individual actions play in pollutant and greenhouse gas emissions.

Supporting Objectives:

- Increase collaboration with local and regional partners on air quality initiatives.
- · Increase public awareness of air quality issues.
- Improve the fuel economy of the region's vehicle fleet.

The region meets or exceeds applicable federal, state, and local requirements and regional targets for air and water quality.

Regional Objective:

Improve the efficient use and quality of the region's waters.

In a semi-arid climate, water resources remain critically important to the region's quality of life and continued prosperity. The region will ensure clean water for consumption, recreation, and a balanced, healthy ecological community, through initiatives to restore and maintain the chemical and physical integrity of the region's waters. DRCOG will focus on collaborative initiatives among local governments, water providers, agricultural producers, the design and development community, and other regional stakeholders to promote water conservation and responsible water management and land use practices.

Supporting Objectives:

- Increase collaboration with local and regional partners on water quality initiatives.
- · Increase public awareness of water quality issues.
- Maximize the efficient use of municipal and industrial water.

Measures Related to Overarching Theme		
Performance Measure 2040 Target Baseline		
Surface transportation related greenhouse gas emissions per capita	60 percent decrease from 2010	26.8 pounds per capita (2010)
Protected open space	2,100 square miles	1,841 square miles (2014)

** Placeholder pending Board Work Session discussion **		
Share of the region's housing and employment in high risk areas	Less than 1 percent	Housing: 1.2 percent (2014)
	Less than 2.5 percent	Employment: 2.9 percent (2014)

Initiatives

Regional	Local

Collaboration

- Facilitate communication and project implementation between state, regional, and local agencies to maximize the efficiency of the transportation network.
- · Cooperatively develop mitigation strategies for

Collaboration

 Collaborate with adjoining communities, water districts, and other providers on efforts to promote the efficient delivery and use of water and infrastructure for commercial, residential, and agricultural purposes.

- transportation projects to address environmental impacts.
- Coordinate with the Colorado Water Quality Control Commission and other stakeholders monitor land use changes in basins with adopted water quality plans and programs.
- Facilitate coordinated local and regional investment in datasets to improve forecasting and other analysis capabilities related to air quality, greenhouse gas emissions, water demand, and surface water runoff.
- Collaborate with local and regional partners to increase the awareness and implementation of best management practices (BMPs) and incentives available to support regional water conservation efforts among all users.

Education and Assistance

- Encourage the use of alternative fuel vehicles and infrastructure.
- Support actions that reduce engine idling.
- Help support the development of infrastructure and local regulations, policies, and ordinances regarding alternative fuels, fleet conversions, environmental preservation, and related topics.
- Continue to support programs and public awareness campaigns, such as Way to Go and others that promote behavior shifts on an individual level that improve air quality and reduce greenhouse gas emissions.
- Help maintain access to data and mapping of aquifers, recharge areas, wellheads, landfills, and other information, as available to help inform local land use decisions that may affect the region's groundwater resources.
- Support public awareness campaigns that promote individual, institutional, and business behaviors that reduce pollutant runoff and opportunities for groundwater contamination.

Investments

- Fund transportation system improvements that minimize transportation-related fuel consumption, as well as air pollutant and greenhouse gas emissions.
- Support large-scale fleet conversions by local governments and shared fleets around the region.
- Incentivize the use of cleaner technologies, such as alternative fuel vehicles.
- Develop and invest in regional alternative fueling station infrastructure plans and projects focused on fuels that lead to the greatest reductions in air pollution and greenhouse gas emissions.

Policies and Regulations

- Review and modify local comprehensive plans and development regulations to improve travel choice accessibility to help reduce greenhouse gas emissions.
- Adopt parking management strategies that help reduce idling.
- Adopt policies and procedures to reduce the potential environmental impacts of roadway construction and maintenance.
- Adopt and implement grading, erosion, and sediment control ordinances to minimize sediment and other pollutant runoff.
- Adopt policies and regulations for industrial uses to limit opportunities for potential groundwater contamination.
- Develop regulations and infrastructure needed to support the use of alternative fuel vehicles and the use of alternative modes, such as charging stations, bicycle parking, and shower facilities for employees.
- Promote water conservation through ordinance revisions and public information activities that encourage the use of low-flow plumbing devices, drought-tolerant and native vegetation for landscaping, conservation-oriented irrigation techniques, and other low-impact site development techniques in new development and rehabilitation projects.
- Require adequate wastewater treatment systems to serve new development.
- Require adequate long-term water services to serve new development.

Investments

- Include alternative fuel infrastructure within transportation projects as appropriate
- Update business and government fleets to alternative fuel vehicles.
- Make investments that help reduce overall water consumption and increase reuse.

Overarching Theme: A Safe and Resilient Natural and Built Environment

Outcome 7: The region values, protects, and connects people to its diverse natural resource areas, open space, parks and trails.

Regional Objective:

Protect a variety of open spaces.

Open space and the natural environment are important assets in the region. A variety of open spaces – different sizes, settings, and purposes – will help define the urban area and distinguish individual communities. Additionally these open spaces can provide important wildlife habitat, support various outdoor recreational pursuits and protect the health of water and ecological systems. The region will conserve and protect natural resources including prominent geologic features, surface waters, riparian areas, wetlands, forests and woodlands, prairie grasslands, and other environmentally sensitive lands for future generations.

The region's protection and restoration of its diverse natural resource areas—its mountain backdrop, unique prairie landscapes, extensive riparian corridors, and other open space areas, parks and trails and is essential as the region continues to grow. Access to these areas provides the opportunity to participate in a variety of recreational pursuits that support community health and wellness.

Supporting Objective:

• Protect and restore natural resources of local and regional significance.

Regional Objective:

Connect people to natural resource and recreational areas.

In addition to local and regional initiatives to preserve, protect and expand open space assets, the region will ensure that residents and visitors may access these amenities. Active and passive open spaces will serve as a key component of the region's overall growth framework, connecting people to open space amenities. Local and regional initiatives will prioritize the completion of "missing links" in the regional trail and greenways network and improve other multimodal connections to increase park accessibility.

Supporting Objectives:

- Improve opportunities for recreation and access to nature.
- Improve multimodal linkages to and between the region's parks, open spaces, and developed areas.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Surface transportation related greenhouse gas emissions per capita	60 percent decrease from 2010	26.8 pounds per capita (2010)
Protected open space	2,100 square miles	1,841 square miles (2014)

** Placeholder pending Board Work Session discussion **		
Share of the region's housing and employment in high risk areas	Less than 1 percent	Housing: 1.2 percent (2014)
	Less than 2.5 percent	Employment: 2.9 percent (2014)

Initiatives

Regional	Local

Collaboration

- Coordinate with local and regional partners to identify and map natural resources of local and regional significance.
- Collaborate with local governments and other regional partners on the identification and implementation of important multimodal linkages to and between the

Collaboration

 Coordinate with adjoining communities and municipalities and other organizations, such as Great Outdoors Colorado, to help leverage available funding.

Policies and Regulations

 Adopt policies that protect natural resources of local and regional significance. region's parks, open spaces, and developed areas.

Education and Assistance

- Provide data and information that helps local and regional partners operate and plan for open space, trails, and other natural resource and recreational areas.
- Provide data and tools that help local and regional partners connect people to open space, trails, and other natural resource and recreational areas.
- Help identify potential local, regional, and state funding available to protect and connect a variety of open spaces.
- Increase awareness of the need to plan for and accommodate smaller parks, greenspaces, and recreational amenities in and adjacent to urban centers
- Support the integration of parks, open space, and trails as part of the restoration of brownfields and other similar sites.

Investments

- Encourage the role of land trusts to facilitate open space conservation (i.e. donation or purchase of conservation easements).
- Increase low-impact transportation access to natural resource and recreational areas (i.e. transit).

- Adopt policies and establish guidelines or standards that promote the incorporation of natural features into new development and redevelopment.
- Adopt open space set-aside or fee-in-lieu requirements for future development or redevelopment.
- Adopt policies and regulations to enhance connections to parks and support the implementation of open space and recreational areas in urban centers.
- Preserve features of scenic, historic, and educational value.
- Develop plans to address potential conflicts between conservation of natural resources and their public use and enjoyment.
- Use open space as a tool to shape growth and development patterns.

Investments

- Support the development of parks of various sizes, hosting a variety of recreational amenities.
- Complete local multimodal linkages to the region's parks and open spaces through strategic acquisition or other means.
- Enhance multimodal connections to existing parks and locate new parks in neighborhoods and other areas that are accessible to residents on foot, by bicycle, or using transit, such as within or adjacent to urban centers.
- Prioritize the protection or restoration of natural resources of local and regional significance, as well as other locations that help fill "missing links" in the regional open space and greenway system in local plans and funding programs.

Overarching Theme: A Safe and Resilient Natural and Built Environment

Outcome 8: The region's working agricultural lands and activities contribute to a strong regional food system.

Working agricultural lands are essential to the region's heritage, health, and economic and cultural diversity. Livestock feeding and production, growing feed and forage crops for livestock, food production, or greenhouse and nursery crops, agricultural lands and operations of all sizes create jobs in the region, support economic vitality, and promote healthier communities by bringing people closer to their food source.

Regional Objective:

Support continued agricultural capacity in the region.

Agricultural land and the ability to bring additional land or operations into production, where viable, benefits local producers, saves energy resources, and offers a level of food security for the region. Local and regional initiatives will expand opportunities for local food cultivation, processing, and sales - improving the distribution of and access to food throughout the region.

Supporting Objectives:

- · Conserve significant agricultural lands.
- Increase access to healthy and local foods.
- Increase the efficiency of food distribution.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Surface transportation related greenhouse gas emissions per capita	60 percent decrease from 2010	26.8 pounds per capita (2010)
Protected open space	2,100 square miles	1,841 square miles (2014)

** Placeholder pending Board Work Session discussion **		
Share of the region's housing and employment in high risk areas	Less than 1 percent	Housing: 1.2 percent (2014)
	Less than 2.5 percent	Employment: 2.9 percent (2014)

Initiatives

Regional	Local

Collaboration

- Coordinate with local communities and local, regional, and state conservation programs to identify and protect—through conservation easements, purchase, or other means— significant agricultural resources at risk of being lost.
- Examine the production, processing, distribution, and consumption of food in the Denver region and consider creation of a regional food system council.
- Encourage the creation of a network of regional food hubs to facilitate the processing and distribution of local food, particularly in support of farmers' markets.
- · Promote regional coordination of institutional purchasing efforts to increase access to market for small producers.

Education and Assistance

- Monitor the quantity and distribution of the region's agricultural lands over time using resources, such as those provided by the American Farmland Trust. Consider both lands that are being actively used for agricultural purposes, as well as those that are zoned for agriculture, but not currently in use.
- · Provide information and assistance to local and

Collaboration

· Direct landowners or individuals interested in preserving working lands or starting a new farming operation to programs and incentives available through the American Farmland Trust, Colorado Open Lands, and other organizations.

Policies and Regulations

- Establish clear policy support for agricultural lands and operations in local comprehensive plans.
- · Establish definitions for agricultural lands and operations at all scales in development regulations to ensure agricultural uses are allowed in appropriate areas.
- Identify and remove potential regulatory barriers to agritourism and other non-traditional agricultural uses.

Investments

· Purchase significant agricultural resources or their development rights through conservation easements as a part of a local open space strategy; consider the role of such lands in shaping future growth and development.

- regional stakeholders seeking to improve the operations of the regional food system and increase access to healthy and local foods.
- Provide data and assistance toward statewide and basin studies of the relationship between water supply and regional agricultural capacity.

Investments

 Encourage the role of land trusts to facilitate agricultural land conservation (i.e. donation or purchase of conservation easements).

Overarching Theme: A Safe and Resilient Natural and Built Environment

Outcome 9: The risk and effects of natural and human-created hazards is reduced.

Regional Objective:

Reduce the risk of hazards and their impact.

The region will consider land use, open space protection and critical infrastructure in areas susceptible to natural and potential human-created hazards. Local and regional initiatives will limit new development, or the expansion of existing new development, in areas recognized as having a high probability of being impacted by natural and human-created hazards. More communities will have a hazard mitigation plan in place. Collectively, these initiatives will minimize the impact of community disruptions, as well as economic, environmental, and other losses.

Supporting Objectives:

- · Increase open space in high risk areas.
- Limit new development in areas susceptible to hazards.
- Increase the use of best practices in land use planning and management to decrease risk.
- Promote integrated planning and decision making in hazard mitigation.

Regional Objective:

Hazard mitigation planning

reduces injuries and loss of life;

equipment, and infrastructure.
Communities are more resilient

trauma; and damage to property.

when planning also accounts for

disaster response and recovery.

Regional

Improve disaster response and recovery.

Preparing for, responding to, and recovering from disasters and traumatic events is essential to the physical, economic and emotional health of the region's communities and residents. The region will continue to be proactive in preparing for disasters, including understanding and assessing risks and vulnerabilities that may create challenges to recovery. When disasters occur, impacted communities will overcome the physical, environmental, and emotional impacts in the shortest time possible relative to the severity of the disaster. Impacted communities will reestablish key elements of the community's economic, social and cultural fabric; reestablish those key elements to pre-disaster conditions; and, when needed, make improvements to become more resilient.

Local

Supporting Objectives:

- Enhance community resiliency.
- Increase interagency coordination.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Surface transportation related greenhouse gas emissions per capita	60 percent decrease from 2010	26.8 pounds per capita (2010)
Protected open space	2,100 square miles	1,841 square miles (2014)
** Placeho	lder pending Board Work Session dis	cussion **
** Placeho Share of the region's housing and	older pending Board Work Session dis	Housing: 1.2 percent (2014)
		1

Collaboration

- Coordinate with the Colorado Department of Local Affairs, the Federal Emergency Management Agency, emergency responders, and others local, state, and federal stakeholders to help advance planning efforts, assemble BMPs, and increase local and regional preparedness.
- Seek support necessary to update the Denver Regional Hazard Mitigation Plan every five-years and make available to local communities all mapping and accompanying databases of county-level hazard profiles to support local planning efforts.
- Encourage local and regional coordination of and investments in datasets to improve disaster response and recovery (i.e. damage assessment, evacuation).

Education and Assistance

- Assist local governments impacted by disasters with recovery planning efforts.
- Provide data and other information to help support improved hazard mitigation planning, as well as disaster response and recovery.

Investments

 Support projects that reduce the vulnerability of infrastructure to hazards.

Collaboration

- Collaborate with emergency responders in the identification of critical facilities, and the review of local plans, regulations, and development projects of significance.
- Collaborate with neighboring jurisdictions to identify projects that can reduce shared risk of certain hazards and their impact.

Policies and Regulations

- Integrate hazard mitigation considerations into local comprehensive plans and development regulations, either through an integrated plan update process, or by reviewing and updating existing policies and regulations on a more targeted basis.
- Adopt a hazard mitigation plan or consider working with regional partners to develop a regional plan if creating a locally tailored plan is not feasible.
- Incorporate Colorado State Forest Service guidelines into the land development and building permit approval process.
- Limit new development or the expansion of existing development in areas recognized as having a high probability of being impacted by hazards (i.e. floodplain, high wildfire threat).
- Establish guidelines for existing or future development in hazardous locations to minimize loss of life and property should a disaster occur.

Investments

- Invest in local capital improvements that reduce the risk of hazards.
- Mitigate or eliminate hazards associated with brownfields, positioning them for redevelopment or restoration as natural resource areas.

Overarching Theme: Healthy, Inclusive, and Livable Communities

Outcome 10: The built and natural environment supports healthy and active choices.

Regional Objective:

Increase access to amenities that support healthy, active choices.

A deliberate focus on the built environment's influence on physical activity, mobility choices, access to healthy food, and the natural environment supports the opportunity to lead healthy and active lifestyles throughout the region.

The region will expand opportunities for residents to lead healthy and active lifestyles. The region's streets and roads will be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities, regardless of their mode of transportation. A mix of well-connected land uses and recreational amenities in communities throughout the region will create places that make active transportation and recreational physical activity safe, and part of an everyday routine. Additionally, local and regional initiatives will increase access to healthy food options in low-income neighborhoods and areas with high levels of food insecurity.

Supporting Objectives:

- Increase safe and convenient active transportation options for all ages and abilities.
- · Expand the regional trail network.

Performance Measure	2040 Target	Baseline
Share of the region's population living in areas with housing and transportation (H+T) costs affordable to the typical household in the region	50 percent	41 percent (2013)

Initiatives

Regional	Local

Collaboration

- Facilitate public/private partnerships to identify and address first- and final-mile connectivity issues associated with regional transit.
- Collaborate with local governments and other stakeholders to address the transportation needs of mobility-limited populations in transportation and land use planning and decision-making at the regional and local levels
- Organize attention around the need for green space and recreational amenities in areas where a concentration of residents and/or employees exists or is planned (i.e. urban centers, employment centers).
- Collaborate with local governments on the identification and implementation of projects in areas that have the greatest need for access to recreation and nature, as identified in the Regional Equity Atlas.
- Collaborate with local governments and other regional partners on the identification and implementation of priority portions of the regional trail network.

Education and Assistance

 Monitor the accessibility of healthy food options from transit through periodic updates to the Regional Equity

Collaboration

 Pursue agreements to share public properties or facilities that can increase access to recreation and/or community gathering places.

Policies and Regulations

- Adopt policies and implement regulations that promote a mix of uses and active public spaces.
- Adopt and implement street standards that are locally tailored to meet Complete Streets objectives in a variety of contexts—urban, suburban, and rural.
- Adopt and implement policies and regulations that increase opportunities for local food production and processing by allowing community gardens, keeping of fowl and small livestock, and small-scale agricultural operations.
- Consider ordinances that allow residential sales of produce grown on premises.
- Adopt policies and regulations to support small-scale parks, plazas, and other indoor and outdoor recreational facilities. Consider providing incentives for projects that provide a range of recreational options.
- Promote the development of the natural and built environment shade canopy and/or appropriate

Atlas.

- Monitor the quantity and distribution of community gardens, small-urban farms, and land that is zoned and used for agriculture over time, using regional mapping and working with local communities and others.
- Promote awareness of the range of programs, services, and other assistance available to help residents lead healthier and more active lifestyles and opportunities for them to become involved in related efforts at the local and neighborhood level.
- Routinely evaluate and address mobility obstacles and impairments within the built environment.
- Support the integration of farmers' markets and other green markets within urban centers and rural communities.

Investments

- Support projects that consider all users of roadways (i.e. Complete Streets objectives).
- Focus resources on helping build safe pedestrian and bicycle connections from transit stops to neighborhoods and activity centers within communities.

vegetative cover to create/maintain a safe, comfortable pedestrian environment.

Investments

- Prioritize funding for projects that meet Complete Streets objectives through non-MPO sources, including local capital improvement programs.
- Prioritize incentives for grocers who locate in urban centers and underserved areas of the community.
- Complete local links in the regional trail network through strategic acquisition or other means, prioritizing linkages that will enhance connectivity to or within the regional network, or to nearby communities or urban centers.

Overarching Theme: Healthy, Inclusive, and Livable Communities

Outcome 11: The region's residents have expanded connections to health services.

Expanded connections to health services improve the health and wellness of residents in the Denver region. Connections to health services are expanded through improved multimodal transportation access, the location of new health services, and other innovative approaches resulting in more convenient access to health services.

Regional Objective:

Improve transportation connections to health care facilities and service providers.

The region will support the integration of health care facilities and service providers of all sizes into centers throughout the region – both urban and rural – where residents can access care by walking, biking, driving or using transit. Local and regional initiatives related to transit service, including ondemand and other specialized services, will increase transit access to health care facilities, social service providers, and other retail outlets that offer health services.

Supporting Objectives:

- Increase awareness and knowledge of community health and wellness issues and support networks.
- Increase collaboration among stakeholders at the local, regional, and state level
- · Locate health services in accessible areas.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Share of the region's population living in areas with housing and transportation (H+T) costs affordable to the typical household in the region	50 percent	41 percent (2013)
Total adiana		

Initiatives

Regional	Local

Collaboration

- Convene regular meetings of regional stakeholders health care providers, local governments, public health organizations, major hospitals, business leaders, the development community, foundations, and others as appropriate—to facilitate and support health and wellness projects and initiatives of regional significance.
- Collaborate with health service providers to develop new datasets and analyses of access to preventative care and other health-related services, helping local and regional partners strategically target resources.
- Strengthen partnerships between health and transportation providers to increase access to care, improve health outcomes, and reduce healthcare costs.

Education and Assistance

- Conduct periodic updates to the Regional Equity Atlas and collaborate with local and state public health departments to conduct additional research at a neighborhood level to help inform discussions surrounding areas of the greatest need.
- Establish a central clearinghouse of information to support health and wellness initiatives throughout the

Collaboration

- Work with local elected and appointed officials to integrate health and wellness priorities and goals into comprehensive plans. Incorporate supporting information into plan and policy development and decision-making.
- Leverage existing health and wellness programs and services.

Policies and Regulations

- Adopt and implement policies and regulations that support the integration of health services as part of urban centers, employment campuses, retail centers, rural town centers, and other activity hubs.
- Consider policies and plans that encourage the location health services in areas that are readily accessible.

Investments

 Collaborate with public health professionals, area hospitals, health and social service providers, and other regional stakeholders to implement transportation system improvements in areas with the greatest need for accessibility improvements. region (e.g., regional health indicators, access to services, programs, best practices).

Investments

 Coordinate investments in local and regional transportation services that improve access to health services for those with mobility obstacles or impairments.

Overarching Theme: Healthy, Inclusive, and Livable Communities

Outcome 12: Diverse housing options meet the needs of residents of all ages, incomes, and abilities.

Housing choices allow individuals and families to find desirable housing affordable and accessible to them in communities throughout the region and stay in their community of choice as their economic or life circumstances change. A range of housing options across the region benefits both individuals and families, and can improve the economic vitality and diversity of local communities

Regional Objective:

Diversify the region's housing stock

The region will have housing that meets the needs of current and future residents as they progress through the various stages of their lives, including changes in familial status, income, employment and ability level. Local communities and regional partners will pursue initiatives that reduce barriers and expedite the development of housing in desired locations. The supply and range of housing options, including attainable and accessible units, in or near major employment centers will increase.

Supporting Objectives:

- Increase the regional supply of housing attainable for a variety of households.
- Increase opportunities for diverse housing accessible to multimodal transportation.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Share of the region's population living in areas with housing and transportation (H+T) costs affordable to the typical household in the region	50 percent	41 percent (2013)

Regional	Loca	ı

Collaboration

Initiatives

- Convene local government officials and housing experts to identify ways to expand affordable, accessible workforce and senior housing development opportunities in local communities.
- Continue to support local planning that furthers the implementation of the region's transit system and urban centers
- Participate in efforts to remove barriers and reduce cost of developing housing.
- Encourage transit investments where housing densities currently – or are planned to – support transit.
- Collaborate among local partners, including housing authorities, to understand current and future affordable housing needs.

Education and Assistance

- Share best practices in land use regulations, zoning and housing policies with local governments and other stakeholders.
- Develop and share guidance based on existing best practices, to aid local communities in the identification of high opportunity sites, districts, or areas.
- Monitor changing demands for new and different types

Collaboration

 Develop and maintain cooperative efforts with entities focused on developing accessible, affordable, workforce and senior housing.

Policies and Regulations

- Consider policies that promote a variety of housing options to meet the needs of older adults, including independent and supportive options.
- Consider allowing accessory dwelling units in appropriate zoning districts.
- Review local plans and regulations to ensure they encourage a mix of housing types and densities.
- Plan for increased residential density in high-frequency transit and other multimodal transportation corridors.
- Develop a focused strategy for preservation and rehabilitation of existing housing located near current and future transit areas.
- Consider plans and policies to improve jobs-housing balance in employment-rich areas.
- Assess current and future housing needs and programs in transit-oriented communities.

Investments

- of housing.
- Monitor issues around the cost of housing, providing information for local and regional partners through the Regional Equity Atlas and the Denver Region Visual Resources (DRVR) website.
- Elevate awareness of the catalytic role housing can play in transit oriented community strategies.

Investments

- Encourage the development and expansion of regional funds that help support housing options (i.e. Denver Regional Transit-Oriented Development Fund)
- Consider incentives to support affordable, accessible, workforce and senior housing, particularly within centers and other areas that are or may be served by transit.
- Consider projects that address transit and mobility gaps near places that include one or more of the following characteristics: higher density, affordable, accessible-, workforce- and senior housing.

Overarching Theme: A Vibrant Regional Economy

Outcome 13: All residents have access to a range of transportation, employment, commerce, housing, educational, cultural, and recreational opportunities.

The region's economy prospers when all residents have access to a range of transportation, employment, housing, education, cultural, and recreational opportunities. The region's transportation network plays a critical role in enabling commerce and providing access to basic needs and quality of life amenities that allow the region's residents to succeed.

Regional Objective:

Improve access to opportunity.

The region will reduce critical health, education, income and opportunity disparities in neighborhoods and communities. The region will capitalize on community, local, regional and state amenities by promoting reliable transportation connections to key destinations. Local and regional initiatives will continue to leverage investments in transit by concentrating new housing and employment in centers accessible via transit.

Supporting Objectives:

- Improve the flow of people, goods, services, and information in and through the region.
- Improve access for traditionally underserved populations.
- Improve access to and from the region's developed and emerging housing and employment centers.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Regional employment	2.6 million (1-1.5% annual growth)	1.8 million (2014)
Share of the region's housing and	35 percent	Housing: 29.7 percent (2014)
employment near high frequency transit	60 percent	Employment: 48.4 percent (2014)

Initiatives Regional

Collaboration

- Convene a technical committee to identify best practices in addressing first and final mile barriers.
- Track, assess, and work with a wide range of partners to respond to the mobility needs of major employment centers.
- Facilitate data and information sharing in order to provide free and open regional data that can help power local and regional analysis.

Education and Assistance

- Identify and monitor mobility trends including: commuting patterns in employment and urban centers; freight and commercial vehicle travel; technological advances; and recreation and tourism.
- Identify best practices to support the expansion and retention of manufacturing and production businesses in areas served by transit.
- Conduct and share analysis that helps local and regional partners understand issues and opportunities in and near the region's employment centers.
- · Acquire data and provide analysis that illustrates the

Collaboration

 Partner with transportation management organizations, service providers, and/or improvement districts to determine travel needs of employees.

Local

- Work with property owners, developers, service providers, and RTD to implement first- and final-mile strategies in employment centers.
- Connect residents (and visitors) to cultural, educational, and natural amenities locally, as well as in the Denver region and across the state.
- Facilitate public/private partnerships to improve firstand final-mile connections to the region's high-capacity transit services, with an emphasis on enhancing connections to major employment centers and underserved populations.

Policies and Regulations

- Develop strategies that focus on a range of employment, housing, and other opportunities directly adjacent to transit stops and stations.
- Preserve, protect and enable diverse employment and housing opportunities that are accessible to transit.

gap between the types of jobs present in the regional economy and the requisite skills the workforce needs; use this information to improve forecasting, planning, and other strategic initiatives.

Investments

- Fund transportation system improvements that improve the flow of people, goods, and services.
- Provide local and regional transportation services that improve personal mobility, housing and employment access, as well as independence and well-being, especially for those with mobility obstacles or impairments.
- Ensure traditionally underserved populations receive at least a proportionate share of transportation benefits and are not disproportionately impacted by transportation investments relative to the entire regional population.

Investments

 Prioritize investments that will contribute to mobility enhancements in and to employment centers and housing options.

Overarching Theme: A Vibrant Regional Economy

Outcome 14: Investments in infrastructure and amenities allow people and businesses to thrive and prosper.

The region's continuous investments in infrastructure support a globally connected economy and offer opportunities for all residents to share and contribute to sustained regional prosperity. Vibrant and thriving communities, accessible and protected natural resources, and diverse cultural amenities are considered economic assets and make our region a highly desirable place to live, work and raise a family.

Regional Objective:

Improve the region's competitive position.

The region's economic vitality depends on providing a high quality of life in diverse communities. Investments in the region's infrastructure will help ensure the region remains globally competitive by establishing and maintaining the connected multimodal transportation system that businesses depend on to access local, national and global customers, and an available, desirable workforce. Economic and community development initiatives and activities will assure that the region's infrastructure will support and grow the region's economic health and vitality.

Supporting Objectives:

- Invest in the region's infrastructure to ensure the region remains globally competitive.
- Increase awareness of key regional growth, transportation and economic trends based on the region's shared vision for the future.

Measures Related to Overarching Theme		
Performance Measure	2040 Target	Baseline
Regional employment	2.6 million (1-1.5% annual growth)	1.8 million (2014)
Share of the region's housing and	35 percent	Housing: 29.7 percent (2014)
employment near high frequency transit	60 percent	Employment: 48.4 percent (2014)

Initiatives	
Regional	Local

Collaboration

- Coordinate economic and community development activities aimed at assuring the region's infrastructure will maintain and grow the economic health and vitality of the region.
- Facilitate coordinated local and regional investment in datasets to improve economic forecasting and analysis.
- Collaborate with the region's water providers to better understand and forecast the impact of water availability on growth and development.
- Collaborate among economic development partners to understand and forecast the role that increased diversification of economic activities can play in reducing the region's risk to global shocks.

Education and Assistance

- Provide and analyze data on the region's demographic and economic conditions.
- Create annual progress report on regional land use and transportation measures and targets that influence the region's economic vitality.

Collaboration

- Collect and share local development data and trends that can inform regional analysis and modeling of economic trends.
- Engage economic development and planning professionals in efforts to align community-wide goals with regional opportunities.
- Participate in regional economic development activities.
- Encourage coordination between regional governments, stakeholders, and transit providers to ensure future transit investments and regional employment growth are aligned.

Policies and Regulations

 Develop measures and indicators to assess progress toward the goals of local policies.

Investments

 Consider incentives and other investments to attract and enable future employment growth near high frequency transit.

- Provide information on key economic trends influencing the region, such as the role of private equity investment in local commercial real estate; integrate this information into planning and forecasting processes.
- Provide analysis that links fundamental drivers of the region's economy (i.e. productivity, investment, trade) to infrastructure investments and higher connectivity.
- Consolidate regional data, analysis, and information to a "one-stop shop" accessible to a wide variety of audiences.
- Develop informational products that highlight key trends that may impact the region's ability to achieve desired outcomes.
- Provide data-driven stories and infographics that illustrate the state of the region in terms of economics, as well as transportation and demographics.
- Provide data and assistance to communities seeking to develop long run forecasts for population and employment under alternative scenarios.

Investments

 Identify and fund transportation system improvements that increase access to jobs and efficient freight and goods movement to support the region's global competitiveness. To: Chair and Members of the Board of Directors

From: Jennifer Schaufele, Executive Director

303-480-6701 or jschaufele@drcog.org

Meeting Date	Agenda Category	Agenda Item #
July 6, 2016	Informational	7

SUBJECT

Work Session participants will review a revised "preamble" for potential inclusion in the public review draft of *Metro Vision*.

PROPOSED ACTION/RECOMMENDATIONS

N/A

ACTION BY OTHERS

N/A

SUMMARY

In May staff shared introductory language in the draft *Metro Vision* plan with Work Session participants. The draft text aimed to directly address the role, and limits, of the *Metro Vision* plan. This "preamble," discussed in May, was largely pulled from existing language in the draft plan that has been publicly available since February 2015.

During the May discussion Work Session participants offered several suggestions to improve the draft preamble, including:

- Moving text up in the preamble that outlines why DRCOG produces a regional plan.
- Emphasizing that our region's history of collaboration has created solid foundation to build on.
- The preamble should it make it clear that accomplishing the vision requires contributions from many partners.

Attachment 1 reflects a revised preamble developed based on direction to staff from Work Session participants in May. Attachment 2 is a redline version showing the changes.

Staff is seeking a preliminary endorsement from Work Session participants on the language provided in Attachment 1 and/or suggested improvements for inclusion in the public review draft of the Metro Vision plan.

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

N/A

Board of Directors Work Session July 6, 2016 Page 2

ATTACHMENTS

Attachment 1 – Clean Version of *Metro Vision* "Preamble"

Attachment 2 – Redline Version of *Metro Vision* "Preamble" (with notes explaining changes)

ADDITIONAL INFORMATION

If you need additional information, please contact Jennifer Schaufele, Executive Director, at 303-480-6701 or ischaufele@drcog.org or Brad Calvert, Metro Vision Manager at 303-480-6839 or bcalvert@drcog.org.

ATTACH 1

<u>Clean Version Metro Vision "Preamble" – July 2016</u>

Metro Vision: 20 Years of Progress

For 60 years, the counties and municipalities of the Denver region have worked together to advance a shared vision of the future of the metro area and to make life better for our communities and residents. That vision has taken various forms over the years, most recently as a regional plan known as Metro Vision. The DRCOG Board adopted the first Metro Vision plan in 1997 – Metro Vision 2020—and has continued the dialogue about how best to achieve the plan's vision ever since.

Metro Vision fulfills the Denver Regional Council of Government's (DRCOG) duty to make and adopt a regional plan for the physical development of the region's territory. The plan remains advisory for local jurisdictions unless their planning commission chooses to adopt it as their official advisory plan (C.R.S. 30-28-106(2)). As adopted by Resolution XXXX, this Metro Vision Plan supersedes any regional master plan previously adopted by DRCOG.

The region has a strong shared sense of its future, and the DRCOG Board of Directors (DRCOG Board) recognizes implementation of the plan requires the collective efforts of local, state and federal governments; the business community; and other planning partners, including philanthropic and not-for-profit organizations with missions that are aligned with the DRCOG mission.

The Metro Vision plan does not replace the vision of any individual community; rather, it is a tool to promote regional cooperation on issues that extend beyond jurisdictional boundaries. The plan anticipates that individual communities will contribute to Metro Vision outcomes and objectives through different pathways and at different speeds for collective impact.

Six core principles have shaped the role of Metro Vision since the earliest conceptions of the first Metro Vision plan (Metro Vision 2020) and remain valid today:

Metro Vision Principles

METRO VISION PROTECTS AND ENHANCES THE REGION'S QUALITY OF LIFE. Metro Vision's most basic purpose is to safeguard for future generations the region's many desirable qualities, including beautiful landscapes, diverse and livable communities, cultural and entertainment facilities, and employment and educational opportunities.

METRO VISION IS ASPIRATIONAL, LONG-RANGE AND REGIONAL IN FOCUS. Metro Vision's planning horizon extends twenty years and beyond to help the region address future concerns, while considering current priorities too. The plan expresses a high-level, regional perspective on how the region as a whole can fulfill the vision of Metro Vision.

METRO VISION OFFERS IDEAS FOR LOCAL IMPLEMENTATION.

Local governments can use Metro Vision as they make decisions about land use and transportation planning and a range of related issues. Metro Vision also helps local governments coordinate their efforts with one another and with other organizations.

METRO VISION RESPECTS LOCAL PLANS.

The region's local governments developed Metro Vision, working collaboratively at DRCOG. The plan doesn't replace the vision of any individual community; it is a framework for addressing common issues. Metro Vision is sensitive to the decisions local governments make in determining when, where, and how growth will occur. Metro Vision also recognizes that each community has its own view of the future related to its unique characteristics.

METRO VISION ENCOURAGES COMMUNITIES TO WORK TOGETHER.

Many of the impacts associated with growth—traffic, air quality, and housing costs among others— don't recognize jurisdictional boundaries and jurisdictions must work collaboratively to address them. Metro Vision provides the framework for doing that; DRCOG provides the forum.

METRO VISION IS DYNAMIC AND FLEXIBLE.

Metro Vision reflects contemporary perspectives on the future of the region and is updated as conditions and priorities change. The DRCOG Board makes minor revisions to the plan annually and major updates as needed.

Applying the Metro Vision Principles in Practice

Metro Vision guides DRCOG's work and establishes shared expectations with our many planning partners. The plan outlines broad outcomes, objectives, and initiatives established by the DRCOG Board to make life better for the region's residents. It also establishes the regional performance measures and targets used to track progress toward the region's desired outcomes over time.

The degree to which the outcomes, objectives, and initiatives identified in Metro Vision apply in individual communities will vary. Measures described herein help to verify whether the collective actions of planning partners, including local governments, are moving the region toward desired regional outcomes, not to judge the performance of individual jurisdictions or projects. Local governments will determine how and when to apply the tenets of Metro Vision based on local conditions and aspirations.

ATTACH 2

Redline Version Metro Vision "Preamble" – July 2016 version (with track changes and comments – changes to May 2016 version)

Metro Vision: 20 Years of Progress

METRO VISION PRINCIPLES

For 60 years, the counties and municipalities of the Denver region have worked together to advance a shared vision of the future of the metro area and to make life better for our communities and residents. That vision has taken various forms over the years, most recently as a regional plan known as Metro Vision. The DRCOG Board adopted the first Metro Vision plan in 1997 – Metro Vision 2020—and has continued the dialogue about how best to achieve the plan's vision ever since.

Metro Vision fulfills the Denver Regional Council of Government's (DRCOG) duty to make and adopt a regional plan for the physical development of the region's territory. The plan remains advisory for local jurisdictions unless their planning commission chooses to adopt it as their official advisory plan (C.R.S. 30-28-106(2)). As adopted by Resolution XXXX, this Metro Vision Plan supersedes any regional master plan previously adopted by DRCOG.

The hallmark of the Metro Vision planning process is the collaborative and flexible nature of the dialogue. The region has a strong shared sense of its future, and the DRCOG Board of Directors (DRCOG Board) recognizes implementation of the plan requires the collective efforts of local, state and federal governments; the business community; and other planning partners, including philanthropic and not-for-profit organizations with missions that are aligned with the DRCOG mission.

The Metro Vision plan does not replace the vision of any individual community; rather, it is a tool to promote regional cooperation on issues that extend beyond jurisdictional boundaries. The plan anticipates that individual communities will contribute to Metro Vision outcomes and objectives through different pathways and at different speeds for collective impact.

through local action, allowing individual communities to contribute to Metro Vision outcomes and objectives through different pathways and at different speeds for collective impact.

Six core principles have shaped the role of Metro Vision since the earliest conceptions of the first Metro Vision plan (Metro Vision 2020) and remain valid today:

METRO VISION PRINCIPLES

METRO VISION PROTECTS AND ENHANCES THE REGION'S QUALITY OF LIFE. Metro Vision's most basic purpose is to safeguard for future generations the region's many desirable qualities, including beautiful landscapes, diverse and livable communities, cultural and entertainment facilities, and employment and educational opportunities.

METRO VISION IS ASPIRATIONAL, LONG-RANGE AND REGIONAL IN FOCUS.

Comment [BC1]: Staff suggested addition – All text appeared in Feb. 2015 draft.

Comment [BC2]: Shared with Work Session participants in May – Suggested in May that it "move up" in the preamble.

Comment [BC3]: Deletion : suggested during May 2016 Work Session.

Comment [BC4]: Addition based on Work Session suggestion in May.

Comment [BC5]: Staff addition – text modified from text included in Feb. 2015 draff

Metro Vision's planning horizon extends twenty years and beyond to help the region address future concerns, while considering current priorities too. The plan expresses a high-level, regional perspective on how the region as a whole can fulfill the vision of Metro Vision.

METRO VISION OFFERS IDEAS FOR LOCAL IMPLEMENTATION.

Local governments can use Metro Vision as they make decisions about land use and transportation planning and a range of related issues. Metro Vision also helps local governments coordinate their efforts with one another and with other organizations.

METRO VISION RESPECTS LOCAL PLANS.

The region's local governments developed Metro Vision, working collaboratively at DRCOG. The plan doesn't replace the vision of any individual community; it is a framework for addressing common issues. Metro Vision is sensitive to the decisions local governments make in determining when, where, and how growth will occur. Metro Vision also recognizes that each community has its own view of the future related to its unique characteristics.

METRO VISION ENCOURAGES COMMUNITIES TO WORK TOGETHER.

Many of the impacts associated with growth—traffic, air quality, and housing costs among others— don't recognize jurisdictional boundaries and jurisdictions must work collaboratively to address them. Metro Vision provides the framework for doing that; DRCOG provides the forum.

METRO VISION IS DYNAMIC AND FLEXIBLE.

Metro Vision reflects contemporary perspectives on the future of the region and is updated as conditions and priorities change. The DRCOG Board makes minor revisions to the plan annually and major updates as needed.

Applying the Metro Vision Principles in Practice

Metro Vision guides DRCOG's work and establishes shared expectations with our many planning partners. The plan outlines broad outcomes, objectives, and initiatives established by the DRCOG Board to make life better for the region's residents. It also establishes the regional performance measures and targets used to track progress toward the region's desired outcomes over time.

The degree to which the outcomes, objectives, measures and initiatives identified in Metro Vision apply in individual communities will vary. Measures described herein help to verify whether the collective actions of planning partners, including local governments, are moving the region toward desired regional outcomes, not to judge the performance of individual jurisdictions or projects. Local governments will determine how and when to apply the tenets of Metro Vision based on local conditions and aspirations.

As the Metro Vision principles state—the plan does not replace the vision of any individual community; rather, it is a tool to promote regional cooperation on issues that

Comment [BC6]: Staff addition – text modified from text included in Feb. 2015 draff

extend beyond jurisdictional boundaries. These issues include traffic congestion, air quality, availability of housing, community health and wellness, and resiliency. Local governments will determine how and when to apply the tenets of Metro Vision based on local conditions and aspirations.

Disclaimer

Metro Vision fulfills the Denver Regional Council of Government's (DRCOG) duty to make and adopt a regional plan for the physical development of the region's territory. The plan remains advisory for local jurisdictions unless their planning commission chooses to adopt it as their official advisory plan (C.R.S. 30-28-106(2)). As adopted by Resolution XXXX, this Metro Vision Plan supersedes any regional master plan previously adopted by DRCOG.

Comment [BC7]: "Moved up" per Director suggestion in May 2016.

To: Chair and Members of the Board Work Session

From: Jenifer Schaufele, Executive Director

(303) 480-6701 or jschaufele@drcog.org

Meeting Date	Agenda Category	Agenda Item #
July 6, 2016	Information	8

SUBJECT

High Occupancy Vehicles (HOV), managed lanes, and toll highway policies in the DRCOG regional transportation planning process.

PROPOSED ACTION/RECOMMENDATIONS

N/A

ACTION BY OTHERS

May 23, 2016 - TAC

SUMMARY

DRCOG's former Metro Vision Issues Committee (MVIC) had thoughtful discussion in the past on how HOV issues are or should be addressed in the regional transportation planning process. Two recent events/actions provide a platform for further discussion:

1. CDOT's new HOV policy

In October 2015, the State Transportation Commission approved a resolution regarding the assessment of HOVs on the state highway system's tolled managed lanes. 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 1.

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.

2. 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 into the FC-RTP (or changes to a project already in the FC-RTP). Consistent with state statutes, there is one version for CDOT/High Performance Tolling Enterprise (HPTE) projects, and a separate but similar version for private toll company

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projects. These additional information requirements have not been updated since 2009. Attachments 2 (CDOT/HPTE) and 3 (private toll companies) are updated versions of the 2009 requirements which incorporate TAC's recommendations (discussed below). Attachments 2a and 3a show track changes versions.

Summary of TAC Discussion & Recommendations

TAC discussed the HOV topic over four meetings between January-May 2016 leading to its recommendations incorporated in Attachments 2 and 3. In particular, TAC discussed at length whether DRCOG should establish a specific HOV policy and, if so, how, when, and to whom such a policy would apply.

After much discussion, TAC reached consensus that the best way to address HOV issues is through the RTP additional information requirements. Specifically, TAC recommended:

- the CDOT/HPTE version (Attachment 2) directly incorporate CDOT's new HOV policy language;
- the private toll company version (Attachment 3) incorporate the content addressed by CDOT's HOV policy in the form of asking whether such projects will include an HOV 3+ component, and if not, why; and
- both versions of the RTP additional information requirements specifically ask whether the proposed toll project will also include provisions for transit service, and if not, why.

The TAC recommendations strike a balance between addressing HOV issues in a specific and meaningful way for the Board's consideration through the RTP additional information requirements while not prescribing a one-size-fits-all regional policy. The recommended approach is also consistent with CDOT's HOV policy.

Staff will present this topic (Attachment 4) at the Board Work Session.

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

N/A

ATTACHMENTS

- CDOT memo and resolution to Transportation Commission regarding High Occupancy Vehicle (HOV) Policy Guidance (October 14, 2015)
- 2. Draft revised <u>CTE/HPTE</u> additional information requirements for FC-RTP project submittals with a tolling component
 - a. Link to track changes version
- 3. Draft revised <u>Non-HPTE</u> additional information requirements for FC-RTP project submittals with a tolling component
 - a. Link to track changes version of Attachment 2
- 4. Presentation slides

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Other links:

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

ADDITIONAL INFORMATION

If you need additional information, please contact Jennifer Schaufele at 303-480-6701 or jschaufele@drcog.org; or Jacob Riger, Transportation Planning Manager, at 303-480-6751 or jriger@drcog.org.

ATTACH 1



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), Tolled 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.

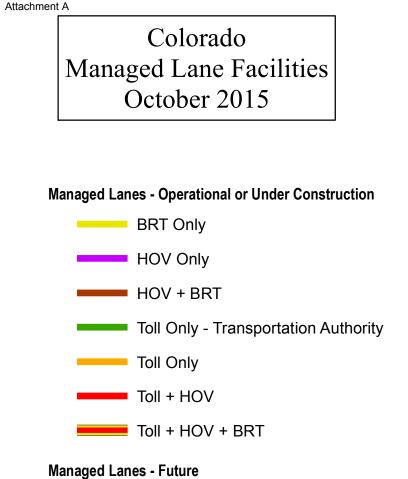
At the TC Workshop, staff will review the proposed policy approach, as well as the specifics of its application on the I-70 PPSL and C-470 projects (see Attachments B and C). Given the need for a decision in the near future for C-470, staff requests TC input and consideration of an approval action on 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.

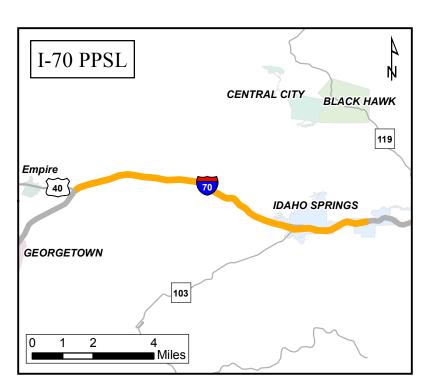
Next Steps

Transportation Commission adoption of revised HOV Policy resolution

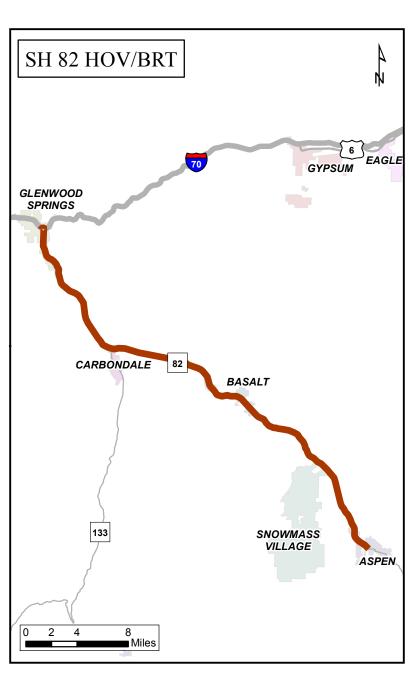
Attachments

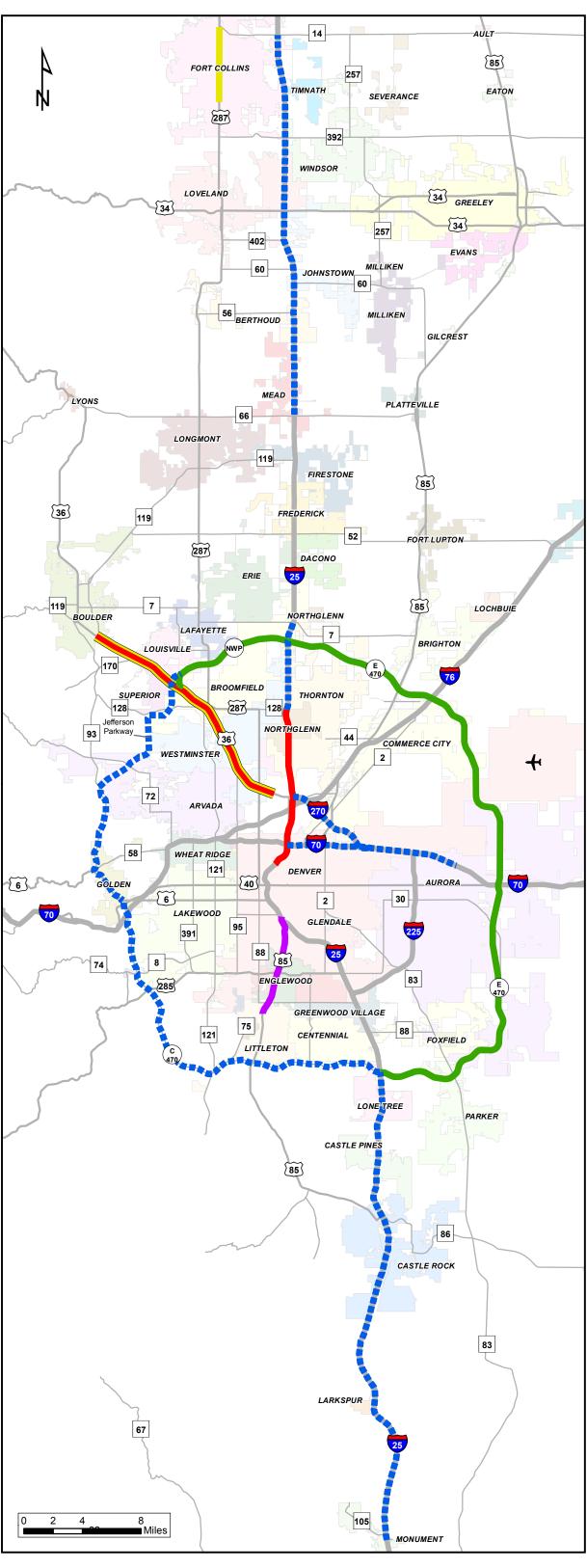
- Attachment A Colorado Toll/HOV/BRT Facilities
- Attachment B Example HOV Assessment
- Attachment C C-470 Express Toll Lanes Exemption Analysis
- Attachment D Updated Resolution #TC-3052 (HOV 3+ Policy)





TBD





High Occupancy Vehicle (HOV)

Assessment

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+.



High Occupancy Vehicle (HOV)

Assessment

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.

High Occupancy Vehicle (HOV)

Assessment

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.



C-470 Express Toll Lanes Project HOV3+ Exemption Analysis September 30, 2015

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 million¹ 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.

¹Net 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

Existing Configuration

Proposed Configuration





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.

\$000s **HOV3+ Share** 50,000 50% Projected revenue reduction associated 45,000 45% with HOV3+ exemption policy. 40,000 40% 35,000 35% 30,000 30% 25.000 25% 20,000 20% 15,000 15% 10.000 10% 5,000 5% 0% ////// Revenue Reduction HOV3+ Trip Share ——Base Case — HOV3+ Exemption

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.

2035 Nominal Cash Flow Impact: -\$3.2mm -7%

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.

2035 Nominal Cash Flow Impact: -\$2.2mm -5%

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 preregistered 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.

 Scenario
 Transponder Toll (Hypothetical)
 Transponder Processing Cost²
 Net Revenue

 Base Case (HOV3+ Tolled)
 \$1.00
 (\$0.18)
 \$0.82

 HOV3+ (Toll Free)
 \$0.00
 (\$0.001)
 (\$0.001)

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

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.

2035 Nominal Cash Flow Impact: +\$0.1mm	<1%
-----------------------------------------	-----

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.

² 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 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.

2035 Nominal Cash Flow Impact: -\$0.2mm <1%

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.

2035 Nominal Cash Flow Impact: -\$0.1mm <1%

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.

2035 Nominal Cash Flow Impact: -\$2.2mm -5%

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

2035 Nominal Impacts	Amount (\$mm)
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
Total Combined Impacts*	-\$7.3

^{*}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 HPTE 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 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 Tolled 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 Tolled 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 Tolled 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 Tolled Express Lanes is not feasible at this time, and declares that the C-470 Tolled Express Lanes will be exempted from the general policy that tolled 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 redesignation of the C-470 Tolled 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

ATTACH 2

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

Amended by DRCOG Board TBD, 2016

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 sponsors to support all types of project requests.

The DRCOG Board also requires the information described below be submitted for any project with a tolling 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 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 of the project, including the following:
 - Pricing Structure: Variable, dynamic, or fixed toll rates
 - Toll Lane Separation: Barrier protected or buffered lanes
 - Access/Egress: Locations of slip ramps to general purpose lanes and "direct connect" ramps to interchanges and/or other toll facilities
 - Relationship to overall regional toll highway system
 - Other unique operational features
- 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 the region's other toll facilities. 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):
 - o Base Year General Purpose Lanes
 - o Forecast Year General Purpose Lanes
 - Forecast Year Toll Facility
 - Forecast Year Total
- 4. Project Financing:
 - Capital costs for the project with major components and key assumptions, including inflation and contingencies
 - Operation and maintenance add-ons for the toll facility costs that are in addition to normal non-toll CDOT roadway O&M – and inflation assumptions

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

Amended by DRCOG Board TBD, 2016

- 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 and where excess revenues will be allocated, should toll revenues exceed those needed to build, maintain, and operate the facility
- 5. Any other federally required information, if applicable
- 6. Other Information and assistance:
 - 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+?
 - o If the proposed project does not include toll-free HOV, explain why it does not?
 - Does the proposed tolling component include provisions for transit service? If not, why?
 - 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.

DRAFT Additional Information Requirements for Non-CDOT/HPTE Roadway Tolling Projects Proposed for Inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan

Amended by DRCOG Board TBD, 2016

Projects proposed by non-CDOT/HPTE entities, such as private toll companies or toll highway authorities, for inclusion in the DRCOG Fiscally Constrained Regional Transportation Plan (FC-RTP) will include base information required of sponsors to support all types of project requests.

In addition, 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 in the FC-RTP: operating plan, technology, project feasibility, long-term project viability (project financing), and environmental documentation. The project sponsor will submit the following information to DRCOG:

- 1. Operating plan Description of the tolling component, including the following:
 - Pricing Structure: Variable, dynamic, or fixed toll rates
 - Toll Lane Separation: Barrier protected or buffered lanes
 - Access/Egress: Locations of slip ramps to general purpose lanes and "direct connect" ramps to interchanges and/or other toll facilities
 - Relationship to overall regional toll highway system
 - Other unique operational features
- 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 the region's other toll facilities. 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):
 - o Base Year General Purpose Lanes
 - o Forecast Year General Purpose Lanes
 - Forecast Year Toll Facility
 - o Forecast Year Total
 - Identify any proposed non-compete clauses (probable restrictions on improvements to other roadways or transit facilities)

DRAFT Additional Information Requirements for Non-CDOT/HPTE Roadway Tolling Projects Proposed 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. 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:
 - Does the proposed tolling component include toll-free HOV3+? If not, explain why?
 - Does the proposed tolling component include provisions for transit service? If not, why?
 - 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
 - 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

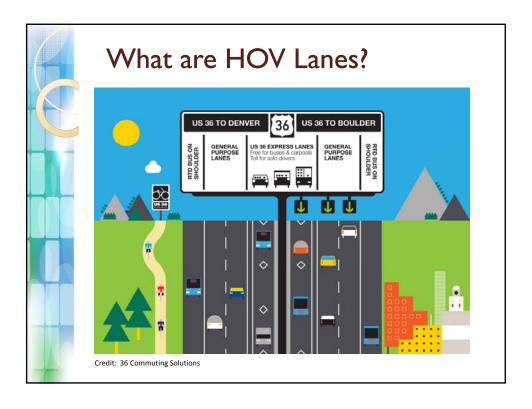




Overview

- 1. Brief toll review history
- 2. CDOT's new HOV policy
- 3. DRCOG Regional Transportation Plan (RTP) "additional information requirements" for toll projects
- 4. TAC discussion & recommendations

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I. Brief Toll Review History

- > 2002: HB-1310 created Colorado Tolling Enterprise (CTE)
- > 2005: HB-1148 MPO review of CTE projects
 - "...no action...until after...reviewed by MPO"
- > 2006: DRCOG adopted "procedures" for responding to HB-1148
- > 2006: HB-1003 applied HB-1148 language to "private toll companies"
- > 2009: DRCOG adopted procedures for RTP toll amendments one for CTE, one for private toll companies
 - replaced 2006 HB-II48 procedures
 - Attachments 2&3 in packet
- > 2009: FASTER bill passed abolished CTE, established HPTE

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2. CDOT HOV Policy (Oct. 2015)

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

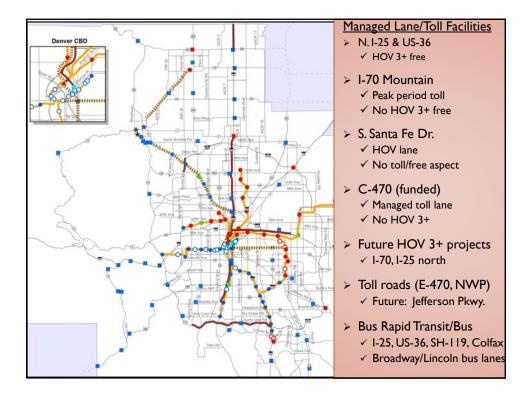
Each managed corridor/lane can be assessed based on its specific characteristics and may be reassessed as conditions change over time.



3. RTP Information Requirements

- ➤ New RTP projects with tolling component, and/or:
 - Scope change (e.g., widen 4-6 lanes to widen 4-8 lanes)
 - Operational change (e.g., HOV 2+ to HOV 3+)
 - Does <u>not</u> include air quality staging period change
- Separate versions for CDOT/HPTE projects and non-CDOT/HPTE projects (based on state statute)
- > Both address operations, technology, feasibility, financing, environmental, & coordination

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4a. TAC Discussion

- > Discussion spanned 4 meetings (January-May)
- > Updates to RTP requirements
- > Regional policy or narrower approach?
- > How does CDOT policy address exceptions and transit service?

Outcome: HOV topic is important – best addressed through existing RTP requirements for toll project reviews

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4b.TAC Recommendations

- Directly incorporate CDOT HOV policy in CDOT/HPTE RTP requirements (Attachment 2)
- Ask about HOV 3+ provision in private toll company RTP requirements (Attachment 3)
- > Ask about transit service provision in both versions of RTP requirements

