



Board Officers

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AGENDA
METRO VISION ISSUES COMMITTEE
Wednesday, May 6, 2015
4 p.m.
1290 Broadway
First Floor Boardroom

- 
- 
1. Call to Order
 2. 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 the opportunity to speak on specific items on the Metro Vision Plan between the staff presentation and committee discussion.
 3. Summary of April 1, 2015 Meeting
(Attachment A)

ACTION ITEM

4. * Move to recommend to the Board of Directors Metro Vision foundational measures and targets as agreed to during the meeting
(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 MVIC deliberation. Those providing comment will be limited to 3 minutes.

INFORMATIONAL ITEM

5. Presentation on key elements from the *Connected Region (transportation)* element of *Metro Vision*
(Attachment C) Jacob Riger, Transportation Planning Coordinator, Transportation Planning & Operations

ADMINISTRATIVE ITEMS

6. Other Matters
7. Next Meeting – June 3, 2015
8. Adjournment

***Motion Requested**

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

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METRO VISION ISSUES COMMITTEE MEETING SUMMARY

April 1, 2015

MVIC Members Present: Bob Roth – Aurora; Eva Henry – Adams County; Bill Holen – Arapahoe County; Bob Fifer – Arvada; Sue Horn – Bennett; Tim Plass – Boulder; Elise Jones – Boulder County; George Teal – Castle Rock; Rick Teter – Commerce City; Cathy Noon – Centennial; Tim Mauck – Clear Creek County; Robin Kniech, Anthony Graves – Denver; Roger Partridge – Douglas County; Don Rosier – Jefferson County; Ron Rakowsky – Greenwood Village; Tom Quinn – Lakewood; Phil Cernanec – Littleton; Jackie Millet – Lone Tree; Ashley Stolzmann – Louisville; Joyce Downing – Northglenn; John Diak – Parker; Herb Atchison – Westminster.

Others present: Julio Iturreria – Arapahoe County; Rachel Arndt – Boulder County Public Health; Heather Lamboy – Castle Rock; Travis Greiman – Centennial; Joe Fowler – Douglas County; Daniel Dick – Federal Heights; Nate Emswiler – Jefferson County; Kent Moorman – Thornton; Danny Herrmann – CDOT; Jennifer Schaufele, Executive Director, and DRCOG staff.

Call to Order

The meeting was called to order at 4:01 p.m.; a quorum was present.

Public Comment

No public comment was received.

Summary of March 4, 2015 Meeting

The summary was accepted as submitted.

Presentation on Metro Vision Foundational Measures

Brad Calvert, Metro Vision Manager, provided a briefing on the foundational measures (FM) as outlined in the agenda materials. Mr. Calvert noted this is a continuation of the discussion begun at the March meeting. He pointed out these are regional measures and targets. A reformatted version of the Metro Vision document was distributed.

The various foundational measures were discussed and members expressed interest in either moving them forward, putting them in a lower tier or eliminating them.

FM1 – Share of region's housing and employment located in urban centers – the consensus of the group was to put this FM on the back burner for now.

FM2 – Housing density within the growth boundary/area (UGB/A) – consensus of the group is to move this FM forward. Members requested to see the information from the scenarios again.

FM3 – Combined cost of housing and transportation as a percent of income for a median-income family – staff recommends that although this would continue to be measured, it would be dropped to a second tier. Members asked staff to do more research on local ways to measure the data, perhaps with assistance from TAC.

FM4 – Share of the region's households that are housing cost burdened (spending 30 percent or more of income on housing) – consensus of the group is to keep this FM and split out reporting by income level (high, medium, low).

FM5 – Share of health services in urban centers, or rural town center, or within ½ mile of rapid transit stations, or within ¼ mile of high frequency bus stops – consensus of the group is to keep this FM.

FM6 – Surface transportation related greenhouse gas emissions per capita – staff noted that the per capita goal was established by the Board. Members suggested an absolute target may be a better measure. Consensus of the group is to keep this FM.

FM7 – Non-SOV (single occupancy vehicle) mode share to work – consensus of the group is to keep with this FM. Some members expressed that this FM seems urban-centric, missing the suburban and more rural populations, and some communities without mass transit may have difficulty meeting a standard. It was noted that this is a regional goal, and the more dense areas will make up the majority of the regional goal. “Non-SOV” also includes carpool, vanpool, and other non-mass transit options.

FM8 – Daily vehicle miles traveled (VMT) per capita – consensus of the group is to keep this FM.

FM9 – Severely congested roadways on the Regional Roadway System (RRS) – staff recommends that travel time variance take the place of for this FM. A question was asked if staff looked at person hours of delay; perhaps this is something that could be discussed with the TAC.

FM10 – Number of surface transportation related fatalities – it was noted that this measure is in line with what CDOT has established. Consensus of the group is to keep this FM.

Presentation on key elements from the *Regional Resiliency* element of Metro Vision

Brad Calvert noted that the theme of regional resiliency is one that generated a lot of discussion throughout the stakeholder process and at the 2013 DRCOG Board workshop. Regional Resiliency can be defined as the ability of the region to respond and recover from major events. Members expressed agreement with using resiliency as a lens for developing Metro Vision. The group did not have the opportunity to discuss this topic at length.

Presentation on Metro Vision 2035/Draft Metro Vision “Cross Walk”

This item was not discussed.

Other Matters

No other matters were discussed.

Next Meeting

The next meeting is scheduled for **May 6, 2015**.

Adjournment

The meeting adjourned at 6:00 p.m.

ATTACH B

To: Chair and Members of the Metro Vision Issues Committee

From: Jennifer Schaufele, Executive Director
303-480-6701 or jschaufele@drco.org

Meeting Date	Agenda Category	Agenda Item #
May 6, 2015	Action	4

SUBJECT

MVIC will discuss and recommend foundational measures for inclusion in Metro Vision.

PROPOSED ACTION/RECOMMENDATIONS

Recommend initial foundational measures and targets to the Board of Directors for inclusion in Metro Vision.

ACTION BY OTHERS

After presenting an overview of draft Metro Vision measures and targets at the April meeting, MVIC asked staff and the TAC to provide additional information and guidance on several measures. TAC and staff input as requested are provided below.

SUMMARY

In April, MVIC continued their review of the draft Metro Vision Plan and discussed the [plan's proposed foundational measures](#).

MVIC did not request additional information on the proposed regional per capita VMT foundational measure.

FM 8: Daily vehicle miles traveled (VMT) per capita

Foundational Measure (FM)	Baseline	Target
8 Daily vehicle miles traveled (VMT) per capita	25.4 daily VMT per capita (2010)	Reduce 10 percent from the 2010 level by 2040

MVIC did request guidance from the Transportation Advisory Committee (TAC) on several transportation-related foundational measures (FM):

- FM 3: Should this be a foundational measure?
- FM 3: How will transportation costs be consistently obtained and calculated?
- FM 6: Should the measure/target be based on per capita or total emissions?
- FM 7: Should target be higher (e.g. 40%, 45%, etc.)?
- FM 9: What foundational measure(s) for congestion should be included in Metro Vision?
- FM 10: Is the draft target reasonable?

TAC met on April 27 and discussed a number of options for each individual measure (see questions above) and ultimately voted unanimously in support of the recommendations shown in the table below. In some instances, TAC recommended both a foundational measure and target; DRCOG staff is comfortable with all those recommendations. In other instances, TAC recommended a different or revised

measure. This necessitated DRCOG staff to collect baseline data after the TAC meeting and propose a target for MVIC's consideration. DRCOG staff recommendations are identified below with an asterisk (*).

TAC/Staff Recommendations

Foundational Measure (FM)	Baseline	Target
6 Surface transportation related greenhouse gas emissions per capita	26.8 lbs./person (2010)	60 percent decrease between 2010 and 2040
7 Non-SOV (single occupancy vehicle) mode share to work	25.5 percent (2013)	Increase to 35 percent by 2040
10 Number of surface transportation related fatalities	176 (2013)	Less than 100 per year by 2040
3 Share of the region's population living in areas with combined housing and transportation costs less than or equal to 45 percent of income for the regional typical household	41 percent (2013)	Increase to 50 percent by 2040*
9a Average travel time variation (TTV) (peak vs. off-peak)	1.22 (2011)	1.33 or less*
9b Person delay per trip	1.8 minutes (2015)	2 minutes or less*

* TAC recommended different/revised measure; DRCOG staff collected baseline data after TAC meeting and is proposing the target.

Additional Information on Other Foundational Measures (not part of TAC review) as requested by MVIC

In April, MVIC requested additional information on certain other measures. Responses to the questions posed by MVIC are shown below. The attached document (*Data Updates for Foundational Measures Discussion*) includes more detailed information and analysis.

FM 2: Housing density within the urban growth boundary/area

In April, MVIC asked staff to determine where the trend lines are pointing.

- A linear trend line that continues the 2006-2014 trend line would result in an increase of:
 - 25% between 2006 and 2040
 - 21% between 2010 and 2040
 - 18% between 2014 and 2040
- Note: These trends hold the current 980.1 mi² 2035 UGB/A constant. Any future changes to the spatial extent of the UGB/A will impact measurement.

Foundational Measure (FM)	Baseline	Target
2 Housing density within the urban growth/boundary (area)	1,300 units per mi ²	25 percent increase between 2014 and 2040

FM 4: Share of the region's households that are housing cost burdened (spending 30% or more of income on housing)

In April, MVIC asked staff if this could be shown at different income levels.

- Based on MVIC input, staff suggests a combined category of "Less than \$50,000"
- Additional information on potential income categories is included in the attachment

Foundational Measure (FM)	Baseline	Target
4 Share of the region's households earning less than \$50,000 per year that are housing cost burdened	69.4 percent (2013)	Decrease to 60 percent by 2040

Since the April meeting, staff collected baseline data for proposed foundational measures 1 and 1a as indicated below (please see the attachment for additional details).

FM 1: Share of region's housing and employment located in urban centers

MVIC did not discuss this foundational measure in detail, but did ask if they could see what has been zoned, approved, or included in land use plans for urban centers across the region?

- This information is not currently available. DRCOG is working with a consultant to translate local zoning categories across the region into comparable building density numbers for our UrbanSim land use model. The consultant work will be completed later this year.

Foundational Measure (FM)	Baseline	Target
1 Share of the region's housing and employment located in urban centers	9.3 percent of housing (2014) 36.3 percent of employment (2014)	Increase to 25 percent of region's housing and 50 percent of region's employment by 2040

FM 1a: Related Foundational Measure (suggested by MVPAC)

- See attachment for additional trend information

Foundational Measure (FM)	Baseline	Target
1a Share of the region's housing and employment located in urban centers and near high frequency transit	54.1 percent of housing (2014) 69.4 percent of employment (2014)	NO PROPOSED TARGET

Staff recommendation: *Staff recommends tracking this measure as an overall plan performance measure, but not elevating to a foundational measure at this time.*

FM 5: Share of health facilities in urban centers, in rural town centers, or near high frequency transit

Since the last meeting, staff acquired past years (2006 and 2009) from Colorado Department of Public Health and Environment (CDPHE).

- 2006: 55.3% (440 of 796)
- 2009: 53.2% (499 of 938)
- 2013: 54.4% (653 of 1201)
- Note: All three analyses rely on the 2014 set of urban centers, 2014 rural town centers, ½ mile from 2014 rapid transit stations, or ¼ mile from 2014 high frequency bus stops

Foundational Measure (FM)	Baseline	Target
5 Share of health facilities in urban centers, in rural town centers, or near high frequency transit	54.4 percent (2013)	Increase to 75 percent by 2040

Potential New Foundational Measures

In April, MVIC requested more time to identify additional foundational measure candidates from the other 65 performance measures included in the draft Metro Vision Plan. Two suggested foundational measures were received:

- Suggested measures related to congestion and delay (FM 9) were considered by TAC and included in the summary table above.
- The other performance measure proposed for elevation to foundational measure status was “Local plans and policies that address community health and wellness”. Staff recommends this measure remain a plan performance measure. Unlike other foundational measures, the data needed for this measure is qualitative, subjective, and is not readily available.

PREVIOUS DISCUSSIONS/ACTIONS

Previous MVIC Metro Vision Discussions/Actions:

May 7, 2014 – MVIC Meeting Summary
June 4, 2014 – MVIC Meeting Summary
July 2, 2014 – MVIC Meeting Summary
August 6, 2014 – MVIC Meeting Summary
October 1, 2014 – MVIC Meeting Summary
February 4, 2015 – MVIC Meeting Summary
March 4, 2015 – MVIC Meeting Summary
April 1, 2015 – MVIC Meeting Summary

PROPOSED MOTION

Move to recommend to the Board of Directors Metro Vision foundational measures and targets as agreed to during the meeting.

ATTACHMENT

Data Updates for Foundational Measure Discussion (Attached)

[Draft Metro Vision Plan \(consolidated based on MVIC feedback\) - Link](#)

ADDITIONAL INFORMATION

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

Data Updates for Foundational Measures Discussion

April 29, 2015

New Data FM 1: Share of region’s housing and employment located in urban centers	2
MVPAC Suggestion Supp. FM 1: Share of region’s housing and employment located in urban centers and near high frequency transit.....	5
**Updated Data ** FM 2: Housing density within the urban growth boundary/area.....	6
TAC Recommendation Alt. FM 3: Share of the region’s population living in areas with combined housing and transportation costs less than or equal to 45 percent of the income for the regional typical household	7
New Categories (Income Bands) FM 4: Share of the region’s households that are housing cost burdened.....	8

****New Data****

FM 1: Share of region's housing and employment located in urban centers

FOUNDATIONAL MEASURE	BASELINE	TARGET
1 Share of region's housing and employment located in urban centers	9.3 percent of region's housing (2014) and 36.3 percent of region's employment (2014)	Increase to 25 percent of region's housing and 50 percent of region's employment by 2040

MV 2035 Target

- 50 percent of new housing and 75 percent of new employment located in urban centers between 2005 and 2035¹
- Applying the old target to the new share approach, using the 2040 projections, results in **22 percent of region's housing and 48 percent of region's employment** in urban centers by 2040.

Recent Trends

Between 2006 and 2014:

- Housing in urban centers² grew 20%
- Housing in the entire region grew 7%



The share of region's housing located in urban centers grew **1.0 percentage point (2006-2014)**.



Based solely on this trend, the urban centers share would increase to **12 percent by 2040**.

Between 2005 and 2014:

- Employment in urban centers³ grew 18%
- Employment in the entire region grew 14%



The share of region's employment located in urban centers grew **1.3 percentage points**.



Based solely on this trend, the share would increase to above **43 percent by 2040**.

Other Considerations

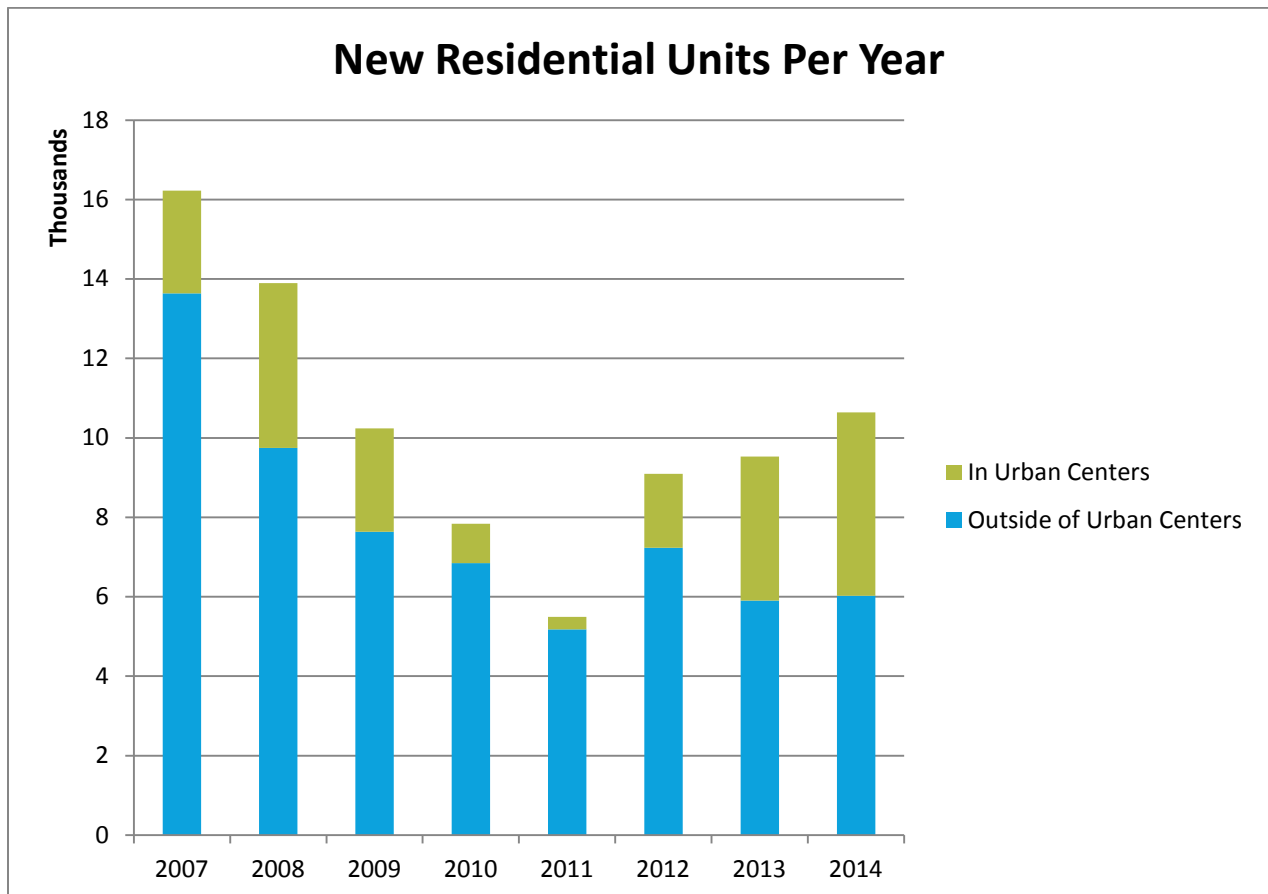
- New urban centers:
 - A projection based only on recent trends does not take into account the designation of new urban centers throughout the region.

¹ "New employment" proved impossible to track. The datasets do not distinguish between employment moving within the region and new jobs starting, or moving in from outside the region.

² This analysis includes all urban centers through 2014, even for past years before their designation.

³ This analysis includes all urban centers through 2014, even for past years before their designation.

- Newly designated urban centers have the potential to capture a significant share of existing and future housing and employment.
 - For example, 39 FasTracks stations have no associated urban center as of 2014.
- Adjusting urban center boundaries:
 - Previous urban center designation criteria were focused on employment, but the criteria have evolved to include a mix of uses that includes housing. Few of the long-standing centers have reevaluated their boundaries to include immediately adjacent areas of where housing is concentrated.
- Accelerating urban center growth
 - The period used to document trend information for housing growth in urban centers includes the recession and related declines in housing production. A closer inspection of the data reveals significant variations within the trend period:
 - 2007-2011 shows the peak housing construction and the slow down brought on by recession.
 - 2012-2014 shows the recovery taking hold, including a growing share of housing being constructed in urban centers.



Lessons Learned from Scenario Analysis

In 2013 DRCOG staff explored five “what-if” scenarios to determine how changing planning assumptions, including land use patterns and transportation investments, would affect future outcomes. Two of the five scenarios assumed that the region would accommodate a significant share of growth in urban centers. Key highlights from the two scenarios are described below:

- Scenarios that focused growth in urban centers and in areas well-served by transit reduced VMT per capita. Scenarios that did not focus on housing and employment growth in urban centers showed VMT per capita increasing or remaining flat when compared to current assumptions.
- The two center-focused growth scenarios had the highest percentage of trips to work via non-SOV modes when compared to other modeled scenarios. These scenarios also showed the greatest decrease in GHG emissions per capita.

****MVPAC Suggestion****

Supplemental FM 1: Share of region's housing and employment located in urban centers and near high frequency transit

FOUNDATIONAL MEASURE	BASELINE	TARGET
Supp. 1 Share of region's housing and employment located in urban centers or within ½ mile of a rapid transit station or ¼ mile of a high-frequency bus stop	54.1 percent of region's housing (2014) and 69.4 percent of region's employment (2014)	Increase to __ percent of region's housing and __ percent of region's employment by 2040

Background

- In December, MVPAC proposed to supplement the foundational measure regarding housing and employment in urban centers to also consider high frequency transit areas.
- With the new housing and employment datasets used in FM 1, baseline and trend data is now available for MVIC consideration.

New Analysis

Between 2006 and 2014:

- Housing in urban centers and near high frequency transit service⁴ grew 6%
- Housing in the entire region grew 7%



The share of region's housing located in urban centers and near high frequency transit declined less than **a percentage point (2006-2014)**.

Between 2005 and 2014:

- Employment in urban centers and near high frequency transit service⁵ grew 6%
- Employment in the entire region grew 7%



The share of region's employment located in urban centers and near high frequency transit declined **1.9 percentage points (2006-2014)**.

Other Considerations

- The same considerations for urban centers under FM 1 apply with this measure
- Transit system expansion
 - The trend analysis above does not reflect frequency changes or station openings over the analysis period.
 - With rapid transit system expansion in progress, 34 stations are set to open between 2016 and 2018.

⁴ This analysis includes all urban centers through 2014, even for past years before their designation. It includes areas within ½ mile of rapid transit stations and ¼ mile of high frequency bus stops based on their 2014 status.

⁵ This analysis includes all urban centers through 2014, even for past years before their designation. It includes areas within ½ mile of rapid transit stations and ¼ mile of high frequency bus stops based on their 2014 status.

****Updated Data ****

FM 2: Housing density within the urban growth boundary/area

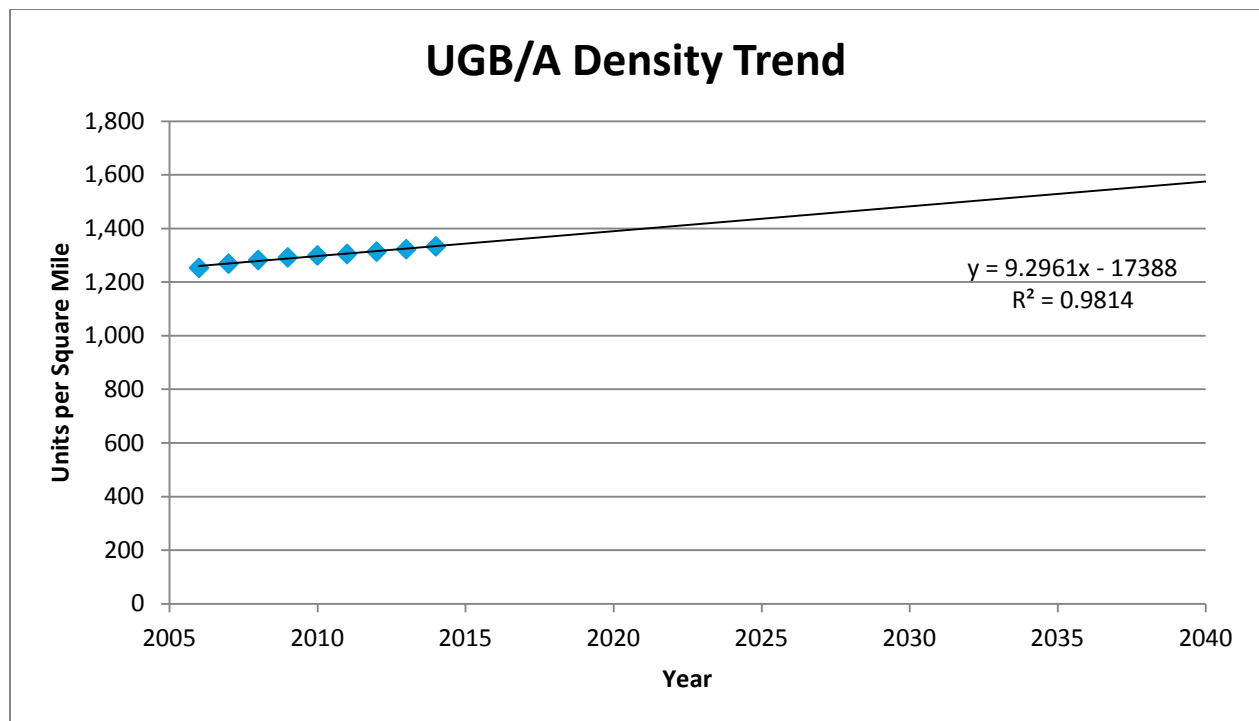
FOUNDATIONAL MEASURE	BASELINE	TARGET
2 Housing density within the urban growth boundary/area (UGB/A)	1,300 units per square mile (2014)	25 percent increase between 2014 and 2040

MV 2035 Target

- 10% increase in density between 2000 and 2035⁶

Based on Recent Trends

- Following a linear projection based on the density increase between 2006 and 2014, density within the 2035 UGB/A would **increase by**
 - **25%** between 2006 and 2040
 - **21%** between 2010 and 2040
 - **18%** between 2014 and 2040



⁶ The 2035 target did not specify what geography would see the density increase.

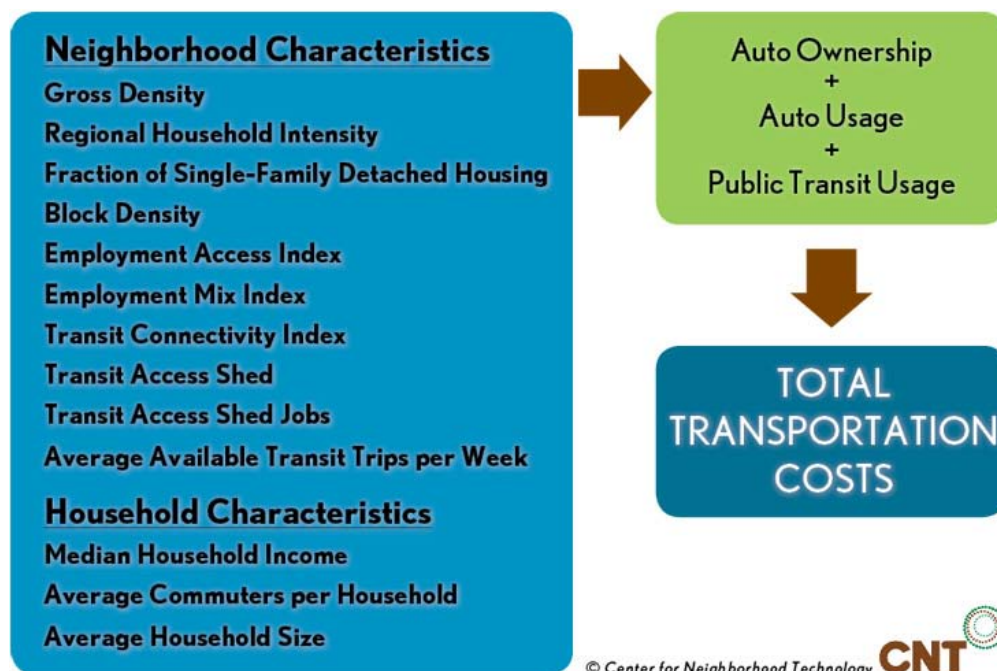
****TAC Recommendation****

Alt. FM 3: Share of the region's population living in areas with combined housing and transportation costs less than or equal to 45 percent of the income for the regional typical household

FOUNDATIONAL MEASURE	BASELINE	TARGET
Alt. 3 Share of the region's population living in areas with combined housing and transportation costs less than or equal to 45 percent of the income for the regional typical household	41 percent (2013)	Increase to 50 percent by 2040

Background

- The Center for Neighborhood Technology (CNT) has identified 45% of income as a key affordability benchmark for combined housing and transportation costs
- CNT has recently published neighborhood level (Census Block Group) data with an updated model to estimate housing and transportation costs for the regional typical household
 - Previous discussion items looked at USDOT/HUD's Location Affordability Index
 - Trend information is not available from CNT at this time
- CNT's calculations reflect the impact of neighborhood and household characteristics on housing and transportation costs (see figure below)



****New Categories (Income Bands)****

FM 4: Share of the region's households that are housing cost burdened

FOUNDATIONAL MEASURE	BASELINE	TARGET
4 Share of the region's households that are housing cost burdened (spending 30 percent or more of income on housing)	36.2 percent (2013)	Reduce to 25 percent by 2040

The American Community Survey (US Census) has limited information on cost burdened households by income. Their categories are not evenly distributed, nor do they reflect regional/local area median incomes.

	Households	2010	2011	2012	2013
Less than \$20,000	Cost Burdened	124,735	122,319	122,580	121,930
	Not Cost Burdened	17,490	17,082	17,116	16,792
	Total in Category	142,225	139,401	139,696	138,722
	% Cost Burdened	87.7%	87.7%	87.7%	87.9%
\$20,000 to \$34,999	Cost Burdened	101,921	103,230	104,744	107,650
	Not Cost Burdened	46,896	44,105	42,673	42,088
	Total in Category	148,817	147,335	147,417	149,738
	% Cost Burdened	68.5%	70.1%	71.1%	71.9%
\$35,000 to \$49,999	Cost Burdened	69,915	68,900	69,337	69,514
	Not Cost Burdened	74,446	72,296	72,594	72,884
	Total in Category	144,361	141,196	141,931	142,398
	% Cost Burdened	48.4%	48.8%	48.9%	48.8%
\$50,000 to \$74,999	Cost Burdened	67,142	67,174	65,184	62,391
	Not Cost Burdened	133,065	134,555	136,319	138,536
	Total in Category	200,207	201,729	201,503	200,927
	% Cost Burdened	33.5%	33.3%	32.3%	31.1%
\$75,000 or more	Cost Burdened	48,223	48,153	45,245	40,518
	Not Cost Burdened	390,030	408,789	424,059	438,653
	Total in Category	438,253	456,942	469,304	479,171
	% Cost Burdened	11.0%	10.5%	9.6%	8.5%

Staff suggests considering a combined category of “Less than \$50,000.” Focusing on this group of households includes approximately 75% of all cost burdened households in the region.

	Households	2010	2011	2012	2013
Less than \$50,000	Cost Burdened	296,571	294,449	296,661	299,094
	Not Cost Burdened	138,832	133,483	132,383	131,764
	Total in Categories	435,403	427,932	429,044	430,858
	% Cost Burdened	68.1%	68.8%	69.1%	69.4%

An equivalent target as proposed for all households would be a reduction to 60% by 2040.

Staff suggestion:

FOUNDATIONAL MEASURE		BASELINE	TARGET
Alt 4	Share of the region’s households earning less than \$50,000 per year that are housing cost burdened (spending 30 percent or more of income on housing)	69.4 percent (2013)	Reduce to 60 percent by 2040

Alternatively, MVIC could consider a combined category of “Less than \$75,000.” This grouping would include approximately 90% of all cost burdened households in the region. It is also the last break point the Census Bureau provides related to cost burdened households for both owners and renters.

	Households	2010	2011	2012	2013
Less than \$75,000	Cost Burdened	363,713	361,623	361,845	361,485
	Not Cost Burdened	271,897	268,038	268,702	270,300
	Total in Categories	635,610	629,661	630,547	631,785
	% Cost Burdened	57.2%	57.4%	57.4%	57.2%

ATTACH C

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 #
May 6, 2015	Information	5

SUBJECT

Staff will provide an overview of the transportation element of the draft Metro Vision plan: *A Connected Multimodal Region*.

PROPOSED ACTION/RECOMMENDATIONS

No action requested. This item is for information.

ACTION BY OTHERS

N/A

SUMMARY

The transportation element of the March 2015 draft Metro Vision Plan is titled: *A Connected Multimodal Region*. This element will become the policy basis for the new *Metro Vision Regional Transportation Plan* (MVRTP) being prepared this year. As with other Metro Vision elements, the draft transportation element was shaped by stakeholder input, particularly from the Transportation Advisory Committee (TAC) and Metro Vision Planning Advisory Committee (MVPAC).

Three key desired regional outcomes are identified:

- A well-connected, regional multimodal transportation system
- A safe, dependable, and efficiently-operated transportation system
- A transportation system contributing to a better quality of life

For each outcome, further objectives, strategies, and supportive actions are described in the element.

Several performance measures are also identified to help track the region's progress toward the transportation objectives. Five of those measures are proposed as foundational measures with associated performance targets, which MVIC has been reviewing.

Staff will provide a thorough overview of the draft *A Connected Multimodal Region* element of Metro Vision and ask for MVIC input and guidance.

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

N/A

ATTACHMENT

March 2015 Draft: [A Connected Multimodal Region](#) element of Metro Vision

ADDITIONAL INFORMATION

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

A Connected Multimodal Region

INTRODUCTION

The DRCOG region aspires to have a connected multimodal transportation system that provides everyone viable travel choices. The region will have a multimodal approach to move people and goods, with transportation facilities and services tailored to the desires of individual communities. Public transit, bicycling, walking, and carpooling will be used for a greater share of personal trips over time. The region's transportation system will address and adapt quickly to major trends affecting the region, such as significant population growth, a rapidly aging population, new technology, an evolving economy, and changing residential and workplace styles. Transportation and land use planning will be integrated to improve the region's quality of life.

Transportation needs far outweigh available funding. This necessitates difficult tradeoffs and choices, such as balancing the need for additional multimodal capacity with maintenance and preservation needs. The region must use a range of funding solutions, such as public-private partnerships, managed lanes, innovative local funding strategies, and other cost-effective methods to build and maintain transportation infrastructure and services. Coordinated regional and statewide actions must be taken to increase transportation funding.

This Metro Vision element outlines an overall policy framework and vision for the transportation system through the year 2040, organized around three regional outcomes:

OUTCOMES FOR A CONNECTED MULTIMODAL REGION:

- **A well-connected, regional multimodal transportation system;**
- **A safe, dependable, and efficiently operated transportation system, and**
- **A transportation system contributing to a better quality of life.**

Supporting objectives and strategies will help the region achieve these outcomes. The companion 2040 Metro Vision Regional Transportation Plan (2040 MVRTP) implements the transportation element of Metro Vision. The 2040 MVRTP defines the specific transportation system the region desires and can fund through 2040.

MULTIMODAL CONSIDERATIONS

The region will have a multimodal system of regional roadways and local streets to serve people and goods via all travel modes. The roadway system will be managed and operated to optimize existing capacity and enable safe travel for all users. New capacity (new roads and widening projects) will address Metro Vision outcomes, and traffic congestion within the UGB/A and along major statewide connections. Managed lanes will be considered as part of new capacity projects where feasible. New and reconstructed roadways will be designed to optimize movement of people and vehicles.

Transit will also play a crucial role in moving people. This includes completing RTD's FasTracks rapid transit system and envisioning future intra- and inter-regional transit connections. Regional, local, specialized, and private transit services will be provided to meet the needs of the region's commuters, general public, and growing older adult and limited-mobility populations. Finally, the region and local jurisdictions will invest in transit solutions tailored to specific community needs, such as first- and final-mile connections, improved access to transit stations, and new or expanded transit service.

Walking and bicycling are valued travel choices in the DRCOG region, with their mode share steadily climbing. The region and local jurisdictions will increase the viability of walking and bicycling to reach destinations by expanding the bicycle and pedestrian network and providing additional supportive infrastructure. The network will also be accessible for people using mobility aids, such as wheelchairs and walkers.

Transportation demand management and other mobility innovations are also key transportation strategies. Carshare, rideshare, and bikeshare programs are important travel options within the region. Emerging technology innovations, such as connected and driverless cars, also have potential to influence personal mobility in the future. Technology and other innovations (e.g., broadband, smartphones, trip planning tools) play an important role in a connected multimodal transportation system, as does implementing strategies to avoid or manage travel, reduce congestion, and optimize existing capacity, such as teleworking, flexible work hours, and virtual meetings.

CONNECTING THE DOTS: WHY IS THIS IMPORTANT?

An Efficient and Predictable Development Pattern. Maintaining an integrated approach to land use and transportation planning and investments in the region is essential. Focusing new housing and employment in urban centers that are well-connected to other destinations helps promote efficiency in the provision of transit services, increases transportation options for area residents and employees, and creates less reliance on motor vehicle trips. Likewise, encouraging infill and redevelopment in established parts of the region and limiting urban development outside the UGB/A minimizes the need to extend new transportation infrastructure or upgrade existing infrastructure.

Healthy, Inclusive, and Livable Communities. A well-connected transportation system plays a direct role in the health and wellness of the region's population. By providing travel choices to help reduce vehicle miles traveled, ground level ozone and other air pollutants can be reduced. This in turn will help reduce chronic and acute respiratory diseases, including asthma. In addition, people who have the option of walking or bicycling to meet many of their daily needs are more likely to incorporate regular physical activity into their daily lives and maintain better health. Lastly, transit can help ensure people of all ages, income levels, and abilities have the means to access needed services and amenities.

A Vibrant Regional Economy. Ensuring people, goods, and services move through the region safely, efficiently, and predictably is essential to our economic health. Providing a range of multimodal travel options will help ensure the Denver region remains competitive with other major metropolitan areas for both new employers and residents seeking a high quality of life, lower transportation costs, and diverse lifestyle choices.

A Safe and Resilient Built and Natural Environment. The region's multimodal transportation system plays a direct role in the quality of our built and natural environment. Minimizing growth in VMT and providing multimodal travel options are key components to reducing ground level ozone, greenhouse gas emissions, and other pollutants. The design and proper use of transportation facilities can reduce the number of fatalities and serious injuries caused by traffic crashes. Likewise, designing roadways and other transportation facilities using stormwater best management practices (BMPs) can help minimize the effects of runoff on the region's water quality.

Outcome 5: A well-connected, regional multimodal transportation system.

A balanced, well-connected, multimodal transportation system will include regional and local roadways and streets, transit (bus and rail), bicycle and pedestrian facilities, and air and freight rail linkages. The integrated components of this system will provide reliable mobility choices to all users throughout the DRCOG region. The system will permit efficient regional, state, and nationwide connections for people and freight, and will evolve to address future technology and mobility innovations as appropriate.

OBJECTIVE 5.1: PROVIDE A MULTIMODAL ROADWAY SYSTEM THAT ENABLES PEOPLE, GOODS, AND SERVICES TO TRAVEL SAFELY AND RELIABLY**Strategy 5.1(a): Maintain and enhance a regional roadway system**

Maintain and enhance a regional roadway system comprised of freeways, tollways, major regional arterials, and principal arterials that provides regional and statewide multimodal connectivity for the safe movement of people, goods, and services reliably (predictable travel times, minimal infrastructure closures, efficient incident clearing, etc.).

Strategy 5.1(b): Incorporate multimodal facilities or treatments into all roadways and streets

Build new streets and roadways, and retrofit existing facilities, with applicable multimodal elements, where feasible, that enable safe, convenient, and comfortable travel and access for people using all modes—driving, transit, walking, and bicycling.

Strategy 5.1(c): Expand the carrying capacity of existing regional roadways in the most critically congested corridors

Expand the carrying capacity of existing regional roadways (people, vehicles, and freight) in the most critically congested corridors, at key traffic bottlenecks, and along major statewide connections—such as I-25 and I-70. Agencies should first consider travel demand management and transportation system management and operations strategies to optimize the use of existing capacity.

Strategy 5.1(d): Consider the use of managed lanes in new capacity projects where feasible

Consider the use of managed lanes in new capacity projects where feasible to optimize the use of the new capacity, help fund the project, provide more reliable travel times, and encourage carpooling and transit use.

REGIONAL ACTIONS

- 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 roadway system while planning for future use.
- Maintain a fiscally-constrained regional transportation plan that identifies priority roadway improvements within fiscal realities.
- Adopt Transportation Improvement Program (TIP) project selection policies that consider all users of roadways.

LOCAL ACTIONS

- 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.
- Fund roadway preservation, operational, and expansion projects through local capital improvement programs.

Insert 2040 Metro Vision Regional Roadway System map

OBJECTIVE 5.2: EXPAND TRANSIT FACILITIES AND SERVICES TO ALL PEOPLE

Strategy 5.2(a): Complete FasTracks

Complete FasTracks' remaining corridors, including extensions to existing corridors.

Strategy 5.2(b): Develop and maintain an expanded metropolitan rapid transit system

Develop, operate, and maintain an expanded metropolitan rapid transit system to provide connectivity for people traveling throughout the region. The rapid transit system includes FasTracks and future rail lines, Bus Rapid Transit (BRT) corridors, transit-capable managed lanes, and bus-on-shoulder facilities.

Strategy 5.2(c): Provide a comprehensive bus system

Provide a comprehensive fixed-route bus system that includes high-frequency bus corridors, regional service, feeder routes to rapid transit lines, local route service, and call and rides.

Strategy 5.2(d): Provide demand -response service for targeted needs

Provide demand-response transit service to meet targeted needs for older adults and persons with disabilities, travelers in less densely developed areas, or for feeder service to rapid transit lines. Providers of such service include taxi companies, transportation network companies, and other for-profit companies and non-profit agencies.

Strategy 5.2(e): Integrate bicycle and pedestrian elements with transit

Integrate bicycle and pedestrian elements at transit facilities, such as secure bicycle parking (racks, lockers, bike stations), bikesharing, bicycle repair kiosks, and infrastructure that supports bicycle and pedestrian trip-making to and from stations, park-and-rides, and major transit stops.

Strategy 5.2(f): Add transit service where needed

Support the establishment of new or increased transit service where needed.

REGIONAL ACTIONS

- Coordinate with RTD and other transit providers to implement major projects and services.
- Maintain transit system assets (vehicles and facilities) in a state of good repair per federal requirements.
- Coordinate with Denver Regional Mobility and Access Council (DRMAC) and transit operators to increase transportation services to older adults, persons with disabilities, and low income populations.
- Encourage and support fare structures and subsidy programs that keep transit service affordable to all users.
- Maintain a fiscally-constrained regional transportation plan that identifies priority transit improvements within fiscal realities.
- Conduct a region-wide evaluation of potential BRT corridors via a joint effort of RTD, DRCOG, CDOT, and other stakeholders.

LOCAL ACTIONS

- Adopt transit-supportive policies and development regulations.
- Implement bicycle and pedestrian facility connections to transit service (e.g., first and final mile connections).
- Address the needs of mobility-limited populations in transportation planning activities.
- Coordinate with RTD and other transit providers on transit facilities and infrastructure components of development projects.

Insert 2040 Metro Vision Rapid Transit System map

OBJECTIVE 5.3: PROVIDE ROBUST BICYCLE AND PEDESTRIAN ACCESSIBILITY THROUGHOUT THE REGION**Strategy 5.3(a): Encourage pedestrian and bicycle accommodations along all roadways**

Encourage sidewalks or other pedestrian accommodations, as well as bicycle accommodations that meet applicable standards, along all roadways and within private developments.

Strategy 5.3(b): Develop local and regional bicycle facilities

Develop well-connected local and regional off-street and on-street bicycle corridor facilities to serve bicycle trips to all types of destinations.

Strategy 5.3(c): Provide bicycle and pedestrian support facilities and services

Provide bicycle and pedestrian support facilities and services, such as bikesharing, wayfinding, and bicycle parking in urban centers, at transit stations, and in association with major multi-use trails and other popular destinations.

Strategy 5.3(d): Provide first- and final-mile bicycle and pedestrian connections to transit

Provide specific bicycle and pedestrian facilities that connect transit services and stations to nearby neighborhoods, employment, schools, shopping areas, parks, and other major destinations.

REGIONAL ACTIONS

- Facilitate coordination between jurisdictions in expanding and connecting the region's bicycle and pedestrian network.
- Support bicycle sharing programs throughout the region.
- Provide tools, informational forums, and resources to jurisdictions regarding bicycle and pedestrian design, guidance, and implementation.

LOCAL ACTIONS

- 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 cut-throughs.
- Fund projects that address multimodal connectivity through non-MPO programs.
- Establish wayfinding signage, bicycle parking, and other supportive infrastructure in high traffic areas to assist pedestrians and bicyclists.
- 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 striped and/or protected bike lanes (on-street and separated by a barrier from traffic) with proper consideration of how users transition to and from the lanes.
- 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 education and promotional events to encourage bicycling and walking.
- Partner with local law enforcement agencies and advocacy groups on education and enforcement activities related to all road users.
- Ensure Americans with Disabilities Act (ADA) standards are met or exceeded in constructing or retrofitting facilities, such as curb cuts, ramps, etc.
- Coordinate with neighboring jurisdictions to ensure a well-connected system across boundaries.

OBJECTIVE 5.4: PROVIDE EFFICIENT INTERCONNECTIONS OF THE TRANSPORTATION SYSTEM WITHIN AND BEYOND THE REGION**Strategy 5.4(a): Facilitate the movement of goods and services throughout the region**

Facilitate the movement of goods and services throughout the region by roadway, rail, and air travel by reducing obstructions such as congestion, bottlenecks, and disconnections between facilities; while providing sufficient opportunities for intermodal freight connection to destinations outside the region.

Strategy 5.4(b): Balance primary park -and -ride functions with opportunities for transit-oriented development

Balance the need for dedicated parking at park-and-ride lots with future transit-oriented development opportunities, taking into account potential increases in transit ridership, housing and employment options, and other location-specific considerations.

Strategy 5.4(c): Provide safe and convenient access for pedestrians and cyclists

Provide safe and convenient access for pedestrians and bicyclists to access rapid transit stations, bus stops, and park-and-ride lots. Also provide secure bicycle parking and bike sharing at these locations and maintain and expand the capability of transit vehicles to carry bicycles.

Strategy 5.4(d): Maintain Denver Union Station as the region’s primary multimodal hub and further develop other transit mobility hubs

Support and maintain DUS as the primary multimodal hub of the region’s transportation system. Further develop transit mobility hubs to support other urban centers and major destinations across the region.

Strategy 5.4(e): Improve transportation linkages to major destinations and attractions beyond the region

Support existing linkages and plan for future intercity bus and rail linkages to destinations beyond the region.

Strategy 5.4(f): Maintain multimodal access to Denver International Airport and the region’s other airports

Maintain convenient access to DIA and other regional airports for all applicable travel modes. Support DIA’s important role in connecting the Denver region to the rest of the world.

Strategy 5.4(g): Maintain and enhance airport capacity throughout the region

Maintain the capacity of DIA and general aviation airports throughout the region by supporting facility enhancements in response to air transportation demands, consistent with adopted plans.

REGIONAL ACTIONS

- Include major roadway and transit capacity projects in DRCOG’s fiscally constrained Regional Transportation Plan once construction funding is identified for such projects.
- Manage and invest in the region’s multimodal transportation system to support freight movement and freight users, such as trucks and commercial vehicles.
- Actively monitor and participate in discussions concerning through rail freight traffic to bypass population centers.

LOCAL ACTIONS

- 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.
- Provide wayfinding signage for bicyclists, pedestrians and transit users to reach key destinations.

Outcome 6: A safe, dependable, and efficiently-operated transportation system.

As the region continues to grow, maintaining the safety, dependability, and efficiency of the region’s multimodal transportation system is essential. A variety of approaches will be used to monitor and manage the flow of people and goods throughout the system, and to identify ways to enhance safety and improve functionality. The region will maximize the multimodal transportation system’s capacity through coordinated operations and management. As technology and mobility innovations occur, the multimodal system will evolve accordingly.

OBJECTIVE 6.1: ASSURE EXISTING AND FUTURE TRANSPORTATION FACILITIES ARE WELL-MAINTAINED**Strategy 6.1(a): Maintain the transportation system infrastructure in good condition**

Fund and conduct maintenance and preservation efforts to keep roadways, multi-use trails, sidewalks, transit vehicles and all supporting infrastructure in good operating condition.

Strategy 6.1(b): Develop and apply asset management principles and techniques

Develop and apply asset management principles and techniques for operating, maintaining, and improving existing transportation infrastructure.

REGIONAL ACTIONS

- Collaborate with CDOT, RTD, local governments, and other regional stakeholders to implement and monitor asset management techniques.

LOCAL ACTIONS

- Maintain transportation facilities in good condition and implement asset management principles and techniques.

OBJECTIVE 6.2: ACTIVELY OPERATE, MANAGE, AND INTEGRATE SYSTEMS TO OPTIMIZE PERFORMANCE**Strategy 6.2(a): Monitor and manage transportation systems**

Deploy Intelligent Transportation Systems (ITS) such as roadway and traffic monitoring, transit monitoring, and coordinated and real-time traveler information systems (such as multimodal real-time trip planning technology) to improve the effectiveness and efficiency of the transportation system. Develop and deploy performance monitoring procedures and processes and integrate into system operations.

Strategy 6.2(b): Implement Transportation Systems Management and Operations (TSM&O) projects

Implement transportation systems management and operations (TSM&O) processes and projects, such as intersection improvements, transit queue jumps and signal priority, ramp metering, acceleration/deceleration lanes, active traffic management, and real-time traveler information, to reduce bottlenecks and improve personal mobility while balancing operational considerations for all modes.

Strategy 6.2(c): Implement access management projects to optimize the efficiency of roadways, reduce conflict points, and improve safety

Manage access (curb cuts on arterials or interchange ramps on freeways) to optimize existing capacity, reduce conflict points, and improve safety for all users and travel modes.

Strategy 6.2(d): Develop and deploy incident management procedures and processes

Develop and deploy effective incident management to reduce the duration and impact of incidents, such as motor vehicle crashes or stalled vehicles, and to promote stakeholder collaboration and consistency across the region.

Strategy 6.2(e): Implement and operate coordinated traffic signal systems

Implement, operate, and manage coordinated traffic signal systems across jurisdictional lines that integrate transit signal priority and emergency vehicle pre-emption techniques.

Strategy 6.2(f): Support the use of congestion pricing and other tolling techniques

Where feasible, and when cooperatively decided, support congestion pricing and other tolling techniques on existing freeways, and implement a tolling component (price-management) on new freeway/highway lane-addition projects.

Strategy 6.2(g): Implement other active demand management strategies

Implement other active demand management strategies, including parking supply and pricing mechanisms, such as shared, unbundled, and priced parking, where appropriate.

REGIONAL ACTIONS

- Work with CDOT, RTD, and other regional stakeholders to expand effective TSM&O projects, incident management procedures and processes, transportation demand management initiatives, and other innovative tools and techniques to safely optimize performance.
- Consider supporting alternative pricing and revenue producing strategies that directly reflect the cost of vehicle travel to the user.

LOCAL ACTIONS

- Develop and implement access management principles along major streets.
- Monitor and manage transportation systems (including traffic signal systems) in collaboration with neighboring jurisdictions.

OBJECTIVE 6.3: DEVELOP AND MAINTAIN A SAFE AND SECURE TRANSPORTATION SYSTEM**Strategy 6.3(a): Identify and implement safety enhancement projects**

Identify and implement safety enhancement projects that reduce the likelihood and severity of crashes involving motor vehicles, freight and passenger trains, buses, bicycles, and all travel modes.

Strategy 6.3(b): Develop and implement strategies that enhance security

Develop and implement projects and strategies that enhance the security of all transportation facilities for users, including air and transit passengers, and aid in the efficient movement of people and vehicles during homeland security events.

REGIONAL ACTIONS

- Support cost-effective improvements to driver, passenger, pedestrian, and bicyclist safety.
- 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.

LOCAL ACTIONS

- Accurately monitor and maintain crash and traffic safety data for all transportation modes.
- Implement projects that reduce the likelihood and severity of crashes involving motor vehicles, freight and passenger trains, buses, bicycles, and pedestrians.
- Enforce traffic laws and ordinances as they apply to all users of the transportation system.
- Participate in federal, state, and regional initiatives related to safety and homeland security initiatives.

Outcome 7: A transportation system contributing to a better quality of life.

Transportation planning and investments should be integrated with land use planning and the environment. Focusing new housing, employment, and services in urban centers, along multimodal corridors, and other areas served by transit will provide a broader range of travel options for residents of all ages, incomes, and abilities. Although specific needs will vary by location, development will be encouraged to incorporate – consistent with local jurisdictional plans – compact development patterns, a mix of land uses, complete streets, direct bicycle/pedestrian connections to transit and multiple land uses, and other features that can help reduce VMT, support aging in place, and enhance the region’s economic vitality and quality of life. These actions will also help protect the region’s essential natural resources—air and water, open space, parks, trails, and agricultural lands. Minimizing growth in VMT is also a key component to reducing ground level ozone, greenhouse gas emissions, and other pollutants.

OBJECTIVE 7.1: EXPAND TRANSIT-SUPPORTIVE LAND USE AND DEVELOPMENT PATTERNS**Strategy 7.1(a): Maintain and improve efficient transportation access to regional employment hubs**

Continue to support transportation improvements that enhance access to downtown Denver and other existing and future major employment hubs within the region.

Strategy 7.1(b): Expand mobility options within urban centers and other areas of concentrated major activity centers

Within urban centers and adjacent to transit, provide internal pedestrian, bicycle, and transit connections between uses, as well as more mixed and compact land uses. Provide and connect multiple travel modes in urban centers and in other concentrated areas of activity.

Strategy 7.1(c): Focus roadway capacity increases within the urban growth boundary/area

Focus roadway capacity increases and new interchanges primarily in areas within the UGB/A, in the most critically congested corridors, at key traffic bottlenecks, and along major statewide connections. Link the provision of new capacity to assuring a balanced, well-connected, safe, multimodal transportation system, and add capacity after first considering demand management strategies and implementing operational efficiencies to optimize the use of existing capacity.

Strategy 7.1(d): Promote multimodal connectivity

Design new development and retrofit established communities to facilitate the efficient movement of pedestrians, bicyclists, buses, cars, goods, and services within and between centers, corridors, and neighborhoods.

Strategy 7.1(e): Implement transportation improvements that enhance transit-oriented development (TOD) opportunities

Target bus, other transit, bicycle, pedestrian, and other transportation improvements in locations where transit-oriented development (TOD) already exists or is planned.

Strategy 7.1(f): Consider issues of land use compatibility

Encourage coordinated decision-making to minimize potential incompatibility between high intensity uses—such as airport operations, intermodal facilities, or other similar uses—and neighboring land uses.

REGIONAL ACTIONS

- Encourage integrated land use and transportation planning among state and regional agencies, local governments, and the development community.

LOCAL ACTIONS

- Coordinate local comprehensive plan and transportation plan updates with neighboring and affected jurisdictions.
- Adopt land use policies and development regulations to support compact, mixed-use development patterns where appropriate.
- Reserve adequate rights-of-way in newly developing and redeveloping areas, as feasible, for pedestrian, bicycle, transit, and roadway facilities.

OBJECTIVE 7.2: EXPAND TRANSPORTATION SERVICES AND ACCESS THAT ADDRESS THE NEEDS OF PERSONS WITH MOBILITY OBSTACLES OR IMPAIRMENTS

Strategy 7.2(a): Provide local and regional transportation services that improve personal mobility, employment access, independence and well-being, and access to health services for those with mobility obstacles or impairments.

Provide transportation services, such as fixed route and specialized transit, ridesharing, travel training, and other services that improve personal mobility, employment access, independence and well-being, and access to health services for those with mobility obstacles or impairments (mobility-limited populations).

Strategy 7.2(b): Address the transportation needs of mobility-limited populations in land use planning and development.

Address the transportation needs of mobility-limited populations in short- and long-range land use planning and development decisions as feasible.

Strategy 7.2(c): Address the needs of older adults and mobility-limited populations in upgrading and redeveloping existing transportation facilities.

Ensure traffic engineering and roadway redevelopment activities consider the needs of mobility-limited populations who are traveling on foot and/or with the use of mobility aids.

REGIONAL ACTIONS

- Routinely evaluate and address the mobility needs of persons with mobility obstacles or impairments.
- Coordinate information and services among all transportation providers.
- Address the transportation needs of mobility-limited populations as feasible in local and regional transportation and land use planning and decision-making.
- Increase coordination of transportation services to reduce trip times and increase access to employment and vital human services for low-income and mobility-limited populations.

LOCAL ACTIONS

- Connect populations in need of transportation with service.
- Develop transportation service options to address mobility needs within communities.
- Upgrade existing facilities (sidewalks, signal timing, bus stops/shelters) to improve transit access for older adults and mobility-limited populations.

- Use DRCOG’s Boomer Bond assessment tool to help address the needs of the region’s rapidly increasing aging population.

OBJECTIVE 7.3: DEVELOP AND MAINTAIN A TRANSPORTATION SYSTEM THAT PROTECTS AND ENHANCES AIR QUALITY, ENERGY EFFICIENCY, AND THE OVERALL ENVIRONMENT**Strategy 7.3(a): Expand Travel Demand Management (TDM) services and strategies**

Expand Travel Demand Management (TDM) services and strategies, including new and diverse incentives and targeted promotions that will reduce VMT and the demand for single-occupant motor (SOV) vehicle trips, and improve personal mobility and regional air quality. TDM services and strategies include carpooling, vanpooling, carsharing, bicycling, walking, trip-planning, teleworking, and others.

Strategy 7.3(b): Provide efficient, low-polluting alternatives to single-occupant vehicles

Provide varied transportation facilities, including rapid transit, bus service, high-occupancy vehicle (HOV) lanes, and bicycle and pedestrian facilities, that are more energy efficient and less polluting in aggregate than SOVs.

Strategy 7.3(c): Ensure traditionally underserved populations receive a proportionate share of transportation improvements and are not disproportionately affected by negative impacts

Ensure that minority, low-income, and older adult populations, as well as individuals with disabilities, receive a proportionate share of transportation improvements and are not disproportionately affected by negative impacts associated with transportation projects and facilities.

Strategy 7.3(d): Reduce potential environmental impacts of roadway construction and maintenance activities

Promote improvements in roadway construction and street maintenance activities to reduce dust and particulates, decrease associated energy consumption and pollutant emissions, and minimize and mitigate stormwater runoff.

Strategy 7.3(e): Encourage the use of alternative fuel vehicles and infrastructure

Encourage use of alternative fuel sources and clean-burning technology infrastructure and services for alternative fuels that lead to lower levels of pollutants and greenhouse gas emissions.

Strategy 7.3(f): Support legislation that increases fuel economy standards and incentives

Support legislation that to increase fuel economy standards; establish fuel economy standards for heavy-duty vehicles; incentivize the purchasing of high fuel economy or alternative fuel vehicles; and provide incentives for accelerated retirement of inefficient and/or high-polluting personal, commercial, and fleet vehicles beyond repair.

REGIONAL ACTIONS

- Work with partners to expand the regional TDM program consisting of outreach, promotion, trip-planning, 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.
- Provide funding, tools, informational forums, and resources to jurisdictions, TMA/Os, non-profits, and other TDM stakeholders to increase TDM awareness and use.
- Facilitate and provide services for ride-sharing (e.g. carpools, vanpools, and schoolpools).

- 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.
- Fund transportation system improvements that minimize transportation-related fuel consumption, as well as air pollutant and greenhouse gas emissions.
- 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.
- Support actions that reduce engine idling.
- Cooperatively develop mitigation strategies for transportation projects to address environmental impacts.
- 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.
- Support large-scale fleet conversions by local governments and shared fleets around the region.

LOCAL ACTIONS

- Conduct activities to inform and promote the use of TDM strategies and services by Transportation Management Associations/Organizations (TMA/O) and local TDM providers.
- Implement parking supply and pricing mechanisms, such as shared, unbundled, managed, and priced parking in urban centers and other major activity centers to manage parking availability and incentivize walking, bicycling, carpooling, and transit use.
- Include alternative fuel infrastructure within transportation projects as appropriate.
- Develop supporting infrastructure and local regulations, policies, and ordinances regarding alternative fuels, fleet conversions, environmental preservation, and related topics.

TRACKING OUR PROGRESS: A CONNECTED MULTIMODAL REGION

The table below contains some preliminary measures to track our progress toward a connected multimodal region. Key considerations in selecting measures were the overall availability of data and the extent to which measures are currently being tracked by DRCOG or others in the region to minimize overlap and promote efficiency.

Outcome 5. A well-connected, regional multimodal transportation system.		
OBJECTIVES		MEASURES
Objective 5.1	Provide a multimodal roadway system that enables people, goods, and services to travel safely and reliably	Miles of roadways with protected bike lanes, striped bike lanes, or parallel multi-use paths
		Miles or share of Regional Roadway System (RRS) arterial roadways in urbanized area with sidewalks on both sides of road
		Average weekday delay (person hours and vehicle hours) on the RRS
		Average travel time variation (peak vs. off-peak)*
		Foundational Measure 9: Lane-miles of RRS with severe congestion
Objective 5.2	Expand transit facilities and services to all people	Transit mode share to work
		Share of housing and employment within ¼ mile of bus stop or ½ mile of rapid transit station*
		Share of population with good transit-job

		accessibility (100,000 jobs within 45 mins.)
		Annual RTD boardings
		RTD transit on-time performance
Objective 5.3	Provide robust bicycle and pedestrian accessibility throughout the region	Bicycle and pedestrian mode share to work
		Share of housing and employment within ½ mile of a bicycle travel way facility ¹⁰
		Number of bikeshare stations and bicycles
		Miles of off-street multi-use trails
Objective 5.4	Provide efficient interconnections of the transportation system within and beyond the region	Number of secure bicycle parking spaces at transit stations/park-and-ride lots
		Non-stop flights from Denver International Airport
		Lane-miles of the region’s freeways with severe congestion
		RTD park-and-ride utilization
Outcome 6. A safe, dependable, and efficiently operated transportation system.		
OBJECTIVES		MEASURES
Objective 6.1	Assure existing and future transportation facilities are well-maintained	Bridge structural ratings
		Share of the CDOT and arterial roadway system with high or moderate drivability life or fair/good pavement condition
Objective 6.2	Actively operate, manage, and integrate systems to optimize performance	Foundational Measure 7: Non-SOV (single occupancy vehicle) mode share to work
		Annual average weekday vehicle miles traveled (VMT)
		Foundational Measure 8: Annual average weekday VMT per capita
		VMT percent of total PMT (person miles traveled)
Objective 6.3	Develop and maintain a safe and secure transportation system.	Foundational Measure 10: Number traffic fatalities
		Rate of fatal crashes per VMT
		Rate of traffic fatalities per 100,000 population*
		Annual total of serious injury crashes and injuries
		Rate of serious injury crashes per VMT
		Rate of serious injuries per 100,000 population

¹⁰ A "bicycle facility," based on the categories assigned in the DRCOG Bicycle Facility Inventory, includes all categories except "Shared Lane Bicycle Route," which are signed but otherwise unmarked.

		Annual number of bicyclist and pedestrian fatalities and serious injuries
Outcome 7. A transportation system contributing to a better quality of life.		
OBJECTIVES		MEASURES
Objective 7.1	Expand transit-supportive land use and development patterns	Average weekday vehicle trip length
Objective 7.2	Expand transportation services and access that address the needs of persons with mobility obstacles or impairments	Number of demand response trips provided by non-RTD public transportation service providers
		Share of population in low-income or minority areas with good transit-job accessibility (100,000 jobs within 45 mins.)*
		Share of bicycle travel way facilities in low-income communities/neighborhoods
Objective 7.3	Develop and maintain a transportation system that protects and enhances air quality, energy efficiency, and the overall environment	Foundational Measure 6: Surface transportation related greenhouse gas (GHG) emissions (total annual and per capita)*
		Petroleum fuel burned (total annual and per capita)
		Compressed natural gas (CNG) and electric vehicles*