

## **AGENDA REGIONAL TRANSPORTATION COMMITTEE**

**Tuesday, October 18, 2016**

**8:30 a.m.**

**1290 Broadway**

**Independence Pass Board Room**

1. Call to Order
2. Public Comment
3. September 20, 2016 RTC Meeting Summary  
(Attachment A)

### **ACTION ITEMS**

4. Discussion on reallocation of FYs 2016 and 2017 Station Area Master Plan/Urban Center (STAMP/UC) funds from a returned study.  
(Attachment B) Derrick Webb, Regional Planner
5. Discussion on confirmation of seven (7) Special Interest seats on the Transportation Advisory Committee (TAC).  
(Attachment C) Jacob Riger

### **INFORMATIONAL ITEMS**

6. Briefing on draft 2015 Annual Report on Roadway Traffic Congestion in the Denver Region.  
(Attachment D) Robert Spotts
7. Briefing on Volkswagen settlement.  
(Attachment E) Robert Spotts

### **ADMINISTRATIVE ITEMS**

8. Member Comment/Other Matters
9. Next Meeting – November 15, 2016
10. Adjournment

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



# ATTACHMENT A

## MEETING SUMMARY REGIONAL TRANSPORTATION COMMITTEE Tuesday, September 20, 2016

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### MEMBERS PRESENT:

Ed Peterson	Colorado Department of Transportation
Paul Jesaitis (Alternate)	Colorado Department of Transportation
Debra Perkins-Smith (Alternate)	Colorado Department of Transportation
Elise Jones (Chair)	Denver Regional Council of Governments
Douglas Rex (Alternate)	Denver Regional Council of Governments
Ron Rakowsky	Denver Regional Council of Governments
Bob Roth	Denver Regional Council of Governments
Ashley Stolzmann	Denver Regional Council of Governments
Ken Lloyd	Regional Air Quality Council
Bill Van Meter (Alternate)	Regional Transportation District
Tina Francone	Regional Transportation District
Claudia Folska	Regional Transportation District
Jeff Walker	Regional Transportation District
Jeff Kullman	Other-Business Interests

### Others Present:

DRCOG Staff: Steve Cook, Jacob Riger, Todd Cottrell, Ashley Summers, Justin Martinez, Robert Spotts, Dan Jerrett, Flo Raitano, Brad Calvert, Matthew Helfant, Mark Northrop, Casey Collins

### Call to Order

Chair Elise Jones called the meeting to order at 8:30 a.m.

### Public Comment

There was no public comment heard.

### Summary of August 16, 2016 Meeting

The summary was accepted as written.

## ACTION ITEMS

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

Todd Cottrell presented the 11 proposed amendments, which have been found to conform with the State Implementation Plan for Air Quality.

The following requests were made in response to DRCOG receiving additional FAST Act funding that, when combined with previous project savings and returns, totaled \$21.399 million. Of that amount, \$12.223 million was for STP-Metro (roadway projects and studies) projects and \$9.176 million was for CMAQ (bicycle/pedestrian and transit) projects.

Three sponsors requested advancing existing project phases—Castle Rock, RTD, and Superior. Waiting list project sponsors of ranked projects by funding category (either STP-Metro and the other for CMAQ and/or TAP) were contacted by staff and the following amendments were requested.

Sponsor	TIP ID	Proposed Amendments	
<b>CDOT Region 1</b>	New Project	US-85 Corridor Improvements: I-76 to 124th Ave	This project will conduct preconstruction activities for corridor improvements to US-85, from I-76 to 124 <sup>th</sup> Ave.
<b>Thornton</b>	2012-081	North Metro Rail Bicycle/Pedestrian Access to Three FasTracks Stations	This project is moved to the current TIP and the scope is adjusted to reflect no improvements at 144 <sup>th</sup> Ave. and other project modifications.
<b>Castle Rock</b>	2016-041	Founders Pkwy and Allen Way Intersection Improvements	Funding is advanced per TIP waiting list protocol
<b>RTD</b>	2016-019	Colfax 15L Transit Improvements: I-225 to I-25	Funding is advanced per TIP waiting list protocol.
<b>Superior</b>	2016-034	Superior Trail: McCaslin BRT to Davidson Mesa Underpass	Funding is advanced per TIP waiting list protocol
<b>Commerce City</b>	New Project	88th Ave NEPA Study: I-76 to Hwy 2	Add new NEPA study per waiting list protocol.
<b>Longmont</b>	New Project	Southwest Longmont Subarea Operations Study	Add new operational study per waiting list protocol.
<b>Douglas County</b>	New Project	US-85: Blakeland Dr to County Line Rd Operational Improvements	Add new project per waiting list protocol for operational improvements along US-85.
<b>University of Colorado-Boulder</b>	New Project	19th Street Trail and Bridge: Boulder Creek Trail to CU Main Campus	Add new project per waiting list protocol for a new trail and bridge connecting the CU campus to Boulder.
<b>Boulder</b>	New Project	SH-157/Foothills Pkwy Bike/Ped Underpass: north and south of Colorado Ave	Add new bicycle/pedestrian underpass project per waiting list protocol.
<b>Denver</b>	New Project	South Platte Greenway Access Sidewalk Improvements: Iowa Ave RR Underpass and Santa Fe Dr	Add new sidewalk improvements project per waiting list protocol.

Upon the Board's approval of the requested amendments, partial and fully funded projects will be removed from Table 5 of the 2016-2021 TIP and the remaining wait list projects renumbered.

Claudia Folska MOVED to recommend to the Board of Directors Committee amendments of the 2016-2021 Transportation Improvement Program (TIP), with the deletion to be indicated in Table 5 of City of Denver's Highline Canal project. The motion was seconded and passed unanimously.

Discussion on redetermination of air quality conformity for the 2015 Cycle 2 2040 Fiscally Constrained Regional Transportation Plan (2040 RTP), Amended 2016-2021 Transportation Improvement Program (TIP) and associated air quality conformity documents.

Robert Spotts presented on the redetermination of air quality conformity which was prompted by staff's detection of coding errors in the roadway network of the DRCOG travel mode after approval of the 2015 Cycle 2 conformity determination in March 2016.

The air quality Interagency Consultation Group decided a redetermination of regional conformity, including a new air quality conformity analysis, was necessary. Staff corrected the error, re-ran the travel model, and provided results to the Colorado Air Pollution Control Division to calculate mobile source emissions. Their analysis also used an updated version of the EPA MOVES emissions model.

The new emissions results have changed insignificantly compared with the previous conformity analysis, resulting in minor modifications to Table 4 in the *CO and PM10 Conformity Redetermination* and Table 3 and Appendix C in the *8-hour Ozone Conformity Redetermination*. The emission results for this redetermination of regional conformity remain significantly under each of the individual pollutant budgets. Therefore, a redetermination of conformity for the *2015 Cycle 2 2040 RTP and Amended 2016-2021 TIP* has been demonstrated.

A public hearing was held on the redetermination at the August 17, 2016 Board meeting. No comments were received at the hearing or during the preceding 30-day comment period.

Ed Peterson MOVED to recommend to the Board of Directors redetermination of air quality conformity for the *2015 Cycle 2 2040 Fiscally Constrained Regional Transportation Plan (2040 RTP)*, *Amended 2016-2021 Transportation Improvement Program (TIP)* and associated air quality conformity documents. The motion was seconded and passed unanimously.

### **INFORMATIONAL ITEMS**

#### **Briefing on Collaborative Infrastructure Data Project.**

Ashley Summers, DRCOG Information Systems Manager, presented on a regional infrastructure information system that is now publicly available for a variety of planning activities, such as municipal mapping, asset inventories, sidewalks, bicycle/pedestrian master plans, pedestrian routing, etc. The system was developed using planimetric features (i.e., the outlines of any permanent stationary infrastructure feature you can see from the air) as interpreted from DRCOG's 2014 Denver Regional Aerial Photography Project (DRAPP). DRCOG collaboratively created the system in a 1½-year data consortium with 21 planning partners, including local jurisdictions and agencies.

Other emerging uses include 3-D modeling, urban development scenario planning, and special district mapping. Justin Martinez, DRCOG Regional Economist, presented on development of DRCOG's Land Use Explorer to view and analyze land use forecasts, and to solicit feedback from member jurisdictions about their long range planning assumptions. Mr. Martinez demonstrated the application's capability to render detailed 3-D visualizations. The travel modeling process will eventually incorporate planimetric information. The project is currently open sourced, but the code is proprietary to DRCOG.

The project was initially completed in June 2016 and datasets will be updated using 2016 imagery in second quarter 2017. DRCOG would like to continue maintaining these datasets with help from community partners. Organizations interested in supporting this effort should contact Ashley Summers.

The data sets are accessible at [DRCOG's Regional Data Catalog](#).

The meeting was adjourned at 9:01 a.m. The next scheduled meeting is October 18, 2016.

## ATTACHMENT B

To: Chair and Members of the Regional Transportation Committee

From: Derrick Webb, Regional Planner  
303-480-6728 or [dwebb@drcoq.org](mailto:dwebb@drcoq.org)

Meeting Date	Agenda Category	Agenda Item #
October 18, 2016	Action	4

### SUBJECT

Station Area Master Plan/Urban Center (STAMP/UC) Project Pool for fiscal years 2016 and 2017.

### PROPOSED ACTION/RECOMMENDATIONS

Approval of reallocation of FYs 2016 and 2017 STAMP/UC funds from a returned study.

### ACTION BY OTHERS

[April 15, 2015](#) – DRCOG Board approved the STAMP/UC set-aside process for fiscal years 2016 and 2017.

[October 21, 2015](#) – DRCOG Board approved seven STAMP/UC studies (FYs 2016 and 2017) and directed staff to allocate the remaining \$50,000 from this cycle.

[December 16, 2015](#) – DRCOG Board approved funding of the North Capitol Hill/Colfax Urban Center study submitted by the City and County of Denver.

[September 26, 2016](#) – TAC recommended approval of reallocation of FYs 2016 and 2017 STAMP/UC funds from a returned study.

### SUMMARY

In October 2015, the DRCOG Board approved funding seven studies totaling \$1,150,000 in federal funds, leaving \$50,000 unallocated in the FYs 2016 and 2017 STAMP/UC set-aside. At that time, the Board further directed staff to offer the remaining \$50,000 to applicants that applied for but did not receive funds during the original allocation.

In November 2015, DRCOG staff reconvened the Project Selection Panel to allocate the remaining \$50,000. In the process of doing so, the Panel ranked the remaining unfunded projects (Attachment 1) as direction to staff for making any future project funding selections, if needed.

In July 2016, the City of Thornton notified DRCOG staff of its intent to not utilize the Station Area Master Plan grant the City was awarded for the North Thornton and Highway 7 TOD Master Plan (Attachment 2). Based on the Panel's ranked unfunded project list, the next study eligible for funding is the SH-7 Arterial Bus Rapid Transit Station Design, Multimodal Station Connectivity Recommendations and Right-of-Way Needs submitted by Broomfield. DRCOG staff contacted Broomfield and received written acceptance of the funds for the study (Attachment 3).

Broomfield and Boulder County also agreed to have Boulder County be the official sponsor for the project in the TIP due to their involvement with the SH-7 Bus Rapid Transit Feasibility Study. Accordingly, DRCOG received written acceptance of the project sponsor change from Boulder County (see Attachment 4).

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

Motion to recommend to the Board of Directors to utilize the returned \$160,000 in federal funds from the City of Thornton to fund the SH-7 Study for fiscal years 2016 and 2017.

ATTACHMENTS

1. Station Area Master Plan/Urban Center Waitlist Project Recommendations
2. City of Thornton letter
3. City and County of Broomfield letter
4. Boulder County letter

ADDITIONAL INFORMATION

If you need additional information, please contact Derrick Webb, Regional Planner, Regional Planning and Development at 303-480-6728 or [dwebb@drcog.org](mailto:dwebb@drcog.org).

ATTACHMENT 1

Station Area Master Plan/Urban Center  
Waitlist Project Recommendations

	Total	Rank	Notes
<b>Broomfield</b>	14	1	
<b>Denver - Neighborhood Plan</b>	18	2	<i>funded 12/2015 (50k)</i>
<b>Longmont</b>	21	3	
<b>Denver - Urban Mobility Hubs</b>	25	4	
<b>Parker</b>	30	5	
<b>Englewood III</b>	31	6	
<b>RTD</b>	32	7	
<b>Englewood II</b>	36	8	

ATTACHMENT 2



City Hall  
9500 Civic Center Drive  
Thornton, CO 80229

Office of the City Manager  
303-538-7200  
FAX 303-538-7562  
www.cityofthornton.net

July 27, 2016

Todd Cottrell, Senior Transportation Planner  
Denver Regional Council of Governments  
1290 Broadway  
Suite 100  
Denver, Colorado 80203-5606

Dear Mr. Cottrell:

This letter is to inform you that the City of Thornton will not be using the Station Area Master Plan grant it was awarded for the North Thornton and Highway 7 TOD Master Plan. We had submitted the application for the grant anticipating that funding for the remainder of the North Metro Line to 162<sup>nd</sup> Avenue North End Station would be forthcoming. However, it is our understanding that RTD's 2016 Annual Program Evaluation will not include extension of the North Metro Rail Line to the North End Station within the 2020 planning timeframe. Given this circumstance, we think it appropriate to turn back the funding and make it available for another, timelier, project.

It is our understanding that the next project in line for funding behind our Station Area Master Plan grant was the corridor study for State Highway 7 Arterial Bus Rapid Transit Station Design, Multimodal Station Connectivity Recommendations and Right-of-Way Needs submitted by the City and County of Broomfield on behalf of counties and cities between Boulder and Brighton. The City supports this project and we would be willing to contribute \$17,000 towards the local match, as indicated in the application for this project, if DRCOG is able to move the funding we received to this project.

If there is any additional paperwork that DRCOG needs from us, please contact Kent Moorman, 303-538-7593, for assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Ethredge", written over a large, stylized blue scribble.

Jack Ethredge  
City Manager





## ATTACHMENT 3

September 8, 2016

Mr. Derrick Webb  
Regional Planner, Denver Regional Council of Governments  
1290 Broadway, Suite 700  
Denver, Colorado 80203-5606

Re: FY' 17UC/STAMP Project

Dear Mr. Webb:

Thank you again for your consideration of the SH 7 – Arterial Transit Station Design, Multimodal Station Connectivity Standards and ROW Needs Project. We regret that a project was not able to move forward with the FY '17 grant, but are enthusiastic at the opportunity to step in and put the grant funding to use on this project. We believe this presents an ideal opportunity

As we have discussed, we are prepared to move forward to complete the work in the project scope given the available funds and timeline included in the grant application.

We would though, given some personnel changes, like to request that the project sponsor be changed from Broomfield to Boulder County. Boulder County has graciously offered to administer this project with the same scope and amended project budget. Boulder County is currently project sponsor of the SH 7 Bus Rapid Transit Feasibility Study and we believe their familiarity with the subject matter and project participants will assist this project in successfully moving forward.

Please let me know if you need any additional information at this time

Thank you.

A handwritten signature in blue ink, appearing to read "K. Standbridge".

Kevin Standbridge  
Deputy City and County Manager

Cc: John Hersey, RTD  
Marc Ambrosi, Boulder County  
Scott McCarey, Boulder County  
Tom Schomer, Broomfield



## ATTACHMENT 4

# Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • [www.bouldercounty.org](http://www.bouldercounty.org)

September 8, 2016

Mr. Derrick Webb  
Regional Planner, Denver Regional Council of Governments  
1290 Broadway, Suite 700  
Denver, Colorado 80203-5606

Re: FY '17 UC/STAMP Project

Dear Mr. Webb:

Thank you again for your consideration of the State Highway 7 Arterial Transit Station Design, Multimodal Station Connectivity Standards and ROW Needs Project. While it is unfortunate that the project originally slated to use this funding was unable to move forward, we believe the funding will be put to great use through continuation of the planning process for high quality transit on State Highway 7.

Boulder County has worked closely with the City and County of Broomfield, along with the City of Boulder, City of Lafayette, Town of Erie, City of Thornton, City of Brighton, and Adams County to develop this project. We are confident that we will be able to complete the project scope of work within the available budget and on the timeline included in the application.

As agreed to in recent discussions with the City and County of Broomfield, we would like to request a transfer in project sponsorship and administration to Boulder County. Boulder County is currently project sponsor of the SH 7 Bus Rapid Transit Feasibility Study and we believe our familiarity with both the corridor and project partners will help provide continuity for this study. In addition, Boulder County's project administration will help eliminate personnel availability challenges that arose due to recent staffing changes in Broomfield.

As a final note, we believe this is an important project that is key for ensuring development takes into account the station, ROW, and connectivity needs that will be necessary to support high quality transit on the corridor. It will also keep momentum generated by the SH 7 Policy Advisory Committee progressing forward, moving us closer to our goal of a vibrant corridor with diverse mobility options.

Thank you,

George Gerstle,  
Boulder County Director of Transportation

Cc: John Hersey, RTD  
Marc Ambrosi, Boulder County  
Scott McCarey, Boulder County  
Tom Schomer, Broomfield

## ATTACHMENT C

To: Chair and Members of the Regional Transportation Committee

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

Meeting Date	Agenda Category	Agenda Item #
October 18, 2016	Action	5

### SUBJECT

This item recommends confirming the seven (7) Special Interest seats on the Transportation Advisory Committee (TAC) nominated by Board Chair Elise Jones as part of the TAC membership annual review.

### PROPOSED ACTION/RECOMMENDATIONS

Staff recommends approval of the seven TAC Special Interest nominations made by Board Chair Elise Jones.

### ACTION BY OTHERS

N/A

### SUMMARY

The Memorandum of Agreement between DRCOG, CDOT and RTD, adopted July 10, 2001, established the TAC to assist the Board of Directors and the Regional Transportation Committee (RTC) by reviewing the work of the transportation planning process, advising on methods of planning and implementation, and working with staff to develop policy options and, as appropriate, recommendations to the RTC. Per this agreement, the DRCOG Board of Directors adopted the TAC committee description and composition, and operating procedures documented in the *Transportation Planning in the Denver Region* document.

The seven special interests members – Environment, Freight, Transportation Demand Management/Non-Motorized, Aviation, Business/Economic Development, Non-RTD Transit and Senior Interests – are annually reviewed and nominated by the DRCOG Board Chair and confirmed by the Regional Transportation Committee. Board Chair Elise Jones' nominations are attached. The only changes from the current year are:

- Non-RTD Transit member: Hank Braaksma is nominated to replace Lenna Kotke, who retired.
- TDM/Non-Motorized member: Ted Heyd of Bicycle Colorado is nominated to replace Aylene McCallum of the Downtown Denver Partnership. This seat switches between a TDM and non-motorized specialist every two years.

The appointments would become effective with the first TAC meeting following RTC's confirmation.

### PREVIOUS DISCUSSIONS/ACTIONS

N/A

### PROPOSED MOTION

Motion to confirm the membership recommendations for the seven Special Interest seats on the Transportation Advisory Committee.

ATTACHMENT

Membership nominations

ADDITIONAL INFORMATION

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

## Transportation Advisory Committee Membership Nominations – 2016

### SPECIAL INTEREST SEATS

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#### ENVIRONMENT

Member: Rick Pilgrim\*  
Vice President, HDR Engineering

#### FREIGHT

Member: Greg Fischer\*  
Senior Vice President, Shannon & Wilson, Inc.

#### TDM/NON-MOTORIZED (Switches to non-motorized specialist with this nomination)

Member: **Ted Heyd\*\***  
**Regional Policy Director, Bicycle Colorado**

#### AVIATION

Member: Tom Reed\*  
Airport Planner, Denver International Airport

#### BUSINESS/ECONOMIC DEVELOPMENT

Member: Steve Klausing\*  
Executive Vice President, Denver South Economic Development Partnership

#### SENIORS

Member: Sylvia Labrucherie\*  
Chair, Board of Directors, Denver Regional Mobility and Access Council (DRMAC)

#### NON-RTD TRANSIT (new member nominated with retirement of current member)

Member: **Hank Braaksma\*\***  
**Transportation Director, Seniors' Resource Center**

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\* = current TAC member

\*\* = current TAC alternate

## ATTACHMENT D

To: Chair and Members of the Regional Transportation Committee

From: Robert Spotts, Senior Transportation/Air Quality Planner  
303 480-5626 or [rspotts@drcoog.org](mailto:rspotts@drcoog.org)

Meeting Date	Agenda Category	Agenda Item #
October 18, 2016	Information	6

### SUBJECT

Discussion on DRCOG's *2015 Annual Report on Roadway Traffic Congestion in the Denver Region*.

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

As a component of DRCOG's federally required congestion management process, annual reports on traffic congestion have been prepared since 2006. Like previous reports, the *2015 Annual Report on Roadway Traffic Congestion in the Denver Region* presents information on vehicle miles traveled, performance measures, multimodal strategies in the congestion toolkit, and recent projects. In addition, this year's report highlights new "big data" sources of information for congestion measures, which will be incorporated over the next year.

Staff will summarize the report at the RTC meeting.

### PREVIOUS DISCUSSIONS/ACTIONS

N/A

### PROPOSED MOTION

N/A

### ATTACHMENTS

- [2015 Annual Report on Roadway Traffic Congestion in the Denver Region](#)
- Staff presentation

### ADDITIONAL INFORMATION

If you need additional information, please contact Robert Spotts, Senior Transportation/Air Quality Planner, at (303) 480-5626 or [rspotts@drcoog.org](mailto:rspotts@drcoog.org).



# 2015 Annual Report on Traffic Congestion in the Denver Region

October 2016



# 2015 Annual Report on Roadway Traffic Congestion in the Denver Region

## 1. Introduction

The Denver Regional Council of Governments has prepared annual reports on traffic congestion since 2006. When comparing 2015 to 2006, four themes emerge:

- Traffic congestion is slightly worse overall for the region, due primarily to population growth.
- More transit options are available to help people avoid driving in severe congestion.
- Interest in and opportunities for walking or bicycling to destinations are growing.
- There is greater access to real-time information on traffic conditions, major incidents and travel options to avoid driving alone.

## 2. How much do we travel on a typical day? (Trends in Vehicle Miles of Travel)

DRCOG staff routinely estimates the annual change in the total vehicle miles traveled (VMT) per day on roadways in the Denver region. Staff consolidates data from several sources to produce the annual estimate. The sources include: Federal Highway Administration annual reports; Colorado Department of Transportation automated traffic recorder “continuous counter” monitors; other traffic counts at locations with results for both the current and past analysis years; and other sources such as toll highway transactions.

**Figure 1** depicts average weekday VMT by all types of motor vehicles for the Denver region during the past 15 years. The solid blue line shows that total daily VMT rose steadily through 2006, flattened out through 2011, but has increased during the past four years.

In 2015, the Denver region’s VMT increased by 4 percent, the highest annual percentage growth since the late 1990s. It also appears the region experienced the largest raw value growth in daily VMT ever (an increase of 3.0 million/day). In comparison, total VMT growth during the eight years from 2006 through 2014 was about 3.8 million.

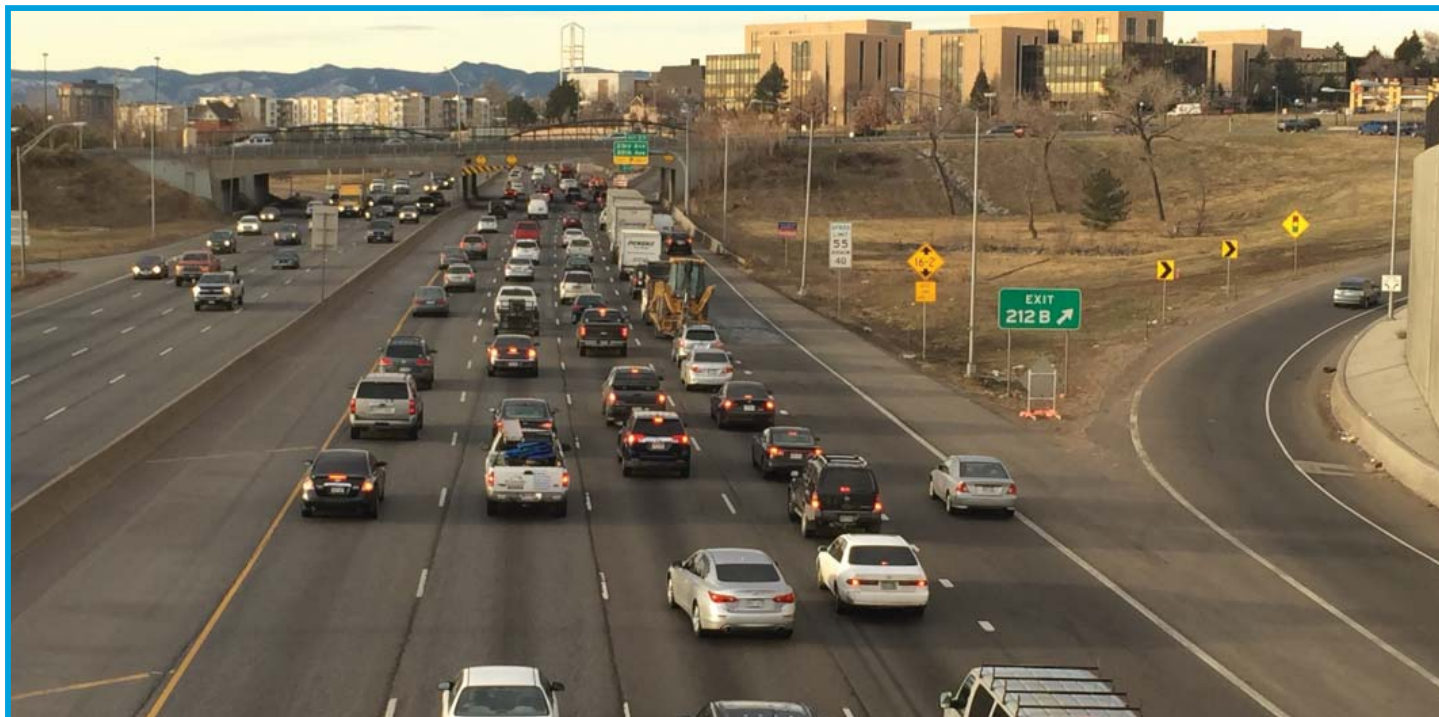
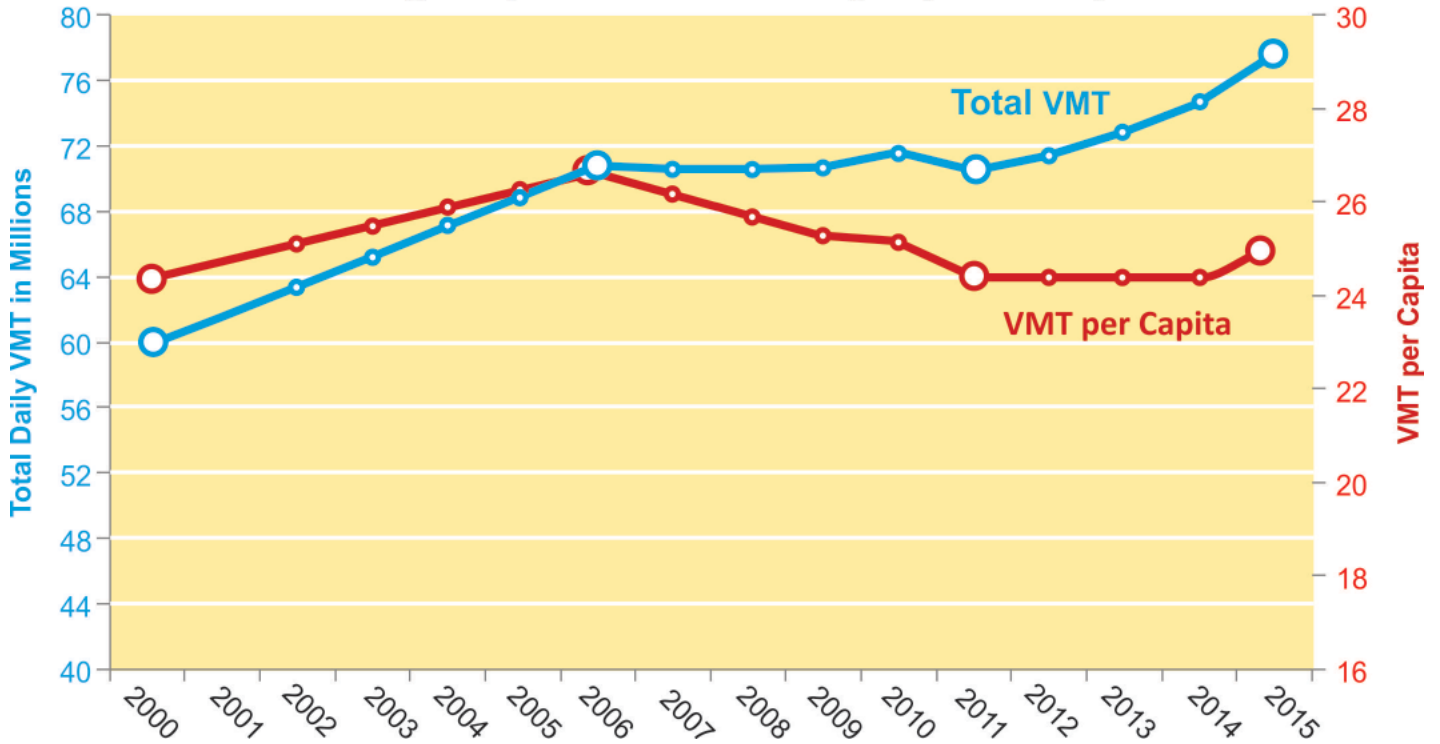




Figure 1

Average Daily VMT in the Denver Region (2000 - 2015)



Compared to the 4 percent growth in VMT, the total population in the region increased by 2 percent in 2015. This resulted in the first distinguishable increase in VMT per capita since 2006 (dashed red line). While VMT per capita did increase, the region is still below its peak in 2006.

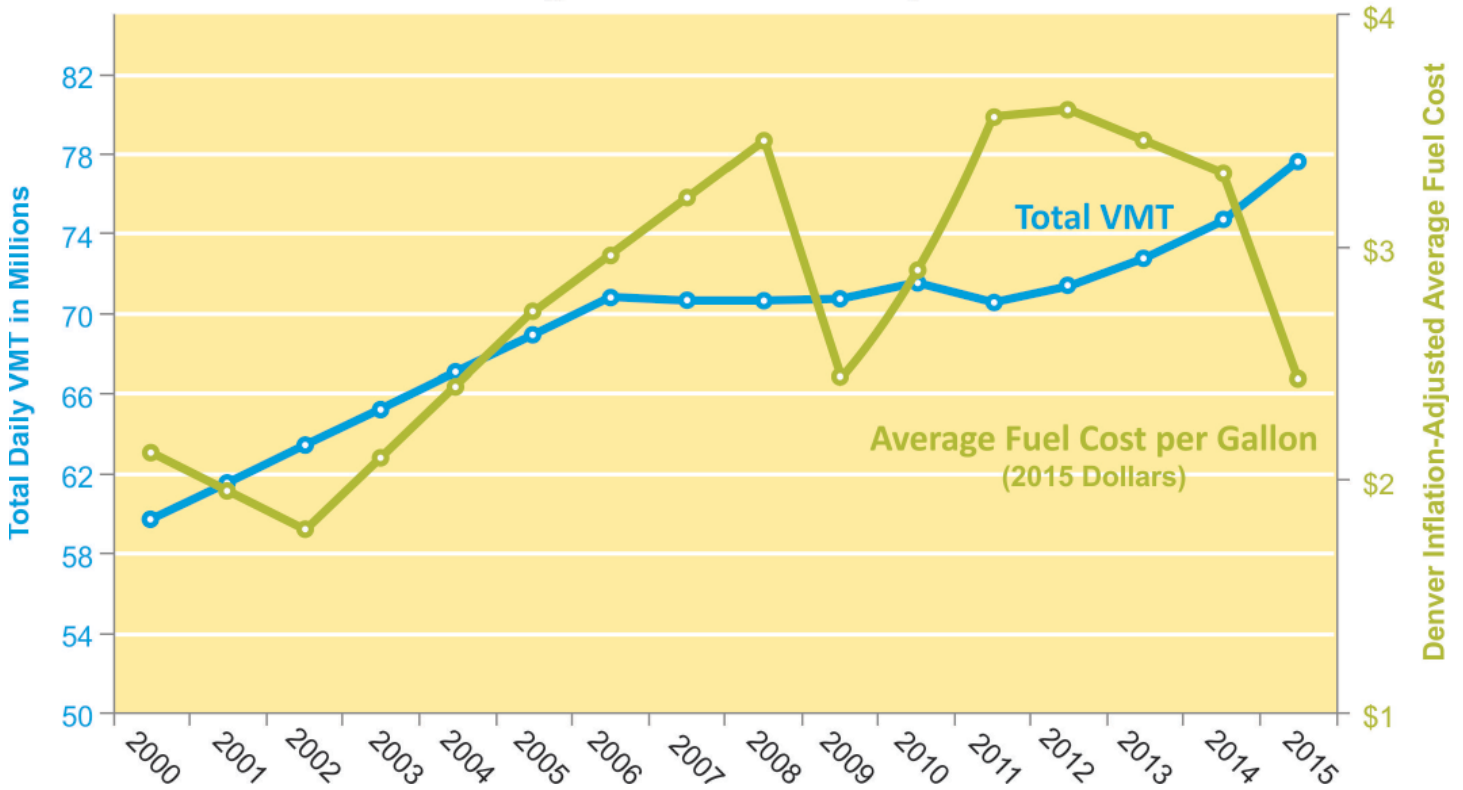
Many factors caused the increase in VMT during the past couple years, including:

- Booming economy throughout the region,
- Increase in the number of personal trips to jobs, entertainment, shopping,
- Increase in commercial vehicle and service trips,
- Decrease in the price of fuel starting in late 2014 and remaining low through 2015 (see Figure 2).



Figure 2

Denver Region VMT and Fuel Cost per Gallon



The relationship between regional VMT, the economy, fuel costs, transportation options and land use is extremely complicated, involving numerous economic considerations and personal decisions. However, it appears the combination of low fuel costs, a thriving economy, increased population have contributed to the increase VMT in the Denver region. Even though people are walking, bicycling, and sharing rides more frequently, as well as shopping more via the internet, delivery and shared-ride vehicles must still travel on the region's roadways.



Though future VMT change is difficult to predict, certain factors and responses must remain in the forefront in our region's effort to lower VMT per capita:

- VMT is a key element related to the region's goals and federal mandates to reduce harmful pollutant emissions and greenhouse gases,
- VMT is a direct contributor to increased traffic congestion,
- To slow the growth of VMT, DRCOG and its partners must continue to support the interrelated elements of traffic congestion mitigation by helping people avoid and adapt to congestion by:
  - ◆ Providing and encouraging viable mobility choices (transit, walk, bicycle)
  - ◆ Creating opportunities for shorter trips (for example, via mixed-use land-use patterns)
  - ◆ Facilitating carpool and vanpool options (pre-organized and real-time)
  - ◆ Encouraging teleworking and flexible work hours
  - ◆ Supporting and use travel demand management services of DRCOG ([waytogo.org](http://waytogo.org)) and its partner
  - ◆ transportation management organizations
  - ◆ Improving real-time traveler information regarding major incidents on roadways or rail transit, and
  - ◆ up-to-the-moment optional travel modes.

### 3. New Methodologies for Measuring Traffic Congestion

DRCOG and other agencies have traditionally calculated traffic congestion measures based on models of an average day that incorporate traffic volumes, roadway capacity characteristics, vehicle occupancy, transit ridership and other factors. The measures (as reported later in this document) reflect the three dimensions of congestion: width of roadways (bottlenecks), distance of traffic queuing back-ups and length of time (hours per day) congestion occurs. Congestion is not an event that affects a single location or point in time.

In recent years however, valuable new congestion information has become available based on new technologies and big data:

- Do you have a GPS navigation device in your car?
- Do you have packages delivered to you?
- Do you travel with your smartphone while walking, bicycling, driving, or any mode of travel?

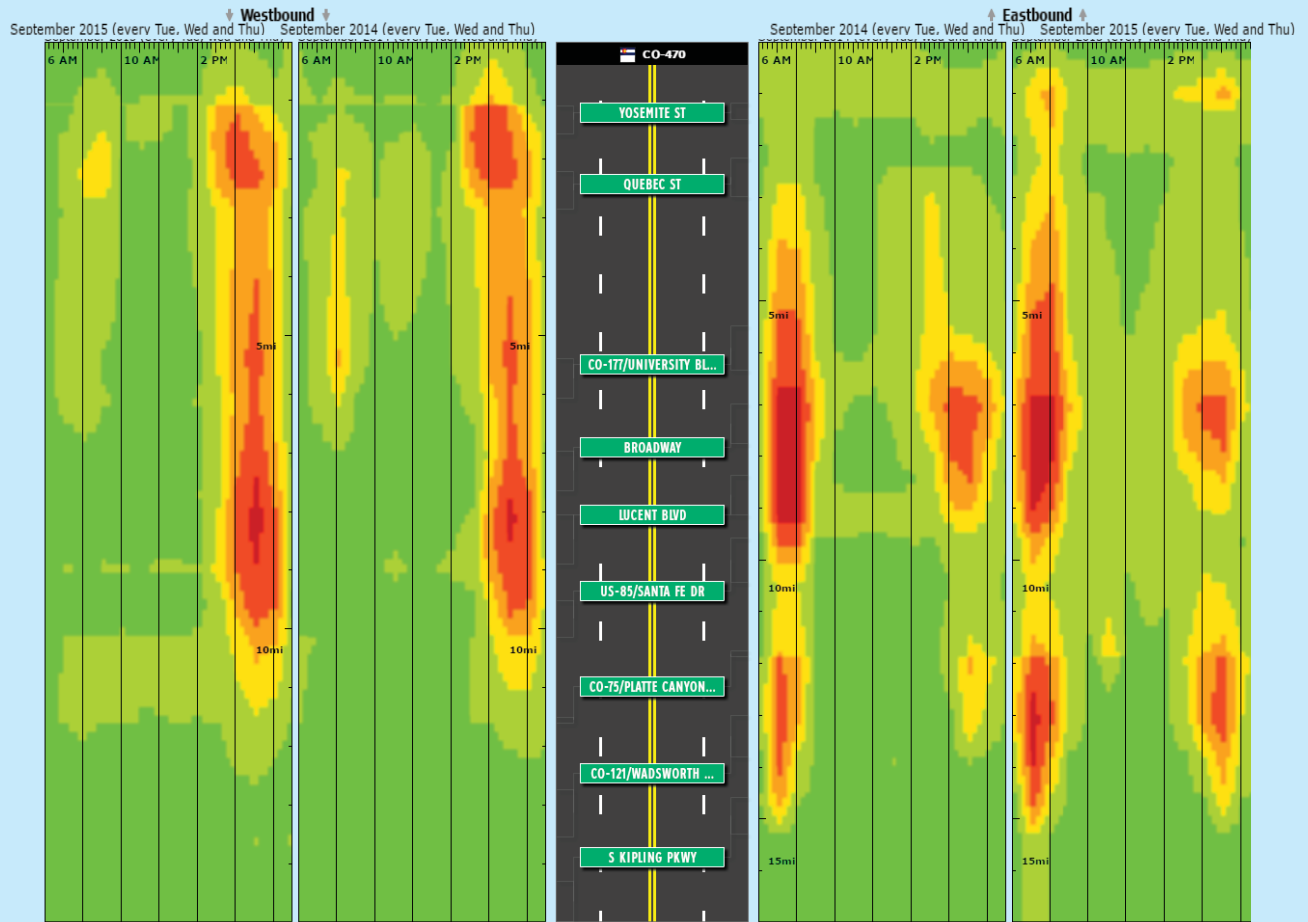
If you answered "yes" to any of these questions, you are a source of big data on traffic movements (speed, back-ups, origins, destinations) compiled by private companies such as INRIX and HERE. These companies, as well as other third party firms, use GPS vehicle probe data to summarize traffic conditions in large metropolitan areas and on major highways throughout the world. Billions of pieces of information (data points) are obtained and converted into measurements and graphical depictions of congestion. The Colorado Department of Transportation has purchased data from INRIX, which it made available to DRCOG. The results are very accurate for freeways, rural highways and roads without a lot of traffic signals or roadside activity. The results reflect traffic conditions every hour throughout the year, and thus reflect congestion due to all causes, including incidents such as crashes, construction, weather events or breakdowns.

Examples of data visualizations are shown on the following page. DRCOG will incorporate some of the results into its congestion management process and future reports. Congestion effects of crash reduction associated with advanced vehicle and roadway technology efforts will also be incorporated. In addition, federal legislation requires that several measures produced from big data vehicle probe sources be reported to the Federal Highway Administration.

## Example of Graphic Visualizations from INRIX

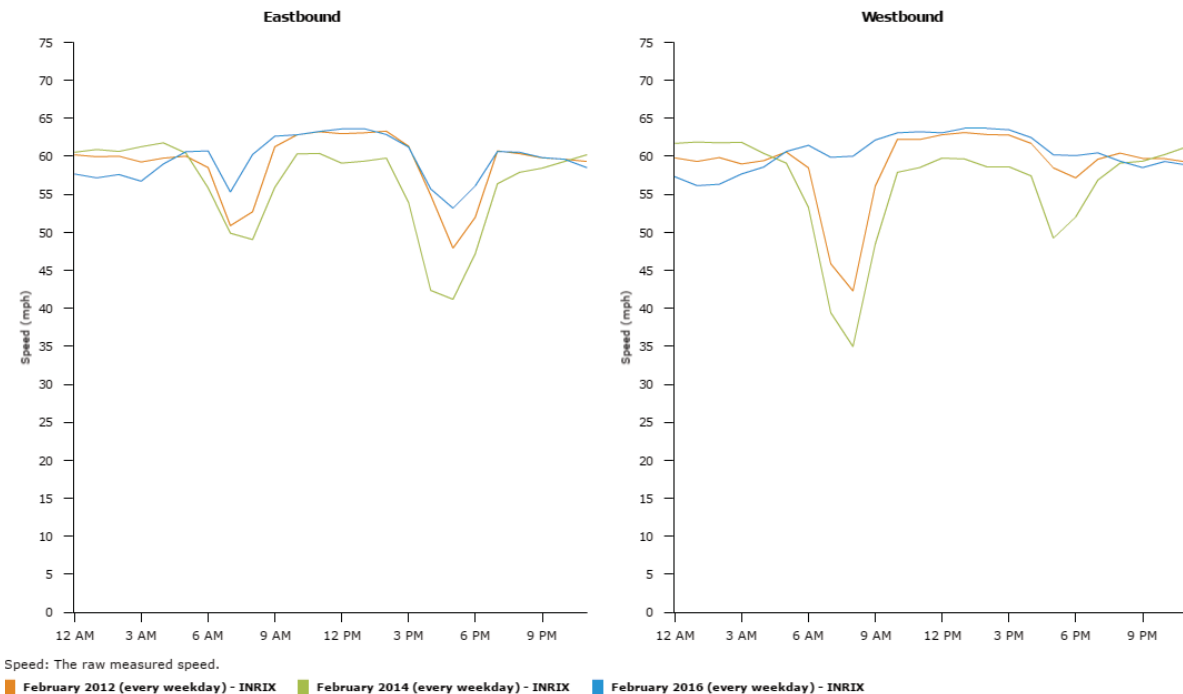
**Speed on CO-470 between S Kipling Pkwy and I-25/US-87/E-470 using INRIX data**

Averaged by 1 hour for September 2014 (every Tue, Wed and Thu) and for September 2015 (every Tue, Wed and Thu)



**Speed for US-36 between Boulder Rd/N Foothills Hwy and I-25/US-87**

Averaged by 1 hour in February 2012 (every weekday), February 2014 (every weekday), and February 2016 (every weekday)





## 4. CMP Transportation Projects Recently Completed or Underway

Several notable congestion relief projects have been completed by local governments, the Colorado Department of Transportation, and RTD in the past year or are underway, as shown in **Table 1**. Transit and bicycle and pedestrian projects provide travel options enabling many people to avoid congestion.

**Table 1**  
**Example Transportation Projects Addressing Congestion and Mobility**

<b>Interchange/Roadway Projects:</b>	Status
Central Park Boulevard: Extension from 47th Avenue to 56th Avenue	Completed
I-70 eastbound Clear Creek County: Peak period managed lane	Completed
U.S. 36 from Boulder to I-25: Add managed lanes/Bus Rapid Transit	Completed
U.S. 6 Freeway from Federal Boulevard to I-25: Reconfigure interchange	Completed
I-25 from U.S. 36 to 120th Avenue: Add managed lanes	Completed
I-25 from RidgeGate Parkway to C-470/County Line Road: Widening	Completed
Arapahoe Road at I-25: Interchange reconfiguration	Underway
E-470 from Parker Road to Quincy Avenue: Widening	Underway
C-470 from Kipling Parkway to I-25: Add managed lanes	Underway
<b>Rapid Transit Projects:</b>	Status
A Line East Rail Line (Denver Union Station to Denver International Airport) commuter rail	Completed
B Line Northwest Corridor (Westminster station to Denver Union Station) commuter rail	Completed
R Line I-225 Corridor: (Nine Mile to Peoria/Smith stations) light rail	open 2016
G Line Gold Line (Ward Road station to Denver Union Station) commuter rail	open 2016
North Metro Rail Line (Denver Union Station to 124th/Eastlake station) commuter rail	Underway
Southeast Rail (Lincoln to RidgeGate stations) light rail	Underway
<b>Bicycle/Pedestrian Projects:</b>	Status
U.S. 36 Bikeway	Completed
Kipling Avenue multi-use Path: 32nd Avenue to 44th Avenue	Completed
Pearl Parkway multi-use Path: 30th Street to Foothills Parkway	Completed
38th/Blake Street Station area pedestrian access improvements	Completed
Colorado Center Pedestrian/Bicycle bridge over I-25	Completed
Superior Trail: McCaslin Bus Rapid Transit Station to Davidson Mesa (U.S. 36 Bikeway)	Underway
U.S. 6 multi-use path: Colfax Avenue to Johnson Road	Underway



Colorado Center I-25 Crossing



U.S. 36 Bus Rapid Transit

## 5. Annual Congestion Performance Measures

DRCOG maintains a database to monitor traffic congestion and performance measures for the 2,400-mile Regional Roadway System (Figure 3). The congestion database identifies key attributes associated with roadway capacity and traffic volume for each segment of the system.

**Table 2** displays several measures for the Regional Roadway System. The 2040 estimates are based on forecasts from the DRCOG regional travel demand model. A key assumption is that more than 1.2 million additional people will be living in the Denver region by 2040, a 39 percent increase. There will be significant growth in transit, bicycle, and walking trips; outpacing the population increase. These travel options encourage people to avoid or adapt to traffic congestion. However, the increase in travel by modes other than driving alone will not likely be enough to offset the growth in motor vehicle travel and associated traffic congestion.

The **Regional Roadway System** represents the DRCOG-designated freeways, tollways, major regional arterials and principal arterials. These are the most heavily traveled and important connecting corridors of the region. This system handles almost 80 percent of the total traffic in the region.

**Table 2**  
**Current and Future Congestion Measures on Denver Regional Freeways and Arterials**

(does not include minor local streets)

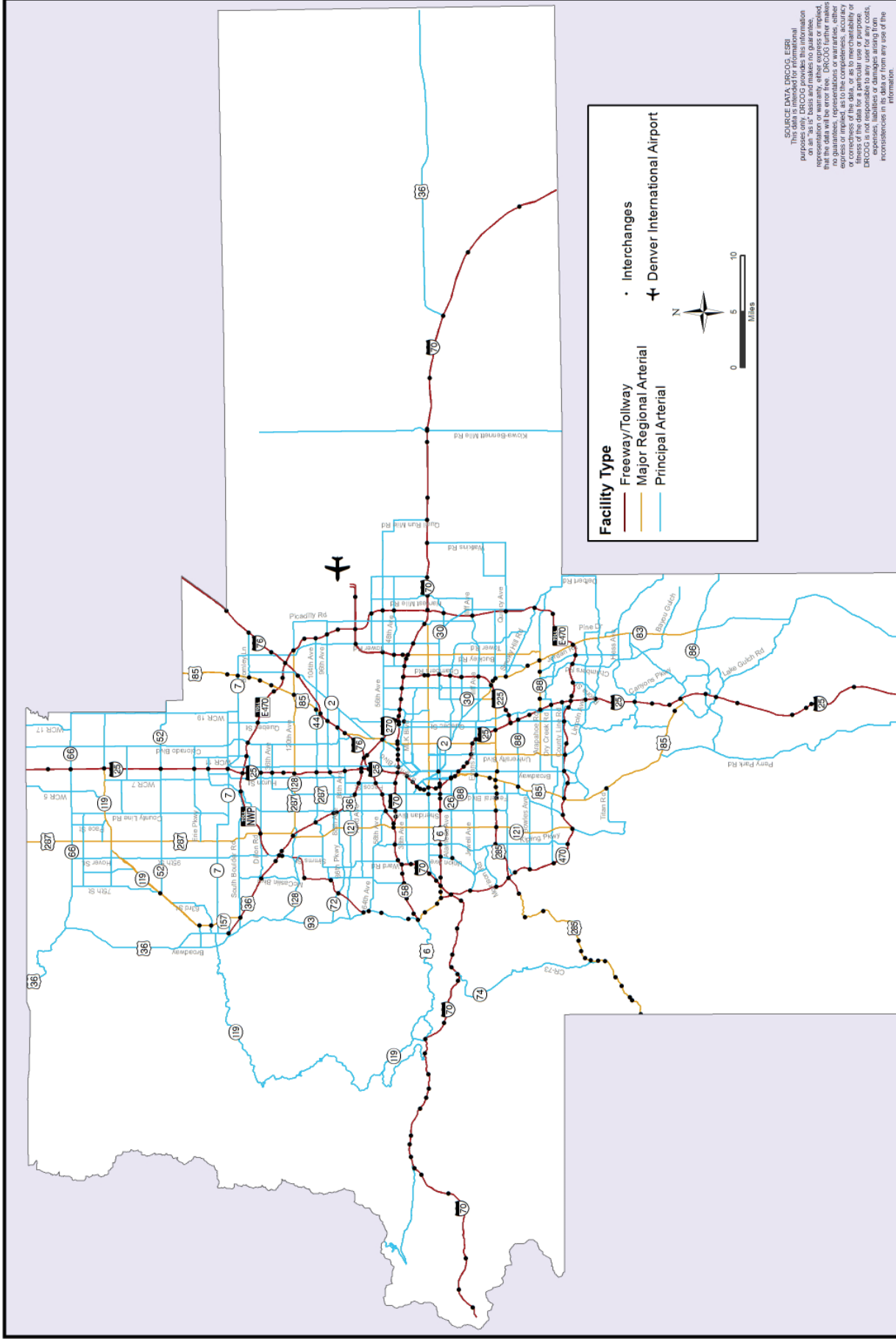
Vehicle Measures:	2015		2040 (RTP)		Percent Change between 2015 and 2040
	Average Weekday	Annual Total Estimate (1)	Average Weekday	Annual Total Estimate (1)	
Vehicle Miles of Travel	59,973,000	20,270,768,000	72,740,000	24,585,996,000	21%
Vehicle Hours of Travel	1,388,000	469,053,000	1,918,000	648,251,000	38%
Average Travel Speed (mph)	43	n/a	38	n/a	0%
Vehicle Hours of Delay	240,000	81,259,000	533,000	180,063,000	122%
Travel Delay Per Driven Registered Vehicle (2)	8 min. 0 sec.	45 hours	12 min. 30 sec.	71 hours	57%
Travel Delay Per Household	11 min. 45 sec.	66 hours	18 min. 30 sec.	104 hours	56%
<b>Person Measures:</b>					
Person Miles of Travel	80,963,000	27,365,537,000	98,199,000	33,191,095,000	21%
Person Hours of Travel	1,873,000	633,222,000	2,589,000	875,139,000	38%
Person Hours of Delay	325,000	109,700,000	719,000	243,085,000	122%
Travel Delay Per Resident	6 min. 30 sec.	37 hours	10 min. 15 sec.	57 hours	55%
<b>Other:</b>					
Percent of Travel Time in Delayed Conditions	17%	n/a	28%	n/a	n/a
Travel Time Variation (peak vs. off peak)	1.24	n/a	1.36	n/a	10%
Lane Miles of Roads Congested for 3 Hours or Longer	1,702	n/a	2,363	n/a	39%
(Percent of Total Lane Miles)	24%	n/a	31%	n/a	n/a
<b>Economic Costs:</b>					
Commercial Vehicles (3)	\$1,300,000	\$455,300,000	\$4,200,000	\$1,405,300,000	209%
Passenger Vehicles (3)	\$2,600,000	\$882,700,000	\$5,600,000	\$1,902,000,000	115%
Total Cost of Delay	\$3,900,000	\$1,337,900,000	\$9,800,000	\$3,307,300,000	147%
<b>Transit and Other Regionwide Measures:</b>					
Total Regional Transportation District Transit Boardings	340,000	n/a	826,000	n/a	143%
Rail Transit Boardings	75,500	n/a	258,300	n/a	n/a
Regional Transportation District Park-n-Ride Parking Space Use (out of 32,011 spaces)	59%	n/a	n/a	n/a	n/a
Modeled Bicycle and Walking Trips	834,000	n/a	1,244,000	n/a	49%
Traffic Crashes (2013)	190	64,070	n/a	n/a	n/a

Sources: DRCOG Congestion Mitigation Program Database, Regional Transportation District Ridership Statistics, 2040 Regional Transportation Plan

**Technical Notes:**

- (1) Annual Total Estimate is Average Weekday total multiplied by 338
- (2) Assumption of 1,798,912 registered vehicles driven per day in 2015 and 2,415,682 in 2040
- (3) Cost calculations incorporate \$12 per hour per adult in car, \$48.30 per hour per light commercial vehicle operator, and \$71 per hour for heavy commercial truck.

**Figure 3**  
**DRCOG Regional Roadway System**





**For more information:**

Colorado Department of Transportation  
www.coloradodot.info

Regional Transportation District  
www.rtd-denver.com

Traveler Information  
www.cotrip.org

**Traffic Congestion Videos**

The Phantom Traffic Jam – an explanation  
<https://www.youtube.com/watch?v=goVjVVaLe10>

Traffic Waves  
<https://www.youtube.com/watch?v=19S3OdK6710>

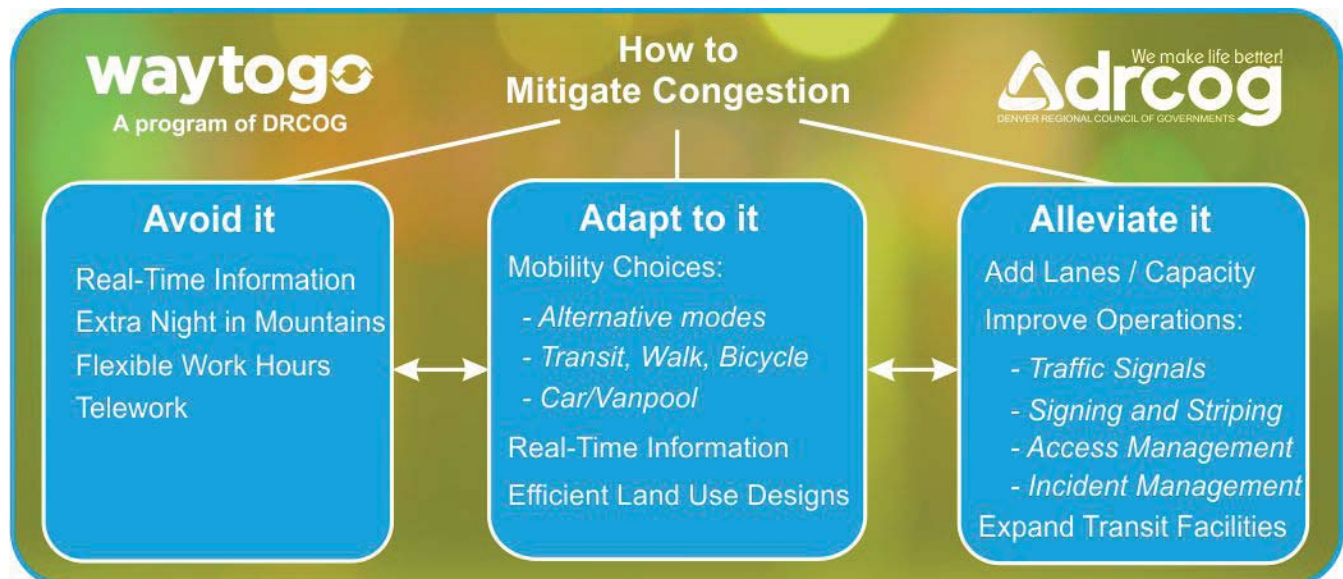
**For ways to avoid or adapt to congestion via mobility options please visit:**

Way to Go  
<http://waytogo.org>

Preparation of this report has been financed in part through grants from the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. This report and others are available at <http://drcog.org/node/178>.

Contact Senior Transportation/Air Quality Planner Robert Spotts, at [rspotts@drcog.org](mailto:rspotts@drcog.org) for additional information regarding DRCOG's Congestion Mitigation Program.

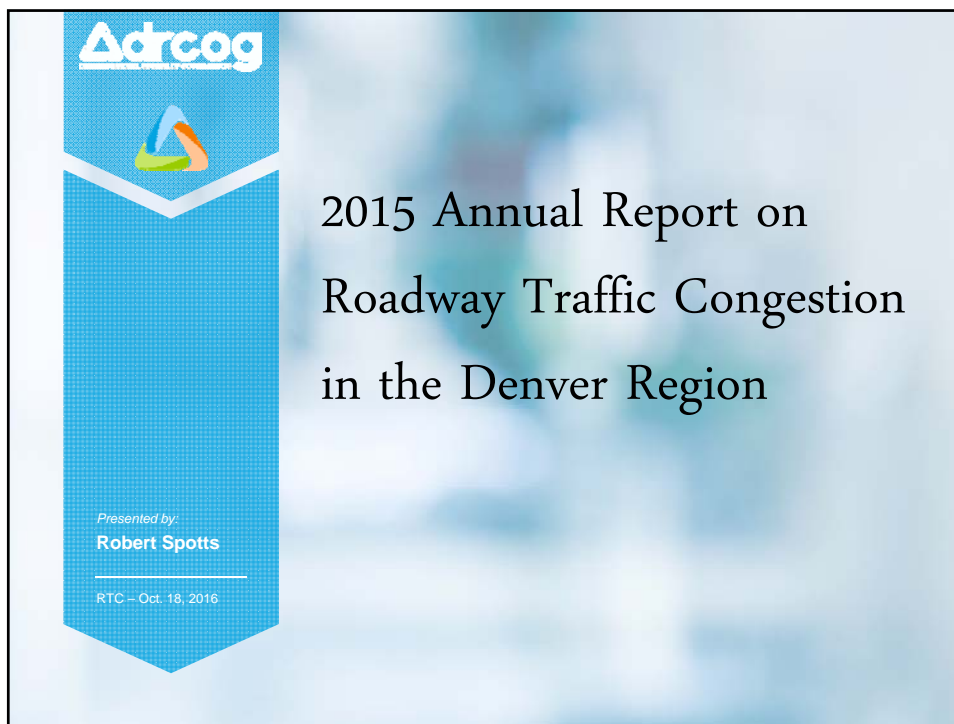
**The Three A's of Congestion Mitigation**





# **2015 Annual Report on Traffic Congestion in the Denver Region**

Denver Regional Council of Governments  
1290 Broadway, Suite 100  
Denver, CO 80203-5606  
[www.drcog.org](http://www.drcog.org) - 303-455-1000



## DRCOG Congestion Management Process

- Federally required. Reports since 2006. Monitor VMT.
- Database and analyses maintained for Regional Roadway System network. Used for TIP and long range RTP.

**Adrcog**

2015 Annual Report on Traffic Congestion in the Denver Region  
October 2015


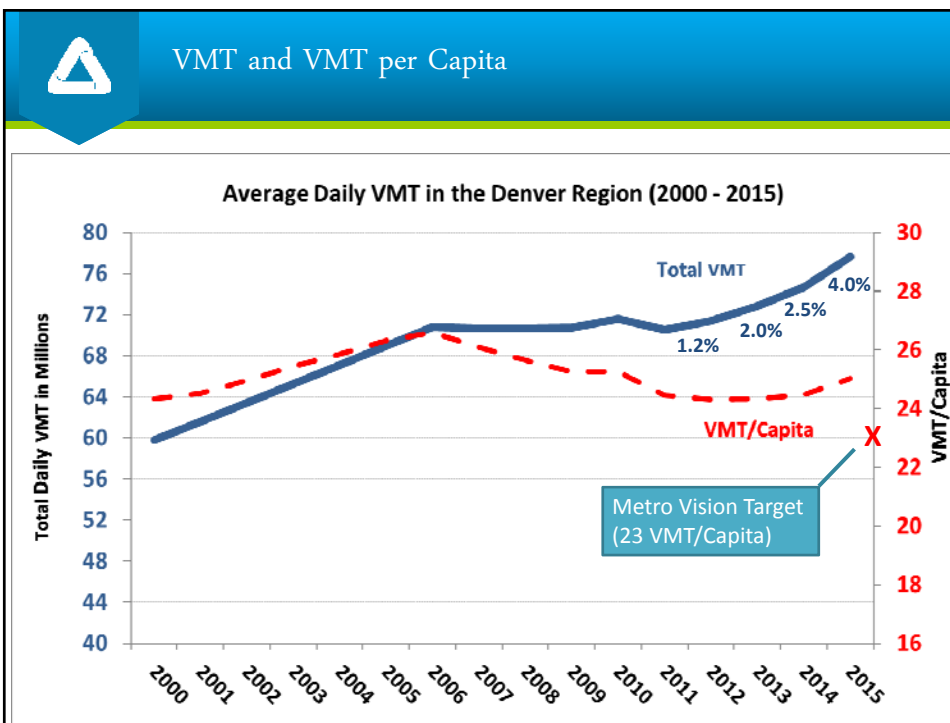
Figure 3  
DRCOG Regional Roadway System

Facility Type

- Interstate
- Express/Tollway
- Major Regional Arterial
- Principal Arterial
- Interchanges
- Denver International Airport

### Trends Since 2006



- Traffic congestion is slightly worse overall for the region, due primarily to population growth.
- More transit options are available to help people avoid driving in severe congestion.
- Interest in and opportunities for walking or bicycling to destinations are growing.
- There is greater access to real-time information on traffic conditions, major incidents and travel options to avoid driving alone.

△


## Factors Contributing to VMT Growth

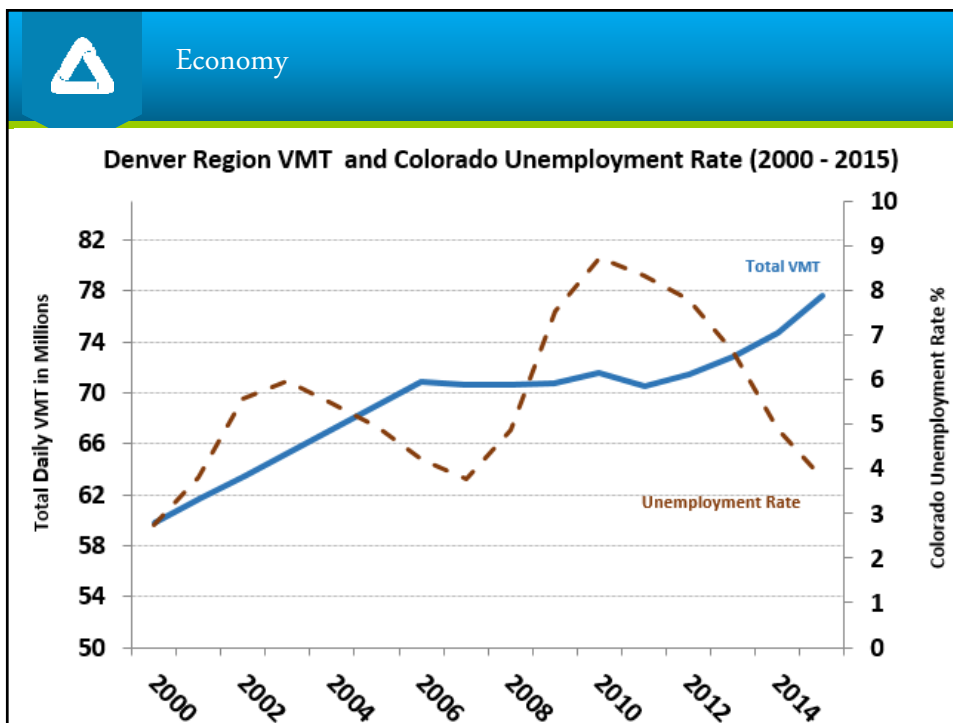
- **Booming Economy & Population**
- **Decreasing Fuel Costs**
- **Behavior Changes and Marketing**
- **Increased Commercial Vehicle Traffic**

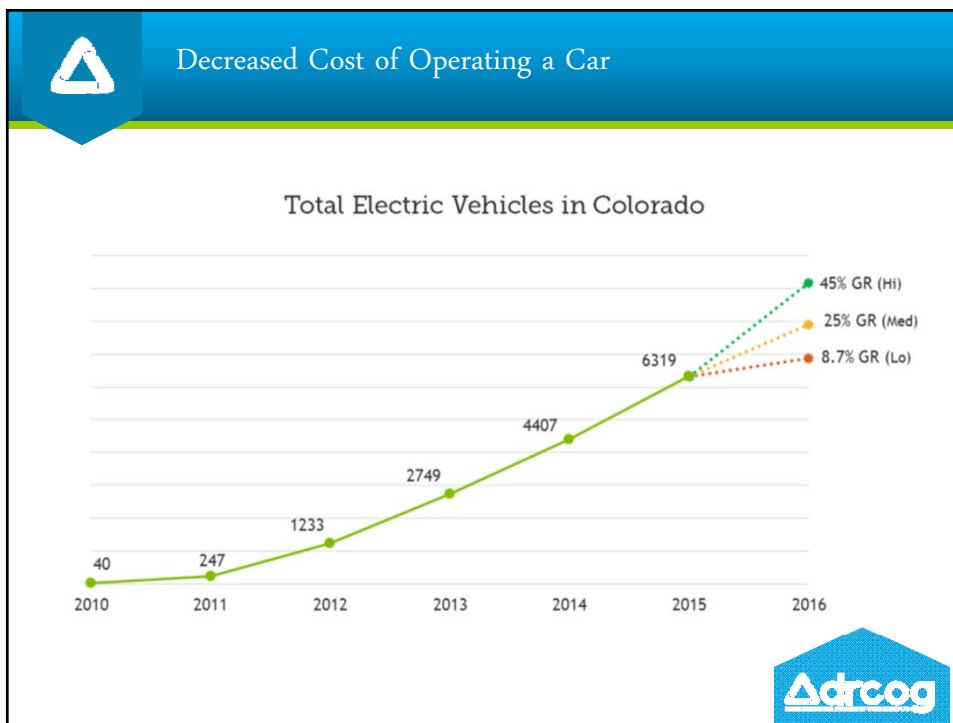
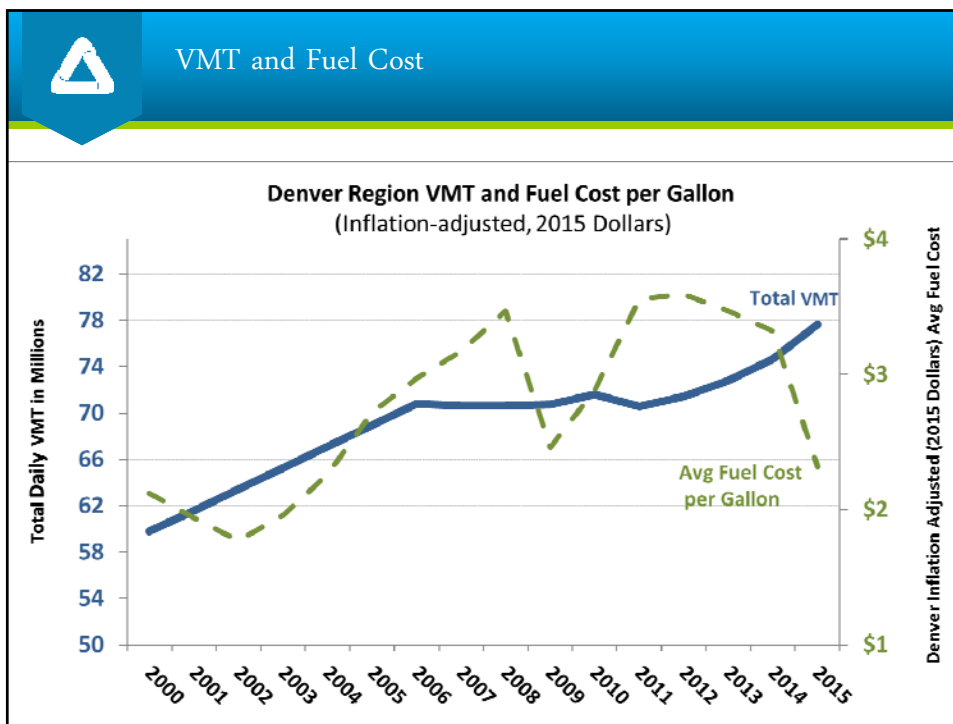



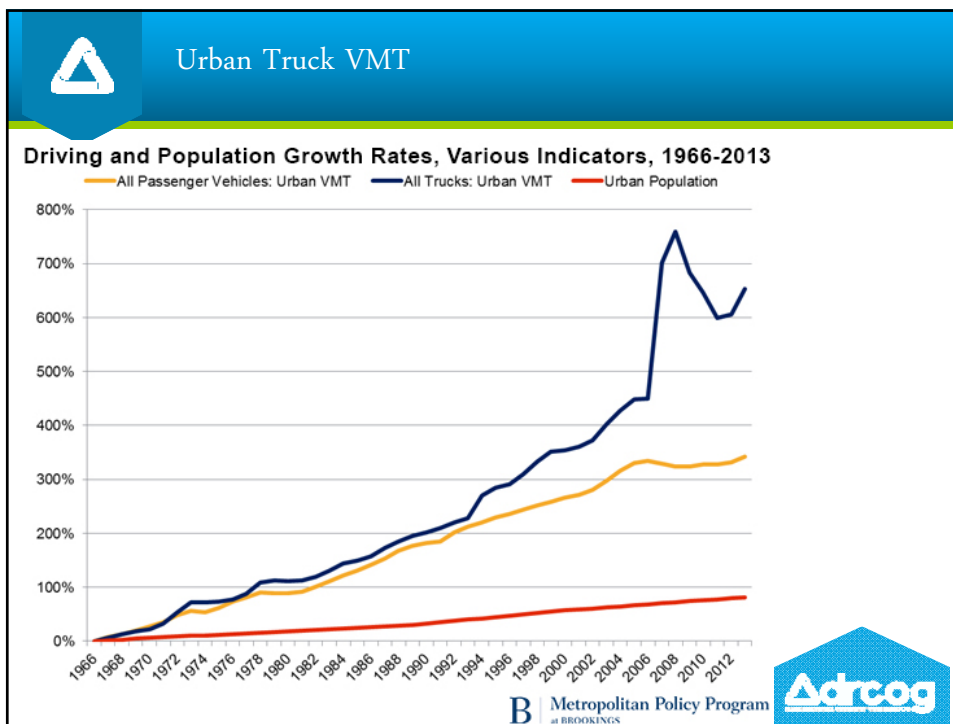
**ECONOMIC FORECAST:  
METRO DENVER POISED TO  
ACHIEVE NEW ECONOMIC  
MILESTONES IN 2016**

*Metro Denver's economy still  
outpacing national average*









### Slowing VMT Growth

- **Mobility Choices**
- **Shorter Trips**
- **Carpool and Vanpool**
- **Teleworking and Flexible Work Hours**
- **Travel Demand Management Services**
- **Real-time Traveler Information**



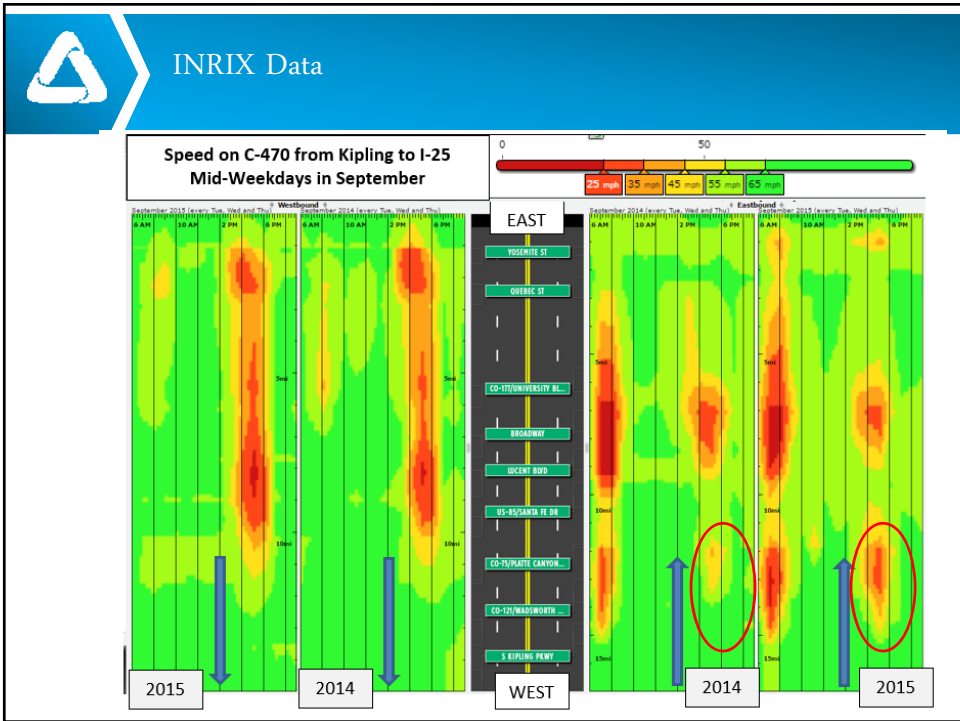


  
 A program of the Denver Regional Council of Governments

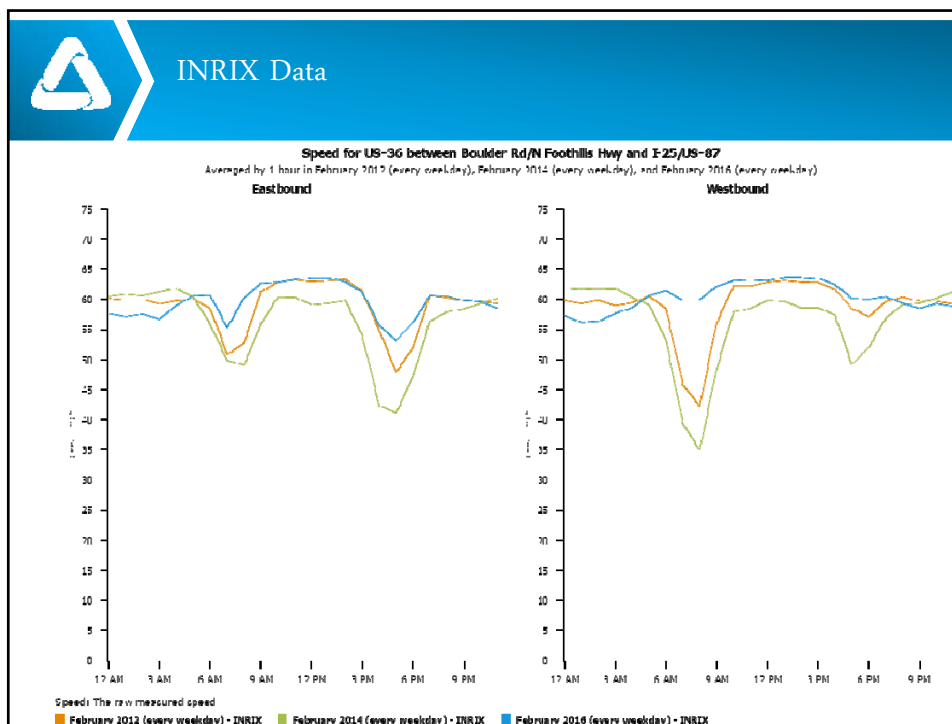




# NEW METHODOLOGIES FOR MEASURING TRAFFIC CONGESTION







**Key Congestion Measurements 2015**

- About **1/4<sup>th</sup>** of the regional roadways have severe congestion **over 3 hours** per day.
- On average, each resident faces about **37 hours** of congestion delay per year.
- On average, travel during rush hours takes **24% longer** than in the off-peak.
- **64,070** total crashes per year throughout the region cause even more severe delays and unreliability.

**Adrcog**



QUESTIONS/COMMENTS?

## ATTACHMENT E

To: Chair and Members of the Regional Transportation Committee

From: Douglas W. Rex, Director, Transportation Planning and Operations  
303 480-6747 or [drex@drcog.org](mailto:drex@drcog.org)

Meeting Date	Agenda Category	Agenda Item #
October 18, 2016	Informational Briefing	7

### SUBJECT

This is an overview of the proposed Volkswagen settlement agreement and Colorado's process for addressing the settlement provisions.

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

In September 2015, automaker Volkswagen admitted to using sophisticated software in their diesel automobiles to manipulate exhaust emissions test results. In June, Volkswagen agreed to a settlement with US authorities to pay up to \$15.3 billion for car buybacks, investments in zero emission vehicles, and environmental mitigation for the 2.0 liter vehicles in violation of emission standards.

An initial amount of \$61.3 million has been allocated to the State of Colorado for environmental mitigation over the next 3-10 years. The Colorado Department of Public Health and Environment, Colorado Department of Transportation, and the Colorado Energy Office will conduct outreach this Fall to determine the funding process on eligible actions with anticipated public applications in 2017.

### PREVIOUS DISCUSSIONS/ACTIONS

N/A

### PROPOSED MOTION

N/A

### ATTACHMENT

Staff presentation

### ADDITIONAL INFORMATION

If you need additional information, please contact Douglas W. Rex, Director, Transportation Planning and Operations, at 303 480-6747 or [drex@drcog.org](mailto:drex@drcog.org); or Robert Spotts at 303 480-5626 or [rspotts@drcog.org](mailto:rspotts@drcog.org).

# VOLKSWAGEN AND AUDI EMISSIONS SETTLEMENT

OCTOBER 19, 2016



## Proposed Partial Settlement

2

- EPA and California sued VW, Audi, Porsche
- VW & Audi signed partial Consent Decree
  - ▣ Admitted to using defeat devices
- Settles mitigation claims for 2.0L vehicles
  - ▣ Covers Jetta, Golf, Passat, Beetle, Audi A3
  - ▣ Does not resolve penalties or 3.0L vehicles
  - ▣ Other lawsuits are pending
- Settlement not effective unless approved by the court



## Settlement Terms

3

- \$10.3 billion to buy back or terminate leases
  - Vehicle modification option
  - Minimum 85% recall rate
- \$2 billion investment for zero emission vehicles
- \$2.7 billion environmental mitigation trust fund
  - \$61.3 million initial allocation for CO
  - Spend only on eligible actions
  - Receive funds over 3-10 years
  - Return unused funds after 15 years



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Department of Public Health & Environment

## Purpose of Environmental Mitigation Trust

4

- Reduce NO<sub>x</sub> emissions where the covered vehicles were, are, or will be operated
- Colorado must describe how each project “mitigates the impacts of NO<sub>x</sub> emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions”



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Department of Public Health & Environment

## Mitigation Projects Eligible for Trust Funding

5

- Class 8 (large) local freight and port drayage trucks
- Class 4-8 school, shuttle, or transit buses
- Railroad freight switchers
- Class 4-7 (medium) local freight trucks
- Forklifts
- Airport ground support equipment
- Light duty zero emission vehicle supply equipment
- Certain boats & port equipment
- Diesel emission reduction act (DERA) option
- Admin costs



## Estimated Settlement Timeline

6

Event	Approximate Time Frame
Court approves the partial settlement	Fall 2016
Trust effective date	First half of 2017
States elect to become beneficiaries	Summer 2017
States are notified of beneficiary designation	Summer or fall 2017
States file a Beneficiary Mitigation Plan	Fall 2017
States may request funds	Fall 2017
States begin to receive funds	End of 2017

\*Timing depends on court action and is subject to change



## How do I apply for funding?

7

- Funding process is to be determined
- No funding decisions have been made
- CDPHE, CDOT & CEO will conduct outreach and gather input this fall
- State agencies will set funding priorities and selection criteria
  - ▣ Will coordinate with interested organizations
- Public application plan
  - ▣ Anticipated in 2017



## Stakeholder Meeting

8

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>□ PURPOSE           <ul style="list-style-type: none"> <li>▣ Inform the public about the settlement</li> <li>▣ Solicit and listen to stakeholder comments to guide Colorado's implementation of the settlement</li> </ul> </li> <li>□ MEETING INFO           <ul style="list-style-type: none"> <li>▣ Nov 7<sup>th</sup>, 9:00 - 11:30 am</li> <li>▣ CDPHE's Sabin-Cleere Room</li> <li>▣ Webcast will be available</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>□ DESIRED OUTCOMES           <ul style="list-style-type: none"> <li>▣ Understand background and timeline of the settlement</li> <li>▣ Understand how the settlement funds may be used to improve air quality</li> <li>▣ Receive public comment on how Colorado should implement the settlement and spend the funds</li> </ul> </li> </ul> |
|---|--|

More information and agenda on CDPHE's VW Settlement [webpage](#)



## Colorado Wants Your Comments

9

- ▶ Send comments to [cdphe.commentsapcd@state.co.us](mailto:cdphe.commentsapcd@state.co.us)
  - ▶ CDPHE's Request for Comments document available on our [webpage](#)
- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▣ How to maximize air quality benefits</li> <li>▣ How to set funding priorities</li> <li>▣ How to select projects</li> <li>▣ Areas with disproportionate NOx impacts</li> </ul> | <ul style="list-style-type: none"> <li>▣ Funding for electric vehicle supply equipment</li> <li>▣ Use of DERA option</li> <li>▣ Whether to require matching funds</li> <li>▣ Pros &amp; cons of large or small projects</li> </ul> |
|--|--|



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Department of Public Health & Environment

## How do I learn more?

10

- ▣ [www.colorado.gov/cdphe/VW](http://www.colorado.gov/cdphe/VW)
  - ▣ Information on November 7<sup>th</sup> meeting
  - ▣ Request for Comments document
- ▣ Facebook group & Twitter updates

▣ **Questions?**



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