

LOS CAMINOS ANTIGUOS



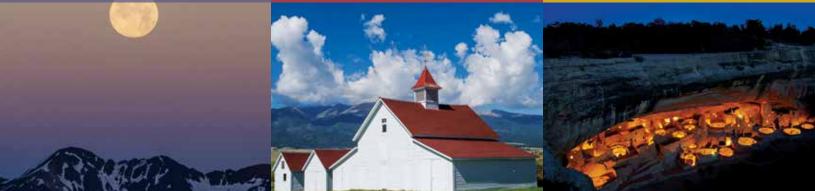


## **ANNUAL REPORT FISCAL YEAR 2014**



TRAIL RIDGE ROAD

FRONTIER PATHWAYS



# Who We Are and What We Do

The Colorado Department of Transportation maintains 23,000 miles of roads and bridges—this equates to 9,146 highway center line miles and 3,447 bridges. The vehicle miles traveled (VMT) on our state highway system is now more than 27 billion—an increase of 57 percent since 1990.

During the same time, our road capacity (or new lane miles) added to handle that growth increased by only two percent. Projections show the VMT is expected to grow by another 47 percent by 2040.

CDOT takes care of 35 mountain passes, seven of which are higher than 11,000 feet. The Department's snow and ice budget in fiscal year 2014 was \$69 million; and \$262 million total was spent on all maintenance activities. This means CDOT spends 26 percent of its maintenance budget on snow and ice control.



Getting commuters to work after a storm means round-the-clock operations for our maintenance crews. In fiscal year 2014, CDOT spent 26 percent of its maintenance budget on snow and ice control. Photo courtesy of Dan Bender, La Plata County Sheriff's Office.

Meeting the demands of our transportation system including improving multi-modal options—relies primarily on funding from motor fuel tax. Colorado ranks 33rd in the nation and 8 cents below the national average in what drivers pay per gallon in taxes. So, while Colorado has some of the costliest maintenance challenges and highest mountain passes—we pay less than states like Kansas and Nebraska and the same as Iowa. In response to increasing traffic and flat revenues, CDOT is modernizing business practices and will continue to make improvements in the following strategic focus areas:

- Improve businesses processes for better customer service and efficiency;
- 2. Use innovation and improved management to get more money to construction;
- 3. Get more out of the existing system;
- 4. Expand partnerships to deliver more;
- 5. Achieve better transparency and accountability;
- 6. Prepare our workforce.

All these focus areas have the bottom-line goal of maintaining and improving our transportation system through efficient management of citizens' hard-earned tax dollars. With flat revenues and rising VMT and construction costs, this is certainly a challenge. But 78 percent of Colorado residents think CDOT does a good job—we're not about to let them down.



The \$55 million westbound Twin Tunnel project on I-70 increases safety with a wider and brighter tunnel bore. It also will allow for the future widening of westbound I-70. When complete in the fall of 2015, the tunnels will be called Veterans Memorial Tunnels, per state legislation passed in April 2014.

# Who We Are and What We Do

#### **CDOT'S MISSION**

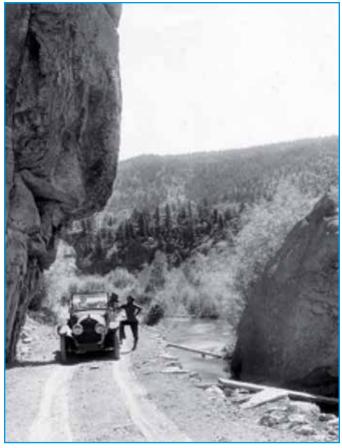
To provide the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods, and information.

## **CDOT'S VISION**

To enhance the quality of life and the environment of the citizens of Colorado by creating an integrated transportation system that focuses on safely moving people and goods by offering convenient linkages among modal choices.

### **CDOT'S VALUES**

Safety	We work and live safely. We protect human life, preserve property, and put employee safety before production.
People	We value our employees. We acknowledge the abilities of our coworkers, place a high priority on employee safety, and draw strength from our diversity and commitment to equal opportunity.
Integrity	We earn Colorado's trust. We are honest and responsible in all that we do and hold ourselves to the highest moral and ethical standards.
Customer Service	We satisfy our customers. With a can-do attitude we work together and with others to respond effectively to our customer's needs.
Excellence	We are committed to quality. We are leaders and problem solvers, continuously improving our products and services in support of our commitment to provide the best transportation systems for Colorado.
Respect	We respect each other. We are kind and civil with everyone, and we act with courage and humility.



Travelers on June 14, 1918, enjoy US 160 Wolf Creek Pass, opened by the Colorado Highway Department in 1916.

### **SNAPSHOT OF CDOT HISTORY**

- **1909:** The first highway bill was passed by forming a three-member Highway Commission to approve work and allocate funds.
- **1917:** The State Highway Fund was created and the State Highway Department (CDOH-Colorado Department of Highways) was formed.
- **1968:** The legislation reorganized highway matters and created the Division of Highways
- **1991:** CDOH became Colorado Department of Transportation (CDOT)

## Message from the Executive Director



Over the last four years, CDOT has found ways to improve the performance of our organization, to get our money out of the banks and into the roads, to hold each other accountable for doing our best, to improve our operations and maintenance, to drive new choices such as transit and Express Lanes, and to positively impact and improve people's lives.

All of these accomplishments have been structured under our 5+1 initiative, five core objectives to deliver more to our customers and one to deliver more to our employees. Fiscal Year 2014 (FY14) has seen many of our key initiatives begin to take hold and become CDOT's new normal.

One of the most critical challenges facing CDOT and our customers has been identifying the best way to use our dollars to provide the most benefit to the traveling public. As a result, we re-evaluated how we use our cash to better match our expenditures, with the goal of more quickly spending the \$1.5 billion we had sitting in bank on construction.

The results were immediate. The FY14 construction spending was \$742 million, surpassing our five-year moving average by nearly \$200 million. This included approximately \$50 million we spent continuing our recovery from the devastating September 2013 floods. Overall, we promised to increase our construction by nearly 50 percent through improved programming and cash management and we are on track to do that. Additionally, we celebrated the first five years of FASTER. FASTER legislation has provided a much-needed funding source for the repair and improvement of our transportation system, including 270 highway safety projects, 130 bridge repair or replacement projects and 138 transit projects across the state.

"One of the most critical challenges facing CDOT and our customers has been identifying the best way to use our dollars to provide the most benefit to the traveling public."

This year, we also entered into the state's first publicprivate partnership which accelerated the U.S. 36 Express Lanes project and shifted toll revenue risk and operating and maintenance risk to the private sector.

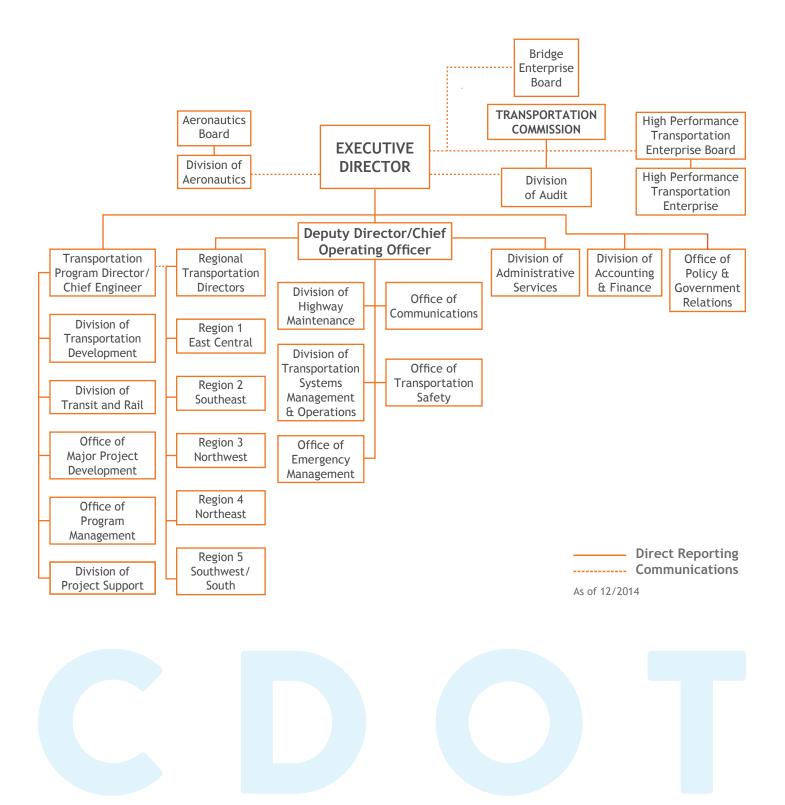
Between improving how we manage heavy volumes of traffic and weather on I-70 west in the mountains, to engaging over 60,000 Coloradans to provide input on the development of our Statewide Transportation Plan, to launching the "Drive High, Get a DUI" campaign to address marijuana-related impaired driving, CDOT is working on a myriad of projects and programs to benefit our customers in a constrained funding environment.

Over time, CDOT will continue to explore options for more sustainable funding, improve business practices, enhance our system resiliency to address extreme weather events, implement sustainability and environmental initiatives, and prepare our organization and our workforce for the future.

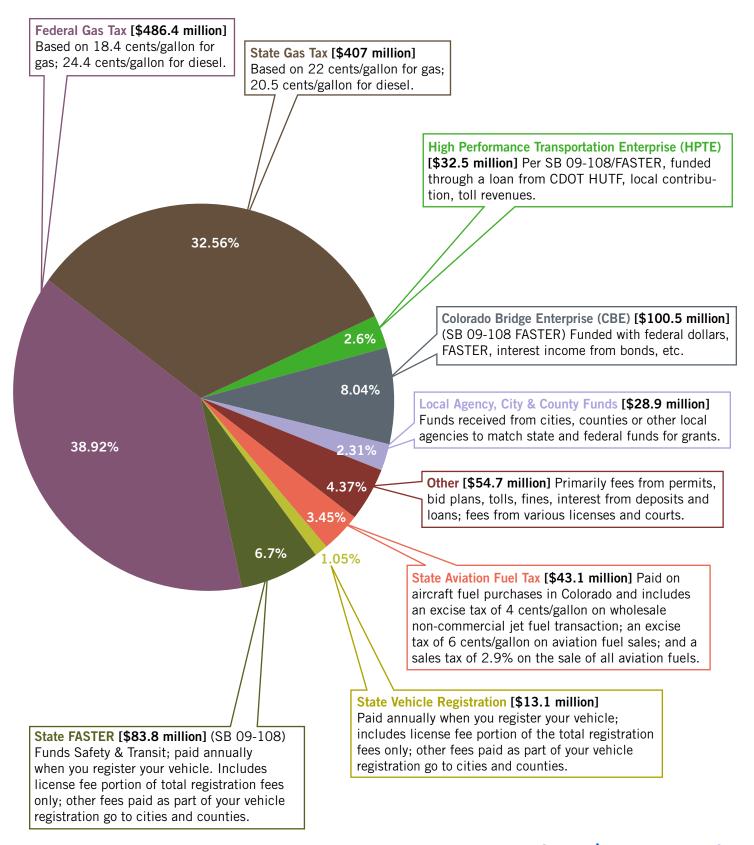
This isn't just a conversation that we are having internally. In late fall 2014, CDOT hosted over 450 business and industry leaders plus policymakers from around the state to spend an afternoon together so all could gain an understanding of the state of transportation in Colorado, learn about the future of transportation, understand the trends and what is happening in states around us and how Colorado compares and ultimately competes.

This year's annual report captures not simply our progress in FY 14, it points the way to how CDOT will continue to provide, operate and maintain a multi-modal transportation system that is best for Colorado and supports our economic vitality.

## How We Are Organized

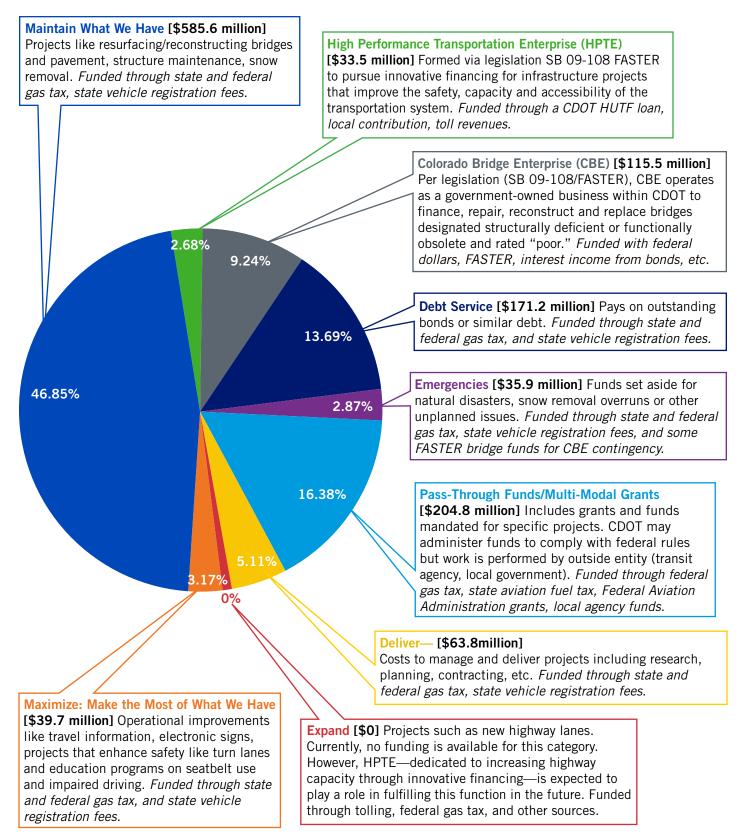


# Where Do Our Funds Come From?



**TOTAL: \$1,249.9 BILLION** 

# How Do We Spend Our Funds?



## TOTAL: \$1,249.9 BILLION

## Your Contribution to Transportation Funding

As you can see from the chart on page 6, CDOT gets the majority of its funding from you—Colorado vehicle users. A portion of the state and federal fuel taxes and vehicle registration fees you pay goes to CDOT, the rest goes to cities and counties throughout the state.

So how much do you as an individual driver contribute annually to support the transportation system you use? CDOT data show the average Colorado driver travels 13,859 miles per year.

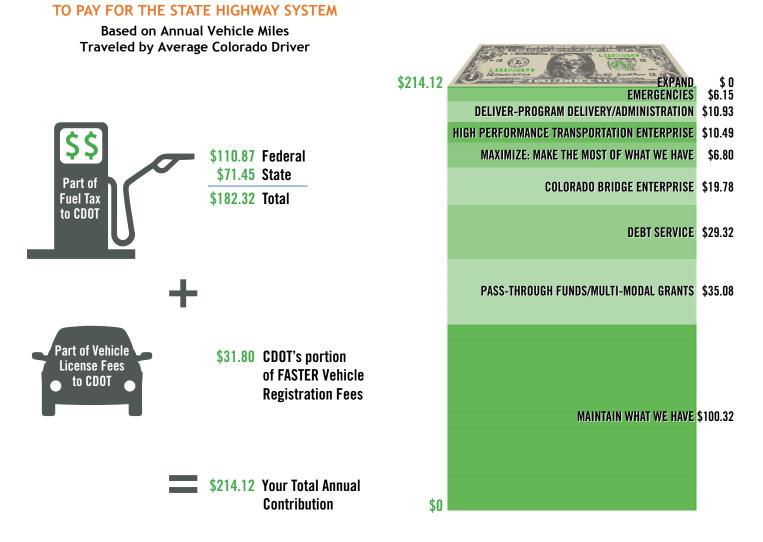
HOW CDOT RECEIVES FUNDS FROM YOU

So, depending upon your vehicle's gas mileage, you spend around \$20-25 a month to use the state's road-ways, likely less than your monthly cell phone bill.

The graphics on this page illustrate how an individual contributes to the state's highway system and how CDOT uses that revenue to maximize each dollar spent.

## HOW CDOT USED YOUR DOLLARS IN FISCAL YEAR 2013

Based on Annual Vehicle Miles Traveled by Average Colorado Driver



NOTE: The amounts estimated represent a breakdown of your average annual contribution if it were spent the way that CDOT spends its entire budget. Also note, these are only estimates. Your actual costs would depend on your vehicle, how much you drive, and other factors.

## Transportation Matters: Programs, Priorities, & Progress

#### MAINTENANCE

- "At CDOT we are known for high-quality maintenance of some of the nation's most difficult roadways. As maintenance takes on a much larger role here, it is important we continue to look for opportunities to improve our strategies. We want to build on the successes we have already had, look at best practices in each region and determine where a consistent approach across the entire department will enable us to meet the needs of the future."
  - -Kyle Lester, Director of Highway Maintenance



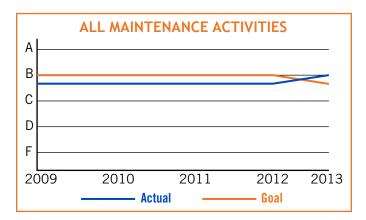
A snow cat speeds up snow removal on SH 82 over Independence Pass so crews can open it for the season by Memorial Day.

CDOT's highway maintenance program accounts for about 20 percent of our annual budget. Altogether, we spend more than 40 percent on engineering and maintenance projects that simply "maintain what we have," as noted on page 7. Of the \$262 million spent by our maintenance program in FY 2014, about \$46 million went towards roadway surface maintenance activities; \$72 million on snow and ice control; \$63 million on signs, striping, signals and the remainder on roadside appearance, bridges, buildings, equipment and our two I-70 tunnels/control rooms (Hanging Lake Tunnel and Eisenhower/Johnson Memorial Tunnel).

CDOT spent 26 percent of our maintenance budget on snow and ice control, including our avalanche control program. There are more than 522 known avalanche paths in Colorado and our crews regularly monitor and control at least 278 of those. During the 2013-14 winter, CDOT experienced 616 hours of road closures due to avalanche control resulting in a total of 29,866 feet of snow covering the centerline of the roadway. Crews spent 8,908 hours on mitigation, triggering 283 avalanches with explosives and handling 158 natural occurrences. Maintenance accomplishments over the past fiscal year include:

- Repaired and maintained more than 49,866 miles of roadway
- Used 238,725.88 tons of asphalt and 1.7 million gallons of liquid asphalt
- Striped more than 100,019 miles and installed 131,434 square feet of pavement markings
- Snowplowed, sanded, and/or deiced 6.1 million miles of highway
- Managed 604 hours of road closures due to snow
- Applied 243,111 tons of solid deicer and 12.4 million gallons of liquid deicer
- Repaired/installed 135,118 feet of snow fence
- Disposed of 108,063 cubic yards of trash with help from 9,744 Adopt-A-Highway volunteers and another 7,831 bags of trash with the support of 65 corporate sponsors
- Replaced and repaired 50,980 signs and sign posts
- Replaced, installed and repaired more than 19.2 million linear feet of fencing

The following graph and table illustrate how CDOT is doing with our Levels of Service for all maintenance activities—from roadway repairs to snow and ice control.



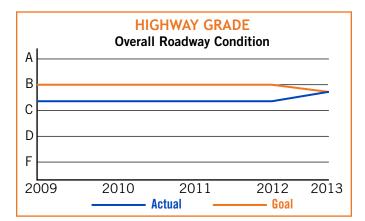
YEAR	2010	2011	2012	2013	2014
Long Range Goal	В	В	В	B-	B-
Actual	B-	B-	B-	В	B-
Budget (in Millions)	\$241	\$240	\$242	\$242	\$249

The long range goal was revised in 2013 to reflect budget and performance evaluation.

## Transportation Matters: Programs, Priorities, & Progress

#### ROADWAYS

CDOT's goal is to improve or preserve the condition of our roadway assets and, as a result, the performance of the highway system. We want to preserve our assets and minimize their life-cycle costs, operate in a financially sustainable manner, and provide a framework to improve the performance on a long-term basis. In other words, we focus on preventative maintenance to preserve our assets and maintain their useful life rather than having to replace them. By spending to preserve and protect our roadways now, we can avoid greater costs down the road.



YEAR	2010	2011	2012	2013	2014
Long Range Goal	В	В	В	B-	B-
Actual	C+	C+	C+	B-	C+
Budget (in Millions)	\$335	\$340	\$389	\$357	\$395

**Note:** 2013 & 2014 highway grades are not directly comparable to previous years. The grades for previous years incorporated the Remaining Service Life (RSL) metric, not the Drivability Life metric, for pavement condition.

Examples—large and small—of our work to preserve and improve our existing highway system over the past fiscal year include:

#### Colorado Blvd. at Hampden Resurfacing Project Cost: \$1.35 million

**Work:** This project involved an innovative phasing schedule to resurface a heavily trafficked intersection in just 17 days using concrete, which provides the benefit of a life cycle of up to 30 years.

### US 24 Wilkerson Pass

#### Cost: \$3.6 million

**Work:** The project combined asphalt paving to repair the roadway's foundation and a chip seal surface to protect and preserve the improvements, extending the drivable life of the highway.

#### I-70 Loma East Resurfacing

#### **Cost:** \$22.7 million (RAMP)

**Work:** This project provided two different kinds of asphalt treatments to renew and protect the surface of this critical stretch of interstate. Safety upgrades were also made throughout.

### I-25 Concrete Slab Replacement North of SH 14

#### Cost: \$2.3 million

**Work:** Work consisted of concrete slab replacement and diamond grinding in the southbound lanes to extend the life of the highway and create a smoother drive.

#### US 491 NM State Line North in Montezuma County

#### Cost: \$13.7 million (RAMP)

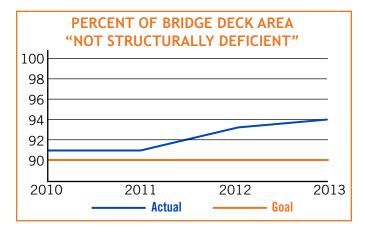
**Work:** The project rejuvenates and prolongs the driving life the roadway, including a full-depth reclamation of the asphalt in some areas and adds lighting at the US 160/US 491 junction and other safety features.



Taken just before the morning rush hour, this photo of Colorado Boulevard and Hampden Avenue resurfacing highlights the large work areas that are possible with an aggressive phasing approach (17 days). CDOT received positive feedback for the quick work at this congested city intersection.

### BRIDGES

CDOT continues to accelerate the repair, reconstruction and replacement of bridges statewide through the Colorado Bridge Enterprise (CBE, formed as part of FASTER legislation, SB 09-108). The Department is responsible for nearly 3,500 bridges and, due in large part to the CBE, we are currently exceeding the goal set by the Transportation Commission of 90 percent of bridge deck area listed as "not structurally deficient" (see graph/table below).



YEAR	2011	2012	2013	2014
Long Range % Goal	90	90	90	90
Actual %	91.5	93.4	94.1	94
Budget (in Millions)	\$113	\$132	\$140.5	\$146

Budget figures include both CBE and CDOT Bridge funds.

A structurally deficient bridge/bridge deck does not meet minimum standards for condition or capacity and often has one or more features in deteriorated or damaged condition. For a structure to be eligible for CBE funding, it must be rated "poor," whether structurally deficient or functionally obsolete (does not meet current design standards or load capacity).

CBE funding comes from a bridge safety surcharge ranging from \$13-32 imposed on vehicle registration based upon vehicle weight, adding approximately \$100 million in revenues to CDOT's annual bridge funding. Of the 130 bridges eligible for CBE funding (as of November 2014), 73 structures have been replaced or repaired, 19 are under construction, 17 are either in design or have completed design and 21 are not yet programmed. Bridges not eligible for CBE funding can receive necessary repairs, preservation and/or rehabilitation with CDOT's Bridge Program funding. More information on the CBE at <u>codot.gov/programs/BridgeEnterprise</u>.

FY 2014 bridge repair and replacement projects include:

#### Wadsworth Bridge at Bear Creek in Lakewood

**Cost:** \$9.66 million (Colorado Bridge Enterprise) **Work:** This project replaced the poor-rated 1957 Wadsworth Boulevard bridge over Break Creek, making our infrastructure safer.

#### SH 120 in Portland, East of Florence

**Cost:** \$6.1 million (Colorado Bridge Enterprise) **Work:** The work replaced a functionally-obsolete, single-lane, 86-year-old bridge in poor condition over the Union Pacific Railroad and Arkansas River.

### **Eagle-Vail Bridge Repairs**

**Cost:** \$11 million (Colorado Bridge Enterprise) **Work:** This project rehabilitates two 1972 bridges in Eagle-Vail on I-70 (MP 169) with repairs to the structure, deck and piers in the river.

#### US 85 Nunn Bridge Replacement

**Cost:** \$4.59 million (Colorado Bridge Enterprise) **Work:** The project replaced the 1961 bridge just north of Nunn. The work involved roadway realignment; embankment improvements, which greatly reduced the amount of guardrail needed; and shoulder widening to eight feet.

#### US 24 Johnson Village Bridge Replacement

**Cost:** \$4.1 million

**Work:** A new bridge replaced the 1937 structure over the UPRR. The new structure has wider shoulders, improved guardrails and a service life of 50-plus years.



The 1961 bridge over the UPRR north of Nunn was replaced this year.

## SAFETY

Making roadway travel safer is one of CDOT's most important responsibilities. CDOT works with many stakeholders to apply the 4E's (Engineering, Enforcement, Education and Emergency Response) to improve traffic safety across the state. In 2014, CDOT and the Department of Revenue worked together to deliver accurate crash data within four months of occurrence. Public agencies statewide use this data for analysis and to make investments in safety.

The Highway Safety Office (HSO) within CDOT also partners with law enforcement agencies and other



traffic safety stakeholders on education, awareness and highvisibility enforcement efforts to save lives by changing driver behavior. Examples include three "Click It or Ticket" education and enforcement seat belt campaigns

and 12 "The Heat is On" high-visibility impaired driving education and enforcement campaigns. We also launched a "Drive High, Get a DUI" campaign to address the issue of marijuana-imparied driving following the legalization of recreational marijuana use.

Further, CDOT engineers safety into the transportation system. We use statistical analysis to identify locations with a high potential for crash reduction and conduct projects to improve the roadway infrastructure. Last year, CDOT reviewed every one of its 200-plus projects to identify safety improvements as well as conducted 40 Federal Highway Safety Improvement Program (HSIP) projects worth \$27 million and 75 FASTER Safety\* mitigation projects worth \$65 million.

The HSIP projects are projected to achieve a safety benefit of \$68 million (the equivalent of preventing 48 deaths; 860 injuries; 7,600 crashes; or any combination thereof) while the FASTER Safety projects are projected to achieve a safety benefit of \$93 million (the equivalent of preventing 66 deaths; 1,180 injuries; 10,500 crashes; or any combination thereof). Example HSIP and FASTER Safety projects include median cable rail, auxiliary lanes, rumble strips, wildlife fence, roundabouts, intersection improvements, shoulder widening, ramp metering, interchange ramp improvements, managed lanes and roadway realignment.



\*2014 number represents targe; actual numbers are not yet available.

CDOT annually develops data-driven plans for targeting safety issues. CDOT renewed the FASTER Safety project selection process and made it more effective. Using that process, a four-year plan for FASTER Safety projects has been developed through fiscal year 2019.

Safety projects on our roadways are not always planned; they can involve workers of many disciplines coming together to handle an emergency event. Here, CDOT maintenance worker, Robert McCullough, conducts traffic control following a major rock fall event on US 550 over Red Mountain Pass. CDOT had to close the highway for nearly a month after a 15-foot thick slab the length of a football field crashed down onto the slope 900 feet above the highway, causing smaller rocks to cascade down onto the road. This video highlights the challenging work that was accomplished to reduce the risk of future events: www.youtube.com/ watch?v=Qqpo7EK3Q00&feature=youtu.be



Rockfall on Red Mountain Pass. CDOT had to close the highway for nearly a month. Photo courtesy of Dan Bender, La Plata County Sheriff's Office.

## Accomplishments: Congestion Relief/Mobility

We updated our strategic plan for Traffic Safety in coordination with statewide agencies and partners. Our vision is to reduce Colorado's transportation fatalities and serious injuries to zero through programs targeting teens, impaired drivers, cyclists, pedestrians, highway users and our infrastructure. Colorado's intermediate goal is to reduce transportation fatalities by 50 percent by 2030. The Transportation Commission set a goal to reduce the number of fatalities by 12 each year to achieve this goal. We've consistently met this goal since 2004, even though the reduction in fatalities has leveled off in recent years. We will continue our focus on improving safety through the many programs that CDOT delivers.

CDOT projects all include safety as a design component. Below is a sampling of projects underway in FY 2014 that have specific traffic safety features, including those that have some FASTER\* Safety funds:

#### Pecos over I-70 Bridge Replacement Project Cost: \$18.4 million

**Work:** The project was originally slated as a bridge replacement, but a roundabout was included to improve safety at this interchange. The roundabout improves safety by eliminating approach turns, broadsides and phased signal timing. The reduced speed around the roundabout also increases pedestrian safety.

### US 160 from West of Walsenburg to La Veta

### Cost: \$1.8 million

**Work:** Installed rumble strips, guardrail at selected locations and approximately 3.7 miles of snow fence.

## SH 133 Safety Improvements in Carbondale

### Cost: \$8 million

**Work:** Work provided resurfacing, widening of one section, construction of a roundabout at Main Street, a traffic signal at Snowmass Drive, trail connections, drainage, roadway, trail lighting and ADA improvements.

### US 385/US 36 Intersection in Yuma County

#### Cost: \$5.5 million (FASTER)

**Work:** The intersection was reconfigured and realigned, new signage and resurfacing.

\*Monies collected under the FASTER (Funding Advancements for Surface Transportation & Economic Recovery, SB 09-108) Safety Fund are to be used for construction, reconstruction or maintenance projects that the State Transportation Commission, a county or municipality determine are needed to enhance the safety of a state highway, county road, or city street. More information at <u>codot.gov/projects/faster</u>.

#### US 160 at Vista/Meadows West of Pagosa Springs Cost: \$1.2 million (FASTER)

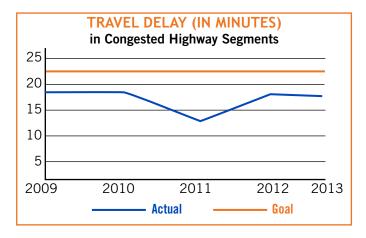
**Work:** Added left-turn lanes from US 160 both directions, minor roadway widening, roadside slope flattening, paved shoulder widening and paved approaches.

### **CONGESTION RELIEF/MOBILITY**

Highway Congestion, as part of the "system performance" category, is measured by travel-time delay. This is the difference between the travel time on highways at the free-flow speed and the time spent in traffic delays. A highway is considered congested when peak traffic volume is 85 percent or more of what the highway was designed to handle.

Measured in 2013, the average travel-time delay on congested corridors was 17.1 minutes per traveler, per day. CDOT has exceeded its goal for reducing travel time delay in recent years in part by adding capacity in certain corridors. Lower growth in the number of vehicle miles traveled on the state highway system each year also is helping to keep travel-time delay in check.

Further, CDOT has implemented tools and strategies such as ramp metering, signal timing and HOV/Tolled Express Lanes. We also use variable message signs, a mobile app and social media so drivers can make choices about how they use the system.



YEAR	2009	2010	2011	2012	2013
Long Range Goal	22	22	22	22	22
Actual	17.2	17.3	13.8	17.2	17.1

# Accomplishments: Congestion Relief/Mobility

Some recent key projects to ease congestion and improve mobility have included:

### SH 121 (Wadsworth), 10th to Colfax

**Cost:** \$10 million (partnership with City of Lakewood) **Work:** Expanding capacity by providing three through lanes on Wadsworth Blvd. in Lakewood. Includes a center median for safer operations, a multi-use path on both sides of the road and drainage upgrades.

## I-70 Eastbound Peak Period Shoulder Lanes

### Cost: \$72 Million

**Work:** Widening to accommodate a tolled travel lane on the eastbound shoulder for peak driving periods between Empire and Idaho Springs. The work includes replacement of bridges over I-70 at SH 103 and east Idaho Springs, signage, construction of retaining walls and water quality treatment, and reconstruction of Water Wheel Park in Idaho Springs. This project will result in a 30-minute average travel time savings.

## I-25 Widening between Woodmen Road in Colorado Springs and Monument

#### Cost: \$66.6 million

**Work:** Widened from two to three lanes each direction, included auxiliary lanes, full resurfacing, guardrail, lighting, signing and a relocated chain-up station.

### I-70B, Exit 26 at US 6 Interchange

**Cost:** \$4 million, including funding from FASTER Safety and the City of Grand Junction design work **Work:** Innovative safety and mobility improvements via CDOT's first Diverging Diamond Interchange (DDI). A DDI eliminates traditional left-hand turns by crossing lanes and shifting drivers to the left side of the road ahead of the main signalized intersection; this gives drivers direct access to a left-hand ramp to the interstate without waiting at the traffic signal; lanes then shift drivers back to the right side.



The I-70 Exit 26 Diverging Diamond Interchange was the first of its kind for CDOT.

## I-76 Brush Reconstruction

### Cost: \$37.6 million

**Work:** This project involved reconstruction of both directions between Fort Morgan and Brush, including local road connections; the work included replacement, reconstruction or rehabilitation of 13 bridges and one box culvert, and created two new diamond interchanges at SH 71 and at Dodd Road.

## US 160/550 West Junction in Durango, La Plata County Cost: \$6.9 million

**Work:** The project constructed CDOT's first Continuous Flow Intersection (CFI) and made safety and multi-modal upgrades to all three intersection approaches, as well as at the intersection with College Drive. A CFI channels left-turning traffic to cross over at a signal prior to the main intersection, reducing conflicting movements at the main intersection and freeing up cycle time for other movements. Work also included raised medians and islands, drainage improvements, curb and gutter, signal poles, bike lanes and pedestrian safety features.



I-25 Woodmen Road to Monument widening.

## Accomplishments: Congestion Relief/Mobility

#### TRANSPORTATION SYSTEM MANAGEMENT & OPERATIONS

The Division of Transportation Systems Management & Operations (TSM&O) celebrated its first anniversary on July 1, 2014. During its first year, TSM&O has developed to include the:

- Intelligent Transportation Systems (ITS) Branch (including the Statewide Traffic Signal & Ramp Metering program)
- Traffic Safety & Engineering Branch (including the Operations Policy & Support program)
- Some Region 1 (Denver metro and I-70 mountain corridor) Traffic Operations staff
- Traffic & Incident Management Branch (including two new Highway Incident Commanders to patrol I-70, from Vail to Golden, and I-25, from 120th to Lincoln, to improve incident quick clearance efforts with local first responders)
- Operations Policy & Support Unit

The RAMP Program helped fund critical statewide operational improvement projects, which will receive \$75 million in funds over the next five years. TSM&O developed an Operations Clearance process to ensure that projects fully consider all operational factors (Safety, ITS, etc.).

The Operations Policy & Support unit spearheaded a new effort called Innovative Bottleneck Mitigation. This effort focuses on implementing creative, low cost, high benefit solutions to reduce delays in bottleneck areas that account for 40 percent of all traffic congestion in urban areas. The southbound I-25 Direct Lane from Dry Creek Road to Lincoln is the first project. Its purpose is to reduce delays by encouraging through traffic to move into the left lane to create space in the right lane for traffic entering and exiting I-25. If successful, the strategy could be expanded to other areas with similar operational conditions.

The I-70 mountain corridor, from Vail to Golden, experienced a challenging winter in 2013-14. The corridor received 39 percent more snowfall than the previous winter, including 163 percent more January and February. TSM&O focused the majority of its efforts in FY14 on reducing delays in this corridor, especially after the excessive delays that culminated on February 9, 2014, with a three hour delay on eastbound I-70 between Silverthorne and the Eisenhower-Johnson Tunnel (EJMT). After that day, CDOT and our partners implemented plow escorts from Silverthorne to EJMT, led by CDOT snow plows and Colorado State Patrol. The escorts were used to conduct proactive closures to clear snow/ice and prevent metering at EJMT; reduce hazmat trips through EJMT during peak hours when Loveland Pass was closed; meter the on-ramps to eastbound I-70 at Silverthorne and Frisco; and use traffic control at Loveland Ski Area parking lots to control the flow of traffic onto I-70 during peak hours.

Results of operational changes after February 9th on days where CDOT otherwise would have metered Eisenhower Tunnel:

- 50% reduction in travel times Frisco to Georgetown;
- 67% decrease in vehicle hours of delays;
- 32% decrease in I-70 closure time;
- 87% decrease in passenger vehicle spin-outs;
- 95% decrease in commercial motor vehicle spin-outs;
- 45% more traffic volume through the eastbound bore at EMJT; and
- Only one metered EJMT day after February 9th, conducted in combination with Plow Escorts.





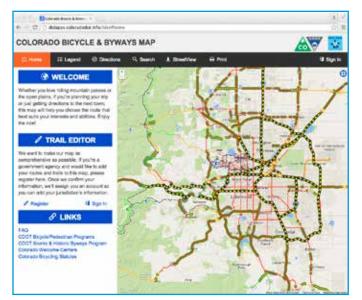
Increased traffic incident management through TSM&O has included the new "Change Your Peak Drive" campaign on I-70 West, as well as the new <u>www.goi70.com</u> website.

# Multi-Modal Transportation

## **BICYCLE AND PEDESTRIAN**

A highlight of 2014 was the launching of CDOT's interactive Statewide Bicycle and Byways map. Users can go to <u>http://dtdapps.coloradodot.info/bike</u> and learn shoulder width and traffic volume; receive point-topoint directions based on where they want to ride; search for amenities such as bike shops, restaurants, and lodging; and select a street view to see the roads on which they are considering traveling.

Additionally, representatives of local and regional governments can request "trail editor" status and upload their local route and trail data, making the map more comprehensive as data is added. CDOT's map is already being used as a model in numerous other states.



New Colorado interactive/online Statewide Bicycle and Byways map. Users can get directions, find bike shops, restaurants, lodging and see shoulder widths, traffic volume and street views.

The map also identifies information of interest to all travelers such as public lands, Colorado's Scenic and Historic Byways, rest areas, park and ride facilities, and more. The map is also available in printed format. CDOT distributes about 40,000 a year to individuals, groups and government agencies, including schools.

#### TRANSIT & RAIL

Our Division of Transit & Rail (DTR) was created in 2009 through FASTER legislation and has been working



CDOT's first bus service, Bustang, will serve routes between Denver and Colorado Springs, Glenwood Springs and Fort Collins.

to integrate transit into the Colorado's transportation system. In FY 2014, the Transportation Commission approved the use of FASTER Transit funds for the creation of interregional express (IX) bus service to be operated, via contractor, by CDOT. Bustang will provide service between Fort Collins and Denver; Colorado Springs and Denver; and Glenwood Springs and Denver. The service is slated to start March 2015. Horizon Coach Lines will be the operator, and thirteen MCI buses are on order.

Through continued work on the Statewide Transit Plan and a Capital Inventory Project, the Division has integrated a passenger rail, intercity & regional bus and local transit vision for the state. The Statewide Transit Plan has also produced regionally-based recommendations for near-term (1-6 years) implementation of enhancements and improvements to local transit services, as well as for increased efficiencies through coordination.

CDOT continues to be the recipient of Federal Transit Administration (FTA) grants for Colorado rural and small urban areas. These FTA funds, in combination with the FASTER Transit funds, are distributed and administered by DTR to local transit providers throughout the state. CDOT has implemented a new system, COTRAMS, as a portal tool for grant management, grant reporting, data analysis and electronic invoicing by both the state and transit grant partners.

## Multi-Modal Transportation

### AERONAUTICS

The Division of Aeronautics is funded exclusively from aviation fuel sales tax revenues appropriated to the Colorado Aviation Fund. The Colorado Aviation Fund supports individual aviation grants to Colorado airports, aviation education grants, and statewide aviation program grants. Grants awarded are used to fund projects including pavement maintenance, safety enhancements, local match for federally funded airport improvements, and system-wide safety and outreach programs.

A total of \$21.6 million in aviation grants were awarded in FY 2014. Of this total, \$19.8 million was awarded to Colorado airports in the form of discretionary aviation grants. A total of \$400,000 in aviation education grants were awarded to competing local aviation education entities. The remaining \$1.5 million was allocated for statewide aviation programs such as the Colorado Mountain Automated Weather Observing System (AWOS) Program, Crack Sealant Rebate Program and the Colorado Aeronautical Chart and Airport Directory. Moving forward, the division will be addressing the impact of reduced aviation sales tax revenue on available funds for the grant program.



Rocky Mountain Metropolitan Airport received a \$572,000 FY 2014 federal match grant for the reconstruction of runway 12L/30R. Total state, local and federal funding for this project was \$11.4 million.



The Aspen-Pitkin County airport has been identified, along with three other Colorado airports, has been identified as a potential candidate to test the Blended Airspace concept.

Phase III of the Colorado Surveillance Project, Blended Airspace—Remote Airport Traffic Control Program, continued to move forward with the partnership of the Federal Aviation Administration (FAA). The next step in this program will be to initiate a demonstration project at one or more Colorado airports.

Four Colorado airports have been identified as potential candidates to test the Blended Airspace concept: Fort Collins-Loveland Municipal Airport, Greeley-Weld County Airport, Durango-La Plata County Airport and the Aspen-Pitkin County Airport. Each of these airports is currently non-towered and possesses unique operational characteristics that support their consideration for the demonstration project.

In FY 2014, the FAA provided the Colorado Division of Aeronautics with a planning grant to fund the development of a statewide airport sustainability program for general aviation airports. The sustainability program will provide Colorado's public-use general aviation airports with a tool to help manage each airport's unique environmental, economic and social challenges.

## PORTFOLIO, CASH & PROGRAM MANAGEMENT

CDOT has implemented a number of changes over the past two years that affect our program delivery. We've shifted from a regional approach to a statewide approach for programming projects, moved to an expenditure-based budgeting program, and implemented the Responsible Acceleration of Maintenance and Partnerships (RAMP) initiative (detailed below). In addition, the historic flooding that occurred in 2013 directly impacted the transportation infrastructure and underscored the critical need for more nimble project delivery and associated business processes.

We have identified that additional construction can be funded by changing how we program and budget our projects. In FY 2014, CDOT initiated the Program and Cash Management initiative to develop our ability to effectively and efficiently integrate, monitor and report to stakeholders on these programs. We established the Office of Program Management that consists of a centralized unit at headquarters, as well as regional Program Management Representatives. Concurrently, we integrated our Risk Based Asset Management Plan to help identify needs throughout the state's infrastructure and fund programs, taking into account how to best manage our assets. Furthermore, projects are also funded differently so that we can provide more elegant use of program dollars to deliver better service. By implementing the expenditure-based funding method, CDOT can start projects sooner and complete them more quickly.

# RESPONSIBLE ACCELERATION OF MAINTENANCE & PARTNERSHIPS (RAMP)

The RAMP program, while not a long term funding solution, allows CDOT to increase the amount of work to preserve and improve the state highway system through 2017 by funding projects based on the year of expenditure, rather than saving the full amount before construction can begin. RAMP provides funding for partnership projects with local governments and private firms to improve the system, projects to enhance the operation of the system, and asset management projects to preserve the system.

As of January 22, 2015 there are 42 partnership projects with total project costs of \$939 million and 40 operations projects with total project costs of \$148 million approved by the Transportation Commission. Additional information, including a project list, is being updated online at <u>www.codot.gov/programs/RAMP</u>.



I-76 is reconstructed between Fort Morgan and Brush—the first project to receive RAMP funding in CDOT's Region 4 (northwest Colorado). The project included rehabilitation, repair or construction of 13 bridges; a box culvert; two new diamond interchanges at SH 71 and at Dodd Road; and ramp and drainage improvements.

### TRANSPORTATION ASSET MANAGEMENT

CDOT has turned in recent years to a Transportation Asset Management (TAM) approach for maximizing investments in bridges, roadways, tunnels, culverts and other physical transportation assets.

The TAM approach marks a shift in how CDOT allocates money. Rather than the past approach of allocating funds to several small pots throughout CDOT's Transportation Regions, the department is increasingly analyzing the entire state, weighing projects and equipment investments based on benefits and costs, and allocating funding to the highest-value investments. Investments are based on meaningful asset performance and condition data. Through strategic investment in maintenance and preservation, TAM minimizes the costs over the life-cycle of bridges, pavement and other assets, while maintaining acceptable performance.

This was a year of milestones for TAM at CDOT. A fouryear project list was developed, and asset budgets were set for fiscal years 2016-18. CDOT also hit its 2014 targets for the quality of its maintenance, as well as for bridge and Interstate pavement condition.

Asset management is catching on nationwide. The federal government now requires states to develop a risk-based transportation asset management plan and

## Enhanced Business Practices

to identify the most cost-effective ways to spend limited dollars. CDOT's plan can be found online at <u>http://coloradotransportationmatters.com/data/</u> your-cdot-dollar/asset-management/

Asset management will help give CDOT's engineers and managers the data they need to prioritize maintenance work in the face of rising costs and flat revenues, allowing our transportation system to endure for years to come.



Resurfacing I-70 between DeBeque and Loma in Mesa County is a good example of maximizing our transportation dollars to extend the life of one of our critical assets—roadway surface.

#### PLANNING, RESEARCH & ENVIRONMENTAL STEWARDSHIP

CDOT's continues to grow and develop our web-based Statewide Transportation Plan, which outlines what our multimodal transportation options will look like in Colorado over the next 10 to 25 years. Annual funding for transportation can no longer keep pace with the costs of operating, maintaining, and improving the statewide transportation system, so it is more important than ever that we use data-driven investment strategies that maximize what we get. For interactive presentations, information about CDOT's planning process and public involvement in our Statewide Transportation Plan, please see coloradotransportationmatters.com.

Planning is supported by our research efforts. Last year, CDOT completed 14 research reports to advance our practices in areas including accelerated bridge construction, guardrail lighting systems, curing of high-performance concrete, Hot Mix Asphalt processes and more.

An imporant component of our planning and project delivery processes is our environmental program.

CDOT places a high priority on protecting the environment and quality of life for Colorado's citizens as we build and maintain our transportation systems and services. We have completed new and improved Water Quality Training for CDOT staff and our contractors; launched a new CDOT Sustainability web site and continue to support our wildlife mitigation projects and programs through road kill data that serve to identify key 'hot spots' on our state highways. Statewide in 2014, we had 16 active Environmental Assessment (EA) and Environmental Impact Statement (EIS) NEPA documents on key transportation corridors, such as SH 9 Iron Springs and I-25 through Pueblo. There were four EAs, four Findings of No Significant Impacts, one Supplemental Draft EIS and one Record of Decision signed in 2014, as well as numerous 757 active Categorical Exclusion (CatEx) projects.



A recent example of CDOT's environmental stewardship is the conservation of the endangered Pagosa skyrocket. The plant has a high affinity for roadsides in Archuleta County. CDOT acquired an 8-acre conservation easement (CE), to which 30 individual plants have been successfully relocated. This CE will now provide a relocation habitat for future area projects, potentially saving 200 hours and up to \$50,000.

#### HIGH PERFORMANCE TRANSPORTATION ENTERPRISE

Colorado's aging transportation system is under pressure. The state's increasing population growth pushes against budget realities and seriously impacts the ability to maintain and expand this vital state asset. The High Performance Transportation Enterprise (HPTE) exists to bring creative solutions to the challenge, providing financial alternatives for the mobility and other transportation needs of Colorado in the 21st century. HPTE's activities and programs, finances and current projects provide critical tools for addressing mobility in many critical metro corridors.

## Partnerships

In 2014, HPTE entered into the state's first publicprivate partnership with Plenary Roads Denver on the US 36 BRT/Express Lanes project. Phase I of the project is on track to open by July 1, 2015, and Phase II by early 2016. HPTE's public-private partnership with Plenary makes it possible to deliver this unique multi-model state asset years earlier than otherwise possible and brings with it almost 600 new jobs in the process.



A milestone in the US 36 Express Lanes project—the Uptown Avenue bridge opening—was celebrated in October, 2013.

Additionally, HPTE has been asked by CDOT to look at the C-470, I-70 East, I-70 West and I-25 North corridors —each of them severely congested in spots. HPTE is actively exploring the potential for alternative delivery approaches in these corridors, looking at the possibility of accelerating the improvements, saving on up-front costs, maximizing the value of taxpayer resources, and increasing mobility and choice for travelers.

A guiding principle of HPTE's work continues to be its commitment to public participation and transparency. In 2014, HPTE adopted a new policy to increase opportunities for public involvement in setting direction for transportation solutions. HPTE's success depends on an open dialogue with the General Assembly, local governments and agencies, the business sector and employers, and transportation consumers. Please see more at <u>https://www.codot.gov/programs/</u> <u>high-performance-transportation-enterprise-hpte</u>.

## LOCAL AGENCY PROJECTS

CDOT works with local agency partners to enhance a community's existing transportation system through the federal Transportation Alternatives Program (TAP).

To receive funding through the TAP, a local, state or federal government agency must sponsor the project, and the sponsor must provide a minimum of 20 percent of the project costs. Cities and counties throughout Colorado must submit projects to the CDOT regional office in their area for consideration. A selection panel comprised of representatives from the area's Regional Planning Commissions reviews and ranks the applications based on specific criteria including project eligibility, engineering issues and cost estimates.

Some examples of Local Agency projects underway in FY 2014 include the following:

- Bus Benches Project: City of Wheat Ridge
- Safe Routes to School Project (Elementary and middle school area sidewalks): Town of Las Animas
- Crested Butte Train Depot: Town of Crested Butte
- Sterling Bike Lanes (Phase IV): City of Sterling
- Railroad Avenue (SH 145) Streetscapes Project (Phase II): Town of Dolores



Transportation Alternatives Program funding, with a local match from the Town of Dolores, helped construct new sidewalks and other enhancements on US 145 (Railroad Avenue).

## Partnerships

## COLORADO SCENIC & HISTORIC BYWAYS



This CDOT program celebrated its 25th anniversary in 2014. The anniversary was commemorated in a variety of ways. A logo and poster (with donated photography by John Fielder) were created. Governor Hickenlooper signed

a proclamation re-dedicating the 25 Byways (11 are designated nationally as America's Byways<sup>®</sup>). The Colorado House and Senate paid tribute from the legislative floors, and a two-day conference was held.

The conference provided sessions on future planning and funding; historic preservation; and best practices for creating awareness and increasing travel along the Byways. Participants were also inspired by officials from Japan's Hokkaido Scenic Byways during a special lunch presentation.

Colorado's 25 Scenic and Historic Byways offer the traveler a unique experience based on exceptional scenery, archeology, natural history, culture and/or recreational benefits. Although each byway functions independently, CDOT's roadways and program are the ribbon that connects them to create a positive experience for the traveler, and an economic benefit to the state.

#### Colorado Scenic and Historic Byways Quick Facts:

- 2,492 miles (state highway miles 2,006; county/local roads 486)
- 140 driving hours
- 47 counties
- 11 America's Byways® (more national designations than any other state)
- 10 are part of U.S. Forest Service Byways; two are Bureau of Land Management Back Country Byways

The front and back covers of this report feature photos taken along each of the byways. See credits at right.

More photos and facts are posted on the Colorado Scenic and Historic Byways 25th Anniversary Facebook page. Additional information can be also found online at <u>www.codot.gov/travel/scenic-byways</u>.

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This photo, taken by photographer Cathy Edwards, shows The Tabor Opera House in Leadville. This is one of the historic sights along the Top of the Rockies Scenic Byway.

## How to Reach Us / Get Involved

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**Division of Project Support** 303.757.9364 Scott McDaniel, Director

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Call Todd Monday at number above for appointments Ann Beardall [Pilot Organizations] Ray Beck [Western Slope Governments] Jeffery Forrest [Eastern Plains Governments] Joe Rice [Aviation Interests-at-Large] Robert Olislagers [Airport Management] William "T" Thompson [Eastern Slope Governments] John Reams [Western Slope Representative]

## State Transportation Commission 303.757.9025

www.codot.gov/about/transportation-commission (Counties in each Commissioner's district are noted) District 1–Shannon Gifford (Denver) District 2-Edward J. Peterson, Chairman (Jefferson) District 3–Gary M. Reiff\* (Douglas, Arapahoe) District 4–Heather Barry (Adams, Boulder) District 5-Kathy Gilliland\* (Larimer, Morgan, Weld) District 6–Kathy Connell, Vice Chair (Clear Creek. Gilpin, Grand, Jackson, Moffat, Rio Blanco, Routt) District 7–Douglas Aden\* (Chaffee, Delta, Eagle, Garfield, Gunnison, Lake, Mesa, Montrose, Ouray, Pitkin, Summit) District 8-Sidny Zink (Alamosa, Archuleta, Conejos, Costilla, Dolores, Hinsdale, La Plata, Mineral, Montezuma, Rio Grande, Saguache, San Juan, San Miguel) District 9–Les Gruen (El Paso, Fremont, Park, Teller) District 10-Bill Thiebaut (Baca, Bent, Crowley, Custer, Huerfano, Kiowa, Las Animas, Otero, Prowers, Pueblo) District 11-Steven Hofmeister (Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Phillips, Sedgwick, Washington, Yuma) Herman Stockinger, Secretary \*Also serve on HPTE Board

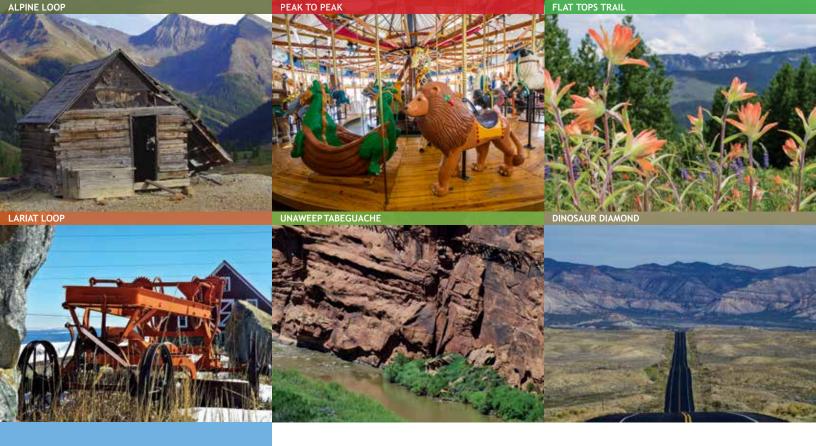
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### Statewide Transportation Plan

## www.coloradotransportationmatters.com

A collaborative shorter-term (10-year) and long-term (25-year) visionary and direction-setting plan adopted by the Colorado Transportation Commission in May 2014. The plan identifies policies that define how to spend limited transportation dollars while balancing preservation, maintenance, and capacity improvements with asset management. Critical input from regional stakeholders, multimodal transportation interests, and the public produced a plan able to transform the statewide vision into a reality.

Traveler Information www.cotrip.org





The Colorado Scenic and Historic Byways Program—celebrating its 25th anniversary this year—is a statewide partnership to provide recreational, educational and economic benefits to Coloradans and visitors. This system of outstanding touring routes in Colorado offers the traveler identification and interpretation of key points of interest while providing for the protection of significant resources.

## Guiding Travelers to Exploration and Inspiration on Colorado's Treasured Scenic and Historic Byways

