

2015-16 CDOT Performance Plan



COLORADO
Department of
Transportation



CONTENTS

- Introduction & Overview2
- Department Description.....2
 - Strategic Framework, Vision and Mission.....3
 - Department Structure3
 - Major Functions4
 - Locations.....5
- Plan Structure6
 - Employee Involvement6
 - Changes from 2014-15 Plan.....6
- Process Improvement Strategies7
- Strategic Policy Initiative No. 1: Safety8
- Strategic Policy Initiative No. 2: Pavement Condition11
- Appendix I: Organizational Chart14
- Appendix 2: April 2015 Evaluation.....15

Introduction & Overview

The Colorado Department of Transportation (CDOT) is pleased to present its Performance Plan for fiscal year 2015-16. This plan will help the Department serve Coloradans by effectively administering and delivering transportation-related programs and services.

Described in this document are selected one- and three-year Strategic Policy Initiatives; strategies and processes supporting those initiatives; output and outcome measures indicating performance levels; and a description of the environment, inputs and the customer of each initiative. A description of the Department also is included.

The Performance Plan is required by the 2013 revision of the State Measurement for Accountable, Responsive and Transparent Government (SMART) Act. The Governor's Office of State Planning and Budgeting (OSPB) provides guidance each year on recommended and required content.

Under new executive management, CDOT in June 2015 began developing a new strategic framework that will include a new vision and mission and new Strategic Policy Initiatives. (See page 3.) The Department will resubmit this plan in September 2015 to reflect this new framework.

Performance measures, goals and the presentation of this plan also are changing this year due to consultations with OSPB throughout fiscal year 2014-15. (See page 6.) Revisions may continue to occur through this partnership, and as CDOT completes its annual review of the Federal Highway Administration-CDOT Stewardship Agreement and other documents that contain many of the same or similar performance indicators.

Department Description

The Colorado Department of Transportation (CDOT) is the cabinet department that plans for, operates, maintains and constructs the state-owned transportation system, including state highways and bridges. The Department's statutory authority resides within Title 43, Part 1, Colorado Revised Statutes (2015). Article 1 vests the Colorado Transportation Commission with authority over planning, development, and adoption of CDOT's annual budget.

CDOT is responsible for a state highway system that encompasses more than 9,100 center-lane miles (about 23,000 total lane miles) and includes more than 3,400 bridges. This system each year handles more than 28

billion vehicle miles of travel. Although the Interstate system accounts for only about 10 percent, or 952, of the center-lane miles on the state system, about 40 percent of state-highway travel within Colorado takes place on Interstate highways.



Interstate 36 at Westminster, October 2014.

Strategic Framework, Vision and Mission

Under the guidance of new executive management, CDOT in June 2015 began developing a new strategic framework that will include a new vision, mission and Strategic Policy Initiatives.

CDOT in this effort is being guided by the “North Star” of becoming the No. 1 transportation department in the nation. To approach this summit, CDOT has identified three “peaks” it must reach:

- **Our people**—CDOT will develop employees with a passion for coming to work every day and attract new employees who want to work for the best transportation department in the nation.
- **Leading-edge technology**—CDOT will deploy leading-edge technology so Coloradans and visitors can move more reliably and safely.
- **A healthy multi-modal system**—CDOT will enhance Colorado’s roads, bridges and multi-modal options so the Department’s customers can go where they want more safely, easily and confidently than ever.



CDOT intends to become the No. 1 transportation department by reaching the three “peaks” above.

The Department’s most recently updated **vision** is 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, goods and information by offering convenient linkages among modal choices. CDOT’s **mission** is to provide the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods and information. CDOT’s core values are safety, people, respect, integrity, customer service and excellence.

From these organizational priorities, the Department establishes mid- to long-term performance goals and objectives. Policy Directive 14, an updated version of which was adopted by the Governor-appointed Colorado Transportation Commission in early 2015, provides policy direction on investment decisions to achieve certain performance levels for the statewide transportation system, including safety, infrastructure condition, maintenance and system performance levels.

Policy Directive 14 objectives are determined to be achievable, but aspirational goals also may be included. The objectives set direction for funding levels for various programs in the long-range Statewide Transportation Plan, the near-term Statewide Transportation Improvement Plan (STIP), and the Department’s annual budget.

Department Structure

The state’s transportation system is managed by CDOT under the direction of the Colorado Transportation Commission, which is composed of 11 members who represent specific districts. Each commissioner, appointed by the Governor and confirmed by the Senate, serves a four-year term. The commission directs policy and adopts Departmental budgets and programs.

The Executive Director’s Office leads the Department in planning for and addressing Colorado’s transportation needs. The Executive Director and other members of the Executive Management Team set the direction of the Department, make recommendations to the Transportation Commission, ensure consistent communication, set internal policy, set short-term and long-range goals, and provide leadership for the Department through the execution of the Transportation Commission’s policies and budgets.

CDOT’s Chief Engineer, who is also the Transportation Program Director, is responsible for integrated transportation program-development functions including planning, engineering, design and construction. Reporting

to the Chief Engineer and Transportation Program Director are CDOT's Division of Transit & Rail, Division of Transportation Development, Office of Major Project Development, Project Support and Office of Program Management.

The Department's divisions and offices, along with its Transportation Regions, perform an array of functions. Examples include:

- Colorado's five Transportation Regions operate under the guidance of the Deputy Director/Chief Operating Officer and their respective Regional Transportation Directors. CDOT's Transportation Regions design highway projects and awards contracts to private companies that submit the lowest bids to construct the projects. The Regions also maintain the state highway system and maximize contact with local governments, industry and the public. Each Engineering Region covers all aspects of CDOT operations for that Region, including engineering, planning and environmental management, traffic, right-of-way and surveying, and utilities.
- Regions, supported by the Division of Highway Maintenance, also take care of the highway system by plowing snow, repairing pavement, maintaining guardrail and more.
- The Division of Transportation Systems Management & Operations (TSM&O) focuses on implementing low-cost, high-value operational improvements to get more out of Colorado's existing transportation system.
- The Office of Transportation Safety helps local law-enforcement agencies with special funds to provide educational programs to reduce distracted and impaired driving and to increase the use of safety belts.
- The Division of Aeronautics supports aviation interests statewide, including awarding and administering grants to help improve local airports.
- The Division of Transit and Rail provides assistance to numerous transit systems in the state.
- The Division of Transportation Development manages the statewide transportation-planning process and ensures the Department fulfills its environmental and reporting obligations.
- The Office of Major Project Development helps CDOT and the High Performance Transportation Enterprise (HPTE) more effectively and efficiently develop major projects through the promotion of consistency in the advancement, management and oversight of such projects.

Major Functions

CDOT administers highway, aviation, transit and rail, and other programs pursuant to state laws, federal laws and the policies of the Colorado Transportation Commission. The Department in this Performance Plan uses six functional categories to describe its work:

1. **Capital Construction:** The Department delivers bridge, pavement and other capital construction projects. CDOT ensures pavement, tunnels, bridges and other structures statewide are properly designed, constructed, and maintained. **Customers:** All resident, tourist and recreational travelers on Colorado's state highway system; business customers such as the freight and snow-sport industries; the construction community; transit services; the Federal Highway Administration; law enforcement agencies; the military; counties; municipalities and others.
2. **Operations and Maintenance:** CDOT maintains and operates the state highway system. The Division of Transportation Systems Management and Operations (TSM&O) plans, develops, and administers a statewide program to reduce congestion and improve the safety, security, mobility, and efficient use of Colorado's existing highway system. TSM&O improves the surface transportation system through activities other than building new capacity. Examples include operating Variable Messaging Signs that allow travelers to adjust trips based on the latest information and traffic signals on ramps that dynamically control the rate at which vehicles enter freeways. Meanwhile, the Division of Highway Maintenance

provides policy and guidance for the statewide maintenance program. This Division also maintains operational oversight for the administration of the maintenance program for the nine maintenance sections. CDOT's maintenance forces take care of the highway system in numerous ways including plowing snow, and striping and repairing pavement. **Customers:** All resident, tourist and recreational travelers on Colorado's state highway system; business customers such as the freight and snow-sport industries; transit services; the Federal Highway Administration; law enforcement agencies; the military; counties; municipalities and others.

3. **Safety:** CDOT strives to reduce the incidence and severity of motor-vehicle crashes and associated human and economic loss. This is done by incorporating roadway-safety engineering principles in all state highway construction and enhancement projects, conducting safety-specific infrastructure projects, and by administering data-driven safety-education grant programs to influence driver behavior and support law enforcement and local community safety projects. CDOT also works to expand safety partnerships and to provide tools for safety advocates to work with the Department. **Customers:** All resident, tourist and recreational travelers on Colorado's state highway system; business customers such as the freight and snow-sport industries; safety partners such as Mothers Against Drunk Driving and the Colorado Department of Public Health and Environment; law enforcement agencies including the Colorado State Patrol; transit services; the Federal Highway Administration; the National Highway Traffic Safety Administration; the military; counties; municipalities and others.
4. **Program and Project Support:** CDOT provides administrative, planning, financial and other support for the transportation system. Project Support includes CDOT Administration, State Planning and Research, the State Infrastructure Bank, State Highway Fund Contingencies, and the Debt Service and Certificates of Participation programs. CDOT maintains Local Programs including the Transportation Alternatives, STP Metro, Congestion Mitigation and Air Quality (CMAQ) and Safe Routes to School programs. **Customers:** All users of the state highway system; CDOT staff; debt holders; the Federal Highway Administration; Metropolitan Planning Organizations; Transportation Planning Regions; counties; municipalities and others.
5. **Transit and rail:** CDOT supports transit and rail. The Transit and Rail Division plans, develops, finances, operates, and integrates transit and rail into the statewide transportation system. The Division works in coordination with other transit and rail providers to plan, promote, and implement investments in transit and rail services statewide. The Division also is responsible for administering and expending state and federal transit funds and for developing the Statewide Transit Plan and the Freight and Passenger Rail Plan. **Customers:** Local transit agencies and their users; human service transportation providers; the Federal Transit Administration (FTA); Regional Transportation Authorities; and Transportation Planning Regions.
6. **Aeronautics:** CDOT supports statewide aviation interests. The Department's Division of Aeronautics collects and distributes aviation fuel tax revenues and provides services including planning, project development and airport grants administration. **Customers:** Colorado public-use airports and their users; the flying public; pilots and other aviation professionals, including those within the Federal Aviation Administration.

Locations

CDOT's headquarters building is at 4201 East Arkansas Ave. in Denver. The Department owns about 1,200 buildings statewide, including the headquarters building in Denver and five regional offices in Denver, Durango, Grand Junction, Greeley and Pueblo. This inventory also includes 344 storage sheds, which is the most numerous type of building in CDOT's inventory, and 297 maintenance/repair buildings, which is the second most common type of building.

Plan Structure

As discussed on page 3, CDOT in June 2015 began developing a new strategic framework that will include a new vision, mission and Strategic Policy Initiatives. The focus of this effort is to become the nation's No. 1 transportation department. CDOT will achieve this summit by reaching "peaks" including a passionate workforce, deploying leading-edge technology and developing a healthy multi-modal transportation system. Each peak will be supported by Strategic Policy Initiatives with specific performance targets.

The Department will resubmit this Performance Plan in September 2015 to reflect the new framework, including new Strategic Policy Initiatives. CDOT's Strategic Policy Initiatives for this draft relate to the transportation system "peak" and include:

- 1. Safety:** Move Colorado toward zero traffic-related deaths. This includes reducing fatalities by 12 per year, from 548 in 2008 to 344 in 2025. CDOT aims to reduce fatalities to 452 for its one-year target (Dec. 31, 2016 target, or calendar year 2016 fatalities) and 428 for its three-year target (Dec. 31, 2018 target, or calendar year 2018 fatalities).
- 2. Pavement Condition:** Attain High or Moderate Drivability Life for 80 percent of sampled lane miles of pavement on the state highway system by 2025, up from 73 percent in fiscal 2014. CDOT plans to achieve 65 percent High/Moderate Drivability Life for its one-year target (June 30, 2016 target, or fiscal year 2015-16 pavement condition) and 69 percent for its three-year target (June 30, 2018 target, or fiscal 2017-18 pavement condition).

CDOT's goals are not limited to initiatives outlined in this plan. Additional performance goals may be found in documents including the Transportation Commission's Policy Directive 14, CDOT's Stewardship Agreement with the Federal Highway Administration, the Department's Risk-Based Asset Management Plan and other documents.

Employee Involvement

Development of the Performance Plan included contacts with members of the Executive Management Team, program managers and other employees. Suggestions have been provided by CDOT employees belonging to the state employee union, Colorado Workers for Innovative and New Solutions. CDOT and the WINS members in fall 2014 discussed including narrative related to employee safety in this year's plan. As a result, CDOT has included information on workers' compensation claims and efforts to promote employee safety within the narrative accompanying CDOT's safety-related Strategic Policy Initiative.

Changes from 2014-15 Plan

This draft of CDOT's Performance Plan features significant changes from the Department's 2014-15 plan.

Several changes this year resulted from consultations with the Office of State Planning and Budgeting. CDOT's Strategic Policy Initiatives have been reduced from the six Strategic Policy Initiatives and six Focus Areas in the Department's 2014-15 plan. Strategic Policy Initiatives focus on high-level areas of improvement and have specific, directional performance targets. Strategies related to the initiatives are clearly labeled and discussed at length. Links between the Department's Strategic Policy Initiatives, Major Functional Areas and customers are clearer. The environment in which CDOT is affecting its Strategic Policy Initiatives is described.

Another driver of change is a nascent effort at the Department to better identify and more frequently monitor operational metrics (leading metrics) that most affect performance on the Department's outcomes (lagging metrics).

For example, the condition of pavement on the state highway system (an outcome) is now associated in the Performance Plan to an operational metric. This operational metric shows the percentage of Surface Treatment program projects advertised for the fiscal year that match recommendations made from CDOT's pavement

management system. This measure helps ensure actual construction projects are matching the pavement models that are designed to help ensure CDOT achieves the desired pavement condition.

Process Improvement Strategies

CDOT's focus on improving business processes is directly tied to the Governor's goal of making government more "effective, efficient and elegant."

The Department began its structured process-improvement initiative in late 2011 and uses the principles and practices of Lean process improvement as its foundation. The key pillars of the Lean initiative are "respect for people" and "continuous improvement."

Process-improvement efforts are spread throughout the Department and include techniques and methods derived from private-sector organizations. CDOT's efforts range from individuals using "Lean Everyday Ideas" to improve their workplaces or processes to large, cross-functional "Global Lean" projects that focus on larger, cross-functional processes. At CDOT, Lean means "everyone, every day, improving every process and every product to benefit every customer."

Several large cross-functional process improvements have been undertaken, and more are underway. Examples include:

- Improvement in managing the system of maintenance work orders. This is expected to result in a 50 percent reduction in the number of work orders with errors, which in turn will reduce the amount of time spent correcting these work orders by approximately half.
- The Department's Heavy Equipment Specification and Procurement Process Improvement Project, which is working to reduce the time needed to procure heavy equipment from an average of 25 months to 14 months.
- The Department's Customer Experience Improvement Project, which streamlined the previous 70-plus step process to fewer than 20 steps.

Results of the Department's recent process-improvement efforts and a summary of upcoming projects are available at <http://www.CoDOT.gov/business/process-improvement/>

Strategic Policy Initiative No. 1: Safety

Initiative Description: Move Colorado toward zero traffic-related deaths. This includes reducing fatalities by 12 per year, from 548 in 2008 to 344 in 2025. CDOT aims to reduce fatalities to 452 for its one-year target (Dec. 31, 2016 target, or calendar year 2016 fatalities) and 428 for its three-year target (Dec. 31, 2018 target, or calendar year 2018 fatalities).

Background: Annual fatalities on all roads statewide have fallen 27 percent in the past 10 years, from 667 in 2004 to 486 in 2014.¹ However, fatalities grew from 447 in 2011 to 486 in 2014. The Department in late 2014, along with its safety partners, issued an updated Strategic Highway Safety Plan (SHSP), which had the vision of “Moving Toward Zero Deaths.” Other states, cities, industry groups and the Federal Highway Administration also support “Toward Zero Deaths” visions. As Colorado’s plan notes, Toward Zero Deaths is “a realistic movement that recognizes the objective for every individual, every family and every community should be zero deaths on Colorado’s transportation network.” (See “Strategies” below for more on the plan.)

Why this matters: CDOT has an ethical responsibility to deliver safety programs. Roadway users—motorists and non-motorists alike—expect to arrive at their destinations safely. Through infrastructure projects and campaigns to influence public behavior, the Department plays an instrumental role in ensuring that roads, bridges, tunnels and other infrastructure statewide are safe for the traveling public. In addition to the human costs, the economic cost of fatalities is considerable. The National Safety Council estimates that the average economic cost per death in a motor-vehicle crash was \$1.5 million in 2013.

Environment: Although declining over the long-term, fatalities since 2012 have begun to climb, as diminishing returns are being seen from improvements in vehicle manufacturing, roadway projects and behavioral education. In response, CDOT and other stakeholders have established action plans for eight emphasis areas (see Strategies section below).

The Department is striving to reduce fatalities at a time when both population and vehicle miles traveled on the highway system continue to grow. Colorado’s population has grown 46 percent in the past 20 years, from 3.7 million people to 5.4 million people. The state’s population will grow to six million by 2020 and 7.8 million by 2040, according to a November 2014 report from Colorado’s State Demography Office. Other factors that could limit gains from current safety efforts include the legalization of recreational marijuana in Colorado, which could increase the incidence of impaired driving, and distracted driving due to increased use of mobile devices.

Conversely, the Department sees promise in emerging technologies such as connected vehicle technologies, both vehicle-to-vehicle and vehicle-to-infrastructure. Such technologies are expected to be a key driver in helping the state move “Toward Zero Deaths.” Passing a primary seatbelt law or helmet law in Colorado also would help reduce roadway fatalities.

In addition to the safety of the traveling public, CDOT strives to promote employee safety. Since the inception of the Department’s Excellence in Safety program in 2013, CDOT supervisors have conducted on average 12,500 safety engagements each fiscal year. A safety engagement is a direct conversation between a supervisor and his or her direct report specifically about safety at a specific job site. These engagements are reported into a database by each supervisor. These efforts have helped achieve a 20 percent reduction in workers’ compensation claims (from 326 claims in fiscal year 2012 to 242 in fiscal year 2015). According to historical trends, this equates with preventing about 85 employees from suffering an injury who otherwise would have done so without the Excellence in Safety process.

¹ Fatalities data is subject to revision as new data become available.

Strategies: CDOT employs myriad strategies to reduce the incidence and severity of motor-vehicle crashes and associated fatalities. Such strategies include:

- Conducting safety-specific infrastructure projects.
- Administering data-driven safety-education grant programs to influence driver behavior and support law enforcement and local community safety projects.
- Monitoring and analyzing crash data to understand trends regarding the number and severity of collisions. Location-specific data identifies sites requiring possible improvement actions.
- Engaging local agencies and organizations to develop safety-improvement strategies to prevent crashes and to address high-incidence locations.
- Advocating for legislation to reduce fatalities and injuries, such as a primary seatbelt law or helmet law.
- Working with the motor vehicle industry to leverage connected vehicle technology.

Colorado’s Strategic Highway Safety Plan, published in 2014, identifies eight emphasis areas related to the state’s most serious traffic safety problems. These areas include aging road users (65+); bicyclists and pedestrians; data; impaired driving; rural and urban infrastructure; motorcyclists; occupant protection; young drivers (15-20); and a Distracted Driving Task Force. Strategies identified by each of the emphasis area teams are located in the appendix of the Strategic Highway Safety Plan.

Selected operational process: Qualify, select, advertise and award Highway Safety Improvement Program projects. Projects that are selected address identified crash patterns, which are mitigated by the scope of the project and meet a minimum benefit/cost ratio of 1.0. CDOT’s goal is to meet a program-wide benefit/cost ratio of 2.0.

Selected operational metric/ (“lead metric”): Average benefit/cost ratio for Highway Safety Improvement Program projects.

Major Functional Area: Safety.

Customer: Customers include all resident, tourist and recreational travelers on Colorado’s state highway system; business travelers including the trucking industry; safety partners such as Mothers Against Drunk Driving and the Colorado Department of Public Health and Environment; law enforcement agencies including the Colorado State Patrol; transit services; the Federal Highway Administration; the National Highway Traffic Safety Administration; the military; counties; municipalities and others.

Evaluation: Fatalities on Colorado roadways increased from 481 in 2013 to 486 in 2014.² This was below the Department’s goal of 476. See the “Environment” section on page 8 for a discussion of recent trends.

Metric Type	Metric Description	Process	Year Type	One- and three-year targets	Performance Results
Strategic Policy Initiative/outcome/lag metric	Fatalities on Colorado roadways	Implement safety program (see Strategies section above)	CY	CY16: 452 CY18: 428	2012: 474 2013: 481 2014: 486 (preliminary)
Outcome/lag metric	Fatalities per 100 million Vehicle Miles Traveled	Implement safety program (see Strategies section above)	CY	CY16: 0.94 CY18: 0.90	2012: 1.016 2013: 1.024 2014: Awaiting official Vehicle Miles Traveled

² Fatalities and other safety data are current as of June 2015 and subject to revision as new data become available.

Operational/ "lead" metric	Average benefit/cost ratio for advertised Highway Safety Improvement Program projects.	Qualify, select, advertise and award Highway Safety Improvement Program projects.	CY	CY16: 2.0 CY18: N/A	<u>2015</u> Jan.: N/A Feb.: 3.39 Mar.: 1.68 Apr.: 1.67 May: 2.33
Operational/ "lead" metric	Dedicated law enforcement contact hours for traffic safety enforcement	Award law enforcement grants/funds through data analysis	CY	CY16: 65,000 CY18: 65,000	2012: 50,880 2013: 67,808 2014: 75,689

Strategic Policy Initiative No. 2: Pavement Condition

Initiative description: Attain High or Moderate Drivability Life for 80 percent of sampled lane miles of pavement on the state highway system by 2025, up from 73 percent in fiscal 2014. CDOT plans to achieve 65 percent High/Moderate Drivability Life for its one-year target (June 30, 2016 target, or fiscal year 2015-16 pavement condition) and 69 percent for its three-year target (June 30, 2018 target, or fiscal 2017-18 pavement condition).³

Background/Definitions: Drivability Life is an indication in years of how long a stretch of highway will have acceptable driving conditions. Acceptable driving condition is a function of smoothness and safety, as determined by the amount of pavement cracking and depth of rutting. Pavement with High Drivability Life is expected to have acceptable driving conditions for more than 10 years. Pavement with Moderate Drivability Life is expected to have four to 10 years of acceptable driving conditions. Pavement with Low Drivability Life is expected to have fewer than four years of acceptable driving conditions.

Why this matters: Drivers navigating pavement in “unacceptable” condition may need to endure rough rides; reduce speeds to safely navigate around potholes, deteriorating shoulders and other types of pavement damage; or otherwise compensate for deteriorating conditions. Water can collect in deep ruts or other depressions in pavement, which can increase the chances of hydroplaning. Excessive and severe cracking (pavement “fatigue”) can reduce the passable width of a roadway, particularly on smaller highways.

Environment: CDOT is responsible for the pavement on a highway system that includes more than 9,100 centerline miles—or 23,000 total lane miles. Centerline miles represent the length of the road, and lane miles represent the length and lane count for a road. About 18 percent of the state’s lane miles are on the Interstate. CDOT must plan and deliver its construction projects in challenging climates and topographies, including extreme freeze/thaw cycles and high mountain passes.

The Department maintains highway pavement in a constrained and uncertain funding environment. State and federal fuel taxes have not increased for two decades. The Moving Ahead for Progress in the 21st Century Act (MAP-21), the 2012 law that funds surface transportation nationwide, expired September 30, 2014. While MAP-21 has been extended for the short term, uncertainty will remain until Congress passes a long-term authorization.

In planning surface treatment projects, CDOT must weigh the capacity of the contracting community that performs the rehabilitation and reconstruction of highway pavement. That capacity can be exhausted or limited during natural disasters or times of heightened economic and construction activity.

Strategies: The Department’s strategies for pavement management include:

- Increasing preventive maintenance on pavements. Preventive maintenance is applying lower-cost treatments at an appropriate time in the life of pavements to extend the performance of the roadway and reduce the likelihood of high-cost rehabilitation and reconstruction. Key preventive maintenance activities include crack sealing and filling; concrete joint sealing and filling; surface sealing (chip sealing, fog sealing, etc.); micro-surfacing; patching; and delivering ultra-thin asphalt overlays (≤ 1.5 inches).
- Prioritizing Interstates and High- and Medium-Volume roadways over other roadways when selecting surface treatment projects. CDOT’s long-term target is the same for all categories of pavement (80 percent

³ Due to the age of the pavement on the state highway system, the condition under current funding assumptions is expected to fall temporarily before returning to current conditions around fiscal 2019. One- and three-year targets listed here may change with improvements to CDOT’s pavement modeling system. The targets also may change as new data become available on funding, materials costs, land-use patterns, population growth, truck travel, weather and more.

High/Moderate Drivability Life), but the Department has developed different Drivability Life standards based on highway traffic volume. Interstates and High- and Medium-Volume roadways have the highest Drivability Life standards, while Low-Volume roadways have lower acceptable Drivability Life standards. All acceptable Drivability Life standards consider the safety and serviceability needed by the roadway users.

- Increasing the annual miles of roadway treated, particularly for low-volume roads, by using new and more cost-efficient combinations of repairs and thin surface treatments.
- Achieving economic efficiencies by coordinating pavement activities with activities on other CDOT assets.

More details are available in CDOT’s [Risk-Based Asset Management Plan](#).

Selected operational processes: Operational processes related to pavement condition include preserving, resurfacing and rehabilitating roads with the optimized application of cost-effective pavement treatments.

Selected operational metric (“lead metric”): Percent of Surface Treatment program projects advertised for the fiscal year that match recommendations made from the pavement management system. This measure helps ensure actual construction projects are matching the pavement models that are designed to help ensure CDOT achieves the desired pavement condition, as measured by the Drivability Life metric. The “percent match” measure is new as of early 2015, and methodology may be refined and results may be revised for future reports.

Major Functional Areas: Functional Areas that affect pavement condition include Capital Construction, Operations and Maintenance, Safety and Program and Project Support.

Customer: Customers include all resident, tourist and recreational travelers on Colorado’s state highway system; business travelers including the trucking industry; transit services; the Federal Highway Administration; law enforcement agencies; the military; counties; municipalities and others.

Evaluation: Due to the age of pavement on the state highway system, pavement condition fell from 82 percent in fiscal year 2013 to 73 percent in fiscal year 2014, below the goal of 80 percent referenced in last year’s Performance Plan. For this year’s Performance Plan, CDOT has included discrete short-term goals, in addition to a long-term goal of 80 percent. These shorter-term goals are subject to change as new budget, condition and other relevant information becomes available. CDOT expects the decline in pavement condition to continue in the short-term, although condition is forecast to meet the long-term goal of 80 percent before 2025.

Metric Type	Metric Description	Year Type	One- and three-year targets	Performance
Strategic Policy Initiative/outcome/lag metric	Percent of state highway pavement with High or Moderate Drivability Life	Fiscal	FY16: 65% FY18: 69%	2012: N/A (new metric) 2013: 82% 2014: 73%
Operational/lead metric	Percent of Surface Treatment program projects advertised for fiscal year 2015 that match recommendations from the pavement management system. Note: Results for each month are cumulative for fiscal year 2014-15 to date.	Fiscal	FY16: 80% FY18: 80% ⁴	July 2014: 0% August 2014: 0% September 2014: 0% October 2014: 0% November 2014: 55.6% December 2014: 66.7% January 2015: 70.6% February 2015: 70.8% March 2015: 71.4% April 2015: 77.1%

⁴ CDOT does not have plans in the short term to increase this target. The target is set at 80 percent to allow the Transportation Regions flexibility in selecting projects that may not match recommendations from the model.

Input/ environmental factor	Lane miles of roadway on state highway system	CY	N/A (input)	2012: 23,023.7 2013: 23,021.5 2014: N/A
Input/ environmental factor	Annual Vehicle Miles Traveled on state highway system	CY	N/A (input)	2012: 28.1 billion 2013: 28.4 billion 2014: N/A
Input/ environmental factor	Annual Vehicle Miles Traveled for trucks on the state highway system	CY	N/A (input)	2012: 2.5 billion 2013: 2.4 billion 2014: N/A

Appendix 2: April 2015 Evaluation

Note: The Office of State Planning and Budgeting produced the following evaluation with assistance from CDOT in April 2015. The evaluation reflects results for certain goals CDOT had included in its 2014-15 Performance Plan. CDOT in June 2015 updated the results below in instances in which new data were available.

Strategic Policy Initiatives

The Colorado Department of Transportation (CDOT) has identified several strategic policy initiatives for FY 2014-15 and beyond. For this performance evaluation, the Department has updated progress on the selected initiatives used in the November 3, 2014, Annual Performance Report that best capture some of the Department’s strategic and operational priorities, and reflect the overall direction as identified by Department leadership. The updates reflect data as of June 2015.

The Department initiatives include:

Safety - Reduce traffic fatalities and serious injuries and work toward zero deaths for all users.

Infrastructure Condition - Preserve the transportation infrastructure condition to ensure safety and mobility at a least life-cycle cost.

System Performance - Improve system reliability and reduce congestion, primarily through operational improvements and secondarily through the addition of capacity. Support opportunities for choice among transportation modes, including automobiles, bicycles, transit and rail, aviation and pedestrian modes.

Environmental Stewardship - Enhance the performance of the transportation system while minimizing the impact to and encouraging the preservation of the environment.

Reduced Project-Delivery Delays - Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process.

These initiatives provide context for much of CDOT’s day-to-day work, some of which is highlighted in the measures section of this report. Additional detail for these and other strategic policy initiatives is available in the Department’s Performance Plan.

Performance Measures

Safety Process – Implement safety programs.⁵

Measure	CY11 Actual	CY12 Actual	CY13 Actual	CY14 Actual	1-Year Goal	3-Year Goal
Fatalities per 100 million vehicle miles traveled (calendar-year measurement)	0.96	1.016	1.024	Awaiting official Vehicle Miles Traveled	0.97 (for CY15, revised) ⁶	0.92 (for CY17, revised)

⁵ Targets have been updated to reflect targets in the Strategic Highway Safety Plan.

Measure	CY11 Actual	CY12 Actual	CY13 Actual	CY14 Actual	1-Year Goal	3-Year Goal
Serious injuries per 100 million vehicle miles traveled	6.80	6.98	6.85	Awaiting official Vehicle Miles Traveled	6.18 (for CY15, revised)	5.82 (for CY17, revised)

CDOT will not receive official 2014 Vehicle Miles Traveled data from the Federal Highway Administration until sometime in mid-2015, so updated fatalities and injuries rates are not available.

The fatality rate on Colorado's roadways increased slightly in 2013 compared to 2012, to 1.024 fatalities per 100 million Vehicle Miles Traveled (VMT) in 2013 compared to 1.016 per 100 million VMT in 2012. The long-term trend, however, remains downward due in part to a continued focus on safety from CDOT's behavioral, enforcement and engineering programs. These programs are made possible because of funding from the FASTER Safety program, the Highway Safety Improvement Program (HSIP), the National Highway Traffic Safety Administration (NHTSA), and other sources. There also has been increased coordination with safety stakeholders through the State Strategic Highway Safety Plan. Note: The fatalities rate in previous Performance Plans was reported as a five-year rolling average. CDOT this year will begin reporting on a single-year basis due to the belief that this presentation is clearer. Using the five-year average, the Department met its previously reported goal of 1.0 fatalities per 100 million vehicle miles traveled—with an average of 0.99 fatalities per 100 million vehicle miles traveled for 2009-2013.

The rate of serious injuries on Colorado's roadways declined from 6.98 per 100 million vehicle miles traveled in 2012 to 6.85 per 100 million vehicle miles traveled in 2013. CDOT has changed the way it reports serious injuries to align with performance measures being developed under MAP-21, the most recent federal transportation authorization. The numbers reported here use the expected federal definition.

The one- and three-year goals for both fatalities and serious injury rates are based on the goals adopted in the 2014 Strategic Highway Safety Plan.

Process - Select and deliver FASTER safety projects.

CDOT has learned of inconsistencies in its methodology for reporting the percentage of the FASTER Safety fiscal-year budget that was encumbered or expended by June 30. The Department in the summer of 2015 is revising its methodology for calculating this metric and will include results in its fall 2015 resubmission of this Performance Plan.

Infrastructure Condition

Process – Preserve, resurface and rehabilitate roads with optimized application of cost-effective pavement treatments.

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual	1-Year Goal	3-Year Goal
Percentage of pavement on state highway NHS, excluding Interstates, with high and moderate Drivability Life	N/A	83.0%	78% High/Moderate	Awaiting 2015 results	80.0%	80.0%
Percentage of Interstate pavement statewide in high and moderate condition based on Drivability Life	N/A	86.0%	89% High/Moderate	Awaiting 2015 results	80.0%	80.0%

CDOT in fiscal year 2014 narrowly missed its goal of 80 percent High/Moderate Drivability Life for National Highway System pavement, excluding Interstates. For the entire highway system, CDOT expects pavement condition to decline over the next few years and to return to the 80 percent range in the mid 2020s.

Process - Maintain the state’s transportation infrastructure. This includes processes such as plowing and removing snow; proactively controlling avalanches; and maintaining traffic signals, striping and guardrails.

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual	1-Year Goal	3-Year Goal
Overall Maintenance Levels-of-Service grade for state highway system	B-	B	B-	Awaiting 2015 results	B-	B-
Level-of-Service grade for snow-and-ice control	B	B	B	Awaiting 2015 results	B	B
Level-of-Service grade for traffic services	C+	B-	C+	Awaiting 2015 results	C (for FY15)	TBD

In FY 2013-14, CDOT met its targets for the three maintenance metrics above. This included meeting the target of a "B-" grade for overall Maintenance Levels of Service (MLOS); meeting the "B" target for Snow and Ice Control; and meeting the "C+" target for Traffic Services. The Traffic Services Maintenance Program Area (MPA) includes striping, signals, signing and lighting.

With limited maintenance funds, CDOT continues to weigh the appropriate funding level for each Maintenance Program Area. The Department formed a Striping Task Force in fall 2014 to re-evaluate striping production and associated performance targets. The task force will focus on identifying creative and innovative improvements to the striping program.

Process – Regularly inspect bridges. Replace, repair, or conduct major rehabilitation to Structurally Deficient bridges.

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual	1-Year Goal	3-Year Goal
Percentage of state highway bridge deck area that is Not Structurally Deficient	93.0%	94.0%	94.0%	Awaiting 2015 results	90.0%	90.0%
Percentage of National Highway System bridge deck area that is Not Structurally Deficient	94.0%	95.0%	95.0%	Awaiting 2015 results	90.0%	90.0%

CDOT met its goal in 2014 of ensuring that 90 percent or more of deck area on both the state highway system and the National Highway System is Not Structurally Deficient. Colorado's bridges are among the best in the nation, thanks in part to replacements funded by the Colorado Bridge Enterprise. Operating as a government-owned business within CDOT, the CBE was created by FASTER legislation to finance the repair and reconstruction of state-owned vehicle bridges.

System Performance

Process – Implement Intelligent Transportation Systems, performing effective maintenance and other strategies.

Measure	CY11 Actual	CY12 Actual	CY13 Actual	CY14 Actual	1-Year Goal	3-Year Goal
Planning Time Index value for Interstates	1.23	1.23	1.25	NA	1.25	1.25

CDOT met the Planning Time Index goal of 1.25 for Interstates in 2013. The index is just one metric that CDOT is exploring to measure reliability. The Department will have greater ability in future years to provide context for performance results for this metric, which was developed in 2013.

Environmental Stewardship

Process – Obtain permits from the Colorado Department of Public Health and the Environment to discharge storm water from roadway projects. Mitigate project-area water discharge.

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual (through Q3)	1-Year Goal	3-Year Goal
Number of Environmental Compliance Violations to CDOT from the Colorado Department of Public Health and Environment	0	0	0	Q1 FY15: 0 Q2 FY15: 0 Q3 FY15: 0	0	0

The Department for the first three quarters of fiscal year 2015 has met its goal of zero violations. This was accomplished through the efforts of environmental staff in the Regions and at CDOT's headquarters, which included working in partnership with the Colorado Department of Public Health and Environment.

Reduced Project-Delivery Delays

Process – Manage the preconstruction phases (design, environmental, right-of-way, utilities) of projects effectively.

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual	1-Year Goal	3-Year Goal
Percent of projects advertised before or within 30 days of the advertisement date estimated on July 1	50.0%	70.0%	49.0%	N/A	80.0%	80.0%

CDOT is no longer tracking this metric, because the Department's focus is shifting more from delivering a discrete list of projects each year to ensuring the delivery of a given program size as measured by dollars. Developing a multi-year program of good investments allows flexibility to adjust specific project schedules to meet the program-delivery goals in a given year. New metrics related to this approach are being refined and others remain in development.



COLORADO
Department of
Transportation

