

CHAPTER 7 FISCAL YEAR 2015 ACCOMPLISHMENTS

The following table lists the Action Items from Fiscal Year 2015 and the status/accomplishments for each Action Item. The goal columns are broken down to demonstrate how the accomplishments support the CDOT Strategic Goal areas (Safety, Mobility and Accessibility, Economic Viability, Education, Ecosystems, Waste Generation, Resource Consumption, and Emissions and Air Quality) and the State of Colorado Performance Goal areas (Energy, Water, Petroleum, Greenhouse Gas (GHG), Environmentally Preferable Purchasing (EPP), and Landfill Diversion).

Fiscal Year 2015 Action Items and Status

Action Item from Fiscal Year 2015	Goals		Status/Accomplishments
	State of Colorado	CDOT	
Annual Electronics Recycling - Host a collection event around Earth Day (April 22nd).	Energy, Landfill Diversion	Ecosystems, Waste Generation, Resource Consumption	CDOT HQ hosted the electronics recycling event on April 21, 2015 and collected 10,760 pounds of electronics and batteries, compared to the 6,847 pounds collected in 2014.
Renewables in ROW program - Develop a guidance document explaining the requirements for renewable energy generation in CDOT ROW by December 31, 2014.	Energy, Petroleum, GHG	Economic Viability, Resource Consumption, Emissions and Air Quality	The guidance is nearing completion. A longer review period than anticipated was needed to gather feedback from HQ Property Management, HQ Right of Way, and Regional ROW Managers.
EV Charging Station - Facilitate the installation of an EV charging station at CDOT HQ and the acquisition of a plug-in EV (PHEV) for CDOT motor pool by end the of FY2015.	Energy, Petroleum, GHG	Mobility and Accessibility, Economic Viability, Education, Resource Consumption, Emissions and Air Quality	The charging station was installed in front of the HQ building in March 2015. It was signed and open for use in April. <u>**Two additional EV charging stations were installed in HQ Motor Pool to accommodate the two PHEV's that were purchased.</u>
Greening Government Leadership Council (GGLC) - Participate on statewide GGLC and subcommittees.	Energy, Water, Petroleum, EPP, GHG, Landfill Diversion	Safety, Mobility and Accessibility, Economic Viability, Education, Ecosystems, Waste Generation, Resource Consumption,	The Colorado Energy Office eliminated their role as manager/facilitator of the GGLC. The GGLC then developed a new mission, purpose, and vision under a charter document, which included an annual nomination of a chair, vice chair, secretary, and alternate secretary. Sarah Mitchell was nominated as the vice chair for FY15 and FY16. The GGLC wrote a new Greening of State Government Executive Order at the request of the Governor's Office. The GGLC also developed a Tips, Tools, and Templates (T ³) document that would be populated in support of each resource reduction

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		Emissions and Air Quality	goal area (Energy, Water, Petroleum, Environmentally Preferable Purchasing (EPP), Greenhouse Gas (GHG), and Waste Diversion) in the draft Executive Order.
Sustainability On-Line Training - Develop on-line training class for CDOT staff by the end of FY2015.	Energy, Water, Petroleum, EPP, GHG, Landfill Diversion	Safety, Mobility and Accessibility, Economic Viability, Education, Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	Worked with Colorado and CDOT Human Resources, the CDOT Office of Learning and Development, and SAP staff to gain approval to develop a new course for CDOT staff and define the required format
Sustainability in Roadway Design and Construction Pilots - Compile feedback from regional pilot projects into a summary report. Pilot projects will be ongoing through Calendar Year 2015 and potentially longer. Report will be completed when pilot projects are completed.	Energy, Water, Petroleum, EPP, GHG, Landfill Diversion	Safety, Mobility and Accessibility, Economic Viability, Education, Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	One project volunteered to be a pilot and utilize the guidance. The guidance was not utilized and new volunteer pilots will utilize the guidance.
CDOC Solar Garden Installation - Document solar garden installation in FY2015 and work with CDOT Public Relations staff when garden goes live. Expected completion by the end of FY2015.	Energy, Petroleum, GHG	Economic Viability, Resource Consumption, Emissions and Air Quality	The CDOC solar garden went live in December 2014 and the cost avoidance of subscribing to the solar garden is anticipated in FY16.
Electronic Data Interchange (EDI) Implementation and EnergyCAP Data Population - Complete the development of a process to comply with EO requirements by maintaining	Energy, Petroleum, EPP, GHG	Economic Viability, Education, Resource Consumption,	All Xcel and Holy Cross accounts are being populated in EDI and EnergyCap via EDI. Black Hills Power has not been willing to participate. The CDOT regional business offices have been trained to manually enter non-EDI participating vendor

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energy consumption data in EnergyCAP through electronic billing and manual entry into SAP.		Emissions and Air Quality	invoices into SAP so they can be exported and imported into EnergyCap.
Maintenance Sustainability Strategy - Develop a sustainability plan specific to CDOT maintenance facilities and activities. Expected completion by the end of FY2015.	To Be Determined	To Be Determined	A maintenance strategy is being integrated into the Sustainability Online Training and a more detailed strategy will be evaluated after the training is completed.
WasteZero Executive Director Update - Research and make recommendation on whether a highway trash and recycling pick-up program pilot should happen. Expected completion by the end of FY2015.	Landfill Diversion	Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	Potential options being considered by the Maintenance Branch Manager.
Procurement of Trash and Recycling Services Statewide (Office facilities, maintenance facilities, and highway operations) - Evaluate the potential for the procurement of statewide trash and recycling services. Expected completion by end of FY2015.	Energy, Petroleum, EPP, GHG, Landfill Diversion, Economic	Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	Proposal submitted to the Research Branch as a nominee for a potential FY17 Research project.
Potential Impacts of Solar Arrays on Highways Safety and Operations - CDOT Research Branch Project. Evaluate potential impacts and develop a report with findings and recommendations. Report expected to be finalized by December 2014.	Energy, Petroleum, GHG	Economic Viability, Resource Consumption, Emissions and Air Quality	Research paper completed and posted on the CDOT Research webpage at https://www.codot.gov/programs/research/pdfs/2015-research-reports/solar-arrays/view
CDOT Statewide General Aviation (GA) Airport Sustainability Management Plan Program - Participate in and support the program development process. Estimated completion September 2015.	Energy, Water, Petroleum, EPP, GHG, Landfill Diversion	Safety, Mobility and Accessibility, Economic Viability, Education, Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	The Plan was developed with input from GA airports, the FAA, DIA, and CDOT. It is hosted online through CDOT in a Salesforce program and has been piloted by 3 airports in Colorado. Completion is anticipated in late 2015.

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American Lung Association (ALA) Ride and Drive Event - Coordinate with ALA to host an event at CDOT HQ where employees can view and drive various types of alternative fuel vehicles. Estimated completion in July 2014 with a potential second event in Colorado Springs dependent on HQ event success.	Energy, Petroleum, GHG	Mobility and Accessibility, Education, Emissions and Air Quality	A successful Ride and Drive event was hosted at CDOT HQ in July 2014 with over 80 test drives being completed.
CNG Project - Administer the grants for the statewide CNG project with both CEO and RAQC. Participate in meetings with CEO and RAQC to monitor progress in this first year of the program. Assist with coordination with FHWA. Multi-year project.	Energy, Petroleum, GHG	Mobility and Accessibility, Education, Resource Consumption, Emissions and Air Quality	Through the Alt Fuels Colorado Program: <u>Vehicle Awards:</u> \$4.5 million to-date, 253 vehicles funded for 26 fleets (66% CNG, 27% propane, 7% CNG/bi-fuel - 72% heavy-duty, 18% medium-duty, 10% light-duty) <u>Stations Awards:</u> \$7.5 million to-date, 15 CNG stations with 3 co-located EV chargers
Bike and Pedestrian Activities - Continue to support the development of bike and pedestrian as alternate modes of travel (EcoPass, Bike to Work Day/Month, etc.). On-going.	Energy, Petroleum, GHG	Mobility and Accessibility, Education, Resource Consumption, Emissions and Air Quality	Worked with several local jurisdictions to install and monitor 24/7 bicycle and pedestrian counts. In the majority of locations, we're finding there are more people biking and walking than we ever expected. Revision of the Statewide Bicycle and Pedestrian Plan. We reviewed and updated the performance measures. This Plan was used to develop criteria for TAP funds. Updated Chapter 14 of the CDOT Roadway Design Manual. Made adjustments to reflect the many new advancements in bicycle and pedestrian design.
Long-Range Transportation Plan - Incorporate sustainability into planning process. Estimated completion Spring 2015.	Energy, Petroleum, GHG	Mobility and Accessibility, Education, Resource Consumption, Emissions and Air Quality	CDOT identified Strategic Actions to focus on, as limited funding allows. The Strategic Actions are the emphasis of specifically the next 10-years of the plan implementation. The Strategic Actions are organized by goal area. One of the Strategic Policy Actions as part of the 2040 Statewide Transportation Plan was Sustainability and the Environment. One encompassed Risk and Redundancy: Improve the resiliency and redundancy of the transportation system to address the potential effects of extreme weather and economic adversity, emergency management and

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			<p>security. CDOT will develop further planning efforts in this areas including identification of key corridors and coordination with other agencies.</p> <p>The Executive Summary of the 2040 Statewide Transportation Plan states: Policy Directive 14 guides the development of the Statewide Transportation Plan, its implementation, and future investment decisions that balance preservation and maintenance, efficient system management and operation strategies, and capacity improvements.</p>
Western Road Usage Charge Consortium (WRUCC) - Participate in a pooled fund research study investigating sustainable funding sources for DOTs.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption	<p>The WRUCC has added North Dakota as a member. This is in addition to Oregon, Washington, Texas, Nevada, California, Colorado, Idaho, Utah, Arizona, Hawaii, Montana, and Oklahoma.</p> <p>Four have been completed:</p> <ul style="list-style-type: none"> • Addressing Out-of-State Drivers in a RUC System (Phase 1 of 2); • Impacts of Changing Vehicle Fleet Fuel Economy on State Transportation Funding; • Critical Examination of Oregon RUC Program; • Establishment of RUC Communication Task Force.
CDOT Municipal Separate Storm Sewer Systems (MS4) Permit - Adopt into new CDPHE MS4 permit the ability to treat stormwater holistically as a watershed instead of on a project-by-project basis, eventually resulting in fewer water quality ponds and decreased maintenance costs.	Energy, Petroleum, Water, GHG	Economic Viability, Ecosystems, Waste Generation, Resource Consumption, Emissions and Air Quality	<p>During FY 15 CDOT began to implement the Interim New Development and Redevelopment Program (NDRD). This program established the CDOT Permanent Water Quality (PWQ) Mitigation Pool, which can be used to fund watershed level PWQ projects. The Colorado Department of Public Health and Environment provided the final draft CDOT MS4 permit. This draft permit included requirements for the PWQ Mitigation Pool and allows CDOT to continue to implement the program requirements established under the Interim NDRD Program. The CDOT PWQ Mitigation Pool Committee (MPC) announced the first PWQ Call for Projects and began the first round of selection for watershed projects.</p>
Risk and Resiliency Efforts - During project development for permanent flood repair projects, evaluate risk and resiliency options to build more sustainable roadways.	To Be Determined	To Be Determined	Ongoing effort in particular response to September 2013 flood recovery efforts.

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Develop sustainability performance measures for CDOT, baselines, and methods for tracking.	To Be Determined	To Be Determined	Ongoing effort working with staff throughout CDOT and preparing for future Greening of State Government Executive Orders.
Reclaimed Asphalt Pavement (RAP) - Encourage the use of RAP on CDOT pavement projects.	Energy, Petroleum, GHG	Economic Viability, Resource Consumption, Emissions and Air Quality	The RAP usage has increased from 14.98% in 2014 to 15.52% in 2015. 165,449 tons of RAP were used on CDOT projects in FY 2015. RAP contains approximately 4% asphalt binder. This means that CDOT did not have to pay for approximately 6,618 tons of binder. Binder costs range from \$500 to \$700/ton, so CDOT had potential savings of around \$3 million in binder alone. RAP aggregates are typically cheaper than virgin aggregates, so there are additional savings in aggregate costs.
CNG and EV Roadway Signs - Initiate the installation of CNG and EV signs on CDOT roadways.	Energy, Petroleum, GHG	Mobility and Accessibility, Education, Resource Consumption, Emissions and Air Quality	CDOT worked with the Colorado Energy Office to identify active and proposed CNG stations. They are being mapped and those that meet CDOT's signage requirements will receive traveler services information signs on the roadway.
Colorado Climate Action Plan - Write the transportation section of the Colorado Climate Action	Energy, Petroleum, GHG	Economic Viability, Mobility and Accessibility, Education, Resource Consumption, Emissions and Air Quality	With input from throughout CDOT, wrote the transportation chapter for the Colorado Climate Plan. The document was released by the Governor in September 2015 and is located at: http://cwcb.state.co.us/environment/climate-change/Pages/main.aspx
Heavy Diesel Equipment Idling Reduction Demonstration Project - Diesel pollutant reductions used for mobile source air toxics (MSAT)/GHG programmatic National Environmental Policy Act (NEPA) mitigation and fuel efficiency.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption, Emissions and Air Quality	No Action. This program is on hold until we can work something out with OIT that allows the maintenance folks to access the electronic computer units (ECUs) on the equipment. Without access to the information gathered by the ECUs we are unable to track benefits of the program (reduction in idling/fuel savings).

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Refuel Colorado Fleets - Educate statewide fleets on alternative fuels and vehicle efficiencies.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption, Emissions and Air Quality	<p>Since April of 2013, Denver Metro Clean Cities (DMCC) has hosted 18 education and networking events that have attracted 1200 people from throughout the 8 county area.</p> <p>The DMCC performed 7 fleet audits to suggest alternative fuel replacements and exhibit the lifecycle operating costs of the alternative replacement versus a traditional replacement. Fleet audits were conducted for Adams County, Jefferson County, Jefferson County Schools, Boulder County, City of Aurora, City of Lakewood, and City and County of Denver. Because of the success of the program, the jurisdiction was expanded from three counties to 10 counties through September 2015.</p> <p>Major accomplishments of the program since 2013: 40 engaged fleets, 8 fleet audits, 28 fueling stations, 141 AFV purchases.</p>
Clean Air at School Engines Off (CASEO) - Student run activity to encourage decreased idling pollutant emissions on school property. Program utilized as programmatic NEPA MSAT/GHG mitigation.	Energy, Petroleum, GHG	Education, Resource Consumption, Emissions and Air Quality	The CASEO program was implemented at eight schools in the Front Range and Western Slope. Schools participating in the program achieved an average idling emissions reduction of 58%.
Engines-OFF Colorado - Engage local community fleets to reduce idling and encourage fuel efficiency. Program utilized as programmatic NEPA MSAT/GHG mitigation.	Energy, Petroleum, GHG	Education, Resource Consumption, Emissions and Air Quality	Directed funds to Garfield County Environmental Health who conducted outreach to the 7 local governments within Garfield County. Participating local governments adopted fleet-based idle reduction policies/programs and received signage and training on idle reduction for municipal operations.
Particulate Matter 10 (PM10) Air Quality Excess Roadside Sand Cleanup Program - Per State Implementation Plan and the RAQC, maintain prescribed fugitive dust cleanup from winter storm operations (sand and deicer) in the Denver metro area aka. "sweepbox".	GHG	Resource Consumption, Emissions and Air Quality	PM10 modeling for the I70 East project demonstrated that fugitive road dust is a major contributor to total roadway emissions of PM10. As a result, the I70 East project area has committed to adopting the same control measures as the "sweepbox" program area. Sweepbox control measures include not using sand during snow events and conducting regular sweeping of the roadways. The emissions reduction benefits of utilizing the sweepbox program as compared to

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			the general PM10 sanding program range from 47-82% depending on road type.
Start-Stop Engine Technology - Testing on fleet F-150 trucks to minimize vehicle idling, decrease fuel consumption, and decrease emissions. Ongoing as long as Ford continues to offer it and State Fleet awards F150s.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption, Emissions and Air Quality	Expect to have all 49 2015 F150s deployed by the end of November. At that point I will begin monitoring fuel economy against a similar cross-section of light fleet vehicles.
Auto Vehicle Locators - Testing to monitor CDOT white and orange fleet vehicles to increase accountability and assist with preparedness and planning in emergencies.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption, Emissions and Air Quality	The AVL program document is near completion and expected to be signed off soon. AVL installation is continuing so monitoring can commence.
Zonar Fleet Management System - Pilot to require pre- and post- driving vehicle checks to increase vehicle performance and safety, reduce costs, and decrease emissions through regular maintenance monitoring.	Energy, Petroleum, GHG	Economic Viability, Education, Resource Consumption, Emissions and Air Quality	Moving towards full implementation of the Heavy Fleet as money becomes available. The department has purchased 860 additional Zonar units with installs to start in FY16.