

Q1-Q2 2017 Reports for State Plan Website

SAFETY

Improving Highway Safety - Through the Highway Safety Improvement Program (HSIP), local agencies throughout the state apply and are qualified for federal safety dollars to assist with roadway safety improvement projects in their jurisdictions. The cities of Loveland, Boulder, and Fraser as well as Mesa and El Paso counties, among numerous others, will be improving roadway safety with the help of this recurring program. Rural local agencies statewide also have been notified of the availability of Federal High Risk Rural Roads program funding.

Assisting Older Drivers - One of the Strategic Highway Safety Plan's emphasis area teams ([Drive Smart Colorado's](#) Older Driver Coalition) has planned several events for 2017. They include:

- Expos for the Older Driver.
- Free CarFIT events to improve the "fit" between older drivers and their vehicles.



- The second revision of *Colorado's Guide for Aging Drivers and their Families* should be ready for distribution in August 2017.
- A half-day Older Driver event in Highlands Ranch southwest of Denver took place in June, with other CarFit and Senior Driver events possibly scheduled for later in the summer.

Local Agencies Get Help - Five smaller municipalities (Burlington, Manitou Springs, Elizabeth, Gunnison, and Cortez) have been selected to receive fully funded traffic safety studies under CDOT's Local Agency Safety Studies Program to help them improve traffic safety. Kick-off meetings with city and town officials and field examinations have been conducted with each of the five towns, and the individual safety studies should be ready in fall 2017.

MOBILITY

Winter Park Express - More than 15,000 passengers rode the Amtrak train to Winter Park on the weekends Jan. 7-March 26, 2017, thinning the ski traffic on I-70 a little. Operation of the train, once called the Ski Train, took an estimated 400 vehicles off the I-70 corridor and Berthoud Pass during peak weekend days, giving riders a safe, reliable travel alternative.

Many of the Saturday trains were sold out. The weekend service allowed skiers to leave Denver Union Station at 7 a.m. and return to the station at 6:40 p.m.

CDOT contributed a \$1.5 million match from Senate Bill 228 funds toward improving the train platform, which is heated and accommodates 10-11 car trains in Winter Park. Intrawest Resort Holdings, Winter Park Resort, the Town of Winter Park, and the City of Denver provided the other \$1.5 million for the \$3 million train platform improvement project. Improving the train platform was one of the conditions Amtrak and Winter Park set for resuming operations.



Winter Park Express - Skiers linger near the train platform for the Winter Park Express, an Amtrak service made possible through cooperative action among CDOT and others to improve the train platform.

Bustang Ridership Growing - Bustang, the CDOT bus service on I-25 and I-70 intended to alleviate congestion and offer more travel choices, continues to attract more ridership year-over-year, improve its farebox recovery, and add, where warranted, new services.

These were the statistics between January-March 2016 and January-March 2017 for the third quarter:

	Jan-Mar 2016	Jan-Mar 2017	Quarter 3: Variance 2016 vs. 2017
Revenue Riders*	29,289	41,967	12,678
Revenue	\$258,905	\$419,352	\$160,447

Cumulative Avg. Fare	\$10.60	\$9.99	(\$0.61)
Load Factor**	26%	40%	14%
Farebox Recovery Ratio***	38%	54%	16%

*Revenue Riders are paying riders.

**Load Factor is the percent of capacity of a transportation vehicle filled with passengers.

***Farebox Recovery Ratio is the fraction of operating expenses met by the fares passengers pay.

The [last quarterly report](#) presented to the Transportation Commission in April 2017 for January-March 2017 also contained this information:

- The RamsRoute, a Friday-Sunday service from Fort Collins to Denver attracting mostly Colorado State University students and faculty, had a farebox recovery ratio of 119% and a 78% load factor for January-March 2017. The service will resume in fall 2017.
- The West Line from Denver to Glenwood Springs operated a temporary third trip between March 15 and April 16 to handle heavy spring break demand.
- Bustang began providing service to Idaho Springs in January on all four Bustang West routes after Clear Creek County launched a demand response bus system. For the first full month of operations in February, 252 passengers either boarded or exited at Idaho Springs.
- Bustang to Broncos service operated for five Bronco games and provided one bus each from Fort Collins/Loveland and Colorado Springs/Monument. Fare box recovery was 109%. Consequently, Bustang has committed to the Broncos and the Regional Transportation District to operate the service next season for all pre-season, season, and post season games.
- SnowStang, a service to mountain resorts not served by existing bus firms, attracted a lot of interest, judging by the number of social media hits, but failed to generate enough ridership to justify its continuation. This may have been because potential riders thought the advertised fares were too high.

Biking and Walking Policies Approved - Biking and walking are gaining greater prominence within CDOT with the passage of updated policy and procedural directives in early 2017.

The Transportation Commission in January approved a change to [Policy Directive 1602.0](#) "Elevating Bicycle and Pedestrian Opportunities in Colorado". The change added two additional criteria which can be used to exempt resurfacing projects from incorporating bicycle and pedestrian facilities if they require work beyond the scope of a resurfacing project in order to do so. The policy, updated from one passed in May 2016, otherwise requires inclusion of the needs of bicyclists and pedestrians in the planning, design, operation and maintenance of transportation facilities. The two additional exemptions for resurfacing projects are permitted if:

- The only way to accommodate bicyclists and pedestrians is to add a shoulder. This exemption is automatic because resurfacing funds can't be used for shoulders.

- A resurfacing project on a state highway that runs through a town cannot be restriped to accommodate bicyclists and pedestrians within the town. In that instance, the exemption must be documented.

Other exemption criteria are if: bicyclists and pedestrians are prohibited by law from using the roadway; cost of establishing bikeways or walkways exceeds 20 percent of the cost of the larger transportation project; and low population or other factors indicate an absence of need.

In March 2017, CDOT Director Shailen Bhatt approved an updated procedural directive, [1602.1](#), that includes a form for documenting exemptions; provides for appointment of bicycle and pedestrian representatives for each CDOT Region to work collaboratively on developing criteria for and selecting High Priority Bicycle and Pedestrian Corridors and Seasonal Paths; and outlines responsibilities of various CDOT individuals, groups, and divisions in implementing the directive.

ECONOMIC VITALITY

Enriching Main Street - A publication that CDOT partnered to produce, *Colorado Downtown Streets*, is intended to help move the conversation around designing downtown streets as special places - those bustling with people and activity - while balancing transportation needs. Main streets often reflect a community's identity, but they also provide a center for activity that can improve a city or town's economic and physical health.

In collaboration with the Department of Local Affairs (DOLA) and the Colorado Department of Public Health and Environment (CDPHE), the book is a tool for communities, planners, and engineers to help guide downtown street design. It provides the reader with common language, elements, and colored illustrations of great streets, as well as examples and case studies specific to Colorado. The book also outlines tips and strategies for understanding transportation planning, design, and funding. In many Colorado communities, a state highway is the main street. "This book helps communicate the fine balance in designing to move people as well as goods into and through a community," said Shailen Bhatt, CDOT executive director.

Once the book was published, the same three agencies took to the streets with workshops in five communities that have state highways as their main streets: Woodland Park, La Junta, Brush, Meeker, and Cortez. Participants included citizens, planners, elected government officials, engineers, and business owners, as well as CDOT representatives, and numbered between 30 and 70 at each workshop. The workshops helped participants understand how to communicate with CDOT about their main streets and how to make them easier to use by bicyclists and pedestrians. The book, as well as other resources and several short animated videos, are available on line at <https://www.colorado.gov/pacific/dola/main-street-resources>.

Some benefits of great streets are depicted in these infographics found on the DOLA website:



**SUPPORT QUALITY
DEVELOPMENT**

→ **263% - 400%** ←

Increased property tax revenue per acre of mixed-use development compared to single-use commercial development.

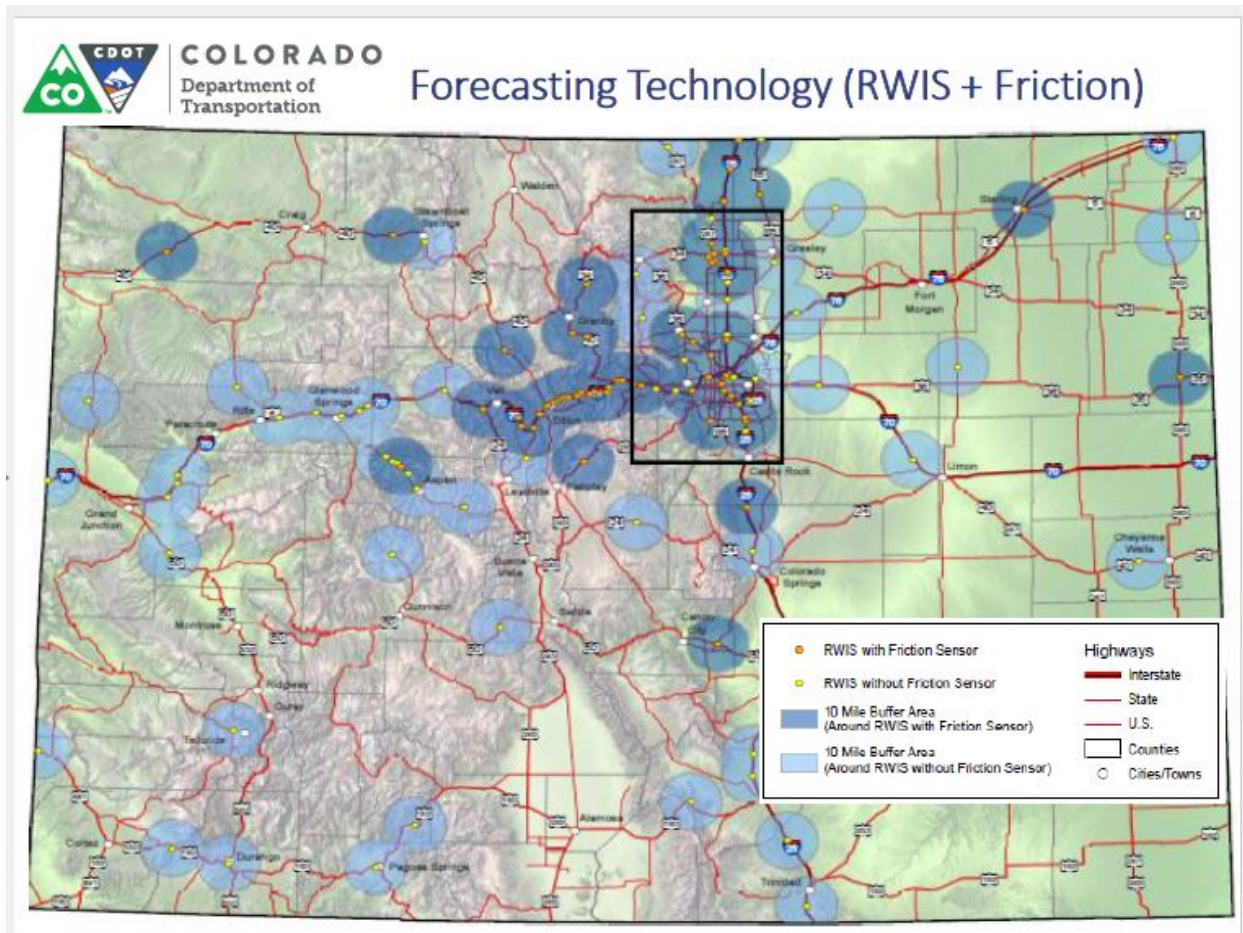


**SUPPORT BUSINESSES AND
ECONOMIC DEVELOPMENT**

→ **8.5% - 25%** ←

Average increased spending by shoppers arriving by foot or bike compared to those arriving by car.

MAINTAINING THE SYSTEM



Road Navigation - Road Weather Information System (RWIS) is one of the technologies CDOT uses to predict how difficult roads will be to navigate on snow and ice. RWIS with friction sensors are the orange dots; those without friction sensors are the yellow dots. Tire friction is reduced by heavy rain or by ice on roads. A 10-mile buffer area around each RWIS are the areas covered by RWIS: dark blue for those with friction sensors and light blue for those without the friction sensors.

Roadway Weather Manager - The Division of Highway Maintenance's first roadway weather manager is David Johnson, who has a degree in meteorology. Formerly with the CDOT permits office, David's primary job now is to help CDOT be better prepared for weather-related transportation issues. His duties include leading the Division of Maintenance in 48-hour pre-storm conference calls to better prepare for predicted storms; inventorying and mapping all of the state's roadway weather information system units; and mapping problem areas on state highways.

The pre-storm conference calls that David will be leading will be with the National Weather Service, Iteris (private vendor and provider of Maintenance Decisions Support System), and the Colorado Avalanche Information Center, as well as key CDOT personnel from Transportation System Management and Operations Division (TSM&O), the Colorado

Transportation Management Center (CTMC) in Golden, Region Maintenance Offices, and the Public Information Office under the Pathfinder program. These calls are to gain a statewide understanding of the forecast for an incoming storm; conduct an operational readiness assessment of staff, equipment and supplies; and develop a unified public message about an incoming storm, such as the location of a storm, and the specific anticipated impact to state highways.

Lisa Streisfeld of TSM&O and David Johnson also lead a Road Weather Management Team with members from Division of Maintenance, ITS, CMTCC, TSMO and the Region Maintenance Offices. David and the team will be evaluating new roadway weather technologies, like integrated mobile sensors on fleet vehicles, and snow and ice data platforms to provide real-time information on roadway conditions.

Of Minor Structures and Walls – CDOT's Minors and Walls Inspection Program carries out scheduled inspections to maintain public safety, track internal metrics, identify maintenance needs, and make better business decisions. Minor structures include CDOT-owned culverts and bridges with spans of between and inclusive of 4 to 20 feet that carry vehicular traffic and are considered active.

Inspectors use the National Bridge Inspection Standards and the manual for Bridge Element Inspection to organize and report the condition of the assets. The inventory of minor structures shows 5,982 structures (5,918 culverts, or 99 percent, and 64 bridges, or 1 percent of the total). The predominant structure types of culverts are concrete boxes and corrugated metal pipes. So far, CDOT has inspected 3,433 walls of the estimated 10.68 thousand square feet of walls. CDOT has three types of walls: retaining (63 percent of the total square feet); noise (28 percent); and bridge (10 percent).

Frequency of inspection can be every two, four, or six years, depending on structure type and condition.



Damaged Wall - Clogged inlets resulted in substantial damage to this wall on Berthoud Pass, which highlights the importance of maintenance activities. (Photo courtesy of CDOT Staff Bridge.)



Timber Bridge - This old short-span timber bridge is an example of a minor structure. (Photo courtesy of CDOT Staff Bridge.)



Concrete Box Culvert - This concrete box culvert is one of 5,918 culverts that CDOT inspects regularly. (Photo courtesy of CDOT Staff Bridge.)