



TRAFFIC Watchers

FALL 2012



Denver Metro Area



DEPARTMENT OF TRANSPORTATION

CDOT Region 6 Maintenance Program- Denver Metro Area

The CDOT Region 6 Maintenance Program consists of 248 employees who are responsible for maintaining approximately 3,850 lane miles.

Snow and ice control involves plowing and liquid and solid de-icing application. Our sand/salt usage continues to be very minimal as we increase the use of alternate de-icers, which are more effective and environmentally-friendly than using salt and sand. Besides being used to reduce air pollution, these alternative de-icers also greatly improve mobility and safety during snow storms. CDOT maintenance crews in the Denver metro area will work 12-hour shifts during a snow storm from 5 a.m. to 5 p.m. and from 5 p.m. to 5 a.m.

A Review of Winter 2011/2012

Around the Denver metropolitan area, CDOT maintenance crews are faced with the challenges of maintaining a transportation system in a heavily populated area with harsh climate changes. Below is a summary of CDOT snow removal operations in the Denver area for winter 2011/2012:

Snow Removal (Total Cost)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
\$5,577,976	\$7,303,071	26%

Magnesium Chloride (Gallons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
495,713	359,870	-28%

Cold Temperature Modified Magnesium Chloride (Gallons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
395,460	69,873	-83%

APEX- All temperature liquid de-icer (Gallons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
2,500 (bridge de-icing systems only)	1,155,869	99.9%

North American Salt (Tons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
1,374	262	-81%

Ice Slicer (Tons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
10,511	18,004	71%

Salt/Sand (Tons)

July 2010 - June 2011	July 2011 - June 2012	Percentage of Change
851	58	-93%

**Product Cost

Magnesium Chloride -	.62 cents per gallon
Cold temp modified Mag Chloride -	.77 cents per gallon
APEX- All temp. liquid de-icer	.76 cents per gallon
Ice Slicer -	\$93.39 a ton
Salt/Sand -	\$31.20 a ton

Denver Metro Area Maintenance Accomplishments

(July 2011 - June 2012)

- Snowplowed, sanded and/or de-iced over 570,300 miles of road
- Removed 55,833 cubic yards of trash (this does not include trash picked up through the Corporate Sponsorship program)
- Repaired 184,309 square yards of bridge deck
- Repaired approximately 21,544 potholes
- Spent \$5.5 million on preventative maintenance and repairs including resurfacing and cracksealing



A tandem plow with a 1,600-gallon liquid tank for applying liquid de-icers. CDOT has 42 tandems in the metro area, some have V-boxes for applying solid de-icers and some are combination trucks that can apply both solid and liquid de-icers.



A tandem plow with a V-box for applying solid de-icers and a plow on the front and side to increase plowing activities without increasing manpower or equipment needs. CDOT has 18 tandems with wings in the Denver metro area.



A mid-range plow with a V-box for applying solid de-icers. CDOT has 55 mid-range plows in the Denver metro area. Some of the mid-range plows are equipped with 1,000-gallon tanks for applying liquid de-icers and others are equipped to apply both solid and liquid de-icers.



A 6000-gallon tanker used on I-25, I-70, US 36, US 6 and C-470 to spray liquid de-icers. The Denver metro area has three of these tankers.



A regular broom used to remove sand and salt and meet PM 10 (air quality) requirements. With this sweeper, the material is swept up and later discarded. The Denver metro area has 12 regular brooms.



A vacuum sweeper used to remove sand and salt and meet PM 10 (air quality) requirements. The Denver metro area has five vacuum sweepers.



Crews in the Denver metro area often plow in tandem or “gang plow.” CDOT performs this maneuver to pull snow and ice away from areas such as walls and medians where drainage is poor. This helps prevent the freeze/thaw cycle that contributes to ice in the driving lanes. Crews make every attempt to accomplish this during low traffic conditions in daylight or near dawn to increase the effectiveness of the de-icing products that are being applied as our crews plow.



CDOT maintenance crews in the high country use dozers and front-end loaders with snow blowers to clear off mountain passes.

Products

CDOT uses a variety of products during winter storms:

- **Solid de-icers**
 - Sand or sand/salt mixture
 - Ice Slicer- Mined in Redmond, Utah and consists of granular salt and magnesium chloride. Used primarily for temperatures 20 degrees or below
 - North American Salt- Made in the Great Lakes area and consists of granular salt and magnesium chloride. Used primarily for temperatures 20 degrees and above
- **Liquid de-icers (27-29% de-icer)**- used for anti-icing and de-icing on roadways during winter weather conditions
 - Magnesium Chloride (used above 16 degrees pavement temperature)
 - Cold temperature magnesium chloride (used below 16 degrees pavement temperature)
 - Includes a corn by-product to lower the freezing point
 - APEX
 - Magnesium chloride-based product used above -4 degrees pavement temperature
 - Due to a lower freezing point, can substitute for regular and cold-temperature magnesium chloride
 - Since it serves as regular and cold-temperature magnesium chloride, it is used in the automatic de-icing systems
 - Will be the primary liquid de-icer for the 2011-2012 winter season

Each year, CDOT spends more than \$200,000 on quality assurance testing of its de-icer products. CDOT's de-icer specifications are set by Dr. William Lewis, University of Colorado professor and water quality expert.

What is the difference between anti-icers and de-icers?

Anti-Icers: prevent the formation of bonded snow or ice and allows easy removal; used at the onset of a storm.

De-Icers: used to break the bond of already existing snow and ice, dissolve downward and penetrate until they reach the pavement. De-icers melt the ice and snow so they may be easily removed by mechanical means such as plows and are not necessarily intended to clear all ice and snow on the road.

CDOT does not pre-treat highways in advance of a storm, but rather starts to use/apply liquid de-icers once the snow starts to fall.



Temperature sensors help maintenance crews determine which product to use. Each plow contains a temperature sensor and maintenance crews frequently verify ambient and pavement temperature throughout the snow removal process.

Maintenance Decision Support System (MDSS)

Maintenance Decision Support System (MDSS) technology combines advanced weather prediction, advanced road condition prediction and rules of practice for anti-icing and de-icing to generate road treatment recommendations on a route-by-route basis. The goals of MDSS are to provide more effective uses of maintenance resources and to increase safety, reliability and mobility on roadways.

This real-time technology allows crews to input current road and weather conditions into a national system and receive feedback on how to combat the storm. Crews input road and ambient temperature, snow and wind conditions, the type of products being used and the application rate. This information is then compared to 15 weather reports and the system will then provide suggested treatments based on the information and models. The system may tell the operator to re-treat the road at a later time, apply different products at different rates or even to continue current procedures. The suggested treatment can then be followed or the operator can override the system and make contact with a system operator to report inaccurate feedback from the system.

Forty two CDOT plows in the metro area are equipped with the MDSS technology and corresponding equipment needed to relay the real-time information.



48 CDOT plow trucks in the metro area are equipped with a MDSS touch screen, which allows them to input real-time road and weather information.



North Program Engineer Steve Olson

1 US 36 - Federal Boulevard (US 287) to 88th Street

Cost: \$310 million (Bridge Enterprise Funding**)

Contractor: Ames/Granite Joint Venture

Project Manager: John Schwab

Work:

- Adds an express lane in each direction of US 36 for Bus Rapid Transit (BRT) and High Occupancy Vehicles (HOV) to travel, free of charge. Solo drivers will be able to use the express lane by paying a toll that varies in amount by the time of day. The existing lanes of US 36 remain free as an option so motorists will have more choices -- pay a toll, carpool or ride the bus for a more efficient trip, or travel free in the existing lanes;
- Reconstructs existing pavement on US 36 and widens the highway to accommodate 12-foot inside and outside shoulders;
- Replaces the Wadsworth Parkway, Wadsworth Boulevard (at 112th Avenue) Lowell Boulevard, Sheridan Boulevard and Burlington Northern Santa Fe Railway bridges over US 36;
- Adds Bus Rapid Transit improvements, including new electronic display signage at stations and bus priority improvements at ramps. The improvements will allow buses to operate on the shoulders of US 36 between interchanges to decrease bus travel time;
- Installs Intelligent Transportation Systems (ITS) for tolling, transit and traveler information and incident management; and
- Installs a separate commuter bikeway along much of the corridor.

Update: Crews have been installing barrier along US 36 for an upcoming traffic realignment, which will allow crews to begin the widening of US 36. In addition, minor bridge work has begun to widen several bridges including the US 36 bridges over East and West Flatiron Crossing Drive and Lowell Boulevard. Bridge reconstruction at Wadsworth Parkway, Sheridan Boulevard and 112th Avenue will begin soon.

Work Hours: During peak hours, all existing lanes of US 36 will remain open to traffic. Lane closures are possible Sunday through Thursday from 8 p.m. to 5:30 a.m.

Duration: Summer 2012 through December 2014

2 I-270 - Vasquez Boulevard (US 6) to I-76

Cost: \$4.1 million

Contractor: Martin Marietta Materials

Resident Engineer: Neil Lacey

Work: Rotomills and paves approximately three miles of I-270 from just south of Dahlia (56th Avenue) and I-76; corrects the profile of the roadway between the South Platte River and State Highway 265 to eliminate small hills; rotomills and paves several bridge decks along I-270 and makes minor improvements to the I-270 bridge over Vasquez Boulevard; repairs the inside and outside shoulders and resurfaces the shoulders on I-270 south of Dahlia Street; removes and replaces damaged guardrail; and installs ramp metering on the ramp from westbound Vasquez Boulevard to westbound I-270 to help regulate the flow of traffic during peak hours.

Update: Crews worked one full weekend on eastbound I-270 to pave, repair shoulders and make grade improvements. One more full weekend closure is expected in October to allow crews to conduct similar work on westbound I-270. Following the weekend closure, some minor work such as guardrail repair may occur during the weeknights for several weeks. The project will shutdown for the winter and will resume work in April or May 2013 depending upon when warmer temperature return for paving operations.

Work Hours: Single lane closures are possible Sunday through Thursday from 9 p.m. to 5:30 a.m. and weekends from 9 p.m. Friday to 5:30 a.m. on Monday.

Duration: September 2012 through July 2013 with a winter shutdown

3 I-76 - Federal Boulevard (US 287) to I-25

Cost: \$2.3 million

Contractor: Brannan Sand & Gravel, LLC

Resident Engineer: Neil Lacey

Work: Rotomills and paves approximately three miles of I-76 in asphalt.

Update: The rotomilling and paving operations are complete and crews are completing minor work such as guardrail repair.

Work Hours: Single lane closures are possible Sunday through Thursday from 9 p.m. to 5:30 a.m.

Duration: July 2012 through October 2012



North Program Engineer Steve Olson

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84th Avenue over I-25

Cost: \$8 million- (Bridge Enterprise project**)

Contractor: Zak Dirt, Inc.

Resident Engineer: Jay Hendrickson

Work: Replaces the 84th Avenue bridge over I-25, which was originally constructed in 1959 and is one of Colorado's poor bridges. The bridge will be wider to accommodate an additional left turn lane from eastbound 84th Avenue to northbound I-25 as well as a 10-foot sidewalk on each side of the bridge.

Update: All major work is complete and all lanes of 84th Avenue and I-25 have been placed in their final alignment. Over the next several months, crews will complete minor work such as asphalt paving, striping and landscaping.

Work Hours: One lane of eastbound and westbound 84th Avenue may be closed Monday through Friday from 9 a.m. to 3 p.m. and Sunday through Thursday from 9 p.m. to 5 a.m. Impacts to I-25 will be very minimal and will take place Sunday through Thursday from 7 p.m. to 5:30 a.m.

Duration: February 2011 through October 2012

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Eastbound State Highway 58 over I-70

I-70 over 20th Avenue

I-70 over Old Golden Road

I-70 over Havana Street

I-76 over 96th Avenue

Cost: \$2.3 million

Contractor: Hamon Contractors, Inc.

Resident Engineer: Jay Hendrickson

Work: Rehabilitates bridge decks in five locations in the Denver metro area. The rehabilitation consists of rotomilling the existing asphalt, removing and replacing deteriorating concrete, paving and striping.

Update: Work in three of the five locations is complete. Crews still need to complete the bridge deck rehabilitation over two lanes of westbound I-70 as well as all of eastbound I-70 over Havana Street. Crews also need to complete asphalt paving on I-76 over 96th Avenue.

Work Hours: Single lane closures Sunday through Thursday from 8 p.m. to 5:30 a.m. and weekends from approximately 8 p.m. on Friday to 5:30 a.m. on Monday.

Duration: July 2012 through March 2013 with a winter shutdown

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Sheridan Boulevard (State Highway 95) over the Union Pacific Railroad

Cost: \$7 million (Bridge Enterprise project**)

Contractor: Zak Dirt, Inc.

Resident Engineer: Gus Bieber

Work: Replaces the Sheridan Boulevard bridge over the Union Pacific Railroad, which is near I-76. The original bridge was constructed in 1966 and is in poor condition.

Work Hours: Traffic will be reduced to one lane in each direction for approximately 18 months. In addition, lane closures are possible Sunday through Thursday from 8 p.m. to 5:30 a.m. for bridge demolition, girder installation and bridge deck work.

Duration: April 2012 through May 2013

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Vasquez Boulevard (US 6) - I-70 to I-76

Cost: \$6 million

Contractor: Asphalt Specialities

Resident Engineer: Gus Bieber

Work: Rotomills and paves approximately five miles of Vasquez Boulevard in asphalt and rehabilitates the bridge decks on Vasquez Boulevard over the Burlington Canal and I-76. Replaces expansion joints on the Vasquez Boulevard bridge over Sand Creek.

Update: The majority of the asphalt paving on mainline Vasquez Boulevard is complete. Crews will complete the expansion joint repairs and minor paving operations in the spring.

Work Hours: Sunday through Thursday from 9 p.m. to 5:30 a.m.

Duration: July 2012 through May 2013 with a winter shutdown



Central Program Engineer Randy Furst

- 8 State Highway 93 - State Highway 58 to State Highway 128**
State Highway 93 at Iowa Avenue (north of State Highway 58)
Cost: \$7 million (FASTER safety project*)
Contractor: APC Construction Co.
Resident Engineer: Jerad Esquibel
Work: Resurfaces State Highway 93 between 58th Avenue and State Highway 128 in asphalt and widens the shoulders. The traffic signal at State Highway 93 and Iowa Avenue will also be upgraded and conduit will be installed on State Highway 93 between State Highway 58 and State Highway 128 to prepare the corridor for future electronic message sign installation to improve communication to motorists.
Update: The asphalt paving is completed on State Highway 93 between 58th Avenue and State Highway 128 and the traffic signals at State Highway 93 and Iowa Avenue have been upgraded. Remaining work includes fiber optic work, landscaping, placement of rumble strips and striping.
Work Hours: Single lane closures Sunday through Thursday from 7 p.m. to 6 a.m.
Duration: August 2011 through October 2012
- 9 Colorado Boulevard (State Highway 2) at 12th Avenue**
Colorado Boulevard (State Highway 2) at I-70
Cost: \$600,000
Contractor: Interface Communications, CO
Resident Engineer: Jerad Esquibel
Work: Upgrades the traffic signals on Colorado Boulevard at 12th Avenue and I-70 and installs a pedestrian island at 12th Avenue to improve pedestrian safety.
Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m.
Duration: May 2012 through October 2012
- 10 Federal Boulevard (US 287) over Colfax Avenue (US 40)**
Cost: \$5.1 million (Bridge Enterprise project**)
Contractor: Jalisco International, Inc.
Resident Engineer: Jerad Esquibel
Work: Replaces the Federal Boulevard bridge over Colfax Avenue with one that is wider to accommodate eight-foot sidewalks on each side of the bridge as well as curb and gutter in the median. The existing bridge was originally constructed in 1960 and is one of Colorado's poor bridges.
Update: The original bridge has been completely demolished and much of the new bridge is complete, including the bridge deck. Crews will soon begin construction of the bridge rail and sidewalk on the west side of the bridge.
Work Hours: Single lane closures are possible Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 8 p.m. to 5:30 a.m.
Duration: September 2011 through July 2013
- 11 Federal Boulevard (State Highway 88) - Alameda Avenue to 5th Avenue**
Cost: \$7.8 million
Contractor: Scott Contracting, Inc.
Resident Engineer: Jerad Esquibel
Work: Reconstructs and widens approximately one mile of Federal Boulevard in concrete to accommodate an additional lane on northbound Federal Boulevard. When complete, there will be three lanes in each direction with a raised median. In addition, the traffic signals at the Federal Boulevard/1st Avenue and Federal Boulevard/2nd Avenue interchanges will be upgraded and sidewalks will be widened to eight feet to improve safety for pedestrians.
Update: All of the concrete paving and widening on northbound and southbound Federal Boulevard is complete including the sidewalks, driveways and intersections. The majority of the new concrete median is complete as well as the retaining walls. Crews are now focusing on landscaping, lighting and other minor work.
Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. with occasional night and weekend work. During paving operations, the lane closure hours may extend from 6 a.m. to 5 p.m., Monday through Friday.
Duration: March 2011 through December 2012



12 US 6 (6th Avenue) over Sheridan Boulevard (State Highway 95)

Cost: \$8.8 million (Bridge Enterprise project**)

Contractor: Edward Kraemer and Sons, Inc.

Resident Engineer: Jerad Esquibel

Work: Replaces the 6th Avenue bridge over Sheridan Boulevard and provides wider sidewalks under the bridge along Sheridan Boulevard and at the four pedestrian islands. Drainage and lighting improvements will also be made including upgrading some traffic signals. The medians north and south of the bridge will be modified to increase left turn storage capacity which will help with the flow of traffic on Sheridan Boulevard. The existing bridge was originally constructed in 1961 and is in poor condition.

Update: The southern portion of the new bridge is complete and the center portion will be complete by the end of October 2012, weather permitting. Following the completion of the center portion, crews will demolish the temporary bridge on the north side and then complete the remainder of the bridge.

Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 8 p.m. to 5:30 a.m. Overnight full closures of Sheridan Boulevard and 6th Avenue are possible for bridge demolition, girder installation and other bridge work.

Duration: January 2012 through July 2013

13 US 85 (Santa Fe Drive) over Dad Clark Gulch

Cost: \$2.5 million - budget

Contractor: Yet to be determined

Resident Engineer: Jerad Esquibel

Work: Replaces the northbound Santa Fe Drive bridge over Dad Clark Gulch near C-470, which was originally constructed in 1939.

Work Hours: Single lane closures Monday through Friday from 7 a.m. to 3:30 p.m. with occasional night and weekend work.

Duration: March 2013 through October 2013 (tentative schedule)

14 Pecos Street over I-70

Cost: \$21 million (Bridge Enterprise project**)

Contractor: Kiewit Infrastructure

Project Manager: Randy Furst

Work: Replaces the Pecos Street bridge over I-70, which was originally constructed in 1965 and is in poor condition. In addition, two roundabouts will be constructed on Pecos Street, replacing the existing signalized intersections at I-70 to improve mobility.

Work Hours: Single lane closures Sunday through Thursday from 8 p.m. to 5:30 a.m.

Duration: October 2012 through August 2013

15 I-25 - 20th Street to Speer Boulevard

Cost: \$14.6 million- budget (FASTER safety project*)

Contractor: Hamon Contractors, Inc.

Resident Engineer: Kevin Brown

Work: Adds auxiliary lanes on southbound I-25 from just south of 20th Street to just south of Speer Boulevard to help eliminate the weaving at the on and off-ramps along I-25. Replaces the 15th Street bridge over I-25 to accommodate auxiliary lanes on I-25 and wider sidewalks on 15th Street. Reconfigures the I-25 HOV/tolled Express Lane exit to provide for a longer merge lane into mainline traffic. Constructs sidewalk along Central Street between 15th Street and 16th Street, connecting to Denver's portion of the project. The City of Denver is funding additional improvements that will be constructed as part of this project including a 10-foot bicycle/pedestrian path from 16th Street to 20th Street, additional on-street parking on the west side of Central Street north of the 17th Street curve and enhanced signage for the bike route connection at 20th Street.

Update: The northern half of the new 15th Street bridge over I-25 is nearly complete and the surrounding retaining walls are about half complete.

Work Hours:

I-25: Various lane closures Sunday through Thursday from 7 p.m. to 5:30 a.m.

Central Street: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m.

Duration: January 2012 through January 2014



16 I-25 over the South Platte River

Cost: \$16.4 million

Contractor: Lawrence Construction Co.

Resident Engineer: Kevin Brown

Work: Replaces the I-25 bridge over the South Platte River, which is also known as the "Bronco Arch" bridge. The existing bridge was originally constructed in 1951 and is one of Colorado's poor bridges.

Update: Crews have demolished and reconstructed the eastern and western portions of the new bridge and continue to work on the center portion.

Work Hours: Single lane closures Sunday through Thursday starting at 7 p.m. with double lane closures at 9 p.m. and triple lane closures at 11 p.m. All lanes will reopen by 5:30 a.m. the next day. Full closures of I-25 may be necessary for bridge demolition, girder installation and bridge deck work. Local streets and bike paths underneath I-25 may be periodically closed.

Duration: May 2011 through August 2013

17 Wadsworth Boulevard (State Highway 121) over Bear Creek

Cost: \$5.6 million

Contractor: Lawrence Construction Co.

Resident Engineer: Kevin Brown

Work: Replaces the Wadsworth Boulevard bridge over Bear Creek, which is located just north of US 285. The existing bridge was originally constructed in 1957 and is one of Colorado's poor bridges. A 60-inch Denver Water Line will also be relocated to accommodate the construction of the new bridge.

Update: The eastern portion of the bridge has been demolished and reconstructed. Once the eastern portion is complete, crews will demolish and reconstruct the center portion of the bridge and then western portion.

Work Hours: Lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 8 p.m. to 5:30 a.m. Periodic closures of the bike path under Wadsworth Boulevard are possible throughout the project. When the path is closed, users will be detoured to Yale Avenue.

Duration: March 2012 through June 2013

18 Colfax Avenue (US 40) - Cole Boulevard to Simms Street

Cost: \$1.3 million

Contractor: Martin Marietta Materials

Resident Engineer: Kevin Brown

Work: Rotomills and paves approximately 1.5 miles of Colfax Avenue in asphalt.

Work Hours: Single lane closures Sunday through Thursday from 7 p.m. to 5:30 a.m.

Duration: June 2012 through September 2012 (tentative schedule)

19 State Highway 391 (Kipling Street) between 38th Avenue and 49th Avenue

Cost: \$1.8 million

Contractor: Brannan Sand and Gravel, LLC

Resident Engineer: Tony Stewart

Work: Rotomills and resurfaces approximately 1.5 miles of Kipling Street in asphalt and rehabilitates the bridge deck over Clear Creek.

Update: The rotomilling and paving is complete and crews are working on rehabilitating the Kipling Street bridge deck over Clear Creek.

Work Hours: Lane closures Sunday through Thursday from 9 p.m. to 5:30 a.m.

Duration: August 2012 through November 2012



South Program Engineer Paul Jesaitis

20 Arapahoe Road (State Highway 88) - Havana Street to Revere Parkway

Cost: \$1.3 million

Contractor: Jalisco International, Inc.

Resident Engineer: John Hall

Work: This safety and mobility project will add a right turn lane on eastbound Arapahoe Road at Havana Street, a right turn lane on westbound Arapahoe Road at Peoria Street, a left turn lane from northbound Revere Parkway to westbound Arapahoe Road. The traffic signal at Lima Street will also be upgraded.

Work Hours: Single lane closures Sunday through Thursday from 7 p.m. to 6 a.m. with occasional weekend work.

Duration: June 2012 through November 2012

21 I-225 at Colfax Avenue (US 40)- Phases 3 and 4

Cost: \$11 million

Contractor: SEMA Construction Co.

Resident Engineer: Rick Erjavec

Work: This project combines the final two phases of this interchange improvement project and will construct the southbound I-225 slip-ramp from 17th Place and widens the west side of the I-225 bridge over Colfax Ave to accommodate the new slip-ramp. The northbound I-225 on-ramp at Colfax Avenue will be reconstructed to provide an elevated collector/distributor road between Colfax Avenue and 17th Place; the northbound I-225 slip ramp will be reconstructed to provide access to 17th Place; and the new 17th Place bridge over I-225 will be constructed.

Update: Work on the new 17th Place bridge has been completed and the widening of the Colfax Avenue bridge will be completed in late October. This will allow for the opening of the third lane of southbound I-225 from Smith Road to Mississippi Avenue. In November, the new ramp from Colfax Avenue to northbound I-225 will open, which will allow crews to remove the current temporary ramp, finish the new northbound I-225 slip ramp and open the 17th Place bridge. This will allow motorists to go from Fitzsimons Parkway east and use the new southbound I-225 slip ramp and avoid Colfax Avenue or cross over I-225 and use the new northbound I-225 ramp.

Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 7 p.m. to 5:30 a.m.

Duration: October 2011 through February 2013

22 I-225 - Mississippi Avenue to Parker Road (State Highway 83)

Cost: \$43 million

Contractor: SEMA Construction Co.

Resident Engineer: Rick Erjavec

Work: Widens I-225 between Mississippi Avenue and Parker Road to accommodate three lanes in each direction with an additional auxiliary lane. This will complete the widening of I-225 between I-25 and I-70, eliminating the bottleneck that now exists at Mississippi Avenue. As part of the project, the Yale Avenue bridge over I-225 will be replaced and other minor roadway elements will be completed to accommodate RTD's extension of light rail from Parker Road to Iliff Avenue. The project is being funded by CDOT and RTD.

Update: The Yale Avenue bridge over I-225 has been demolished and opened to traffic on October 5th, approximately two months early. Crews will now work on the new RTD light rail structure as well as the widening of northbound and southbound I-225.

Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 8 p.m. to 5 a.m.

Duration: April 2012 through July 2014



23 I-25 over Santa Fe Drive

Cost: \$60 million (Bridge Enterprise project**)

Contractor: Hamon Contractors, Inc.

Resident Engineer: Ron Buck

Work: Replaces the I-25 bridges over Santa Fe Drive that are in poor condition and constructs a flyover ramp from northbound Santa Fe Drive to northbound I-25 to replace the current left side on-ramp and improve operations and safety for this major traffic movement. I-25 from the north end of the Broadway Viaduct to just south of Alameda Avenue will be reconstructed and realigned to provide lane continuity on I-25. This will help reduce the bottleneck in this area. Once complete, I-25 will have four lanes available in each direction through Denver from C-470 to US 36.

Update: Construction for the new northbound I-25 bridge over Santa Fe Drive is complete and the construction of the new southbound I-25 bridge over Santa Fe Drive is underway. Southbound I-25 traffic has been temporarily realigned onto the northbound I-25 bridge. The new flyover ramp from northbound Santa Fe Drive to northbound I-25 is nearly complete and is scheduled to open to traffic in mid-December. Santa Fe Drive is nearly in its final alignment, but crews still need to complete final drainage, paving and signalization.

Work Hours:

Santa Fe Drive: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m. and Sunday through Thursday from 8 p.m. to 5:30 a.m.

I-25: Single lane closures Sunday through Thursday from 8 p.m. to 5:30 a.m. Full closures of I-25 will also be required for girder installation, bridge deck panel installation and concrete deck pours.

Duration: July 2011 through August 2013

24 I-76 - Bromley Lane to Lochbuie

Cost: \$420,000

Contractor: Mountain Valley Hydroseed, LLC

Resident Engineer: Leela Rajasekar

Work: Installs median cable rail along three miles of I-76 to help prevent crossover accidents.

Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m.

Duration: October 2012 through February 2013

25 120th Avenue (State Highway 128) at Pecos Street Wadsworth Boulevard (State Highway 121) at Quincy Avenue Wadsworth Boulevard (State Highway 121) at Parkhill Avenue Westbound C-470 at Kipling Parkway (State Highway 391)

Cost: \$1.2 million

Contractor: W.L. Contractors, Inc.

Resident Engineer: Leela Rajasekar

Work: Upgrades four traffic signals in the Denver metro area.

Work Hours: Single lane closures Monday through Friday from 8:30 a.m. to 3:30 p.m.

Duration: August 2012 through March 2013

26 Havana Street (State Highway 30) - Iliff Avenue to Evans Avenue Havana Street (State Highway 30) - Mississippi Avenue to Kentucky Avenue 6th Avenue (State Highway 30) - Billings Street to Sable Boulevard Leetsdale Avenue (State Highway 83) - Oneida Street to Quebec Street

Cost: \$455,000

Contractor: Chato's Concrete, LLC

Resident Engineer: Leela Rajasekar

Work: Installs a raised median in four locations on State Highway 30 and State Highway 83 to reduce accidents and improve safety.

Update: The raised medians have been installed on State Highway 30 between Billings Street and Sable Boulevard and on State Highway 30 at Virginia Avenue. Crews are currently constructing the raised medians on State Highway 30 between Evans Avenue and Iliff Avenue.

Work Hours: Single lane closures Sunday through Thursday from 8 p.m. to 5:30 a.m.

Duration: June 2012 through September 2012 (tentative schedule)

Funding Source Definitions

***FASTER-** Funding Advancements for Surface Treatment and Economic Recovery was passed by the General Assembly in 2009 and provides transportation funding to improve safety on Colorado highways.

****Bridge Enterprise** - The purpose of the Bridge Enterprise is to complete bridge projects that involve the financing, repair, reconstruction and replacement of bridges designated as structurally deficient or functionally obsolete, and rated "poor" by CDOT. In December of 2010, the Colorado Bridge Enterprise sold \$300 million in "Build America Bonds". These bond proceeds as well as FASTER funds will be used to fully fund replacement or repair of poor bridges. A complete listing of the bridges can be found at:
<http://www.coloradodot.info/programs/BridgeEnterprise/>

*****ARRA** - American Reinvestment and Recovery Act was signed on February 17, 2009 by President Obama to help create jobs.