



The US 6th Sense



US 6 Bridges
Design Build

February 2015

What's in a shift?



Recently, crews have completed a number of highly visible traffic shifts along the project corridor as the project moves into the home stretch. With so many moving pieces, traffic impacts and crewmembers involved, we thought this would be a good time to take a look into some of the ins and outs of executing a major traffic shift.

Steps to executing a major traffic shift:

- Extensive planning is conducted prior to any traffic shift. The US 6 traffic team consisting of CDOT, Kraemer North America, Felsburg, Holt and Ullevig, David Evans & Associates, Roadsafe Traffic Systems, City and County of Denver and Denver Police Department analyze the traffic switch to be sure it allows room for the next phase of construction. It also must meet all safety criteria.
- From these meetings, a licensed engineer prepares the official Traffic Control Plan and submits it to CDOT management for approval.
- Our traffic control company (Roadsafe) prepares a Method of Handling Traffic for any lane closures or detours needed to implement the traffic control plan.
- When the shift begins, they first place the signs indicating the necessary lane closures, starting from the point furthest away from the point of the closure.
- After signage is in place, they set the cones and formally close the lane with the help of an arrow board.
- They repeat this process for any additional lanes closing at later times.
- They proceed to close any turn lanes at intersections leading to ramps set to close.
- Then they shift any barriers, resetting them in the new location.
- Next comes concrete or asphalt paving and time for it to cool down and dry.
- Striping of new segments of roadway follows paving.
- Finally, crews will remove cones and reopen the road in its new configuration.

A shift like the recent one in late January will typically take 24-48 hours to complete and they almost always require multiple lane closures or full road closures, depending on the location of the shift.

Construction update

January accomplishments

- Poured the bridge deck on the northbound I-25 to westbound US 6 off-ramp bridge over a segment of the Burlington Northern Santa Fe Railroad tracks, just east of I-25
- Shifted both directions of US 6 traffic onto the new bridges over Bryant Street and the S. Platte River, resulting in a six month closure of the southbound I-25 off-ramp to eastbound US 6
- Demolished the southern portion of the US 6 bridge over Bryant Street
- Began demolition of the remaining portion of the old US 6 bridge over the S. Platte River
- Implemented a two month closure of the S. Platte River trail between 8th Avenue and Bayaud Avenue for total reconstruction and improvements to a 1-mile stretch of the trail
- Installed retaining walls for the new westbound US 6 collector-distributor (CD) road and the new Federal Boulevard on ramp to westbound US 6
- Continued with concrete paving on westbound US 6

February updates

- Opening the brand new Federal Boulevard on-ramp to eastbound US 6 and closing the old eastbound US 6 on-ramp from 5th Avenue
- Setting girders on the Federal Boulevard bridge over US 6
- Pouring bridge deck for Federal Boulevard bridge over the new westbound CD road.
- Setting girders on the US 6 bridge over Bryant Street
- Shifting both directions of US 6 traffic to the north onto new concrete pavement between Federal Boulevard and Knox Court
- Continued reconstruction and improvements to a 1-mile stretch of the S. Platte River trail
- Construction of a new restroom building in Barnum Park East
- Installation of new fence around Barnum East baseball field, as well as grading for the new multi-purpose field

Fall finish line in sight

The US 6 Bridges Design Build Project is heading into the home stretch, as crews are making strides to complete the \$98 million project by fall of this year.

About one year has passed since work began on this project and we decided it would be a good time to remind readers about the scope and benefits this project is delivering.

Project Scope

This project includes improvements along US 6 from just west of Knox Court through the US 6 bridge over the Burlington Northern Santa Fe (BNSF) railroad tracks just east of I-25. Crews are replacing six bridges, building six new bridges, building new ramp structures to accommodate traffic exiting and entering US 6 while minimizing traffic weave movements, constructing a bicycle/pedestrian bridge over US 6 to connect Barnum Park North and Barnum Park South, improving mobility through the I-25/US 6 interchange and replacing impacted facilities in the Barnum Park system.

The six primary bridges being replaced include the following:

- Knox Court bridge over US 6
- Federal Boulevard bridge over US 6
- US 6 bridges over:
 - Bryant Street
 - S. Platte River
 - I-25
 - BNSF railroad tracks

Project Benefits

This project has several benefits both for drivers and park users. In terms of roadway improvements, crews are replacing bridges that were in poor condition and/or functionally obsolete. They are also improving traffic flow through the I-25/US 6 interchange and addressing “bottleneck” conditions by building separate ramp lanes for motorists to exit or enter US 6 without mixing with through traffic.

In terms of off-road enhancements, the project will be connecting Barnum Park facilities on the north and south sides of US 6 with a bicycle/pedestrian bridge (slated for a spring 2015 completion date), improve park trails and landscaping and facilitate all-season use of Barnum Park East with the construction of a synthetic turf field.

Recent photos

The photos below provide a glimpse into how the project is progressing.



Looking east at the Knox and Federal bridges over US 6



Looking west at the Federal and Knox bridges over US 6



US 6/I-25 Interchange

Built-in safety measures aim to protect driving public

During your travels up and down the project corridor, you may have noticed that the project team has taken several measures to protect your drive, including:

- Fixed, temporary or mobile devices
- Hazard warning signage
- Photo radar enforcement

Here is a brief description of some of these specific measures:

- Fixed or temporary concrete **diversion devices** or **barrier rails** are designed to keep the vehicle on the road.
- **Fixed attenuating** devices are used to protect vehicle drivers and occupants during vehicle accidents with non-movable objects such as wall ends, bridge abutments, or other non-moveable structures or objects.
- **Temporary attenuating** devices are designed to be highly visible and absorb impact, and are used only one time.
- **Mobile attenuating** devices provide warning, absorb impact and are used on the back end of traffic control vehicles. They are used in emergency, temporary and night work to protect workers and drivers.
- **Breakaway devices** are used on traffic metering posts, sign or light poles, or other devices where it is safer for drivers if the device breaks away at its base.
- **Advance warning signage, flaggers** and **speed control** are used to notify drivers of closures, speed changes or other necessary warnings.

In November 2014, a radar detection van was set up on eastbound US 6, just west of Knox Court. The posted speed limit in the work area is 45 miles per hour and, in the first week of monitoring, more than 143,000 vehicles were caught speeding through the project, with more than 18,000 speeding citations issued.

The van helped, reducing the number of speeding vehicles to about 40,000 during the first week of December. Even still, drivers should be ever vigilant and aware of their surroundings when driving through this construction zone – especially at night when lane closures and detour routes are often in place.

Meet the project team

Michael Papajohn, RoadSafe Traffic Systems, Inc.

What is your role on the US 6 Bridges Design Build Project?

Traffic Control Project Manager

How long have you been with RoadSafe?

12 years

What is the most rewarding part of what you do?

At the end of the day, everyone can go home to his or her families because of the service we provide.



What is the most challenging part of executing a major traffic shift like the ones we've seen recently?

In theory, the whole process is extremely simplistic. You have a plan on paper; you then apply it to the road. In actual "real world application" is where the logistical challenges comes into play. So, to answer the question with this little bit of insight, I'd say the most challenging pieces of executing a major traffic shift or closure are:

- **Thinking outside of the box when things don't go as planned**
- **Needing to visualize everything down to the smallest details**
- **Coordinating to the minute lane/ramp/road closures with crewmembers miles away from the work zone**

How many crewmembers does it typically take to complete a major traffic shift or closure?

Traffic Control and Support Staff: 8-20 depending on the needs and times of the closures. This is just the number of traffic personnel and does not include all the construction crews.

What would you want to tell the traveling public about driving through any brand new traffic pattern?

Take your time. Leave for work a few minutes earlier or skip the morning coffee run. It's better to make it through the work zone safely. Allowing more time will minimize stress and frustration and keep you and our crews safe.

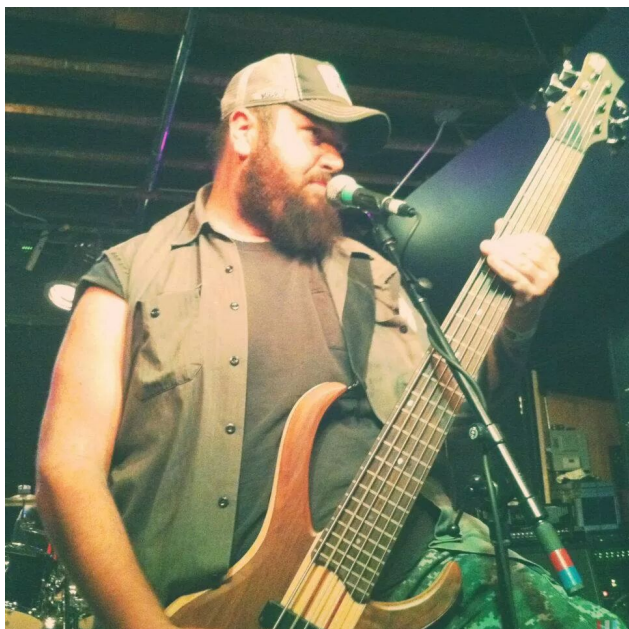
Where did you attend school?

Arapahoe High School

If you could have dinner with someone, dead or alive, who would it be and why?

For this, I have to offer two people:

- 1) My Grandfather. The wealth of knowledge that I could get from him couldn't be had for any price from another person.**
- 2) 2) Carl Sagan. That dude will give you some perspective that will make your head explode. And who doesn't like having their mind blown every now and then...?**



Where is your favorite place you've traveled?

Pacific Northwest.

What are your hobbies?

I have been a musician for over 20 years. My current band (Cryogen) has been together for 10 years, and is playing our final show on Feb 20th. I think my love of music transcends the "hobby" realm.

What was your first concert?
Colorado Symphony Orchestra, 1991

What was your first car?
There is no way I'm going to answer that question. But I will offer a better question:

Which is better: Quantum Mechanics or General Relativity?
Quantum Mechanics, because at the smallest levels, Relativity has to be wrong.

Do you prefer dogs or cats and why?
Dogs, because cats are the spawn of Satan, and are not to be trusted.

Note from the Project Director

Everything is changing and that's a good thing. We've seen a few big traffic shifts recently that have made for some new looks on the project. This is a true sign of progress as we march forward to our target completion date in the fall.

We continue to encourage the driving public to plan ahead and give yourself extra time if you are traveling through the construction zone. And always remember to drive courteously and distraction-free.

Sincerely,

*Kevin Sullivan
Project Director, US 6 Bridges Design Build Project
Colorado Department of Transportation*

Explore commuting options

If you find it too stressful to drive through the US 6 corridor while it is under construction, you might want to explore alternative modes of transportation. This could include using the Regional Transportation District's West Rail Line or bus services. [Click here](#) for information on RTD's light rail service. For information on bus fares and schedules, [click here](#).

Exploring carpool or vanpool services is another option you might want to pursue. [Click here](#) to access an online trip planner where you can input your starting location and destination address into a database to check out existing carpool or vanpool services in your area.

If biking or walking are more your speed for short trips, [click here](#) for tips on getting to your destination by foot or bicycle.

Want more information?

Website: www.coloradodot.info/projects/US6Bridges

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