

# Colorado Department of Transportation (CDOT) Realizes Benefits of Adopting a Digital Print System for Statewide Traffic Sign Production

## CDOT first state agency in country to benefit from innovative solution

The Colorado Department of Transportation (CDOT) is no stranger to extreme road conditions, responsible for maintaining more than 184,000 miles of state and county roadways and ensuring the driving safety of its millions of residents and visitors. Part of that charge is the production of traffic signs, which must meet very strict requirements for reflectivity and durability in order to protect the public.

### Traditional Screen Printing: Time to Move On

Like many DOTs around the country, CDOT for decades had utilized a traditional screen printing technique to turn out its signs. This process, a labor intensive one that requires a significant amount of time and resources to run successfully, was becoming a hindrance to the agency running at peak efficiency. Each screen requires a unique construction with careful maintenance, and the frequent possibility of damage that could result in the flawed print of a sign. Furthermore, the screens expose the shop staff to toxic chemicals that can only be disposed of by barrel storage and shipping to a specialized waste management facility. Because it is a facility that houses its entire sign manufacturing operation internally, the risk of CDOT employee strain by the chemical exposure was a real consideration. CDOT wanted to ensure excellent quality and the ability to immediately troubleshoot any hazardous environments. Without proper personal protective equipment, staff was at risk for developing headaches, skin allergies or asthma.



Colorado took note of the statistic by the Federal Highway Administration (FHWA) stating that states spend \$174 million annually on traffic sign replacement, and thought, "there has got to be a better way, for both our employees and the state's taxpayers."

### The Digital Print Innovation

Because CDOT knew transforming its shop with a different printing method would require new equipment, it conducted a study comparing digital printing to traditional print methods of sign fabrication. The findings indicated that digitally-printed traffic signs using the right inks and protective overlays can be more durable and significantly easier to produce than those printed via traditional screen-printed methods. Additionally, due to the efficient nature of the process, using a digital print solution, Colorado could cut its print duration per sign, outputting in one hour what normally would have taken two days.

CDOT sign shop supervisor Bernard Cole said because of digital printing, "More dollars can be invested in maintaining roads, improving safety and reducing congestion. Digital printing techniques will also reduce the amount of hazardous waste produced in the process by using less ink and cleaning chemicals to produce the signs – protecting our employees."

Enter Avery Dennison's TrafficJet™ Print System. The digital solution is an integrated inkjet printing system that allows





**"The digital printer has allowed us to go from 'a few days' to 'instant'"**

—Bernard Cole, CDOT sign shop supervisor

CDOT to produce specification-compliant and durable traffic signs. It requires less space, equipment and inventory than traditional methods and is allowing CDOT to do more with less. The system can nest signs of various types, sizes and colors across the full sheeting width, which results in raw material cost reduction and streamlined operations.

Cole said of the print system, "The digital printer has allowed us to go from 'a few days' to 'instant,'" and has increased CDOT's capacity and capabilities.

The digital system is allowing CDOT to get signs out the door faster than ever before and allows for more complex and colorful signs. Unlike the old screen-printing method where multiple colors took a long time to produce and dry

because of the layering technique, the print system is producing high-quality, multi-colored signs in one step.

### **Spreading the Word to Other State Agencies**

CDOT, because of the success it's having with the digital solution, is encouraging other city, county and state agencies to consider the innovation as well. "CDOT's actually opening the door to new ideas and improvements for the safety of the traveling public," said senior sign fabricator Damien Stelter.

"With this type of innovation we believe the ultimate winner will be the driving public, who will have a better functioning transportation system," said Shailen Bhatt, executive director of CDOT. "Colorado is continually seeking to not just innovate on behalf of our employees, but also for a better return on the taxpayers' investment."



For more information on the innovation efforts from the Colorado DOT, please visit [www.codot.gov](http://www.codot.gov). For more information on Avery Dennison's TrafficJet print solution, please visit <http://reflectives.averydennison.com/en/home/about-us.html>



**TrafficJet<sup>TM</sup>**  
Print System

**The Revolutionary Printer  
that will Simplify your World**