

Technology Watch:

Robotic Cones and Barrels Could Automate Workzone Traffic Control Setup

A University of Nebraska professor has developed robotic construction cones and barrels that could someday make workzone set-up and removal a high-tech operation and send the traditional orange versions the way of the dinosaurs. The professor has invented cones and barrels that are placed with no direct human contact required as they are moved out of the way, or into place, by computer commands that can come from miles away if necessary.

“The hands-free traffic control devices can even be programmed to move on their own at any particular part of the day,” said Shane Farritor, an assistant professor of mechanical engineering at Nebraska. “For example, if workers arrived at 6 a.m., the cones could move from the shoulder to block off the lane at that time, then return to the side of the highway at the end of the day.

“It just seems like a very good application for robots,” Farritor said in announcing the invention this summer.

The robotic cones would also help remove people from hazardous jobs on the highway putting barrels and cones into place, Farritor said in a report on his creation. Work on the idea began in 2002 using a National Academy of Sciences grant. Farritor worked on the project with graduate students at Nebraska and computer science assistant professor Steve Goddard.

The robots are placed at the bottom of the cones and barrels and are small enough not to greatly alter the familiar appearance of the traffic control devices. “It would look exactly the same,” Farritor said. “Normally there’s a kind of rubbery, black base to them. We replace that with a robot.”

Farritor has talked with officials from the Nebraska Department of Roads about how the robots would be most useful to what they might need. The robots could come in handy following a slow-moving paving crew or maintenance operation, like painting a stripe on a road



Farritor's robot cones and barrels could help remove people from hazardous jobs such as line painting

or removing asphalt, where now the barrels have to be picked up and moved as the operation proceeds, Farritor said. "That way you don't have to block off a 10-mile strip."

The problems with maintaining safe barrel and cone placement in a rolling operation has been a serious concern for ORBA members and the only available options currently for meeting Book Seven regulations raise questions about the safety of the person who has to follow the operation and pick up the cones and barrels.

While prototypes have been made, they are not in use anywhere. Farritor said he has applied for a patent and is considering what to do next. He is thinking about starting a small business and trying to market the robots to roads departments and other organizations across the country that may benefit from them.

No information has been released about the cost of producing the robotic cones and barrels and making them available generally to the construction industry.

For more information on Farritor and his robotic traffic control technology follow this link: <http://robots.unl.edu/farritor/> ●



Centennial

Construction Equipment Rentals

- 24-hour dispatch service
- Sweepers
- Flushers
- Catch basin cleaners
- Water trucks

*Serving highway and road building contractors
for over 35 years.*

143Toryork Drive, Weston, ON M9L 1X9
Tel.: (416) 741-4141



Guide Rail Installation & Repairs
Upgrading and End Treatments
Noise Walls, Steel & Timber Break Away Signs
All Types of Fencing, Gates, and Controllers
Golf Course, Park, and Playground Construction
Landscape Design, and Precast Retaining Walls
MTO Rated, Bondable
Quality Control Core Plan Approved

*2055 Kottmeier Rd RR #1
Fonthill, Ontario LOS 1E6
Phone: 905-892-2661
Fax: 905-892-4692*

*A Leader in the Tunnelling
and Marine Industries*



McNally Construction Inc.

Contractors and Engineers

Hamilton, Ontario

Tel: 905.549.6561 Fax: 905.549.3548

Website: www.mcnallycorp.com

E-Mail: info@mcnallycorp.com

Other Locations in:
Toronto, Halifax, Belleville, Cleveland

Part of the McNally International Inc. Group of Companies