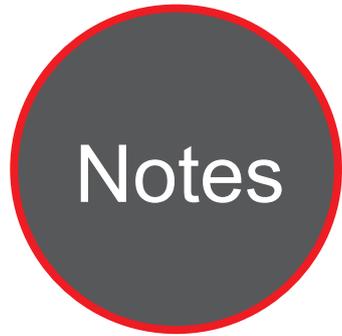




Caltrans Division of Research,
Innovation and System Information

Research



Equipment

Evaluation of the AutoCone 130 Cone Trailer

Evaluate AutoCone 130's performance to determine if it minimizes road workers' exposure to the traffic and risk of injuries.

JUNE 2020

Project Title:
Evaluation of the AutoCone 130
Cone Trailer

Task Number: 3273

Start Date: July 1, 2018

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WHAT IS THE NEED?

California Department of Transportation (Caltrans) sets up highway lane closures daily throughout California to create work zones for highway maintenance activities. Presently, a cone truck requires a minimum crew of two: a truck driver and a worker who drops off and picks up the traffic cones by hand. In high traffic areas, traffic cone placement for lane closure leads to extensive traffic exposure for the workers and thus increase the risk of injuries.

AutoCone 130 is a cone placement trailer that is designed to reduce workers' exposure to the traffic. It stores, places and picks up 130 traffic cones automatically, requiring only the truck's driver to operate. The AutoCone 130 places the cones on the road and picks up cones that are standing upright or have been knocked over. The trailer allows the operator to choose when to drop a cone, or it can be set up to automatically drop cones at preset intervals.

This research will test the AutoCone 130 trailer's ability to improve safety for the workers. Successful research could lead to the implementation of automated equipment for cone placing and retrieving.

WHAT ARE WE DOING?

The research team from the Advanced Highway Maintenance and Construction Technology (AHMCT) Research Center will evaluate the operation of an AutoCone 130 cone trailer, to determine if it works as advertised, document any changes in



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worker exposure to the traffic, compile benefits, drawbacks, and feedback from staff after using the machine, and provide recommendation for using the equipment.

WHAT IS OUR GOAL?

The safety of the workers and the users of California's transportation system is Caltrans' number one priority; and Caltrans is constantly working to improve the safety for all employees and the public. The AutoCone 130 will potentially lower the risk of traffic exposure by reducing the number of operators to one and by putting the operator into the safety of the cab.

WHAT IS THE BENEFIT?

If the AutoCone 130 performs as advertised by the manufacturer, this device will potentially reduce the labor for lane closures and improve the safety of the maintenance workers conducting lane closures.

WHAT IS THE PROGRESS TO DATE?

The AutoCone 130 trailer testing resumed after a brief halt due to COVID 19. The research team at the University of California, Davis (UCD) arranged for the maintenance service on one trailer and system by the UCD Fleet Services. The maintenance services team prepared the machine for initial testing, ran hot weather tests, performed failure diagnosis to resolve problems, and diagnosed problem with cone jamming. After the tests are completed, the research team will initiate the evaluation of the operation of these AutoCone 130 trailers.