

## Productivity First-Round Winner

Innovations Challenge

<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>

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Prepared by Transportation Planning  
Missouri Department of Transportation

## Road Closed Flip Sign



### Description

The Road Closed Flip Sign is a high-water road closed sign that has been modified, so an employee can stand at ground level and change the sign to the desired side. Urban locations require the signs to be 7 feet high making them too high to reach without the assistance of a ladder. A roller, springs, cable and a spring tensioned handle were added to a standard flip sign.

### Benefit

Prior to this innovation, workers had to climb a ladder often on uneven ground in wet and sometimes even icy conditions. This flip sign greatly improves safety by eliminating the need to climb a ladder. It also reduced the time to flip the sign to less than 15 seconds. With this system it is much safer and faster than before.

### Materials and Labor

Total materials cost \$20 with one and a half hours of labor. See parts list on back page.

### For More Information Contact:

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Additional photos can be seen by accessing the Innovations Challenge homepage at:  
<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>.

**Road Closed Flip Sign Parts List**

Parts for ground level change sign:

One electric fence gate handle - \$2.85

Six feet of cable - \$2.15

Two cable clamps - 78 cents

One single pulley - \$2.92

Two 5/16 x 1 bolts - 20 cents

Two 5/16 x 3 bolts - 30cents

Four 5/16 nuts - 20 cents

Two 5/16 flat washers - 10 cents

Two springs - 30 cents

Total: \$9.80

Additional Parts for turning sign into a changeable sign:

Three hinges - \$3.87

Eight pop rivets - 24 cents

Total: \$4.11

**Grand total: \$13.91**