

**Projects First-Round Winner**  
Innovations Challenge

**April 2018**

Prepared by Transportation Planning  
Missouri Department of Transportation

## Traffic Counter Site Conversions



### Description

The Traffic Counter Site Conversion Project converted from landline to cellular modem counters. One of the main reasons was the excessive cost of the old process along with the excessive amount of time spent retrieving and processing the data in the field. Another reason was because the safety of our staff was compromised while retrieving the data in the field. The cost to process under the old landline system was over \$55,152 per year. This was due to the system being landline based. The cost of the landlines ranged from \$27–73 per line each month for a total monthly cost of \$4,596. There are 84 traffic counters with 168 lanes of collection statewide. The cost to process under the new cellular modem system is \$11,184 per year. This is due to the low cost of the cellular services we now use. The cost of cellular services ranges from \$11–\$13 per line each month for a total monthly cost of \$932. The cost of the new equipment needed for this project was \$43,332. This cost can be recovered in four years through the use of the new cellular modem service plans.

### Benefit

Safety is improved since there are fewer risks of slips on snow or ice when hooking up counters while performing verifications in the winter. There is less risk to vehicles becoming stuck while traveling off-road to reach a counter. Crews spend less time verifying counter accuracy, because less time is spent hooking up the cables. If there is a power failure with the new cellular modems, the system will reset itself, and the field technicians can reprogram the settings remotely without traveling to the site. Less time and money is spent on the road to reset the modems manually.

### Materials and Labor

Total materials costs of \$43,332.

### For More Information Contact:

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Additional information, photos or videos can be seen by accessing the Innovations Challenge SharePoint page at:

<http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx>