Projects First-Round Winner

Innovations Challenge

April 2017

Prepared by Transportation Planning Missouri Department of Transportation

Road Closed Signs



Description

It has become common practice to close routes for bridge replacements or rehabilitation projects. To provide the public notice, Changeable Message Signs have been used notifying the public of the closure date. Typically, two CMS boards are provided per project as well as a "Road Closed Date" sign. During a core team meeting regarding routes in Knox and Macon counties, it was decided that additional intersections should have CMS boards. However, with the average cost of \$3,500 per contractor, a small project's budget can become financially impacted. The team recommended designing a 4x8 static sign that provided the route marker and the "Closed Ahead X Miles" message. Standardized plaques were made to designate the route number/letter and the date. Two signs were placed near the bridge to indicate the route and date of closure. After the road closed, the signs were relocated to designated intersections and message changed to indicate "Closed Ahead X Miles" as well as the route.

In January and February 2016, six bridge projects were selected to gauge contractors response to incorporating these signs. An average bid of \$350 per sign was received and no issues expressed. The weather impacted the closure, so the contractor was able to change the plaques to communicate the change. One request for change was to add the reason for closure so the sign was modified to state "Bridge Closed XX Miles Ahead".

Benefit

The most significant savings associated with using static signs is the cost. The average CMS board is \$3,500 compared to static sign cost of \$350. The savings can be redirected to other needs of the project or used toward other STIP projects. In addition to cost savings, the static signs improve safety to motorists. CMS boards are much larger than the static signs and finding rural locations to safely place the boards is challenging. The static signs are installed on two sign posts with appropriate breakaway features to improve safety by reducing the size of traffic control obstacles.

Materials and Labor

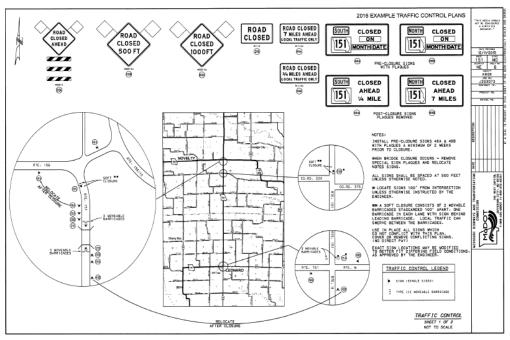
Materials cost details on back page.

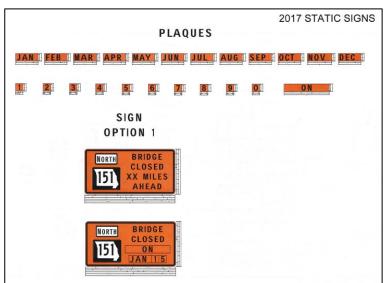
For More Information Contact:

Kim Trainor at Kimberly. Trainor@modot.mo.gov or (573) 248-2576.

Additional photos or videos can be seen by accessing the Innovations Challenge SharePoint page at: http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx.







Below are summary tables for the 2016 and 2017 projects utilizing static signs vs. CMS boards.

2016 Projects	Number of Advance Intersection Notice	CMS Cost \$3,500 Each	Static Sign Cost \$350 Each	Savings
J2P2220B - Shelby W Bridge Rehabilitation over North River	5	\$17,500	\$1,750	\$15,750
J2P2220C - Shelby W Bridge Rehabilitation over Tiger Fork North River	5	\$17,500	\$1,750	\$15,750
J2P2220D - Shelby N Bridge Rehabilitation over Salt River	5	\$17,500	\$1,750	\$15,750
J2S3073 - Knox 151 Bridge Replacement over North River	5	\$17,500	\$1,750	\$15,750
J2S0438 - Macon 156 Bridge Replacement over East Fork Chariton River	2	\$7,000	\$700	\$6,300
J2S0412B - Adair 11 Bridge Replacement over Mussell Fork	2	\$7,000	\$700	\$6,300
Total 2016 Savings				\$75,600

2017 Projects	Number of Advance Intersection Notice	CMS Cost \$3,500 Each	Static Sign Cost \$350 Each	Savings
J2S3115 - Ralls P Bridge Replacement over Hippo Creek	3	\$10,500	\$1,050	\$9,450
J2S3114 - Marion 168 Bridge Replacement over Route 61	3	\$10,500	\$1,050	\$9,450
J2P3082 - Pike 79 Bridge Replacement over Noix Creek	2	\$7,000	\$700	\$6,300
J2P3086 - Pike 79 Bridge Replacement over Buffalo Creek	2	\$7,000	\$700	\$6,300
J2S3112 & J2S3113 - Lewis 156 Bridge Replacement over Seeber and Spees Branch	2	\$7,000	\$700	\$6,300
J2S2164 - Macon C Bridge Replacement over Claybank Creek	4	\$14,000	\$1,400	\$12,600
Estimated 2017 Savings				