

MOUNTAIN-PLAINS CONSORTIUM

PROJECT BRIEF | December 2014

Selection of Interest and Inflation Rates for Infrastructure Investment Analyses



the **ISSUE**

The assumption of a zero interest rate is problematic for infrastructure investment analyses. Use of the zero interest rate does not facilitate differentiation among projects with various life cycles but in reality, interest rates vary over time. Additionally, use of a general inflation rate may be debatable because the price of materials and labor can vary by type and area.

the **RESEARCH**

In this study, SDDOT's current uses of interest and inflation rates were identified through interviews. The new approach to establishing interest and inflation rates was developed from the combination of basic economic principles and state-of-the-art methodologies. Specifically, a non-zero interest rate was calculated by the treasury and state-issued bond yields; the region- and material-specific inflation rates were measured, calculated, and applied to the SDDOT life-cycle cost analysis (LCCA) studies; and the composition of the South Dakota Construction Cost Index (SDCCI) was re-examined and modified. Since the construction materials and items evolve over time, incorporating new and significant bidding items (e.g. traffic controls) into the SDCCI ensures a proper measure and track of price changes associated with highway projects.



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Project Title

Selection of Interest
and Inflation Rates for
Infrastructure Investment
Analyses

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the **FINDINGS**

This study introduced improved methodologies to calculate the discount rate for an engineering economic analysis, presented the advantages of using a more specific inflation rate over a general inflation rate, and illustrated the consequence of selecting inappropriate rates.

the **IMPACT**

Overall, this study helped to increase the credibility of SDDOT programming decisions and identified future steps to further enhance the decision-making process.

For more information on this project, download the entire report at <http://www.ugpti.org/resources/reports/details.php?id=784>

For more information or additional copies, visit the Web site at www.mountain-plains.org, call (701) 231-7938 or write to Mountain-Plains Consortium, Upper Great Plains Transportation Institute, North Dakota State University, Dept. 2880, PO Box 6050, Fargo, ND 58108-6050.



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