PAPER DESCRIBING THE DEVELOPMENT OF A GUARDRAIL-TO-CONCRETE-BRIDGE-RAIL TRANSITION FOR LOW-SPEED ROADWAYS WINS TRB’S K. B. WOODS AWARD

“Guardrail-to-Concrete-Bridge-Rail Transition for Low-Speed Roadways” earned the Transportation Research Board’s (TRB’s) K. B. Woods Award for its author Roger P. Bligh of the Texas Transportation Institute (TTI). The award for the winning paper, which was published in the Transportation Research Record: Journal of the Transportation Research Board, No. 1904, will be presented on January 23, 2006, at the Thomas B. Deen Distinguished Lecture and Presentation of Outstanding Paper Awards during the Board’s 85th Annual Meeting. The K. B. Woods Award, given annually for the best paper in the area of design and construction of transportation facilities, honors the 19th Chairman of the Board’s Executive Committee.

With no transition system testing protocol for lower-speed conditions, the standardized procedures for use on high-speed roadways, as presented in TRB’s National Cooperative Highway Research Program (NCHRP) Report 350, were applied to all roadways regardless of speed. The modifications necessary to comply with the testing requirements were complex and resulted in increased installation costs. The award-winning paper describes the development of a less expensive guardrail-to-concrete-bridge-rail transition suitable for use on lower-speed roadways. The design was successfully evaluated under NCHRP Report 350, Test Level 2 (TL-2) impact conditions, making it suitable for use on roadways that have traffic conditions appropriate for the use of TL-2 safety hardware.

Roger Bligh is an Associate Research Engineer and Manager of the Roadside Safety Program at TTI. He also serves as Director of the Center for Transportation Computational Mechanics, a competitively procured center established by the Federal Highway Administration that focuses on the application of nonlinear, dynamic finite element analysis to roadside safety design. Bligh has contributed to the design and developed guidelines for the use of a number of roadside safety devices. He has a wide range of experience in the development, validation, and use of computer simulation in the design, analysis, and evaluation of highway safety appurtenances and roadside geometric features. Some of Bligh’s recent research accomplishments include developing safe practices for encasing guardrail in pavement mowing strips, designing a low-deflection portable concrete barrier system, and developing crashworthy barricades and sign support system for use in highway work zones.
Bligh holds a Ph.D. in civil engineering from Texas A&M University and is a registered professional engineer in Texas. Since joining TTI in 1986, he has specialized in the field of roadside safety, conducting applied research related to the design, analysis, testing, and evaluation of highway safety appurtenances. Bligh has co-authored more than 80 publications, including 22 journal papers, and has made invited presentations at numerous technical and professional meetings. Active in TRB, Bligh currently serves on the TRB Committee on Roadside Safety Design.

More than 9,500 policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions are expected to attend the Transportation Research Board (TRB) 85th Annual Meeting, in Washington, DC, January 22-26, 2006. The meeting, held at the Marriott Wardman Park, Omni Shoreham, and Hilton Washington hotels, includes more than 2,500 presentations in 500 sessions, 65 workshops, and 350 TRB committee meetings covering all aspects of transportation.

TRB's mission is to promote innovation and progress in transportation through research. In an objective and interdisciplinary setting, TRB facilitates the sharing of information on transportation practice and policy by researchers and practitioners; stimulates research and offers research management services that promote technical excellence; provides expert advice on transportation policy and programs; and disseminates research results broadly and encourages their implementation. A major focal point of TRB's activities, the Annual Meeting provides an opportunity for transportation professionals from all over the world to exchange information of common interest.

Organized in 1920, TRB is a division of the National Academies, which include the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. The nation turns to the National Academies for independent, objective advice on issues that affect people's lives worldwide.

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