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<p>4. Title and Subtitle TESTING AND EVALUATION OF THE WYOMING 740WYBRIL BRIDGE RAILING SYSTEM</p>		
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<p>15. Supplementary Notes Contacting Representative from Wyoming DOT: B. Patrick Collins, P.E. State Bridge Engineer</p>		
<p>16. Abstract The objective of this study is to crash test and evaluate the existing Wyoming bridge railing design in accordance with guidelines set forth in NCHRP Report 350 for test level 3 (TL-3) conditions. One crash test with a 2000-kg pickup truck (test designation 3-11) at a nominal impact speed and angle of 100 km/h and 25 degrees was conducted. The other required test with an 820-kg passenger car (test designation 3-10) at a nominal impact speed and angle of 100 km/h and 20 degrees was deemed not necessary since an identical test was previously conducted with successful results when the bridge railing system was evaluated under NCHRP Report 230 guidelines. Results of the pickup truck redirection test was presented in this report. The bridge railing contained and smoothly redirected the impacting vehicle. The vehicle did not penetrate or go over the bridge railing. There were no detached elements or debris to show potential for penetrating the occupant compartment or to present undue hazard to others in the area. Damage sustained by the vehicle was considered moderate given the severe nature of the impact conditions. Maximum deformation of the occupant compartment was 92 mm in the firewall area and was judged not to cause serious injury. The vehicle remained upright during and after the collision. The exit angle at loss of contact with the bridge railing was 9.2 degrees which was less than 60 percent of the test impact angle. Minimal, if any, intrusion into the adjacent traffic lanes was caused by the vehicle exit trajectory. The occupant risk factors were well within the preferred limits specified in NCHRP Report 350. In summary, the existing Wyoming bridge railing system was judged to have met all the evaluation criteria set forth in NCHRP Report 350 for test level 3 (TL-3) conditions.</p>		
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