

MwRSF Research Report Listing

2021

Rosenbaugh, S.K., Rasmussen, J.D., Faller, R.K., Bielenberg, R.W., and Steelman, J.S., ***Steel Railing, Type IL-OH: MASH Evaluation and Implementation Guidance***, Final Report to the Illinois Department of Transportation and Ohio Department of Transportation, Transportation Research Report No. TRP-03-438-21, Project No.: TPF-5(193) Supplement #116, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 27, 2021.

Bielenberg, R.W., Stolle, C.S., Meyer, D.T., Vasquez, E., Faller, R.K., and Reid, J.D., ***Alternative Design of Low-Tension Cable Barrier Adjacent to Steep Slopes***, Final Report to the Nebraska Department of Transportation, Transportation Research Report No. TRP-03-334-21, Project No.: TPF-5(193) Supplement #74, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 27, 2021.

Hinojosa, M., Faller, R.K., Rosenbaugh, S.K., Stolle, C.S., Bielenberg, R.W., Schmidt, J.D., Steelman, J.S., and Holloway, J.C., ***MASH 2016 Evaluation of MNDOT Concrete Parapet with Brush Curb and Upper Beam and Post Rail with New Tapered End Section***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-403-21, Project No.: TPF-5(193) Supplement #153, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 26, 2021.

Rosenbaugh, S.K., Faller, R.K., Dixon, J., Loken, A., Schmidt, J.D., and Flores, J.R., ***Development and Testing of an Optimized MASH TL-4 Concrete Bridge Rail***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-415-21, Project No.: TPF-5(193) Supplement #104, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 26, 2021.

Ranjha, S.A., Asadollahi Pajouh, M., Rosenbaugh, S.K., and Bielenberg, R.W., ***Development of a PCB Steel Cover Plate for Large Open Joints – Phase I***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-387a-21, Project No.: TPF-5(193) Supplement #90, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 23, 2021.

2020

Schmidt, J.D., Rosenbaugh, S.K., Faller, R.K., Alvarado, R., Mauricio, P., Bielenberg, R.W., and Steelman, J.S., ***Development of a MASH TL-3 Approach Guardrail Transition to a MASH TL-4 Steel Bridge Rail***, Final Report to the Illinois and Ohio Departments of Transportation, Transportation Research Report No. TRP-03-411-20, Project No.: TPF-5(193) Supplement #116, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 23, 2020.

Bickhaus, R.F., Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., and Ranjha, S.A., ***Development of a PCB Steel Cover Plate for Large Open Joints – Phase II***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-387b-20, Project No.: TPF-5(193) Supplement #119, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2020.

Yosef, T.Y., Lechtenberg, K.A., Asadollahi Pajouh, M., Faller, R.K., and Holloway, J.C., ***Steel-Post Version of Trailing-End Anchorage System – Phase I***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-370a-20, Project No.: TPF-5(193) Supplement #92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2020.

Updated: 5/3/2021

Lechtenberg, K.A., Asadollahi Pajouh, M., Faller, R.K., Lingenfelter, J.L., Noll, P., and Holloway, J.C., ***MASH Evaluation of the Steel-Post Trailing-End Anchorage System***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-370b-20, Project No.: TPF-5(193) Supplement #120, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2020.

Rasmussen, J.D., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Dowler, N., Bayingana, A., and Markvicka, C., ***MASH Full-Scale Testing of Single-Post, U-Channel Sign Supports***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-440-20, Project No.: TPF-5(193) Supplement #122, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2020.

Lechtenberg, K.A., Flores, J.R., Faller, R.K., and Urbank, E.L., ***Performance Evaluation of Missouri DOT Dual-Post, U-Channel Sign Support According to MASH 2016***, Final Report to the Missouri Department of Transportation, Transportation Research Report No. TRP-03-426-20, Project No.: TPF-5(193) Supplement #129, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 16, 2020.

Lechtenberg, K.A., Holloway, J.C., Faller, R.K., and Ronspies, K., ***Crash Test Evaluation of a Prototype Zig-Zag Box Beam and End Terminal: MASH Test Designation No. 3-31***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-391-20, Project No.: TPF-5(193) Supplement #102, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 16, 2020.

Hinojosa, M.A., Faller, R.K., Rosenbaugh, S.K., Stolle, C.S., Bielenberg, R.W., Rasmussen, J.D., Steelman, J.S., and Holloway, J.C., ***MASH 2016 Test Level 3 Evaluation of MnDOT Bicycle and Pedestrian Rail***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-443-20, Project No.: TPF-5(193) Supplement #153, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 11, 2020.

Rosenbaugh, S.K., Faller, R.K., Asselin, N., and Hartwell, J.A., ***Development of a Standardized Buttress for Approach Guardrail Transition***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-369-20, Project No.: TPF-5(193) Supplement #81 and #107, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 10, 2020.

Asadollahi Pajouh, M., Bielenberg, R.W., Rasmussen, J.D., Bai, F., Faller, R.K., and Holloway, J.C., ***Dynamic Testing and Evaluation of Culvert-Mounted, Strong-Post MGS to TL-3 Guidelines of MASH 2016***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report no. TRP-03-383-20, Project No.: TPF-5(193) Supplement #113, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 2, 2020.

Lingenfelter, J.L., Stolle, C.S., Bielenberg, R.W., and Clute, K., ***In-Service Performance Evaluation of Concrete Slope End Treatments in Iowa***, Final Report to the Illinois Department of Transportation, Transportation Research Report No. TRP-03-421-20, Project No.: TPF-5(193) Supplement #131, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 12, 2020.

Bielenberg, R.W., Kohtz, J.E., Rosenbaugh, S.K., and Faller, R.K., ***Guidance for Installation of Midwest Guardrail System Adjacent to Slopes***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-376-20, Project No.: TPF-5(193) Supplement #91, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 29, 2020.

Rasmussen, J.D., Flores, J., Pajouh, M.A., Faller, R.K., Lechtenberg, K.A., ***MASH 2016 Evaluation of a Non-Proprietary Type III Barricade: MASH Test Designation No. 3-72***, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, National Research

Updated: 5/3/2021

Council, Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-416-20, NCHRP Project No.: 03-119, Contract No. HR 03-119, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 25, 2020.

Stolle, C.S., Faller, R.K., Lechtenberg, K.A., and Bielenberg, R.W., ***In-Service Performance Evaluation of KDOT's Cable Median Barrier***, Final Report to the Kansas Department of Transportation, Transportation Research Report no. TRP-03-436-20, Project No.: TPF-5(430) Supplement #11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 4, 2020.

Rosenbaugh, S.K., DeLone, J.A., Faller, R.K., and Bielenberg, R.W., ***Development and Testing of a Bridge Rail for Low-Volume Roads***, Final Report to the Nebraska Department of Transportation, Transportation Research Report no. TRP-03-407-20, Project No.: SPR-1(17)M068, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 3, 2020.

Bielenberg, R.W., Ahlers, T.J., Faller, R.K., and Holloway, J.C., ***MASH Testing of Bullnose with Breakaway Steel Posts (Test Nos. MSPBN-4 through MSPBN-8)***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-418-20, Project No.: TPF-5(193) Supplement #123, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 1, 2020.

Bielenberg, R.W., Faller, R.K., Ammon, T.J., Holloway, J.C., and Lechtenberg, K.A., ***Phase I MASH Testing of a Thrie Beam Bullnose with Breakaway Steel Posts (Test Nos. MSPBN-1,-2, and -3)***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-389-20, Project No.: TPF-5(193) Supplement #123, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 27, 2020.

Ronspies, K., Rosenbaugh, S.K., Bielenberg, R.W., and Faller, R.K., ***Evaluation of the MGS Placed 6 in. Behind a 6-in. Tall AASHTO Type-B Curb to MASH TL-3***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-390-20, Project No.: TPF-5(193) Supplement #106, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 27, 2020.

Pena, O., Faller, R.K., Rasmussen, J.D., Steelman, J.S., Rosenbaugh, S.K., Bielenberg, R.W., Mauricio, P., and Duren, J.T., ***Development of a MASH Test Level 4 Steel, Side-Mounted, Beam-and-Post, Bridge Rail***, Final Report to the Illinois and Ohio Departments of Transportation, Transportation Research Report no. TRP-03-410-20, Project No.: TPF-5(193) Supplement #116, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 20, 2020.

Bielenberg, R.W., Benson, M. K., Rosenbaugh, S.K., Faller, R.K., Ginger, C.M., Yoo, S., and Holloway, J.C., ***Development of Iowa DOT Combination Bridge Separation Barrier with Bicycle Railing – Phase II***, Final Report to the Iowa Department of Transportation, Transportation Research Report no. TRP-03-408-20, Project No.: TPF-5(193) Supplement #101, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 17, 2020.

Bielenberg, R.W., Faller, R.K., Jiang, H., and Holloway, J.C., ***MASH 2016 Evaluation of the Modified Thrie Beam System***, Final Report to the New Jersey and California Departments of Transportation, Transportation Research Report no. TRP-03-417-20, Project No.: TPF-5(193) Supplement #132, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 16, 2020.

Duren, J.T., and Faller, R.K., ***Crash-Tested Bridge Railings and Transitions for Wood Bridges – Phase I***, Final Report to U.S. Department of Agriculture – Forest Service – Forest Products Laboratory, Transportation Research Report No. TRP-03-429-20, Research Agreement No. 18-JV-11111107-037, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 15, 2020.

Updated: 5/3/2021

Mauricio, P., Rasmussen, J.D., Faller, R.K., Rosenbaugh, S.K., Bielenberg, R.W., Peña, O., Steelman, J.S., and Stolle, C.S., ***Development of a Post-to-Deck Connection for a TL-4 Steel-Tube Bridge Rail***, Final Report to the Illinois and Ohio Departments of Transportation, Transportation Research Report No. TRP-03-409-20, Project No.: TPF(193) Supplement #116, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 27, 2020.

Bickhaus, R.F., Rasmussen, J.D., Faller, R.K., Reid, J.D., and Troutbeck, R., ***Comparison of Data from MASH Test Designation No. 3-21 Tests on Approach Guardrail Transitions (AGT)***, Final Report to Austroads, Transportation Research Report No. TRP-03-435-20, Midwest Roadside Safety Facility, University of Nebraska Lincoln, Lincoln, Nebraska, April 27, 2020.

Rosenbaugh, S.K., Hovde, S.E., Faller, R.K., and Urbank, E.L., ***Crash Testing and Evaluation of the Hawaii Thrie Beam Approach Guardrail Transition: MASH Test Designation Nos. 3-20 and 3-21***, Final Report to the Hawaii Department of Transportation, Transportation Research Report No. TRP-03-425-20, Project Number 67167, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 20, 2020.

Bielenberg, R.W., Dowler, N.T., Faller, R.K., and Urbank, E.L., ***Crash Testing and Evaluation of the HDOT 42-in. Tall, Aesthetic Concrete Bridge Rail: MASH Test Designation Nos. 3-10 and 3-11***, Final Report to the Hawaii Department of Transportation, Transportation Research Report No. TRP-03-424-20, Project Number 67167, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 9, 2020.

2019

Stolle, C.S., Lechtenberg, K.A., Asadollahipajouh, M. Faller, R.K., and Urbank, E.L., ***Design and Evaluation of Sleeve Nut through Tensile Testing***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-412-19, Project No.: TPF(193) Supplement #118, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 11, 2019.

Dowler, N.T., Stolle, C.S., Hinojosa, M.A., and Fang, H., ***Full-Scale Crash Test of a Two-Bar Metal Bridge Rail***, Final Report to the North Carolina Department of Transportation, Transportation Research Report No. TRP-03-419-19, Project No.:20180380-01-NEB, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 27, 2019.

Bielenberg, R.W., Yoo, S., Faller, R.K., and Urbank, E.L., ***Crash Testing and Evaluation of the HDOT 34-in. Tall, Aesthetic Concrete Bridge Rail: MASH Test Designation Nos. 3-10 and 3-11***, Final Report to the Hawaii Department of Transportation, Transportation Research Report No. TRP-03-420-19, Project Number 67167, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 21, 2019.

Rosenbaugh, S.K., Asadollahi Pajouh, M., and Faller, R.K., ***Top-Mounted Sockets for Weak-Post MGS on Culverts***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-368-19, Project No.: TPF(193) Supplement #32, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 4, 2019.

Ginger, C.G., Reid, J.D., Bielenberg, R.W., Faller, R.K., Rosenbaugh, S.K., and Stolle, C.S., ***Development of Iowa DOT Combination Bridge Separation Barrier with Bicycle Railing – Phase I***, Final Report to the Iowa Department of Transportation, Transportation Research Report No. TRP-03-397-19, Project No.: TPF-5(193) Supplement #101, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 16, 2019.

Rosenbaugh, S.K., Fallet, W.G., Faller, R.K., Bielenberg, R.W., and Schmidt, J.D., ***34-In. Tall Thrie Beam Transition to Concrete Buttress***, Final Report to the Nebraska Department of Transportation, Transportation Research Report No. TRP-03-367-19-R1, Project No.: TPF(193) Supplement #103, Sponsor Agency Code: RHE-17M, Midwest Roadside Safety Facility, University of Nebraska Lincoln, Lincoln, Nebraska, July 2, 2019.

Rosenbaugh, S.K., Stolle, C.S., and Ronspies, K.B., ***MGS with Curb and Omitted Post: Evaluation to MASH 2016 Test Designation No. 3-10***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-393-19, Project No.: TPF(193) Supplement #105, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 2, 2019.

Asadollahi Pajouh, M., Faller, R.K., Lechtenberg, K.A., Holloway, J.C., and Bielenberg, R.W., ***Design of Closed-Section Post for Use in a Non-Proprietary High-Tension Cable Median Barrier***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-380-19, Project No.: TPF(193) Supplement #118, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 22, 2019.

Rosenbaugh, S.K., Stolle, C.S., and Ronspies, K.B., ***MGS with Curb and Omitted Post: Evaluation to MASH 2016 Test Designation No. 3-10***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP-03-393-19, Project No.: TPF(193) Supplement #105, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 12, 2019.

Updated: 5/3/2021

Bielenberg, R.W., Asselin, N.M., and Faller, R.K., ***MASH TL-3 Evaluation of Concrete and Asphalt Tied-Down Anchorage for Portable Concrete Barrier***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-386-19, Project No.: TPF(193) Supplement #114, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 12, 2019.

Rosenbaugh, S.K., Fallet, W.G., Faller, R.K., Bielenberg, R.W., and Schmidt, J.D., ***34-In. Tall Thrie Beam Transition to Concrete Buttress***, Final Report to the Nebraska Department of Transportation, Transportation Research Report No. TRP 03-367-19, Project No.: TPF-5(193) Supplement #103, Sponsor Agency Code: RHE-17M, Midwest Roadside Safety Facility, University of Nebraska Lincoln, Lincoln, Nebraska, March 27, 2019.

Schmidt, J.D., Asselin, N., Faller, R.K., Fallet, W.G., Holloway, J.C., and Lechtenberg, K.A., ***Evaluation of the Minnesota Noise Wall and Rubrail System***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP 03-396-19, Project No.: TPF-5(193) Supplement #115, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 31, 2019.

Stolle, C.S., Treviño, T., Rilett, L.R., Faller, R.K., and Schmidt, J.D., ***Phase 4, Task 2, Final Report: Guidelines for Passive Safety Feature Arrangements in ECFs***, Final Report to the U.S. Army Surface Deployment and Distribution Command Transportation Engineering Agency, MwRSF Research Report No. TRP 03-402-18, Sponsoring Agency Code: FA-4600-12-D-9000-0056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 23, 2019.

Treviño, T. and Stolle, C.S., ***Evaluation of a Series of Speed Tables Installed on Roadway Curves***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-400-18, Sponsor Agency Code FA-4600-12-D-9000-0056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 14, 2019.

Stolle, C.S., Guajardo, A.L., and Treviño, T., ***Chicane Design for Mitigating High-Performance Threat Vehicle Trajectories***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-398-18, Sponsor Agency Code FA-4600-12-D-9000-0056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 14, 2019.

2018

Stolle, C.S., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Pinned Configuration in Asphalt – Test No. NJPCB-9***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-385-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 18, 2018.

Stolle, C.S., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Grouted Bolted Configuration in Asphalt – Test No. NJPCB-8***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-384-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 18, 2018.

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Traffic-Side Pinned Configuration and Grouted Toes – Test No. NJPCB-7***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-374-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 18, 2018.

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Back-Side Pinned Configuration and Grouted Toes – Test No. NJPCB-6***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-373-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 14, 2018.

Bhakta, S.K., Lechtenberg, K.A., Fang, C., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Box-Beam Stiffened Configuration and Grouted Toes – Test No. NJPCB-5***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-372-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 13, 2018.

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Free-Standing Configuration and Grouted Toes – Test No. NJPCB-4***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-371-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 12, 2018.

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Free-Standing Configuration – Test No. NJPCB-3***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-355-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 11, 2018.

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Bolted Configuration and Grouted Toes – Test No. NJPCB-2***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-340-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 11, 2018.

Updated: 5/3/2021

Bhakta, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Urbank, E.L., ***Performance Evaluation of New Jersey's Portable Concrete Barrier with a Pinned Configuration and Grouted Toes – Test No. NJPCB-1***, Final Report to the New Jersey Department of Transportation, Transportation Research Report No. TRP 03-338-18, Project No.: TPF-5(193) Supplement #88, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 6, 2018.

Bielenberg, R.W., Faller, R.K., and Ronspies, K.B., ***MASH TL-3 Evaluation of the Unreinforced, Single-Slope Concrete Median Barrier***, Final Report to the Ohio Department of Transportation, Transportation Research Report No. TRP 03-388-18, Project No.: TPF-5(193) Supplement #117, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 19, 2018.

Trevino, T. and Schmidt, J.D., ***Computer Simulation of a MASH TL-4 ACRYLITE Soundwall***, Final Report to Armtec Precast, MwRSF Research Report No. TRP 03-405-18, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 19, 2018.

Whitfield, D.L., Schmidt, J.D., Faller, R.K., and Steelman, J.S., ***Investigation and Development of a Test Level 6 Barrier, Phase I***, Final Report to Mid-America Transportation Center, MwRSF Research Report No. TRP 03-404-18, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October, 2018.

Treviño, T., Stolle, C.S., and Holloway, J.C., ***Evaluation of a Series of Speed Tables Installed on Curves – Full-Scale Testing***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-401-18, Sponsor Agency Code FA-4600-12-D-9000-0056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 18, 2018.

Schmidt, J.D., Langel, T.J., Asselin, N., Pajouh, M.A., and Faller, R.K., ***MASH 2016 Evaluation of a Non-Proprietary Type III Barricade***, Final Report to the Smart Work Zone Deployment Initiative, Research Report No. TRP 03-394-18, SWZDI Contract No. 19023, Part of InTrans Project 18-535, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 19, 2018.

Stolle, C.S., Ammon, T.J., Vargas, C.M., Yim, A., Faller, R.K., Lechtenberg, K.A., and Urbank, E.L., ***Data-Driven Development of a Roadside Safety Marketing Campaign for Tree Removal – Phase I***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP 03-375-18, Project No.: TPF-5(193) Supplement #82, Project Code: RPFP-15-TREE-1, Year 25, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 17, 2018.

Wipf, J.T., Schmidt, J.D., Faller, R.K., Stolle, C.S., Rosenbaugh, S.K., Bielenberg, R.W., and Lechtenberg, K.A., ***Development of an Energy Absorbing Approach End Terminal for MGS (CONFIDENTIAL, INTERNAL ONLY, DO NOT DISTRIBUTE)***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP 03-379-18, Project No.: TPF-5(193) Supplement #94, Project Code: RPFP-16-TERM-1, Year 26, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 17, 2018.

Wipf, J.T., Schmidt, J.D., Faller, R.K., Bielenberg, R.W., Stolle, C.S., Rosenbaugh, S.K., Holloway, J.C., and Lechtenberg, K.A., ***Terminals Brainstormed During Development of Generic Energy-Absorbing Guardrail End Terminal (CONFIDENTIAL, INTERNAL ONLY, DO NOT DISTRIBUTE)***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP 03-382-18, Project No.: TPF-5(193) Supplement #94, Project Code: RPFP-16-TERM-1, Year 26, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 17, 2018.

Lingenfelter, J.L., Schmidt, J.D., Stolle, C.S., Ranjha, S.A., Fang, C., Pena, O., ***Heavy Truck and Bus Traversability at Highway-Rail Grade Crossings***, Final Report to the University Transportation Center for Railway Safety, MwRSF Research Report No. TRP-03-392-18, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 29, 2018.

Updated: 5/3/2021

Meyer, D.T., Asadollahi Pajouh, M., Lechtenberg, K.A., Faller, R.K., Bielenberg, R.W., and Holloway, J.C., ***Phase II Evaluation of Floor Pan Tearing for Cable Barrier Systems***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP 03-359-18, Project No.: TPF-5(193) Supplement #64 and #79, Project Codes: RPPF-14-CABLE-1 and RPPF-15-CABLE-1, Years 24 through 27, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 30, 2018.

Asadollahi Pajouh, M., Lechtenberg, K.A., Faller, R.K., Holloway, J.C., Bielenberg, R.W., Rosenbaugh, S.K., and Reid, J.D., ***MASH Test No. 3-10 of a Non-Proprietary, High-Tension, Cable Median Barrier for Use in 6H:1V V-Ditch (Test No. MWP-9)***, Final Report to the Midwest Pooled Fund Program, Transportation Research Report No. TRP 03-360-18, Project No.: TPF-5(193) Supplement #64 and #79, Project Codes: RPPF-14-CABLE-1 and RPPF-15-CABLE-1, Years 24 and 25, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 30, 2018.

Sweigard, M.E., Rasmussen, M.A., Treviño, T., Ammon, T.J., and Stolle, C.S., ***Development of a Remotely-Operated Test Vehicle***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-399-18, Sponsor Agency Code FA-4600-12-D-9000-0056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 2, 2018.

Stolle, C.S., Rilett, L.R., Faller, R.K., Reid, J.D., and Schmidt, J.D., ***PHASE 3 FINAL REPORT: Design of Low-Cost Guardrail System for Threat Mitigation***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, MwRSF Research Report No. TRP 03-381-17, Sponsor Agency Code FA-4600-12-D-9000-0055, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 1, 2018.

2017

Stolle, C.S., Asselin, N., Schmidt, J.D., Faller, R.K., Holloway, J.C., Reid, J.D., and Rilett, L.R., ***Development of a Non-Proprietary ASTM F2656-15 M30 and FS30 P1 Barrier***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, MwRSF Research Report No. TRP 03-365-17, Sponsor Agency Code FA-4600-12-D-9000-0055, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 18, 2017.

Stolle, C.S., Schroder, B.D., Ammon, T.J., Holloway, J.C., Faller, R.K., and Rilett, L.R., ***Testing and Evaluation of Soil Foundation and End Anchorage Designs***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, MwRSF Research Report No. TRP 03-353-17, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 15, 2017.

Schmidt, J.D., Reid, J.D., Stolle, C.S., Faller, R.K., Bielenberg, R.W., Asselin, N., and Rilett, L.R., ***Analysis Supporting Development of a New, Non-Proprietary ASTM F2656-15 M30 Barrier***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-354-17, Sponsor Agency Code FA-4600-12-D-9000-0055, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 15, 2017.

Schroder, B.D., Stolle, C.S., Schmidt, J.D., Reid, J.D., Faller, R.K., and Rilett, L.R., ***Full-Scale Crash Testing of the MGS at 45-Degree Impact Angle***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-351-17, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 15, 2017.

Schmidt, J.D., Reid, J.D., Stolle, C.S., Faller, R.K., Bielenberg, R.W., and Rilett, L.R., ***Simulated Impacts Into the MGS at a 45-Degree Impact Angle***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-350-17, Sponsor Agency Code FA-4600-12-D-9000-0055, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 15, 2017.

Sweigard, M.E., Stolle, C.S., Schmidt, J.D., Holloway, J.C., Faller, R.K., and Rilett, L.R., ***Low-Speed Curb Traversability with an M-Class Truck***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-349-17, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 14, 2017.

Sweigard, M.E., Lechtenberg, K.A., Faller, R.K., Reid, J.D., and Urbank, E.L., ***MASH 2016 Test No. 3-10 of MGS Installed in an Asphalt Mow Strip with Nearby Curb (Test No. GAA-1)***, Final Report to the Georgia Institute of Technology, Transportation Research Report No. TRP 03-377-17, Research Project No.: RH099-S1, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 14, 2017.

Meyer, D.T., Ammon, T.J., Bielenberg, R.W., Stolle, C.S., Holloway, J.C., and Faller, R.K., ***Quasi-Static Tensile and Dynamic Impact Testing of Guardrail Components***, Final Report to the Army Surface Deployment and Distribution Command Traffic Engineering Agency, Transportation Research Report No. TRP 03-352-17, Sponsor Agency Code TO-0055, Fiscal Years 2016-2018, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 28, 2017.

Schmidt, J.D., ***Evaluation of the RESTORE Barrier to EN1317 TB-11***, Final Report to Arbus, LTD., Transportation Research Report No. TRP 03-378-17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 6, 2017.

Updated: 5/3/2021

Ranjha, S.A., Bielenberg, R.W., Reid, J.D., and Faller, R.K., **Increased Span Length for the MGS Long-Span Guardrail System – Part III: Failure Analysis**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-362-17, Project No.: TPF-5(193) Supplement #56, Project Codes: RPF-13-MGS-3, Years 23, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 29, 2017.

Asadollahi Pajouh, M., Schmidt, J.D., Bielenberg, R.W., and Faller, R.K., **Development of a Transition Between Free-Standing and Reduced-Deflection Portable Concrete Barriers – Phase I**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-366-17, NDOR Project No.: TPF-5(193) Supplement #78, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 8, 2017.

Asadollahi Pajouh, M., Reid, J.D., Stolle, C.S., and Faller, R.K., **Phase II Vehicle Dynamics Testing of Roadside Rock Liners**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-364-17, NDOR Project No.: TPF-5(193) Supplement #62, Project Code: RPF-13-MGS-3, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 10, 2017.

Schmidt, J.D., Bielenberg, R.W., Schroder, B.D., Faller, R.K., and Lechtenberg, K.A., **Safety Investigation and Design Guidance for Curbs Near Energy-Absorbing End Terminals**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-358-17, NDOR Project No.: TPF-5(193) Supplement #62, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 10, 2017.

Asadollahi Pajouh, M., Bielenberg, R.W., Schmidt, J.D., Lingenfelter, J., Faller, R.K., and Reid, J.D., **Placement of Breakaway Light Poles Located Directly Behind Midwest Guardrail System (MGS)**, Final Report to the Illinois Tollway, Transportation Research Report No. TRP 03-361-17, NDOR Project No.: TPF-5(193) Supplement #87, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 29, 2017.

Rosenbaugh, S.K., Schmidt, J.D., Faller, R.K., and Holloway, J.C., **Evaluation of Adjustable Continuity Joint Variations for Use in the RESTORE Barrier**, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-363-17, NDOR Project No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 22, 2017.

Stolle, C.S., Faller, R.K., Rilett, L.R., Jones, E.G., Reid, J.D., and Guajardo, A.L., **Final Report and Recommendations: Traffic Calming Elements for Threat Delay and Containment, Phase 2**, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, MwRSF Research Report No. TRP-03-365-17 (Non-Disclosed), University of Nebraska-Lincoln, Lincoln, Nebraska, June 20, 2017.

Rosenbaugh, S.K., Hartwell, J.A., Bielenberg, R.W., Faller, R.K., Holloway, J.C., and Lechtenberg, K.A., **Evaluation of Floor Pan Tearing and Cable Splices for Cable Barrier Systems**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-324-17, Project No.: TPF-5(193) Supplement #64 & #79, Project Codes: RPF-14-CABLE-1 & RPF-15-CABLE-1, Years 24 & 25, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 16, 2017.

Meyer, D.T., Lechtenberg, K.A., Faller, R.K., Bielenberg, R.W., Rosenbaugh, S.K., and Reid, J.D., **MASH Test No. 3-10 of a Non-Proprietary, High-Tension Cable Median Barrier for Use in 6H:1V V-Ditch (Test No. MWP-8)**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-331-17, Project No.: TPF-5(193) Supplement #64 & #79, Project Codes: RPF-14-CABLE-1 & RPF-15-CABLE-1, Years 24 & 25, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 10, 2017.

Bielenberg, R.W., Meyer, D.T., Faller, R.K., and Reid, J.D., ***Length of Need and Minimum System Length for F-Shape Portable Concrete Barrier***, Final Report to the Nebraska Department of Roads and Smart Work-Zone Deployment Initiative, Transportation Research Report No. TRP 03-337-17, NDOR Project No.: TPF-5(193) Supplement #75, SWZDI No.: TPF-5(295) Contract No. 16346, and FHWA Pooled Fund Study TPF-5(081) with InTrans Project No. 15-535, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 3, 2017.

Bielenberg, R.W., Lingenfelter, J.L., Kohtz, J.E., Faller, R.K., and Reid, J.D., ***Testing and Evaluation of MASH TL-3 Transition Between Guardrail and Portable Concrete Barriers***, Final Report to the Nebraska Department of Roads and Smart Work-Zone Deployment Initiative, Transportation Research Report No. TRP 03-335-17, NDOR Project No.: TPF-5(193) Supplement #76 and SWZDI No.: TPF-5(295) Contract No. 16347, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 2, 2017.

Stolle, C.S., Faller, R.K., Rilett, L.R., Jones, E.G., Reid, J.D., and Guajardo, A.L., ***Final Report and Recommendations: Traffic Calming Elements for Threat Delay and Containment, Phase II***, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-365-17, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 12, 2017.

Meyer, D.T., Reid, J.D., Lechtenberg, K.A., Bielenberg, R.W., and Faller, R.K., ***Increased Span Length for the MGS Long-Span Guardrail System Part II: Full-Scale Crash Testing***, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-339-17, Project No.: TPF-5(193) Supplement #56, Project Code: RPPF-13-MGS-3, Year 23, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 7, 2017.

Reid, J.D., Bielenberg, R.W., and Ginger, C., ***LS-DYNA Modeling Enhancement Support***, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-357-17, Project No.: TPF-5(193) Supplement #99, Project Code: RPPF-16-LSDYNA, Year 26, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 6, 2017.

Guajardo, A.L., Stolle, C.S., Schmidt, J.D., Faller, R.K., Reid, J.D., and Rilett, L.R., ***Evaluation of Speed Tables Installed On or Adjacent to Roadway Curves Using Computer Simulation***, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-347-17, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 27, 2017.

Guajardo, A.L., Stolle, C.S., Schmidt, J.D., Faller, R.K., Reid, J.D., and Rilett, L.R., ***Evaluation of Chicane Designs Using Computer Simulation***, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-345-16, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 25, 2017.

2016

Schroder, B.D., Ammon, T.J., Schmidt, J.D., Stolle, C.S., Guajardo, A.L., Holloway, J.C., Faller, R.K., and Rilett, L.R., **Full-Scale Tests of Chicane Configurations for Use in Passive Safety Design**, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-346-16, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 2, 2016.

Ammon, T.J., Guajardo, A.L., Stolle, C.S., Faller, R.K., Holloway, J.C., and Rilett, L.R., **Low-Speed Live-Drive Testing of SDDCTEA Speed Tables**, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-348-16, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 23, 2016.

Weigel, J., Rosenbaugh, S.K., Stolle, C.S., Faller, R.K., Holloway, J.C., Rilett, L.R., and Guajardo, A.L., **Crash Testing and Evaluation of Precast Concrete Curb Segments for Chicane Design**, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-344-16, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 23, 2016.

Sweigard, M.E., Schroder, B.D., Stolle, C.S., Faller, R.K., Holloway, J.C., Guajardo, A.L., and Rilett, L.R., **Low-Speed Traversability of an 8-in. Tall Vertical Curb**, Final Report to the Military Surface Deployment and Distribution Command Transportation Engineering Agency, Transportation Research Report No. TRP 03-343-16, Sponsor Agency Code FA-4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 21, 2016.

Stolle, C.S., Perales, G., Rilett, L.R., Faller, R.K., Holloway, J.C., and Reid, J.D., **Testing and Analysis of USACE Threat Calculator**, Final Report to the U.S. Army Corps of Engineers, Protective Design Center, Transportation Research Report No. TRP 03-342-16, Sponsoring Agency Code FA4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 10, 2016.

Stolle, C.S., Perales, G., Rilett, L.R., Faller, R.K., Holloway, J.C., and Reid, J.D., **Evaluation of Maximum Tire-Pavement Friction Coefficients for a Ford Crown Victoria**, Final Report to the U.S. Army Corps of Engineers, Protective Design Center, Transportation Research Report No. TRP 03-341A-16, Sponsoring Agency Code FA4600-12-D-9000, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 10, 2016.

Schmidt, T.L., Faller, R.K., Schmidt, J.D., Reid, J.D., Bielenberg, R.W., and Rosenbaugh, S.K., **Development of a Transition Between an Energy-Absorbing Concrete Barrier and a Rigid Concrete Buttress**, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-336-16, NDOR Project No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 26, 2016.

Rosenbaugh, S.K., Schmidt, J.D., Reiger, E.M., and Faller, R.K., **Development of the Manitoba Constrained-Width, Tall Wall Barrier**, Final Report to Manitoba Infrastructure, Transportation Research Report No. TRP 03-356-16, Project No.: 2015-17-TE, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 26, 2016.

Humphrey, B.M., Faller, R.K., Bielenberg, R.W., Reid, J.D., and Negahban, M., **Improved Methodologies in Modeling and Predicting Failure in AASHTO M-180 Guardrail Steel Using Finite Element Analysis – Phase I**, Final Report to Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-333-16, Project No.: NDOR DPS-STWD

Updated: 5/3/2021

(118), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 23, 2016.

Haase, A.J., Kohtz, J.E., Lechtenberg, K.A., Bielenberg, R.W., Reid, J.D., and Faller, R.K., **Midwest Guardrail System (MGS) with 6-ft Posts Placed Adjacent to a 1V:6H Fill Slope**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-320-16, Project No.: TPF-5(193) Supplement #68, Project Code: RPPF-14-MGS-8, Year 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 22, 2016.

Lechtenberg, K.A., Faller, R.K., Rosenbaugh, S.K., and Reid, J.D., **Phase III Demonstration of Ponderosa Pine Round Posts as Alternative to Rectangular SYP Posts in G4(2W) Guardrail Systems**, Final Report to Arizona State Forestry Division, Forest Products Laboratory - U.S.D.A Forest Service, and Arizona Log & TimberWorks, Transportation Research Report No. TRP 03-329-14, Project No.: 15-DG-11031600-018, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 17, 2016.

Kohtz, J.E., Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., Lechtenberg, K.A., and Reid, J.D., **MASH Test Nos. 3-11 and 3-10 on a Non-Proprietary Cable Median Barrier**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-327-16, Project No.: TPF-5(193) Supplement #64, Project Code: RPPF-14-CABLE-1, Year 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 17, 2016.

Winkelbauer, B.J., Faller, R.K., Bielenberg, R.W., Rosenbaugh, S.K., Reid, J.D., and Schmidt, J.D., **Phase I Evaluation of Selected Concrete Material in LS-DYNA**, Final Report to Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-330-16, Project No.: NDOR DPS-STWD (118), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 29, 2016.

Schmidt, J.D., Bielenberg, R.W., Reid, J.D., and Faller, R.K., **Continued Development of a Non-Proprietary, High-Tension, Cable End Terminal System**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-332-16, Project No.: TPF-5(193) Supplement #21, Project Code: RPPF-10-CABLE-3, Year 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 29, 2016.

Rosenbaugh, S.K., Bielenberg, R.W., Lingenfelter, J.L., Faller, R.K., Reid, J.D., and Lechtenberg, K.A., **Cable-To-Post Attachments for a Non-Proprietary High-Tension Cable Barrier – Phase III**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-323-16, Project No.: TPF-5(193) Supplement #44 & #64, Project Codes: RPPF-12-CABLE-1, 12-CABLE-2, and 14-CABLE-1, Years 22 and 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 24, 2016.

Lingenfelter, J.L., Rosenbaugh, S.K., Bielenberg, R.W., Lechtenberg, K.A., Faller, R.K., and Reid, J.D., **Midwest Guardrail System (MGS) with an Omitted Post**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-326-16, Project No.: TPF-5(193) Supplement #80, Project Codes: RPPF-15-MGS-5, Year 25, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 22, 2016.

Lechtenberg, K.A., Schmidt, J.D., Faller, R.K., Guarjardo, A.L., Bielenberg, R.W., and Reid, J.D., **Development of a Crashworthy Pedestrian Rail**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-321-15, Project No.: TPF-5(193) Supplement #41, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 18, 2016.

2015

Lechtenberg, K.A., Reid, J.D., and Faller, R.K., ***Dynamic Post Testing Review***, Final Report to Nebraska Department of Roads and Mid-America Transportation Center, Transportation Research Report No. TRP 03-328-15, MATC-UNL Report No. 056; NDOR Project No.: SPR-P1(13) M332 and MATC Project No. 25-1121-0003-056, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 15, 2015.

Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., Humphrey, B.M., Schmidt, T.L., Lechtenberg, K.A., and Reid, J.D., ***MASH Test Nos. 3-17 and 3-11 on a Non-Proprietary Cable Median Barrier***, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-303-15, Project No.: TPF-5(193) Supplement #44 & #64, Project Codes: RPPF-12-CABLE-1, 12-CABLE-2, and 14-CABLE-1 Years 22 and 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 3, 2015.

Schmidt, J.D., Schmidt, T.L., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., Reid, J.D., Holloway, J.C., and Lechtenberg, K.A., ***MASH TL-4 Crash Testing and Evaluation of the RESTORE Barrier***, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-318-15, NDOR Project No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 3, 2015.

Bielenberg, R.W., Reid, J.D., Rosenbaugh, S.K., Haase, A.J., and Faller, R.K., ***Attachment of a Combination Bridge Rail to Concrete Parapet Utilizing Epoxy Adhesive Anchors***, Final Report to the Iowa Department of Transportation, Transportation Research Report No. TRP 03-325-15, Project No.: TPF-5(193) Supplement #40, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 3, 2015.

Rosenbaugh, S.K., Faller, R.K., Lechtenberg, K.A., and Holloway, J.C., ***Development and Evaluation of Weak-Post W-Beam Guardrail in Mow Strips***, Final Report to Nebraska Department of Roads and Mid-America Transportation Center, Transportation Research Report No. TRP 03-322-15, MATC-UNL Report No. 206; Project No.: TPF-5(193) Supplement #57 and MATC Project No. 25-1121-0003-206, Project Code: RPPF-13-MGS-5, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 1, 2015.

Putjenter, J.G., Bielenberg, R.W., Faller, R.K., and Reid, J.D. ***Conceptual Development of an Impact-Attenuation System for Intersecting Roadways***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP 03-312-15, Project No.: SPR-P1(13), Sponsor Agency Code: RHE-08, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 30, 2015.

Weiland, N.A., Stolle, C.S., Reid, J.D., Faller, R.K., Bielenberg, R.W., and Lechtenberg, K.A., ***MGS Dynamic Deflections and Working Widths at Lower Speeds***, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-314-15, Project No.: TPF-5(193) Supplement #69, Project Codes: RPPF-14-MGS-11 Year 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 29, 2015.

Humphrey, B.M., Lechtenberg, K.A., Reid, J.D., Faller, R.K., and Holloway, J.C., ***Performance Characteristics of Posts Embedded in Soil***, Final Report to Nebraska Department of Roads and Mid-America Transportation Center, Transportation Research Report No. TRP 03-301-15, MATC-UNL Report No. 057; NDOR Project No.: SPR-P1(13) M326 and MATC Project No. 25-1121-0003-057, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 12, 2015.

Schmidt, J.D., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., Reid, J.D., Holloway, J.C., Lechtenberg, K.A., and Kohrtz, J.E., ***Design and Evaluation of an Energy Absorbing, Reusable/Median Barrier***, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation

Updated: 5/3/2021

Research Report No. TRP 03-317-15, NDOR Project No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 29, 2015.

Rosenbaugh, S.K., Bielenberg, R.W., Humphrey, B.M., Faller, R.K., Reid, J.D., and Lechtenberg, K.A., **Cable-To-Post Attachments for a Non-Proprietary High-Tension Cable Barrier – Phase II**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-313-15, Project No.: TPF-5(193) Supplement #44 & #64, Project Codes: RPFP-12-CABLE-1, 12-CABLE-2, and 14-CABLE-1 Years 22 and 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 2, 2015.

Bielenberg, R.W., Schmidt, T.L., Faller, R.K., Rosenbaugh, S.K., Lechtenberg, K.A., Reid, J.D., and Sicking, D.L., **Design of an Improved Post for Use in a Non-Proprietary High-Tension Cable Median Barrier**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-286-15, Project No.: TPF-5(193) Supplement #44 & #45, Project Codes: RPFP-12-CABLE-1 and 12-CABLE-2 Year 22, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 7, 2015.

Rosenbaugh, S.K., Schmidt, T.L., Faller, R.K., and Reid, J.D., **Development of a Socketed Foundations for S3x5.7 Posts**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-293-15, Project No.: TPF-5(091) & TPF-5(193) Supplement #2 & #19, Project Codes: RPFP-09-02 & 10-CABLE-1 Years 19 and 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 28, 2015.

Rosenbaugh, S.K., Faller, R.K., Winkelbauer, B.J., and Schmidt, T.L., **Phase II Ponderosa Pine Round-Post Equivalency Study**, Final Report to the Forest Products Laboratory - U.S.D.A Forest Service and Arizona Log & TimberWorks, Transportation Research Report No. TRP 03-315-14, Project No.: 13-JV-1111133-035, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 4, 2015.

2014

Weiland, N.A., Reid, J.D., Faller, R.K., Bielenberg, R.W., and Lechtenberg, K.A., **Increased Span Length for the MGS Long-Span Guardrail System**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-310-14, Project No.: TPF-5(193) Supplement #56, Project Code: RPFPP-13-MGS-3 Year 23, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2014.

Schrum, K.D., Albuquerque, F.D.B., Sicking, D.L., Faller, R.K., and Reid, J.D., **Roadside Grading Guidance - Phase II**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-269-14, Project No.: TPF-5(193) Supplement #43, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 14, 2014.

Albuquerque, F.D.B., Stolle, C.S., Sicking, D.L., Faller, R.K., and Lechtenberg, K.A., **Phase I Assessment of Guardrail Length-of-Need**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-284-14, Project No.: TPF-5(193) Supplement #40, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 12, 2014.

Schmidt, T.L., Rosenbaugh, S.K., Faller, R.K., Sicking, D.L., and Reid, J.D., **Development of a Socketed Foundation for the Midwest Weak Post (MWP) V1**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-298-14, Project No.: TPF-5(091) & TPF-5(193) Supplement #2 & #19, Project Codes: RPFPP-09-02 & 10-CABLE-1 Years 19 and 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 23, 2014.

Winkelbauer, B.J., Putjenter, J.G., Rosenbaugh, S.K., Lechtenberg, K.A., Bielenberg, R.W., Faller, R.K., and Reid, J.D., **Dynamic Evaluation of MGS Stiffness Transition with Curb**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-291-14, Project No.: TPF-5(193) Supplement #58 & #63, Project Codes: RPFPP-13-AGT-1 & 14-AGT-1 Years 23 and 24, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 30, 2014.

Gutierrez, D.A., Bielenberg, R.W., Faller, R.K., Reid, J.D., and Lechtenberg, K.A., **Development of a MASH TL-3 Transition Between Guardrail and Portable Concrete Barriers**, Final Report to the Nebraska Department of Roads and Smart Work-Zone Deployment Initiative, Transportation Research Report No. TRP 03-300-14, NDOR Project No.: SPR-P1(13)M326; SWZDI Contract No.: 14074; FHWA Pooled Fund Study TPF-5(081), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 26, 2014.

Schrum, K.D., Sicking, D.L., Faller, R.K., and Reid, J.D., **Predicting the Dynamic Fracture of Steel via a Non-Local Strain-Energy Density Failure Criterion**, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-311-14, NDOR Project No.: DPU-STWD (118), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 23, 2014.

Winkelbauer, B.J., Stolle, C.S., Faller, R.K., Lechtenberg, K.A., Reid, J.D., and Bielenberg, R.W., **Cable Guardrail with Strong J-Bolts**, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP 03-299-14, Project No.: TPF-5(193) Supplement #61, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 29, 2014.

Price, C.W., Schmidt, T.L., Bielenberg, R.W., Lechtenberg, K.A., Faller, R.K., and Reid, J.D., **Universal Breakaway Steel Post for Other Applications**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-288-14, Project No.: TPF-5(193) Supplement #55, Project Code: RPFPP-13-UBSP Year 23, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, April 1, 2014.

Updated: 5/3/2021

Stolle, C.S., Reid, J.D., Bielenberg, R.W., Faller, R.K., Sicking, D.L., and Lechtenberg, K.A., **Extending TL-2 Short-Radius Guardrail to Larger Radii**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-296-14, Project No.: TPF-5(193) Supplement #27, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 31, 2014.

Bielenberg, R.W., Quinn, T.E., Faller, R.K., Sicking, D.L., and Reid, J.D., **Development of a Retrofit, Low-Deflection, Temporary Concrete Barrier System**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-295-14, Project No.: TPF-5(193) Supplement #15, Project Code: RPF-P-WISC-4, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 31, 2014.

Schmidt, J.D., Reid, J.D., Faller, R.K., and Sicking, D.L., **Dynamic Testing of a Non-Proprietary, High-Tension, Cable End Terminal System**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-294-14, Project No.: TPF-5(193) Supplement #21, Project Code: RPF-P-10-Cable-3 Year 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 21, 2014.

Stolle, C.J., Reid, J.D., and Faller, R.K., **Zone of Intrusion for Permanent 9.1-Degree Single-Slope Concrete Barriers**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-292-13, Project No.: TPF-5(193) Supplement #42, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 14, 2014.

Schneider, A.J., Rosenbaugh, S.K., Faller, R.K., Sicking, D.L., Lechtenberg, K.A., and Reid, J.D., **Safety Performance Evaluation of Weak-Post, W-Beam Guardrail Attached to Culvert**, Final Report to the Midwest State's Pooled Fund Program, Transportation Research Report No. TRP 03-277-14, Project No.: TPF-5(193) Supplement #32, Project Code: RPF-P-11-MGS-2 Year 21, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 12, 2014.

Schmidt, J.D., Schmidt, T., Faller, R.K., Sicking, D.L., Reid, J.D., Lechtenberg, K.A., Bielenberg, R.W., Rosenbaugh, S.K., Holloway, J.C., **Evaluation of Energy Absorbers for Use in a Roadside/Median Barrier**, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-280-14, NDOR Project No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 6, 2014.

[2013](#)

Winkelbauer, B.J., Lechtenberg, K.A., Rohde, J.R. Reid, J.D., and Faller, R.K., ***Evaluation of Hinged SKT Post Utilized in Guardrail Terminals***, Final Report to Mountain West Holding Co., Transportation Research Report No. TRP 03-297-13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 10, 2013.

Price, C.W., Faller, R.K., Rosenbaugh, S.K., Lechtenberg, K.A., and Winkelbauer, B.J., ***Phase I Ponderosa Pine Round-Post Equivalency Study***, Final Report to the Forest Products Laboratory - U.S.D.A Forest Service and Arizona Log & TimberWorks, Transportation Research Report No. TRP 03-287-13, Project No.: 12-DG-11111169-033, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 22, 2013.

Mongiardini, M., Faller, R.K., Reid, J.D., Sicking, D.L., Stolle, C.S., and Lechtenberg, K.A., ***Downstream Anchoring Requirements for the Midwest Guardrail System***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-279-13, Project No.: TPF-5(193) Supplement #28, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 28, 2013.

Gutierrez, D.A., Lechtenberg, K.A., Bielenberg, R.W., Faller, R.K., Reid, J.D., and Sicking, D.L., ***Midwest Guardrail System (MGS) with Southern Yellow Pine Posts***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-272-13, Project No.: TPF-5(193), Project Code: RPF-11-MGS-1 Years 21, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, September 4, 2013.

Bateman, R.J., Faller, R.K., Bielenberg, R.W., Sicking, D.L., Reid, J.D., Stolle, C.S., Lechtenberg, K.A., and Rosenbaugh, S.K., ***Design of Cable-To-Post Attachments for Use in a Non-Proprietary, High-Tension, Cable Median Barrier***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-285-13, Project No.: TPF-5(091) and TPF-5(193), Project Code: RPF-09-01 and RPF-12-Cable 1&2 Years 19 and 22, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 29, 2013.

Price, C.W., Rosenbaugh, S.K., Faller, R.K., Sicking, D.L., Reid, J.D., and Bielenberg, R.W., ***Post Weld and Epoxy Anchorage Variations for W-Beam Guardrail Attached to Low-Fill Culverts***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-278-13, Project No.: TPF-5(193), Project Code: RPF-11-MGS-4 and RPF-12-MGS-4 Years 21 and 22, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 12, 2013.

Weiland, N.A., Reid, J.D., Faller, R.K., Sicking, D.L., Bielenberg, R.W., and Lechtenberg, K.A., ***Minimum Effective Guardrail Length for MGS***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-276-13, Project No.: TPF-5(193) Supplement #29, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 12, 2013.

Schmidt, J.D., Reid, J.D., Bielenberg, R.W., and Faller, R.K., ***Numerical Investigation on the Performance of Steel Guardrail Systems with Varied Mechanical Properties***, Final Report to Advanced Coatings & Construction Solutions, Transportation Research Report No. TRP 03-290-13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 25, 2013.

Schmidt, J.D., Faller, R.K., Sicking, D.L., Reid, J.D., Lechtenberg, K.A., Bielenberg, R.W., Rosenbaugh, S.K., ***Development of a New Energy-Absorbing Roadside/Median Barrier System with Restorable Elastomer Cartridges***, Final Report to the Nebraska Department of Roads and Federal Highway Administration, Transportation Research Report No. TRP 03-281-13, NDOR Contract No.: DPU-STWD (94), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 16, 2013.

Updated: 5/3/2021

Stolle, C.S., Sicking, D.L., Faller, R.K., and Reid, J.D., **Cable Median Barrier Failure Analysis and Remediation Phase II**, Final Report to the Midwest State's Regional Pooled Fund Program and Mid-America Transportation Center (MATC), Transportation Research Report No. TRP 03-319-13, Project No.: TPF-5(193) Supplement #44, Project Code: RPFP-12-Cable-1 & RPFP-12-Cable-2, MATC TRB RiP No. 28495, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 30, 2013.

Schrum, K.D., Albuquerque, F.D.B., de, Sicking, D.L., Lechtenberg, K.A., and Reid, J.D., **Guidelines for Crash Cushions Selection**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-252-12 (Revised in 2013), Project No.: TPF-5(193) Supplement #16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 19, 2013.

Schmidt, T.L., Meyer, C.L., Lechtenberg, K.A., Faller, R.K., Bielenberg, R.W., Stolle, C.S., Sicking, D.L., and Reid, J.D., **Energy Analysis of Vehicle-To-Cable Barrier Impacts**, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP 03-283-13, Project No.: TPF-5(193) Supplement #130, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, June 11, 2013.

Lechtenberg, K.A., Bielenberg, R.W., Albuquerque, F.D.B., and Faller, R.K., **Performance Analysis of the Mondo Polymer Blockout for Use in MGS Installations**, Final Report to Mondo Polymer Technologies, Transportation Research Report No. TRP 03-289-13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 23, 2013.

Wiebelhaus, M.J., Lechtenberg, K.A., Sicking, D.L., Faller, R.K., and Rosenbaugh, S.K., **Cost-Effective Treatment of Existing Guardrail Systems**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-254-13, Project No.: SPR-3(017), Project Code: RPFP 07-01 Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 5, 2013.

Schmidt, T.L., Lechtenberg, K.A., Meyer, C.L., Faller, R.K., Bielenberg, R.W., Reid, J.D., and Sicking, D.L., **Evaluation of the New York Low-Tension Three-Cable Barrier on Curved Alignment**, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP 03-263-12, Project No.: TPF-5(193) Supplement #130, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 19, 2013.

Schmidt, T.L., Bielenberg, R.W., Faller, R.K., Lechtenberg, K.A., Reid, J.D., and Sicking, D.L., **Dynamic Evaluation of the Powell Contracting LTD. Temporary Concrete Barrier**, Final Report to Powell Contracting Ltd, Transportation Research Report No. TRP 03-273-12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 25, 2013.

Schrum, K.D., Lechtenberg, K.A., Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., Reid, J.D., and Sicking, D.L., **Safety Performance Evaluation of Non-Blocked Midwest Guardrail System (MGS)**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-262-12, Project No.: TPF-5(193) Supplement #33, Project Code: RPFP 11-MGS-3 Year 21, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 24, 2013.

2012

Stolle, C.S. and Sicking, D.L., **Cable Median Barrier Failure Analysis and Prevention**, Final Report to the Midwest State's Regional Pooled Fund Program and Mid-America Transportation Center (MATC), Transportation Research Report No. TRP 03-275-12, Project No.: MATC WBS: 25-1121-0001-428, Project Code: MATC TRB RiP No. 28495, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2012.

Schmidt, T.L., Mongiardini, M., Bielenberg, R.W., Lechtenberg, K.A., Reid, J.D., and Faller, R.K., **Dynamic Testing of MGS W6x8.5 Posts at Decreased Embedment**, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP 03-271-12, Project No.: SPR-P1(12)M318, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 17, 2012.

Julin, R.D., Reid, J.D., Faller, R.K., and Mongiardini, M., **Determination of the Maximum MGS Mounting Height – Phase II Detailed Analysis with LS-DYNA**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-274-12, Project No.: TPF-5(193), Project Code: RPPF 10-MGS Year 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 5, 2012.

Kampschneider, L.R., Homan, D.M., Lechtenberg, K.A., Faller, R.K., Bielenberg, R.W., Sicking, D.L., Reid, J.D., and Rosenbaugh, S.K., **Evaluation of a Non-Proprietary, High-Tension, Four-Cable Median Barrier on Level Terrain**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP 03-258-12, Project No.: TPF-5(091) Supplement #1 and TPF-5(193) Supplement #20, 44, and 45, Project Code: RPPF 09-01 Year 19, RPPF-10-Cable-2 Year 20, and RPPF-12-Cable-1&2 Year 22, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 29, 2012.

Mongiardinini, M., Faller, R.K., Reid, J.D., Bielenberg, R.W., Holloway, J.C., and Sicking, D.L., **Dynamic Evaluation of the MGS with Roll Form Group's Strong Posts**, Final Report to the Roll Form Group, A Division of Samuel Manu-Tech Inc., Transportation Research Report No. TRP 03-270-12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 27, 2012.

Dickey, B.J., Faller, R.K., Rosenbaugh, S.K., Bielenberg, R.W., Lechtenberg, K.A., and Sicking, D.L., **Development of a Design Procedure for Concrete Traffic Barrier Attachments to Bridge Decks Utilizing Epoxy Concrete Anchors**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP 03-264-12, Project No.: TPF-5(193) Supplement #14, Project Code: RPPF WISC-3, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 26, 2012.

Schrum, K.D., Lechtenberg, K.A., Stolle, C.S., Faller, R.K., and Sicking, D.L., **Cost-Effective Safety Treatments for Low-Volume Roads**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-222-12, Project No.: SPR-3(017) Supplement #35, Project Code: RPPF-06-01 Year 16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 24, 2012.

Jowza, E.R., Faller, R.K., Rosenbaugh, S.K., Sicking, D.L., and Reid, J.D., **Safety Investigation and Guidance for Retrofitting Existing Approach Guardrail Transitions**, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-266-12, Project No.: TPF-5(193) Supplement #26, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 21, 2012.

Terpsma, R.J., Reid, J.D., Faller, R.K., and Sicking, D.L., **Development and Recommendations for a Non-Proprietary, High-Tension, Cable End Terminal System**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-268-12, Project No.: SPR-

Updated: 5/3/2021

3(017) Supplement #38, Project Code: RPPF-07-06 Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 17, 2012.

Mongiardini, M., Faller, R.K., Rosenbaugh, S.K., and Reid, J.D., ***Test Matrices for Evaluating Cable Median Barriers Placed in V-Ditches***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-265-12, Project No.: TPF-5(193) Supplement #44, Project Code: RPPF-12-Cable1&2 Year 22, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 13, 2012.

Stolle, C.S. Reid, J.D., and Bielenberg, R.W., ***Improved Models of Cable-To-Post Attachments for High-Tension Cable Barriers***, Final Report to the Midwest State's Regional Pooled Fund Program and Mid-America Transportation Center (MATC), Transportation Research Report No. TRP 03-267-12, Project No.: MATC WBS: 25-1121-0001-320, Project Code: MATC TRB RiP No. 24488, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 25, 2012.

McGhee, M.D., Mongiardini, M., Lechtenberg, K.A., Reid, J.D., and Faller, R.K., ***Dynamic Testing of Roll Form Group's Samson Strong Steel Post***, Final Report to Roll Form Group, Transportation Research Report No. TRP-03-260-12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 21, 2012.

Schmidt, J.D., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Reid, J.D., and Rosenbaugh, S.K., ***Phase III Development of a Non-Proprietary, Four-Cable, High-Tension Median Barrier***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-253-12, Project No.: TPF-5(091) Supplement #1, Project Code: RPPF-09-01 Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 21, 2012.

Meyer, C.L., Reid, J.D., Faller, R.K., Sicking, D.L., and Mongiardini, M., ***Feasibility Analysis and Concept Development of a Crash Cushion Diaphragm Structure for High-Speed Racetracks***, Final Report to Motorsports Safety Technology, LLC, MwRSF Research Report No. TRP-03-261-11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 20, 2012.

Schrum, K.D., de Albuquerque, F.D.B., Sicking, D.L., Lechtenberg, K.A., Faller, R.K., and Reid, J.D., ***Synthesis of Crash Cushion Guidance***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-252-12, Project No.: TPF-5(193) Supplement #16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 20, 2012.

Stolle, C.J., Lechtenberg, K.A., Reid, J.D., Faller, R.K., Bielenberg, R.W., Rosenbaugh, S.K., Sicking, D.L., and Johnson, E.A., ***Determination of the Maximum MGS Mounting Height - Phase I Crash Testing***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-255-12, Project No.: TPF-5(193), Project Code: RPPF-10-MGS Year 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 9, 2012.

Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., Sicking, D.L., and Reid, J.D., ***Phase I Development of an Aesthetic, Precast Concrete Bridge Rail***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-239-12, Project No.: SPR-P1(07) P596, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 13, 2012.

Rohde, J., Terpsma, R.J., Zhu, L., Dickey, B.J., Rosenbaugh, S.K., and Faller, R.K., ***Development of a Socketed Foundation for Cable Barrier Posts - Phase I***, Final Report to the Mid-America Transportation Center (MATC) and the Midwest States Pooled Fund Program, MwRSF Transportation Research Report No. TRP-03-232-11, MATC Report No. MATC-UNL: 222, Project No.: TPF-5(091) Supplement No. 2, Project Code: RPPF-09-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 2012.

2011

Wiebelhaus, M.J., Johnson, E.A., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., Rohde, J.R., Bielenberg, R.W., Reid, J.D., and Rosenbaugh, S.K., ***Phase I Development of a Non-Proprietary, Four-Cable, High Tension Median Barrier***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-213-11, Project No.: SPR-3(017), Project Codes: RPPF-04-01 and RPPF-08-02 - Years 14, 16, and 18, Supplement #35 and #36, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 28, 2011.

Schrum, K.D., Albuquerque, F.D.B., Sicking, D.L., Faller, R.K., and Reid, J.D., ***Roadside Grading Guidance - Phase I***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-251-11, Project No.: TPF-5(193) Supplement #13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 19, 2011.

Albuquerque, F.D.B. and Sicking, D.L., ***Evaluation of the In-Service Safety Performance of Safety-Shape and Vertical Concrete Barriers***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-259-11, Project No.: SPR-3(017), Project Code: RPPF-06-08 - Year 16, Supplement #35, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 16, 2011.

Jowza, E.R., Faller, R.K., Mongiardini, M., Sicking, D.L., and Reid, J.D., ***Crash Testing of Various Erosion Control Features - Phase I: Preliminary Guidelines***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-249-11, Project No.: TPF-5(193) Supplement #17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 28, 2011.

Rosenbaugh, S.K., Schrum, K.D., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., and Reid, J.D., ***Development of Alternative Wood-Post MGS Approach Guardrail Transition***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-243-11, Project No.: TPF-5(193), Project Code: RPPF-09-03 - Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 28, 2011.

Bielenberg, R.W., Faller, R.K., Sicking, D.L., Reid, J.D., and Lechtenberg, K.A., ***Design and Evaluation of the SAFER Barrier Installed on Portable Concrete Barrier***, Final Report to Motorsports Safety Technology (MST) LLC, Transportation Research Report No. TRP-03-257-11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 28, 2011.

Dickey, B.J., Stolle, C.S., Bielenberg, R.W., Faller, R.K., Sicking, D.L., Reid, J.D., Lechtenberg, K.A., and Rosenbaugh, S.K., ***Design and Evaluation of a High-Tension Cable Median Barrier Attachment***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-228-11, Project No.: TPF-5(193), Project Code: RPPF-09-01 - Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 11, 2011.

Stolle, C.J., Lechtenberg, K.A., Faller, R.K., Rosenbaugh, S.K., Sicking, D.L., and Reid, J.D., ***Evaluation of the Midwest Guardrail System (MGS) with White Pine Wood Posts***, Final Report to the Wisconsin Department of Transportation, Transportation Research Report No. TRP-03-241-11, Project No.: TPF-5(193) Supplement #12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 28, 2011.

2010

Putjenter, J.G., Rosenbaugh, S.K., Lechtenberg, K.A., Faller, R.K., Reid, J.D., and Sicking, D.L., **Performance Evaluation of Brass Breakaway Couplings**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-248-10, Project No.: TPF-5(193), Project Code: RPPF-10-Pole - Year 20, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 22, 2010.

Rosenbaugh, S.K., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., Bielenberg, R.W., and Reid, J.D., **Development of the MGS Approach Guardrail Transition Using Standardized Steel Posts**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-210-10, Project Nos.: SPR-3(017) and TPF-5(193), Project Code: RPPF-08-05 and RPPF-09-03 - Years 18 and 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 21, 2010.

Dickey, B.J., Lechtenberg, K.A., Rosenbaugh, S.K., and Faller, R.K., **Evaluation of Valmont Industries' Decorative Clamshell Bases on Aluminum Luminaire Poles**, Final Report to Valmont Industries, Inc., Transportation Research Report No. TRP-03-247-10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 17, 2010.

Schmidt, J.D., Sicking, D.L., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Lechtenberg, K.A., **Investigating the Use of a New Universal Breakaway Steel Post - Phase III**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-244-10, Project No.: TPF-5(193), Supplement No. 35, Project Code: RPPF-11-BNOSE - Year 21, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 16, 2010.

McGhee, M.D., Lechtenberg, K.A., Bielenberg, R.W., Faller, R.K., Sicking, D.L., and Reid, J.D., **Dynamic Impact Testing of Wood Posts for the Midwest Guardrail System (MGS) Placed Adjacent to a 2H:1V Fill Slope**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-234-10, Project No.: SPR-3(017), Project Code: RPPF-05-09 - Year 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 16, 2010.

Dickey, B.J., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Reid, J.D., and Sicking, D.L., **Dynamic Evaluation of the Delta Bloc DB 80 F-Shape Temporary Concrete Barrier**, Final Report to Delta Bloc Europa GmbH, Transportation Research Report No. TRP-03-245-10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 14, 2010.

Stolle, C.S., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., Bielenberg, R.W., Reid, J.D., and Holloway, J.C., **Evaluation of the Modified Three Cable Guardrail System Installed on a 4:1 Fill Slope**, Final Report to Safence Inc., Transportation Research Report No. TRP-03-246-10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 14, 2010.

Thiele, J.C., Reid, J.D., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., and Bielenberg, R.W., **Performance Limits for 6-In. (152-mm) High Curbs Placed in Advance of the MGS Using MASH Vehicles - Part III: Full-Scale Crash Testing (TL-2)**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-237-10, Project No.: SPR-3(017), Project Code: RPPF-07-03 - Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 24, 2010.

Reid, J.D., and Sicking, D.L., **Zone of Intrusion**, Final Report to the Florida Department of Transportation, Transportation Research Report No. TRP-03-242-10, Project No.: PR4893118-V2, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 15, 2010.

Homan, D.M., Faller, R.K., and Lechtenberg, K.A., **Review of State DOT Guardrail Construction**

Updated: 5/3/2021

Practices and Policies, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Federal Lands Highway Division, Transportation Research Report No. TRP-03-240-10, Project No.: DTFH68-09-E-00120 Mod #001, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 30, 2010.

Stolle, C.S., Reid, J.D., and Lechtenberg, K.A., **Update to Cable Barrier Literature Review**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-227-10, Project No.: TPF-5(193), Project Code: RPPF-09-01 - Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 12, 2010.

Homan, D., Rosenbaugh, S.K., Lechtenberg, K.A., and Faller, R.K., **Evaluation of Valmont Industries' Decorative Clamshell Bases on Luminaire Poles**, Final Report to Valmont Industries, Inc., Transportation Research Report No. TRP-03-229-10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 11, 2010.

Thiele, J.C., Sicking, D.L., Faller, R.K., Bielenberg, R.W., Lechtenberg, K.A., Reid, J.D., and Rosenbaugh, S.K., **Development of a Low-Cost, Energy-Absorbing Bridge Rail**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-226-10, Project No.: SPR-3(017) and TPF-5(193), Project Codes: RPPF-08-09 - Year 18 and RPPF-09-06 - Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, August 11, 2010.

Schmidt, J.D., Sicking, D.L., Faller, R.K., Reid, J.D., Bielenberg, R.W., and Lechtenberg, K.A., **Investigating the Use of a New Universal Breakaway Steel Post - Phase 2**, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-230-10, Project No.: SPR-3(017), Supplement #39, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 9, 2010.

Stolle, C.S., Reid, J.D., and Lechtenberg, K.A., **Development of Advanced Finite Element Material Models for Cable Barrier Wire Rope**, Final Report to the Mid-America Transportation Center (MATC), U.S. Department of Transportation, Transportation Research Report No. TRP-03-233-10, Project No.: MATC TRB RiP No. 18463, MATC-UNL: 220, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 2, 2010.

Wiebelhaus, M.J., Terpsma, R.J., Lechtenberg, K.A., Reid, J.D., Faller, R.K., Bielenberg, R.W., Rohde, J.R., and Sicking, D.L., **Development of a Temporary Concrete Barrier to Permanent Concrete Median Barrier Approach Transition**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-208-10, Project No.: SPR-3(017), Project Codes: RPPF-06-07 and RPPF-06-09 - Year 16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 15, 2010.

Zhu, L., Rohde, J.R., and Terpsma, R.J., **Foundation Design for High-Tension Cable Guardrails**, Final Report to the Mid-America Transportation Center (MATC), U.S. Department of Transportation, Transportation Research Report No. TRP-03-236-10, Project No.: MATC TRB RiP No. 17136, MATC-UNL: 101, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 2010.

Schmidt, J.D., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., and Holloway, K.A., **Safety Investigation and Guidance for Work-Zone Devices in Freight Transportation Systems Subjected to Passenger Car and Truck Impacts with New Crash Standards**, Final Report to the Mid-America Transportation Center (MATC) and the Smart Work Zone Deployment Initiative (SWZDI), MwRSF Transportation Research Report No. TRP-03-225-10, MATC Report No. MATC-UNL: 100, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 1, 2010.

Wiebelhaus, M.J., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., Bielenberg, R.W., Reid, J.D., Rohde, J.R., and Dey, Gopi, **Development and Evaluation of the Midwest Guardrail System (MGS) Placed**

Updated: 5/3/2021

Adjacent to a 2:1 Fill Slope, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-185-10, Project No.: SPR-3(017), Project Code: RPPF-05-09 - Year 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 24, 2010.

Lechtenberg, K.A., Faller, R.K., Reid, J.D., and Sicking, D.L., ***Dynamic Evaluation of a Pinned Anchoring System for New York State's Temporary Concrete Barriers - Phase II***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-224-10, Project No.: TPF-5(193), Supplement #11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 27, 2010.

Stolle, C.J., Zhu, L., Lechtenberg, K.A., Bielenberg, R.W., Faller, R.K., Sicking, D.L., Reid, J.D., and Rohde, J.R., ***Performance Evaluation of Type II and Type IIA Box Beam End Terminals - Volume II: Appendices***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-203-10, Project No.: C-06-16 Phase I, C-06-16 Phase II, SPR-3(017) Supplement #56, TPF-5(193), Supplement #9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 20, 2010.

Stolle, C.J., Zhu, L., Lechtenberg, K.A., Bielenberg, R.W., Faller, R.K., Sicking, D.L., Reid, J.D., and Rohde, J.R., ***Performance Evaluation of Type II and Type IIA Box Beam End Terminals - Volume I: Research Results and Discussion***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-203-10, Project No.: C-06-16 Phase I, C-06-16 Phase II, SPR-3(017) Supplement #56, TPF-5(193), Supplement #9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 20, 2010.

2009

Rosenbaugh, S.K., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Sicking, D.L., and Reid, J.D., ***Dynamic Evaluation of New York State's Aluminum Pedestrian Pole***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-223-09, Project No.: TPF-5(193), Supplement #10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 22, 2009.

Thiele, J.C., Lechtenberg, K.A., Reid, J.D., Faller, R.K., Sicking, D.L., and Bielenberg, R.W., ***Performance Limits for 6-In. (152-mm) High Curbs Placed in Advance of the MGS Using MASH-08 Vehicles - Part II: Full-Scale Crash Testing***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-221-09, Project No.: SPR-3(017), Project Code: RPF-07-03 - Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 30, 2009.

Rosenbaugh, S.K., Bielenberg, R.W., Faller, R.K., Reid, J.D., Rohde, J.R., Sicking, D.L., Lechtenberg, K.A., and Holloway, J.C., ***Termination and Anchorage of Temporary Concrete Barriers***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-209-09, Project No.: SPR-3(017), Project Code: RPF-06-02 - Year 16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 29, 2009.

Schmidt, J.D., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., and Reid, J.D., ***Development and Testing of a New Vertical-Faced Temporary Concrete Barrier for Use on Composite Panel Bridge Decks***, Final Report to the Kansas Department of Transportation, Transportation Research Report No. TRP-03-220-09, Sponsor Agency Code: SPR-3(017) Supplement No. 57, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 13, 2009.

Howard, C.N., Stolle, C.J., Lechtenberg, K.A., Faller, R.K., Reid, J.D., and Sicking, D.L., ***Dynamic Evaluation of a Pinned Anchoring System for New York State's Temporary Concrete Barriers***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-216-09, Project No.: TPF-5(193), Supplement No. 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 8, 2009.

Terpsma, R.J., Faller, R.K., Reid, J.D., Sicking, D.L., Bielenberg, R.W., Rosenbaugh, S.K., and Lechtenberg, K.A., ***Development of a TL-2 Steel Bridge Railing and Transition for Use on Transverse, Nail-Laminated, Timber Bridges***, Final Report to the West Virginia Department of Transportation, Transportation Research Report No. TRP-03-212-09, Project No.: WV-09-2007-B2, Sponsor Agency: SPR-3(017) Supplement No. 52, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 13, 2009.

Arens, S.W., Sicking, D.L., Faller, R.K., Reid, J.D., Bielenberg, R.W., Rohde, J.R., and Lechtenberg, K.A., ***Investigating the Use of a New Universal Breakaway Steel Post***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-218-09, Project No.: SPR-3(017), Supplement #39, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 3, 2009.

Johnson, E.A., Faller, R.K., Reid, J.D., Sicking, D.L., Bielenberg, R.W., Lechtenberg, K.A., and Rosenbaugh, S.K., ***Analysis, Design, and Dynamic Testing of a TL-2 Rough Stone Masonry Guardwall***, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, Transportation Research Report No. TRP-03-217-09, Project No.: DTFH68-08-E-00033, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 6, 2009.

Rosenbaugh, S.K., Benner, C.D., Faller, R.K., Bielenberg, R.W., Reid, J.D., and Sicking, D.L., ***Development of a TL-1 Timber, Curb-Type, Bridge Railing for Use on Transverse, Nail-Laminated,***

Updated: 5/3/2021

Timber Bridges, Final Report to the West Virginia Department of Transportation, Transportation Research Report No. TRP-03-211-09, Project No.: WV-09-2007-B1, Project Code: SPR-3(017) Supplement No. 53, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 6, 2009.

Updated: 5/3/2021

Zhu, L., Faller, R.K., Reid, J.D., Sicking, D.L., Bielenberg, R.W., Lechtenberg, K.A., and Benner, C.D., ***Performance Limits for 152-mm (6-In.) High Curbs Placed in Advance of the MGS Using MASH-08 Vehicles - Part I: Vehicle-Curb Testing and LS-DYNA Analysis***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-205-09, Project No.: SPR-3(017), Project Code: RPPF-07-03 - Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, May 6, 2009.

Albuquerque, F.D.B., Sicking, D.L., and Lechtenberg, K.A., ***Evaluation of Safety Treatments for Roadside Culverts***, Final Report to the Iowa Department of Transportation, Transportation Research Report No. TRP-03-201-09, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 24, 2009.

Bielenberg, R.W. and Faller, R.K., ***Dynamic Performance Evaluation of the EXULTROB Plastic Spacer Block: Test No. EXUL-1***, Final Report (Letter Report) to EXULTROB by Williams and Woss, Transportation Research Report No. TRP-03-215-09, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 3, 2009.

Bielenberg, R.W., Lechtenberg, K.A., Faller, R.K., and Sicking, D.L., ***Validation of the Valmont/MwRSF Pendulum with Crushable Nose***, Final Report to Valmont Industries, Inc., Transportation Research Report No. TRP-03-214-09, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 11, 2009.

[2008](#)

Molacek, K.J., Lechtenberg, K.A., Faller, R.K., Rohde, J.R., Sicking, D.L., Bielenberg, R.W., Reid, J.D., Stolle, C.J., Johnson, E.A., and Stolle, C.S., ***Design and Evaluation of a Low-Tension Cable Median Barrier System***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-195-08, Project No.: SPR-3(017), Project Code: RFPF-01-05 - Year 12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 8, 2008.

Sicking, D.L., Albuquerque, F.D.B., and Lechtenberg, K.A., ***Cable Median Barrier Guidelines***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No.: TRP-03-206-08, Project No.: SPR-3(017), Project Code: RFPF-07-02 - Year 17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 8, 2008.

Johnson, E.A., Lechtenberg, K.A., Reid, J.D., Sicking, D.L., Faller, R.K., Bielenberg, R.W., and Rohde, J.R., ***Approach Slope for Midwest Guardrail System***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-188-08, Project No.: SPR-3(017), Project Code: RFPF-04-04 and RFPF-05-06 - Years 14 and 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, December 4, 2008.

Polivka, K.A., Sicking, D.L., Reid, J.D., Bielenberg, R.W., Faller, R.K., and Rohde, J.R., ***Performance Evaluation of Safety Grates for Cross-Drainage Culverts***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-196-08, Project No.: SPR-3(017), Project Code: RFPF-04-02 and RFPF-05-07 - Years 14 and 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, October 23, 2008.

Hitz, R.A., Molacek, K.J., Stolle, C.S., Polivka, K.A., Faller, R.K., Rohde, J.R., Sicking, D.L., Reid, J.D., and Bielenberg, R.W., ***Design and Evaluation of a Low-Tension Cable Guardrail End Terminal System***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-131-08, Project No.: SPR-3(017), Project Code: RFPF-01-03, RFPF-04-07, and RFPF-05-03 - Years 11, 14, and 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 15, 2008.

Stolle, C.S., Polivka, K.A., Reid, J.D., Faller, R.K., Sicking, D.L., Bielenberg, R.W., and Rohde, J.R., ***Evaluation of Critical Flare Rates for the Midwest Guardrail System (MGS)***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-191-08, Project No.: SPR-3(017), Project Code: RFPF-04-03 and RFPF-05-05 - Years 14 and 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, July 15, 2008.

Rosenbaugh, S.K., Faller, R.K., Hascall, J.A., Allison, E.M., Bielenberg, R.W., Rohde, J.R., Polivka, K.A., Sicking, D.L., and Reid, J.D., ***Development of a Stand-Alone Concrete Bridge Pier Protection System***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-190-08, Project No.: SPR-3(017), Project Code: RFPF-04-05 - Year 14, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 18, 2008.

Arens, S.W., Faller, R.K., Rohde, J.R., Polivka, K.A., ***Dynamic Impact Testing of CRT Wood Posts in a Rigid Sleeve***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-198-08, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 11, 2008.

Stolle, C.J., Polivka, K.A., Faller, R.K., Sicking, D.L., Bielenberg, R.W., Reid, J.D., Rohde, J.R., Allison, E.M., and Terpsma, R.J., ***Evaluation of Box Beam Stiffening of Unanchored Temporary Concrete Barriers***, Final Report to the New York State Department of Transportation, Transportation Research Report No. TRP-03-202-08, Project No.: C-06-17, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 14, 2008.

Updated: 5/3/2021

Updated: 5/3/2021

Terpsma, R.J., Polivka, K.A., Sicking, D.L., Rohde, J.R., Reid, J.D., and Faller, R.K., ***Evaluation of a Modified Three Cable Guardrail Adjacent to Steep Slope***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-192-08, Project No.: SPR-3(017), Project Code: RPF-03-04 - Year 13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 4, 2008.

Stolle, C.S., Polivka, K.A., Bielenberg, R.W., Reid, J.D., Faller, R.K., Rohde, J.R., and Sicking, D.L., ***Phase IV Development of a Short-Radius Guardrail for Intersecting Roadways***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No.: TRP-03-199-08, Project No.: SPR-3(017), Project Code: RPF-02-02 and RPF-08-04 - Years 12 and 18, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 29, 2008.

Thiele, J.C., Bielenberg, R.W., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., Polivka, K.A., and Holloway, J.C., ***Design and Evaluation of High-tension Cable Barrier Hardware***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-200-08, Project No.: SPR-3(017), Project Code: RPF-01-05, RPF-04-01, RPF-06, and RPF-08-02 - Years 11, 14, 16, and 18, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 25, 2008.

Wiebelhaus, M.J., Polivka, K.A., Faller, R.K., Rohde, J.R., Sicking, D.L., Holloway, J.C., Reid, J.D., and Bielenberg, R.W., ***Evaluation of Rigid Hazards Placed in the Zone of Intrusion***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-151-08, Project No.: SPR-3(017), Project Code: RPF-03-03 - Year 13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 3, 2008.

2007

Stolle, C.S., Faller, R.K., and Polivka, K.A., ***Dynamic Impact Testing of S76x8.5 (S3x5.7) Steel Posts for Use in Cable Guardrail Systems***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-186-07, Project No.: SPR-3(017), Project Code: RPPF-04-01 - Year 14, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 19, 2007.

Rosenbaugh, S.K., Sicking, D.L., and Faller, R.K., ***Development of a TL-5 Vertical Face Concrete Median Barrier Incorporating Head Ejection Criteria***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-194-07, Project No.: SPR-3(017), Project Code: RPPF-05-01 - Year 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 10, 2007.

Stolle, C.S., Polivka, K.A., Bielenberg, R.W., Reid, J.D., Faller, R.K., Rohde, J.R., and Sicking, D.L., ***Phase III Development of a Short-Radius Guardrail for Intersecting Roadways***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-183-07, Project No.: SPR-3(017), Project Code: RPPF-02-02 - Year 12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 6, 2007.

Meyer, C.L., Faller, R.K., Polivka, K.A., Holloway, J.C., and Kretschmann, D.E., ***MGS Round Post Installation Manual - Version 1.2***, Final Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, December 5, 2007.

Eller, C.M., Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., Bielenberg, R.W., and Allison, E.M., ***Development of the Midwest Guardrail System (MGS) W-Beam to Thrie Beam Transition Element***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-167-07, Project No.: SPR-3(017), Project Code: RPPF-01-04, 02-05, and 06-04 -Years 11, 12, and 16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 26, 2007.

Cutler, H.E., Faller, R.K., Polivka, K.A., Bielenberg, B.W., and Rosenbaugh, S.K., ***Aesthetic Barrier Literature Review***, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, Transportation Research Report No. TRP-03-197-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 26, 2007.

Bielenberg, R.W., Faller, R.K., Rohde, J.R., Reid, J.D., Sicking, D.L., Holloway, J.C., Allison, E.M., and Polivka, K.A., ***Midwest Guardrail System for Long-Span Culvert Applications***, Final Report to the Midwest State's Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-187-07, Project No.: SPR-3(017), Project Code: RPPF-05-04 -Year 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 16, 2007.

Bielenberg, B.W., Faller, R.K., Rohde, J.R., and Reid, J.D., ***Evaluation of an Existing Steel Post Alternative for the Thrie Beam Bullnose Guardrail System***, Final Report (Letter Report) to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-193-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 24, 2007.

Bielenberg, B.W., Faller, R.K., and Allison, E.M., ***Performance Analysis of the ANRO Timber Products Plastic Spacer Block Test No. ANRO-1***, Final Report (Letter Report) to Anro Timber Products, Inc., Transportation Research Report No.: TRP-03-189-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 22, 2007.

Stolle, C.S., Polivka, K.A., Faller, R.K., Rohde, J.R., and Sicking, D.L., ***Evaluation of a New Jersey Safety Shape, Segmented Concrete Barrier for Use on Composite Panel Bridge Decks***, Final Report

Updated: 5/3/2021

to the Kansas Department of Transportation, Transportation Research Report No. TRP-03-181-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 5, 2007.

Bielenberg, R.W., ***Dynamic Component Testing of Potential Alternative Anchors for the F-Shape Concrete Barrier Steel Strap Tie-Down System***, Final Report (Letter Report) to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-182-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 9, 2007.

Hascall, J.A., Faller, R.K., Reid, J.D., Sicking, D.L., and Kretschmann, D.E., ***Investigating the Use of Small-Diameter Softwood as Guardrail Posts (Dynamic Test Results)***, Final Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Report No. TRP-03-179-07, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, March 28, 2007.

Dey, G., Faller, R.K., Hascall, J.A., Bielenberg, R.W., Polivka, K.A., and Molacek, K., ***Dynamic Impact Testing of W152x13.4 (W6x9) Steel Posts on a 2:1 Slope***, Final Report to the Midwest State=s Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-165-07, Project No.: SPR-3(017), Project Code: RPF-05-09 -Year 15, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 23, 2007.

Bielenberg, B.W., Faller, R.K., Rohde, J.R., Ried, J.D., Sicking, D.L., and Holloway, J.C., ***Development of Tie-Down and Transition Systems for Temporary Concrete Barrier on Asphalt Road Surfaces***, Final Report to the Midwest State=s Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-180-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 23, 2007.

Hascall, J.A., Polivka, K.A., Rohde, J.R., Faller, R.K., Sicking, D.L., and Holloway, J.C., ***Design and Evaluation of an Open Combination Traffic/Bicycle Bridge Railing System***, Final Report to the Midwest State=s Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-162-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 9, 2007.

Polivka, K.A., Faller, R.K., Holloway, J.C., and Rohde, J.R., ***Safety Performance Evaluation of Minnesota=s Temporary Rigid Panel Sign Stand Systems***, Final Report to the Midwest State=s Regional Pooled Regional Pooled Fund Program, Transportation Research Report No. TRP-03-166-07, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 8, 2007.

2006

Reid, J.D., **Analyzing Guardrail System Crash Behavior in Cyprus**, Final Report to the Cyprus Research Foundation, Transportation Research Report No. TRP-03-182-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the Permanent New Jersey Safety Shape Barrier - Update to NCHRP 350 Test No. 4-12 (2214NJ-2)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-178-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 13, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the Permanent New Jersey Safety Shape Barrier - Update to NCHRP 350 Test No. 3-10 (2214NJ-1)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-177-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 13, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the SKT-MGS Tangent End Terminal - Update to NCHRP 350 Test No. 3-34 (2214TT-1)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-176-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 12, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the Guardrail to Concrete Barrier Transition - Update to NCHRP 350 Test No. 3-21 with 28" C.G. Height (2214T-1)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-175-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 12, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the Free-Standing Temporary Barrier - Update to NCHRP 350 Test No. 3-11 with 28" C.G. Height (2214TB-2)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-174-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 12, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., Reid, J.D., and Coon, B.A., **Performance Evaluation of the Free-Standing Temporary Barrier - Update to NCHRP 350 Test No. 3-11 (2214TB-1)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-173-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 11, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., and Reid, J.D., **Performance Evaluation of the Midwest Guardrail System - Update to NCHRP 350 Test No. 3-10 (2214MG-3)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-172-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 11, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., and Reid, J.D., **Performance Evaluation of the Midwest Guardrail System - Update to NCHRP 350 Test No. 3-11 with 28" C.G. Height (2214MG-2)**, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-171-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 11, 2006.

Updated: 5/3/2021

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., and Reid, J.D., ***Performance Evaluation of the Midwest Guardrail System - Update to NCHRP 350 Test No. 3-11 (2214MG-1)***, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-170-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 10, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., and Reid, J.D., ***Performance Evaluation of the Modified G4(1S) Guardrail System - Update to NCHRP 350 Test No. 3-11 with 28" C.G. Height (2214WB-2)***, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-169-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 9, 2006.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Bielenberg, B.W., and Reid, J.D., ***Performance Evaluation of the Modified G4(1S) Guardrail System - Update to NCHRP 350 Test No. 3-11 (2214WB-1)***, Final Report to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Transportation Research Report No. TRP-03-168-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 6, 2006.

Hascall, J.A., Polivka, K.A., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the Trailer-Truck-Mounted Attenuator (Trailer TMA) - NCHRP 350 Test No. 3-53 (TTMA-7)***, Final Report to Safety By Design, Company, Transportation Research Report No. TRP-03-164-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 26, 2006.

Hascall, J.A., Polivka, K.A., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the Trailer-Truck-Mounted Attenuator (Trailer TMA) - NCHRP 350 Test No. 3-52 (TTMA-5)***, Final Report to Safety By Design, Company, Transportation Research Report No. TRP-03-163-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 21, 2006.

Hitz, R.A., Polivka, K.A., Faller, R.K., Ritter, M.A., Rosson, B.T., and Holloway, J.C., ***Development of the GC-8000 Bridge Railing and Transition***, Draft Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Report No. TRP-03-161-06, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, May 2, 2006.

2005

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Development, Testing, and Evaluation of NDOR=s TL-5 Aesthetic Open Concrete Bridge Rail***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-148-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1, 2005.

Faller, R.K., ***Design, Testing, and Evaluation of a Connection Detail for the FPL TL-4 Steel Thrie Beam and Steel Tube Bridge Railing for use on FRP Deck Panels***, Letter Report to the Kansas Department of Transportation, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 21, 2005.

Polivka, K.A., Hascall, J.A., Faller, R.K., Rohde, J.R., Holloway, J.C., Sicking, D.L., and Kurz, K., ***Design and Evaluation of CYRO=s Paraglas Soundstop TL-4 Noise Barrier System***, Final Report to CYRO Industries, Inc., Transportation Research Report No. TRP-03-160-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 22, 2005.

Polivka, K.A., Faller, R.K., Rohde, J.R., Holloway, J.C., and Sicking, D.L., ***Safety Performance Evaluation of Missouri=s Ground-Mounted Temporary Sign Stands - Phase II***, Final Report to the Missouri Department of Transportation, Transportation Research Report No. TRP-03-158-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 8, 2005.

Polivka, K.A., Rohde, J.R., Faller, R.K., Holloway, J.C., and Sicking, D.L., ***Design and Evaluation of Minnesota=s Timber Rub-Rail for Noise Barriers***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-156-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 8, 2005.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the Trailer-Truck-Mounted Attenuator (Trailer TMA) - NCHRP 350 Test No. 3-50 and 3-51 (TTMA-3 and TTMA-4)***, Final Report to Safety By Design, Company, Transportation Research Report No. TRP-03-159-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 28, 2005.

Nelson, R.M., Sicking, D.L., Faller, R.K., Reid, J.D., Rohde, J.R., Polivka, K.A., and Hascall, J.A., ***Evaluation of Alternate Cable Anchor Designs and Three-Cable Guardrail Adjacent to Steep Slope***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-155-05, Project No. SPR-3(017)-Year 10, Project Code: RPPF-00-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 3, 2005.

Kuipers, B.D., Faller, R.K., and Reid, J.D., ***Critical Flare Rates for W-Beam Guardrail - Determining Maximum Capacity Using Computer Simulation***, Final Report to the National Academy of Sciences, National Cooperative Highway Research Program (NCHRP), NCHRP Project No. 17-20(3), Transportation Research Report No. TRP-03-157-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 24, 2005.

2004

Rohde, J.R., Hascall, J.A., Polivka, K.A., Faller, R.K., and Sicking, D.L., ***Dynamic Testing of Wooden Guardrail Posts - White and Red Pine Species Equivalency Study***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-154-04, Project No. SPR-3(017)-Year 7, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 21, 2004.

Polivka, K.A., Faller, R.K., Sicking, D.L., Reid, J.D., Rohde, J.R., Holloway, J.C., Bielenberg, R.W., and Kuipers, B.D., ***Development of the Midwest Guardrail System (MGS) for Standard and Reduced Post Spacing and in Combination with Curbs***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-139-04, Project No. SPR-3(017)-Years 10, and 12-13, Project Code: RPPF-00-02, 02-01, and 03-05, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1, 2004.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the FLEAT-MGS End Terminal with Redesigned Breakaway Posts and End Anchorage - NCHRP 350 Test No. 3-30 (FLEAT-8)***, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-153-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 30, 2004.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the FLEAT-MGS End Terminal - NCHRP 350 Test No. 3-34 (FLEAT-6)***, Final Report to Safety By Design Company, Transportation Research Report No. TRP-03-152-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 29, 2004.

Faller, R.K., Sicking, D.L., Larsen, J., Rohde, J.R., Bielenberg, R.W., and Polivka, K.A., ***TL-5 Development of 42- and 51-In. Tall, Single-Faced, F-Shape Concrete Barriers***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-149-04, Project No. SPR-3(017)-Year 12, Project Code: RPPF-02-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 30, 2004.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the FLEAT-MGS End Terminal - NCHRP 350 Test No. 3-35***, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-146-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 4, 2004.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the FLEAT-MGS End Terminal with Redesigned Breakaway Posts and End Anchorage - NCHRP 350 Test No. 3-35 (FLEAT-7)***, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-150-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 3, 2004.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Safety Performance Evaluation of ROO Guards, Inc. (RGI) Water-Filled Longitudinal Channelizing Barricade***, Final Report to Roo Guards, Inc., Transportation Research Report No. TRP-03-147-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 3, 2004.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Performance Evaluation of the Concrete Mounted Single-Sided Crash Cushion - NCHRP 350 Test 3-38***, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-145-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 27, 2004.

Polivka, K.A., Faller, R.K., Rohde, J.R., Reid, J.D., Sicking, D.L., and Holloway, J.C., ***Safety Performance Evaluation of the Nebraska Open Concrete Bridge Rail on an Inverted Tee Bridge***

Updated: 5/3/2021

Deck, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-133-04, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 21, 2004.

2003

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., **Performance Evaluation of the SKT-MGS End Terminal - NCHRP 350 Test 3-31**, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-144-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 18, 2003.

Reid, J.D. and Hiser, N.R., **Cable Guardrail End Terminal Simulation FHWA Center of Excellence in DYNA3D Analysis**, Final Report to the Federal Highway Administration, Transportation Research Report No. TRP-03-142-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 30, 2003.

Kuipers, B.D. and Reid, J.D., **Testing of M203.7x9.7 (M8x6.5) and S76x8.5 (S3x5.7) Steel Posts - Post Comparison Study for the Cable Median Barrier**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-143-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 24, 2003.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., **Phase II Development of a Short-Radius Guardrail for Intersecting Roadways**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-137-03, Project No. SPR-3(017)-Year 11, Project Code: RPPF-01-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 9, 2003.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., Reid, J.D., and Sicking, D.L., **Safety Performance Evaluation of South Dakota=s Cable Guardrail to W-Beam Transition System with a FLEAT End Terminal**, Final Report to Safety By Design, Inc., Transportation Research Report No. TRP-03-138-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 8, 2003.

Bielenberg, B.W. and Faller, R.K., **Performance Analysis of the ANRO Timber Products Recycled Plastic Spacer Block**, Final Report to Anro Timber Products, Inc., Transportation Research Report No. TRP-03-141-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 25, 2003.

Polivka, K.A., Faller, R.K., Rohde, J.R., Holloway, J.C., Bielenberg, B.W., and Sicking, D.L., **Development and Evaluation of a Tie-Down System for the Redesigned F-Shape Concrete Temporary Barrier**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-134-03, Project No. SPR-3(017)-Year 13, Project Code: RPPF-03-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 22, 2003.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., **Performance Evaluation of the ReDesigned BEAT Bridge Pier Protection System**, Final Report to Safety By Design Company, Transportation Research Report No. TRP-03-140-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 12, 2003.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of Michigan=s 4x5 Portable Sign Support**, Final Report to the Michigan Department of Transportation, Transportation Research Report No. TRP-03-135-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 20, 2003.

Polivka, K.A., Sicking, D.L., and Reid, J.D., **Deflections Limits for Temporary Concrete barriers**, Revised Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-113-02, Project No. SPR-3(017)-Year 9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 18, 2003.

Updated: 5/3/2021

Kuipers, B.D. and Reid, J.D., ***Testing of W152x23.8 (W6x16) Steel Posts - Soil Embedment Depth Study for the Midwest Guardrail System (Non-Proprietary Guardrail System)***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-136-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 12, 2003.

Polivka, K.A., Bielenberg, R.W., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Holloway, J.C., ***Development of a Steel H-Section Temporary Barrier for Use in Limited Deflection Applications***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-120-03, Project No. SPR-3(017)-Year 11, Project Code: RPPF-01-01, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 30, 2003.

Herr, J.E., Rohde, J.R., Sicking, D.L., Reid, J.D., Faller, R.K., Holloway, J.C., Coon, B.A., and Polivka, K.A., ***Development of Standards for Placement of Steel Guardrail Posts in Rock***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-119-03, Project No. SPR-3(017)-Year 9, Project Code: RPPF-99-01(a), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 30, 2003.

Bielenberg, B.W., Faller, R.K., Reid, J.D., Holloway, J.C., Rohde, J.R., Sicking, D.L., and Coon, B.A., ***Impact Analysis of Three Concrete Beam Specimens***, Final Report to APTEK, Inc., Transportation Research Report No. TRP-03-130-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 25, 2003.

Bielenberg, B.W. and Faller, R.K., ***Performance Analysis of Welch Products Recycled rubber Spacer Blocks***, Final Report to the Midwest State's Regional Pooled Fund Program and Welch Products, Inc., Transportation Research Report No. TRP-03-132-03, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 16, 2003.

Polivka, K.A., Faller, R.K., Ritter, M.A., Rosson, B.T., Rohde, J.R., and Keller, E.A., ***Two Test Level 2 Bridge Railing and Transition Systems for Transverse Glue-Laminated Timber Decks***, Draft Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Report No. TRP-03-125-03, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, March 11, 2003.

Keller, E.A., Sicking, D.L., Faller, R.K., Polivka, K.A., and Rohde, J.R., ***Guidelines for Attachments to Bridge Rails and Median Barriers***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-98-03, Project No. SPR-3(017)-Year 9, Project Code: RPPF-99-06, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 26, 2003.

Hiser, N.R., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Polivka, K.A., ***Bridge Rails and Transitions for Pedestrian Protection***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-127-03, Project No. SPR-3(017)-Year 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 20, 2003.

Paulsen, T.J., Sicking, D.L., and Holloway, J.C., ***Embankment Widening and Slopes Required for Gating Type End Terminals***, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-126-03, Project No. SPR-3(017)-Year 9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 7, 2003.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Safety Performance Evaluation of Michigan=s Temporary Traffic Control Devices***, Final Report to the Michigan Department of Transportation, Transportation Research Report No. TRP-03-128-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 27, 2003.

Polivka, K.A., Faller, R.K., Holloway, J.C., and Rohde, J.R., ***Safety Performance Evaluation of Minnesota=s Low-Height, Temporary Rigid Panel Sign Stand***, Final Report to the Midwest State=s

Updated: 5/3/2021

Regional Pooled Fund Program, Transportation Research Report No. TRP-03-129-03, Project No. SPR-3(017)-Year 12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 23, 2003.

2002

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of the BEAT Bridge Pier Protection System**, Final Report to Safety By Design Company, Inc., Transportation Research Report No. TRP-03-123-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 19, 2002.

Fating, R.M. and Reid, J.D., **Dynamic Impact Testing of S75x8.5 Steel Posts (Cable Guardrail Posts)**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-117-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 15, 2002.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Holloway, J.C., **NCHRP 350 Development and Testing of a Guardrail Connection to Low-Fill Culverts**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-114-02, Project No. SPR-3(017)-Year 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 1, 2002.

Nelson, R.M., Sicking, D.L., and Polivka, K.A., **Analysis of Sign Attachments to Breakaway Luminaire Supports**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-122-02, Project No. SPR-3(017)-Year 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 23, 2002.

Reid, J.D., and Coon, B.A., **Analysis of LS-DYNA Material No. 147 APTEK - FHWA Soil Model**, Final Report to APTEK, Inc., Transportation Research Report No. TRP-03-124-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 25, 2002.

Reid, J.D., Faller, R.K., Bielenberg, B.W., and Paulsen, T.J., **Analysis of LS-DYNA Material No. 143 APTEK Orthotropic Wood**, Final Report to APTEK, Inc., Transportation Research Report No. TRP-03-121-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 26, 2002.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Holloway, J.C., **Development of a Low-Profile Bridge Rail for Test Level 2 Applications**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-109-02, Project No. SPR-3(017)-Year 11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 20, 2002.

Bielenberg, B.W., Faller, R.K., Reid, J.D., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Development of a Tie-Down System for Temporary Concrete Barriers**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-115-02, Project No. SPR-3(017)-Year 9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 16, 2002.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of Plastic Safety System=s Work Zone Devices**, Final Report to Plastic Safety Systems, Inc., Transportation Research Report No. TRP-03-108-01, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 7, 2002.

Coon, B.A., Faller, R.K., and Reid, J.D., **Cable Barrier Literature Review**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-118-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 10, 2002.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of the BEAT Trailer-Mounted Attenuator**, Final Report to Safety By Design Company, Inc., Transportation Research Report No. TRP-03-116-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 20, 2002.

Updated: 5/3/2021

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Crash Tests of Work Zone Traffic Control Devices - Phase VI***, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-112-01, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 20, 2002.

Polivka, K.A., Faller, R.K., Ritter, M.A., Rosson, B.T., Fowler, M.D., and Keller, E.A., ***Two Test Level 4 Bridge Railing and Transition Systems for Transverse Glue-Laminated Timber Decks***, Draft Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Report No. TRP-03-71-01, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, January 30, 2002.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Safety Performance Evaluation of Minnesota's Aluminum WorkZone Signs***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-107-01, Project No. SPR-3(017)-Year 11, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 29, 2002.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Reid, J.D., Rohde, J.R., and Sicking, D.L., ***Safety Performance Evaluation of a Single-Sided Crash Cushion***, Final Report to Safety By Design Company, Inc., Transportation Research Report No. TRP-03-111-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 7, 2002.

2001

Polivka, K.A., Rohde, J.R., Reid, J.D., Sicking, D.L., Faller, R.K., and Holloway, J.C., ***Evaluation of the Box-Beam Burster Energy-Absorbing Terminal - Median Barrier Terminal (BEAT-MT)***, Final Report to Safety By Design Company, Inc., Transportation Research Report No. TRP-03-110-01, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 14, 2001.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Holloway, J.C., ***Guardrail and Guardrail Terminals Installed Over Curbs - Phase II***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-105-00, Project No. SPR-3(017)-Year 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 5, 2001.

2000

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of the PST-III Portable Type III Barricade**, Final Report to Plastic Safety Systems, Inc., Transportation Research Report No. TRP-03-103-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 15, 2000.

Polivka, K.A., Sicking, D.L., Rohde, J.R., Faller, R.K., and Holloway, J.C., **Crash Testing of Michigan=s Type B (W-Beam) Guardrail System - Phase II**, Final Report to the Michigan Department of Transportation, Transportation Research Report No. TRP-03-104-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 13, 2000.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of Missouri=s Self-Driving Temporary Sign Stands**, Final Report to the Missouri Department of Transportation, Transportation Research Report No. TRP-03-97-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 13, 2000.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Safety Performance Evaluation of Minnesota=s Aluminum Type III Barricades**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-101-00, Project No. SPR-3(017)-Year 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 19, 2000.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Holloway, J.C., and Keller, E.A., **Development of a W-Beam Guardrail System for Use on a 2:1 Slope**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-99-00, Project No. SPR-3(017)-Years 9 & 10, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 16, 2000.

Sicking, D.L. and Keller, E.A., **Crash Testing of Box-Beam Bursting Energy-Absorbing Terminal (BEAT)**, Final Report to Safety by Design Co., Inc., Transportation Research Report No. TRP-03-106-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 22, 2000.

Polivka, K.A., Faller, R.K., Sicking, D.L., Reid, J.D., Rohde, J.R., and Holloway, J.C., **Crash Testing of Missouri=s W-Beam to Thrie Beam Transition Element**, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-94-00, Project No. SPR-3(017)-Year 9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 12, 2000.

Bielenberg, B.W., Reid, J.D., Faller, R.K., Rohde, J.R., Sicking, D.L., Keller, E.A., and Holloway, J.C., **Concept Development of a Short Radius Guardrail System for Intersecting Roadways**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-100-00, Project No. SPR-3(017)-Year 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 12, 2000.

Polivka, K.A., Faller, R.K., Ritter, M.A., and Rosson, B.T., **Development of the TBC-8000 Bridge Railing**, Draft Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Report No. TRP-03-30-93, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, September 5, 2000.

Reid, J.D., Faller, R.K., and Bielenberg, B.W., **Validation Efforts on APTEK=s New Wood Material Model Using LS-DYNA**, Draft Report to APTEK, Inc., Transportation Research Report No. TRP-03-102-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 31, 2000.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Crash Tests of Work Zone Traffic Control Devices - Phase V**, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-96-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 18, 2000.

Updated: 5/3/2021

Bielenberg, B.W., Reid, J.D., Faller, R.K., Rohde, J.R., Sicking, D.L., Keller, E.A., Holloway, J.C., and Supencheck, L., ***Phase III Development of a Bullnose Guardrail System for Median Applications***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-95-00, Project No. SPR-3(017)-Years 7 and 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1, 2000.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Crash Testing of Endurance Work Zone Signs***, Final Report to Reflexite North America and General Electric Company, Transportation Research Report No. TRP-03-93-00, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 19, 2000.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Crash Tests of Work Zone Traffic Control Devices - Phase IV***, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-92-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 21, 2000.

Polivka, K.A., Faller, R.K., Reid, J.D., Sicking, D.L., Rohde, J.R., Keller, E.A., and Holloway, J.C., ***Development of an Approach Guardrail Transition Attached to a Thrie Beam and Channel Bridge Railing***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-91-99, Project No. SPR-3(017)-Year 6, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 21, 2000.

Polivka, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., and Holloway, J.C., ***Guardrail and Guardrail Terminals Installed Over Curbs***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-83-99, Project No. SPR-3(017)-Year 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 21, 2000.

Wolford, D.F., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Review of Safety Standards for the Midwest States Regional Pooled Fund Program Part V: Bridge Rails and Permanent Barriers***, MwRSF Internal Draft Only - Not Submitted, Prepared for the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-67.5-00, Project No. SPR-3(017), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 4, 2000.

1999

Polivka, K.A., Sicking, D.L., Rohde, J.R., Faller, R.K., and Holloway, J.C., **Crash Testing of Michigan=s Type B (W-Beam) Guardrail System**, Final Report to the Michigan Department of Transportation, Transportation Research Report No. TRP-03-90-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 10, 1999.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Evaluation of Temporary Sign Stands and Flag Systems - Phase I**, Final Report to Lang Products International, Transportation Research Report No. TRP-03-82-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1, 1999.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Rohde, J.R., Pfeifer, B.G., Wolford, D.L., and Sicking, D.L., **Review of Safety Standards for the Midwest States Regional Pooled Fund Program Part III: Temporary Barriers**, MwRSF Internal Draft Only - Not Submitted, Prepared for the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-67.3-99, Project No. SPR-3(017), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 1999.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Rohde, J.R., Pfeifer, B.G., Wolford, D.L., and Sicking, D.L., **Review of Safety Standards for the Midwest States Regional Pooled Fund Program Part II: Bullnose and Short-Radius Guardrail**, MwRSF Internal Draft Only - Not Submitted, Prepared for the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-67.2-99, Project No. SPR-3(017), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1999.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Crash Testing of MDI=s Portable Work Zone Signs - 1999 - Phase I**, Final Report to Marketing Displays International, Transportation Research Report No. TRP-03-89-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 16, 1999.

Polivka, K.A., Bielenberg, B.W., Sicking, D.L., Faller, R.K., Rohde, J.R., and Keller, E.A., **Development of a 7.62-m Long Span Guardrail System - Phase II**, Final Report to the Midwest State=s Regional Pooled Fund Program, Transportation Research Report No. TRP-03-88-99, Project No. SPR-3(017)-Year 9, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 13, 1999.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., **Crash Tests of Work Zone Traffic Control Devices - Phase III**, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-87-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 27, 1999.

Polivka, K.A., Faller, R.K., Rohde, J.R., Holloway, J.C., and Sicking, D.L., **Compliance Testing of Iowa=s Skid-Mounted Sign Device**, Final Report to the Iowa Department of Transportation, Transportation Research Report No. TRP-03-86-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 23, 1999.

Coon, B.A., Reid, J.D., and Rohde, J.R., **Dynamic Impact Testing of Guardrail Posts Embedded in Soil**, Final Report to the Federal Highway Administration, Transportation Research Report No. TRP-03-77-98, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 21, 1999.

Sicking, D.L., and Keller, E.A., **Full-Scale Crash Evaluation of Steel Post SKT-350 Terminal**, Final Report to Road Systems Inc., Transportation Research Report No. TRP-03-##-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 30, 1999.

Faller, R.K., and Sicking, D.L., **Critical Impact Points for Crash Testing Transitions**, FHWA Report No. DTFH61-98-P-00287, Draft Report to the Federal Highway Administration, Transportation Research

Updated: 5/3/2021

Report No. TRP-03-84-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 16, 1999.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Crash Tests of Work Zone Traffic Control Devices - Phase II***, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-81-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 6, 1999.

Polivka, K.A., Bielenberg, B.W., Sicking, D.L., Faller, R.K., and Rohde, J.R., ***Development of a 7.62-m Long Span Guardrail System***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-72-99, Project No. SPR-3(017)-Year 7, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 6, 1999.

Bielenberg, B.W., Faller, R.K., Holloway, J.C., Rohde, J.R., Pfeifer, B.G., Wolford, D.L., Sicking, D.L., and Keller, E.A., ***Review of Safety Standards for the Midwest States Regional Pooled Fund Program Part I: Guardrail to Bridge Rail Transitions***, MwRSF Internal Draft Only - Not Submitted, Prepared for the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-67.1-99, Project No. SPR-3(017), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 30, 1999.

Sicking, D.L., and Keller, E.A., ***Full-Scale Crash Evaluation of TL-2 Flared Energy Absorbing Terminal (FLEAT-TL2)***, Final Report to Road Systems Inc., Transportation Research Report No. TRP-03-85-99, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 30, 1999.

1998

Bielenberg, B.W., Reid, J.D., Faller, R.K., Rohde, J.R., Sicking, D.L., Keller, E.A., and Holloway, J.C., ***Phase II Development of a Bullnose Guardrail System for Median Applications***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-78-98, Project No. SPR-3(017)-Years 7 and 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 18, 1998.

Polivka, K.A., Faller, R.K., Holloway, J.C., Rohde, J.R., and Sicking, D.L., ***Crash Tests of Work Zone Traffic Control Devices***, Final Report to Dicke Tool Company, Transportation Research Report No. TRP-03-79-98, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 7, 1998.

Faller, R.K., Sicking, D.L., Rohde, J.R., Holloway, J.C., Keller, E.A., and Reid, J.D., ***Crash Testing of South Dakota's Cable Guardrail to W-Beam Transition***, South Dakota Report No. SD98-16, Final Report to the South Dakota Department of Transportation, Transportation Research Report No. TRP-03-80-98, Project No. SPR-3(017), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 4, 1998.

Polivka, K.A., Faller, R.K., Keller, E.A., Sicking, D.L., Rohde, J.R., and Holloway, J.C., ***Design and Evaluation of the TL-4 Minnesota Combination Traffic/Bicycle Bridge Rail***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-74-98, Project No. SPR-3(017)-Year 6, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 30, 1998.

Sicking, D.L., ***Traffic Barrier Evaluation for the Desert Test Track (Draft letter report)***, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, August 21, 1998.

Sicking, D.L., and Keller, E.A., ***Full-Scale Crash Evaluation of a Flared Energy Absorbing Terminal (FLEAT-350): NCHRP Test 3-31 - MwRSF Test No. FLEAT-3***, Final Report to Road Systems, Inc., Transportation Research Report No. TRP-03-76-98, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, July 15, 1998.

Sicking, D.L., and Keller, E.A., ***Full-Scale Crash Evaluation of a Flared Energy Absorbing Terminal (FLEAT-350): NCHRP Test 3-31 - MwRSF Test No. FLEAT-2***, Final Report to Road Systems, Inc., Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 14, 1998.

Sicking, D.L., Rohde, J.R., Reid, J.D., and Keller, E.A., ***Fleet Report No. 1***, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, 1998.

Bielenberg, B.W., Faller, R.K., Reid, J.D., Rohde, J.R., Sicking, D.L., and Keller, E.A., ***Concept Development of a Bullnose Guardrail System for Median Applications***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-73-98, Project No. SPR-3(017)-Year 7, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 22, 1998.

Pfeifer, B.G., Faller, R.K., and Reid, J.D., ***NCHRP Report 350 Evaluation of the Nebraska Thrie Beam Transition***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-70-98, Project No. SPR-PL-1(34) P500, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 1998.

Faller, R.K., Reid, J.D., Rohde, J.R., Sicking, D.L., and Keller, E.A., ***Two Approach Guardrail Transitions for Concrete Safety Shape Barriers***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-69-98, Project No. SPR-3(017)-Year 6, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 15, 1998.

Updated: 5/3/2021

Vogel, J.C., Faller, R.K., Reid, J.D., and Sicking, D.L., ***A Review of Breakaway Supports for Small Signs and Mailbox Installations***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-68-98, Project No. SPR-3(017)-Year 6, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 23, 1998.

Sicking, D.L., ***Design of Traffic Barrier for Milford Test Track (Draft Letter Report)***, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 24, 1998.

Addink, K.H., Pfeifer, B.G., and Rohde, J.R., ***Development of a Temporary Barrier System for Off-Road Applications***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-66-98, Project No. SPR-3(17)-Year 5, Midwest Roadside Safety Facility, University of Nebraska- Lincoln, March 1998.

1997

Wolford, D.F., and Sicking, D.L., ***Guardrail Need for Embankments and Culverts***, FHWA NE-94-9, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-65-97, Project No. SPR-PL-1(31) P478, Civil Engineering Department, University of Nebraska-Lincoln, June 1997.

Sicking, D.L., Rohde, J.R., and Reid, J.D., ***Development of a New Guardrail System***, Interim Report to Buffalo Specialty Products, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 15, 1997.

Pfeifer, B.G., Reid, J.D., and Brar, B.S., ***Development of an Effective Flared Guardrail Terminal***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-56-96, Project No. SPR-3(17)-Year 5, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1997.

Faller, R.K., and Rosson, B.T., ***Development of a Flexible Bridge Railing for Longitudinal Timber Decks***, Draft Report to the United States Department of Agriculture-Forest Service-Forest Products Laboratory, Transportation Report No. TRP-03-62-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1997.

1996

Pfeifer, B.G., Sicking, D.L., and Rohde, J.R., ***NCHRP Report 350 Compliance Testing of the BEST System***, Final Report to Interstate Steel Company, Transportation Research Report No. TRP-03-63-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1996.

Holloway, J.C., Bierman, M.G., Pfeifer, B.G., Rosson, B.T., and Sicking, D.L., ***Performance Evaluation of KDOT W-Beam Systems - Volume II: Component Testing and Computer Simulation***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-39-96, Project No. SPR-3(17), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 1996.

Faller, R.K., Rohde, J.R., Rosson, B.T., Smith, R.P., and Addink, K.H., ***Development of a TL-3 F-Shape Temporary Concrete Median Barrier***, Final Report to the Iowa Department of Transportation, Project SPR-3(017), Transportation Report No. TRP-03-64-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1996.

Pfeifer, B.P., Sicking, D.L., Reid, J.D., and Faller, R.K., ***Development of a Test Level 3 Guardrail System***, Draft Report, Transportation Research Report TRP-03-58-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, 1996.

Sicking, D.L., and Wolford, D.F., ***Development of Guardrail Runout Length Calculation Procedures***, Report No. FHWA-NE-94-8, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-57-96, Project No. SPR-PL-1(31) P479, Civil Engineering Department, University of Nebraska-Lincoln, May 1996.

Faller, R.K., Rosson, B.T., and Fowler, M.D., ***Top-Mounted W-Beam Bridge Railing for Longitudinal Glulam Timber Decks Located on Low-Volume Roads***, Draft Report to the United States Department of Agriculture-Forest Service-Forest Products Laboratory, Transportation Report No. TRP-03-61-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1996.

Paulsen, G.W., Faller, R.K., and Reid, J.D., ***Design and Testing of a Breakaway Base for a Cluster Box Unit and a Neighborhood Delivery & Collection Unit***, Final Report to the United States Postal Service, Contract No. USPS 102590-95-C-2444, Transportation Report No. TRP-03-55-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 30, 1996.

Faller, R.K., Soyland, K., Rosson, B.T., and Stutzman, T.M., ***TL-1 Curb-Type Bridge Railing for Longitudinal Glulam Timber Decks Located on Low-Volume Roads***, Draft Report to the United States Department of Agriculture-Forest Service-Forest Products Laboratory, Transportation Report No. TRP-03-54-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 1996.

Pfeifer, B.G., Holloway J.C., Faller, R.K., and Rosson, B.T., ***Test Level 4 Evaluation of the Minnesota Combination Bridge Rail***, Report No. MN/RC - 96/08, Final Report to the Minnesota Department of Transportation, Project SPR-3(017), Transportation Report No. TRP-03-53-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 1996.

Pfeifer, B.P., Faller, R.K., and Holloway, J.C., ***Guardrail Testing Program II - Final Report Volume II***, Report No. FHWA-FLP-96-017, Final Report to the Federal Highway Administration, Eastern Federal Lands Highway Division, Transportation Research Report No. TRP-03-52-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1996.

Pfeifer, B.P., Faller, R.K., and Holloway, J.C., ***Guardrail Testing Program II - Final Report Volume I***, Report No. FHWA-RD-96-119, Final Report to the Federal Highway Administration, Eastern Federal Lands Highway Division, Transportation Research Report No. TRP-03-52-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1996.

Updated: 5/3/2021

Updated: 5/3/2021

Holloway, J.C., Faller, R.K., Wolford, D.L., and Sicking, D.L., ***Performance Level 2 Tests on a 29-in. Open Concrete Bridge Rail***, Final Report to the Nebraska Department of Roads, Project SPR-3(017), Transportation Report No. TRP-03-51-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1996.

Holloway, J.C., Bierman, M.G., Pfeifer, B.G., Rosson, B.T., and Sicking, D.L., ***Performance Evaluation of KDOT W-Beam Systems - Volume I: Full-Scale Crash Testing***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-39-96, Project No. SPR-3(17), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 1996.

1995

Pfeifer, B.P., and Faller, R.K., ***Safety Performance Evaluation of the Steel Backed Wood Rail to Bridge Rail Transition***, Draft Report to the Federal Highway Administration, Eastern Federal Lands Highway Division, Transportation Research Report No. TRP-03-49-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1995.

Paulsen, G.W., Pfeifer, B.G., Holloway, J.C., and Reid, J.D., ***Design and Testing of a Dual Support Breakaway Sign, Final Report to the Missouri Highway and Transportation Department***, Transportation Research Report No. TRP-03-48-95, Project No. SPR-3(17), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 6, 1995.

Soyland, K., Faller, R.K., Sicking, D.L., and Holloway, J.C., ***Development and Testing of an Approach Guardrail Transition to a Single Slope Concrete Median Barrier***, Final Report to the Missouri Highway and Transportation Department, Project SPR-3(017), Transportation Report No. TRP-03-47-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 1995.

Sicking, D.L., and Pfeifer, B.G., ***Evaluation of the Impact Behavior of Wood Luminaire Supports and Utility Poles***, Final Report to the Minnesota Department of Transportation, Transportation Research Report No. TRP-03-46-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1995.

Pfeifer, B.P., Whitehead, D.E., and Faller, R.K., ***Safety Performance Evaluation of the George Washington Memorial Parkway Bridge Rail***, Draft Report to the Federal Highway Administration, Eastern Federal Lands Highway Division, Transportation Research Report No. TRP-03-45-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1995.

Paulsen, G.W., Reid, J.D., Faller, R.K., and Sicking, D.L., ***Concept Design and Analysis of Nebraska Turned-Down Approach Terminal Sections***, Final Report to the Nebraska Department of Roads, Project HPR-3 (017), Transportation Research Report No. TRP-03-45-95, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 1995.

Holloway, J.C., Rosson, B.T., and Faller, R.K., ***Crash Testing of Standard South Dakota Road Closure Gates***, Final Report to the South Dakota Department of Transportation, Project SPR-3 (017), Report Nos. SD94-10-F and TRP-03-44-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 1995.

Holloway, J.C., and Reid, J.D., ***Performance Evaluation of a Dual Support Sign with Ground Mounted Pipe Posts and Multi-Directional Slip Bases***, Final Report to the Missouri Highway and Transportation Department, Transportation Research Report No. TRP-03-50-95, Project No. SPR-3(17), Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 20, 1995.

Rohde, J., Reid, J., and Sicking, D., ***Evaluation of the Effect of Wood Quality on W-beam Guardrail Performance***, Final Report to the Nebraska Department of Roads, Project No. AFE Z322, Transportation Research Report No. TRP-03-60-96, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 28, 1995.

1994

Faller, R.K., Sicking, D.L., Rosson, B.T., Pfeifer, B.G., and Holloway, J.C., ***Dynamic Evaluation of Missouri's Modified Bridge Anchor Section***, Final Report to the Missouri Highway and Transportation Department, Project RES1 (0099) P473, Transportation Research Report No. TRP-03-38-93, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 1994.

Holloway, J.C., Sicking, D.L., and Rosson, B.T., ***Performance Evaluation of NDOR Mountable Curbs***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-37-94, Project No. RES1(0099) P464, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1994.

Holloway, J.C., and Rosson, B.T., ***Performance Evaluation of Missouri's 6-in. Barrier Curb Under W-Beam Guardrail***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-40-94, Project No. RES1(0099) P473, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, April 1994.

Pfeifer, B.P., and Faller, R.K., ***Safety Performance Evaluation of the Foothills Parkway Bridge Rail***, Draft Report submitted to the Federal Highway Administration - Eastern Federal Lands Highway Division, FHWA Contract No. DTFH71-90-C-00035, Report No. TRP-03-41-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 1994.

Pfeifer, B.G., Rosson, B.T., and Sicking, D.L., ***Safety Evaluation of 3M Lighted Guidance Tubes***, Final Report to 3M Corporation, Transportation Research Report No. TRP-03-42-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 1994.

Whitehead, D.E., Holloway, J.C., and Faller, R.K., ***Dynamic Testing of a 2-Bay GREAT Attenuator With Prow Covers for Use at the Holland Tunnel Toll Plaza***, Final Report to the Port Authority of New York and New Jersey, Transportation Research Report No. TRP-03-42-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1994.

Pfeifer, B.G., and Sicking, D.L., ***Development of a Metal Cutting W-Beam Guardrail Terminal***, Final Report to Interstate Steel Company, Transportation Research Report No. TRP-03-43-94, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 1994.

1993

Shane, D.T., ***Development of a Connection Detail for Polyethylene, Segmental Temporary Barriers***, Final Report to Ultra Barrier, Inc., Midwest Roadside Safety Facility, University of Nebraska-Lincoln, September 27, 1993.

Pfeifer, B.G., and Luedke, J.K., ***Safety Performance Evaluation of a Nested W-Beam with Half-Post Spacing Over a Low-Fill Culvert***, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-36-92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 1993.

Ritter, M.A., Faller, R.K., Sicking, D.L., and Bunnell, S., ***Development of Low-Volume Curb-Type Bridge Railings for Timber Bridge Decks***, Draft Report to the United States Department of Agriculture-Forest Service-Forest Products Laboratory, Transportation Report No. TRP-03-31-93, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1993.

Pfeifer, B.G., ***Safety Performance Evaluation of a Modified Perforated Tension Fuse Plate for Dual Support Breakaway Signs***, Final Report to the Missouri Highway and Transportation Department, Transportation Research Report No. TRP-03-33-92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, March 1993.

1992

Faller, R.K., Holloway, J.C., Pfeifer, B.G., and Luedke, J.K., ***AASHTO PL-1 Performance Level Crash Tests on the Natchez Trace Parkway Bridge Rail***, Draft Report submitted to the Federal Highway Administration - Eastern Federal Lands Highway Division, FHWA Contract No. DTFH71-90-C-00035, Transportation Research Report No. TRP-03-34-92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 1992.

Faller, R.K., Holloway, J.C., Rosson, B.T., Pfeifer, B.G., and Luedke, J.K., ***Safety Performance Evaluation on the Nebraska Turned-Down Approach Terminal Section***, Final Report to the Nebraska Department of Roads, Project RES1 (0099) P464, Transportation Research Report No. TRP-03-32-92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 1992.

Pfeifer, B.P., Holloway, J.C., Faller, R.K., and Luedke, J.K., ***Safety Performance Evaluation of the Steel-Backed Log Rail***, Draft Report submitted to the Federal Highway Administration - Eastern Federal Lands Highway Division, FHWA Contract No. DTFH71-90-C-00035, Transportation Research Report No. TRP-03-35-92, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 1992.

Ritter, M.A., Faller, R.K., Holloway, J.C., Pfeifer, B.G., and Rosson, B.T., ***Development and Testing of Bridge Railings for Longitudinal Timber Decks by Full-Scale Crash Testing***, Draft Report to the U.S. Department of Agriculture, Forest Service, Forest Products Laboratory, Transportation Research Report No. TRP-03-29-94, Civil Engineering Department, University of Nebraska-Lincoln, August 1992.

Faller, R.K., Holloway, J.C., Pfeifer, B.G., and Rosson, B.T., ***Performance Level 1 Tests on the Nebraska Open Concrete Bridge Rail***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-28-91, Civil Engineering Department, University of Nebraska-Lincoln, Lincoln, February 1992.

1991

Holloway, J.C., Faller, R.K., Pfeifer, B.G., and Post, E.R., ***Performance Level 2 Tests on the Missouri 30-in. New Jersey Safety Shape Bridge Rail***, Final Report to the Missouri Highway and Transportation Department, Transportation Research Report No. TRP-03-27-91, Civil Engineering Department, University of Nebraska-Lincoln, November 1991.

Holloway, J.C., Faller, R.K., Pfeifer, B.G., and Post, E.R., ***Full-Scale 18,000-lb Vehicle Crash Test on the Kansas 32 Inch Corral Rail***, Final Report to the Kansas Department of Transportation, Report No. TRP-03-26-91, Project RES1 (0099) P450, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, June 1991.

Pfeifer, B.G., Faller, R.K., Holloway, J.C., and Post, E.R., ***Full-Scale 1,800 lb. Vehicle Crash Tests on a 4-Bolt Breakaway Slipbase Design***, Final Report to the Utah Department of Transportation, Transportation Research Report No. TRP-03-25-91, Project RES1 (0099) P452, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, August 1991.

Pfeifer, B.G., Faller, R.K., Atallah, S., Holloway, J.C., and Post, E.R., ***Full-Scale 4,500-lb Vehicle Crash Test on the Permanent Precast Concrete Median Barrier***, Final Report to the Kansas Department of Transportation, Report No. TRP-03-24-90, Project RES1 (0099) P451, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, March 1991.

Pfeifer, B.G., Faller, R.K., Atallah, S., Holloway, J.C., and Post, E.R., ***Full-Scale 1,800-lb Vehicle Crash Test on the Iowa W-Beam Approach Guardrail to the Concrete Safety Shape Bridge Rail***, Final Report to the Iowa Department of Transportation, Report No. TRP-03-23-90, Civil Engineering Department, University of Nebraska-Lincoln, February 1991.

Faller, R.K., Post, E.R., Gunderson, F., Holloway, J.C., and Atallah, S., ***Economic and Safety Considerations for Establishing Minimum Lateral Obstacle Clearance Policies for Utility Facilities in Nebraska Urban and Suburban Areas***, Final Report to the Nebraska Department of Roads, Transportation Research Report No. TRP-03-22-90, Project RES1 (0099) P438, Midwest Roadside Safety Facility, Civil Engineering Department, University of Nebraska-Lincoln, December 1991.

1990

Faller, R.K., Atallah, S., Pfeifer, B.G., Holloway, J.C., and Post, E.R., ***Full-Scale 5,400-lb Vehicle Crash Test on the Iowa W-Beam Approach Guardrail to the Concrete Safety Shape Bridge Rail***, Final Report to the Iowa Department of Transportation, Report No. TRP-03-21-90, Civil Engineering Department, University of Nebraska-Lincoln, January 1990.

Pfeifer, B.G., Holloway, J.C., Faller, R.K., and Post, E.R., ***Full-Scale 18,000 lb. Vehicle Crash Test on the Iowa Retrofit Concrete Barrier Rail***, Final Report to the Iowa Department of Transportation, Report No. TRP-03-19-90, Civil Engineering Department, University of Nebraska-Lincoln, January 1990.

1989

Faller, R.K., Post, E.R., Pfeifer, B.G., and Holloway, J.C. ***Full-Scale Vehicle Crash Test on the Iowa Steel Temporary Barrier Rail***, Final Report to the Iowa Department of Transportation, Report No. TRP-03-20-89, Civil Engineering Department, University of Nebraska-Lincoln, December 1989.

Pfeifer, B.G., Magdaleno, J.A., Faller, R.K., and Post, E.R., ***Static Tests on Collapsing Guardrail Designs***, Final Report to the Nebraska Department of Roads, Report No. TRP-03-18-89, Project RES1 (0099) P432, Civil Engineering Department, University of Nebraska-Lincoln, July 1989.

Magdaleno, J.A., Faller, R.K., and Post, E.R., ***Full-Scale Vehicular Crash Testing of Experimental Signs on Barricade Structures***, Final Report to New Jersey Department of Transportation, Transportation Research Report No. TRP-03-17-88, Civil Engineering Department, University of Nebraska- Lincoln, June 1989.

Magdaleno, J.A., Faller, R.K., and Post, E.R., ***Full-Scale Vehicle Crash Test on Nebraska Bridge Rail Barrier with a Modified New Jersey Shape***, Final Report to Nebraska Department of Roads, Transportation Research Report No. TRP-03-16-89, Project RES1 (0099) P426, Civil Engineering Department, University of Nebraska-Lincoln, March 1989.

Faller, R.K., Magdaleno, J.A., and Post, E.R., ***Full-Scale Vehicle Crash Tests on the Iowa Retrofit Concrete Barrier Rail***, Final Report to Iowa Department of Transportation, Transportation Research Report No. TRP-03-15-88, Civil Engineering Department, University of Nebraska-Lincoln, January 1989.

1988

Faller, R.K., Magdaleno, J.A., and Post, E.R., ***Full-Scale Vehicle Crash Test on the Iowa Temporary Concrete Barrier Rail Half-Section***, Final Report to Iowa Department of Transportation, Transportation Research Report No. TRP-03-14-88, Civil Engineering Department, University of Nebraska-Lincoln, December 1988.

Faller, R.K., Magdaleno, J.A., and Post, E.R., ***Full-Scale Vehicle Crash Tests on the Iowa Box-Aluminum Bridge Rail***, Final Report to Iowa Department of Transportation, Transportation Research Report No. TRP-03-13-88, Civil Engineering Department, University of Nebraska-Lincoln, November 1988.

Post, E.R., Tuan, C.Y., and Atallah, S., ***Comparative Study of Kansas and FHWA Guardrail Transition Designs Using BARRIER VII Computer Simulation Model***, Final Report to Kansas Department of Transportation, Transportation Research Report No. TRP-03-12-88, Civil Engineering Department, University of Nebraska-Lincoln, October 12, 1988.

Post, E.R., Faller, R.K., and Magdaleno, J.A., ***Full-Scale Minicompact Vehicle Tests on Telespar Sign Supports in Strong and Weak Soils (Addendum)***, Final Report to Unistrut Corporation, Transportation Research Report No. TRP-03-11-88, Civil Engineering Department, University of Nebraska-Lincoln, September 1988.

Magdaleno, J.A., Faller, R.K., Kittrell, K.R., and Post, E.R., ***Full-Scale Crash Tests on Plastic Drums with Type III Object Markers***, Final Report to Missouri Highway and Transportation Commission, Report No. 87-2, Civil Engineering Department, University of Nebraska-Lincoln, April 1988.

1987

Post, E.R., Faller, R.K., and Magdaleno, J.A., ***Full-Scale Minicompact Vehicle Tests on Telespar Sign Supports in Strong and Weak Soils***, Final Report to Unistrut Corporation, Transportation Research Report No. TRP-03-10-87, Civil Engineering Department, University of Nebraska-Lincoln, August 1987.

Faller, R.K., Magdaleno, J.A., Warlick, B.A., Wendling, W.H., and Post, E.R., ***Full-Scale Vehicle Crash Tests on Nebraska Rural Mailbox Designs***, Final Report to Nebraska Department of Roads, RESI (0099) P415, Transportation Research Report No. TRP-03-09-87, Civil Engineering Department, University of Nebraska-Lincoln, August 1987.

Post, E.R., ***Full-Scale Vehicle Crash Tests on Guardrail-Bridgerail Transition Designs with Special Post Spacing***, Final Report to the Nebraska Department of Roads, NE-DOR-R87-2, Transportation Research Report No. TRP-03-08-87, Civil Engineering Department, University of Nebraska-Lincoln, May 1987.

Updated: 5/3/2021

1983

Post, E.R., McCoy, P.T., Wipf, T.J., and Bolton, R.W., *Feasibility Study of Retrofitting Concrete Median Barriers*, DOT/RSPA/DMA-50/83-33, Final Report to the Office of University Research, U.S. Department of Transportation, Civil Engineering Department, University of Nebraska-Lincoln, May 1983.

1982

Post, E.R., and Chastain, P.A., ***Cost-Effectiveness Comparison of Cable Guardrail Vs. W-Beam Guardrail***, Final Report to Nebraska Department of Roads, Transportation Research Report No. TRP-03-07-82, Civil Engineering Department, University of Nebraska-Lincoln, August 1982.

Post, E.R., Wipf, T.J., Bolton, R.W., and P.A. Chastain, ***Static and Full-Scale Vehicle Crash Tests of a Breakaway Wooden Utility Pole***, Final Report to the Office of Research and Development, Federal Highway Administration, Transportation Research Report No. TRP-03-07-80, Civil Engineering Department, University of Nebraska-Lincoln, January 1982.

1980

Post, E.R., and McCoy, P.T., ***Feasibility Study of Retrofitting Concrete Median Barriers***, Final Report to the Office of University Research, U.S. Department of Transportation, Transportation Research Report No. TRP-03-06-80, Civil Engineering Department, University of Nebraska-Lincoln, May 30, 1980.

Post, E.R., McCoy, P.T., Ruby, R.J., Chastain, P.A., and Rupp, S.S., ***Guardrail Utilization: A Cost-Effectiveness Computer Program to Evaluate W-Beam Guardrail on Fill Slopes***, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-04-79, Civil Engineering Department, University of Nebraska-Lincoln, June 1980.

1979

Post, E.R., McCoy, P.T., Wipf, T.J., Bolton, R.W., and Mohaddess, A., ***Feasibility Study of Breakaway Stub Concept for Wooden Utility Poles***, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-05-79, Civil Engineering Department, University of Nebraska-Lincoln, December 1979.

Post, E.R., McCoy, P.T., Wipf, T.J., Bolton, R.W., and Mohaddess, A., ***Feasibility Study of Breakaway Stub Concept for Wooden Utility Poles***, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-04-79, Civil Engineering Department, University of Nebraska-Lincoln, October 1979.

Post, E.R., Ruby, R.J., McCoy, P.T., and Wipf, T.J., ***Cost-Effectiveness of Guardrail-Bridgerail Transition Improvements: Double W-beam Versus Decreased Post Spacing***, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-03-79, Civil Engineering Department, University of Nebraska-Lincoln, August 1979.

1978

Post, E.R., McCoy, P.T., Witt, W.E., Wipf, T.J., and Chastain, P.A., *Cost-Effectiveness of Guardrail Improvements for Protecting Bridge Piers in Depressed Medians on Horizontal Curves*, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-02-78, Civil Engineering Department, University of Nebraska-Lincoln, August 1978.

1977

Post, E.R., Ruby, R.J., McCoy, P.T., and Coolidge, D.O., ***Cost-Effectiveness of Driveway Slope Improvements***, Final Report to the Engineering Research Center, College of Engineering and Technology, University of Nebraska-Lincoln, Transportation Research Report No. TRP-03-01-77, Civil Engineering Department, University of Nebraska-Lincoln, August 1977.