

Curriculum Vitae

KARLA A. LECHTENBERG

Midwest Roadside Safety Facility
University of Nebraska-Lincoln
130 Whittier Research Center
2200 Vine Street
Lincoln, Nebraska 68583-0853
Phone: (402) 472-9070
Fax: (402) 472-2022
Email: kpolivka2@unl.edu

1 Education and Employment History

1.1 Education History

Doctor of Philosophy, Mechanical Engineering, University of Nebraska-Lincoln, In progress
Dissertation – To be determined

Master of Science, Mechanical Engineering, University of Nebraska-Lincoln, May 2001
Thesis: *Crash Testing and Analysis of Work Zone Traffic Control Devices*

Bachelor of Science, Mechanical Engineering, University of Nebraska-Lincoln, May 1996

1.2 Employment History

Research Associate Engineer, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 1999 - Present
Graduate Research Assistant, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, January 1998 - October 1999
Graduate Research Assistant, Mechanical Engineering Department, University of Nebraska-Lincoln, August 1996 - January 1998

2 Research Accomplishments

2.1 Publication Record

2.1.1 Peer-Reviewed Journal Publications (In print)

20. Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., Reid, J.D., and Lechtenberg, K.A, *Transition of Temporary Concrete Barrier*, Journal of Transportation Safety & Security, Taylor & Francis, Volume 4, Number 2, April 2012, pages 137-159.
19. Lechtenberg, K.A., Mongiardini, M., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., and de Albuquerque, F.D.B., *Development and Implementation of the Simplified Midwest Guardrail System Stiffness Transition*, Paper No. 12-3367, Transportation Research Record No. 2309, **Best Paper Award** – TRB AFB20 Committee on Roadside Safety Design, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2012.
18. Bielenberg, R.W., Arens, S., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., and Reid, J.D., *Development of Universal Breakaway Steel Post for Bullnose Median Barrier*, Paper No. 12-3604, Transportation Research Record No. 2309, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2012.
17. Schmidt, J.D., Faller, R.K., Lechtenberg, K.A., and Sicking, D.L., Analysis of Existing Work-Zone Sign Supports Using Manual for Assessing Safety Hardware Safety Performance Criteria, Journal of Transportation Safety & Security, Taylor & Francis, Volume 3, Number 4, December 2011, pages 237-251.
16. Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., Reid, J.D., and Lechtenberg, K.A., *Termination and Anchorage of*

Temporary Concrete Barrier, Journal of Transportation Safety & Security, Taylor & Francis, Volume 3, Number 3, September 2011, pages 189-206.

15. de Albuquerque, F.D.B., Sicking, D.L., Faller, R.K., and Lechtenberg, K.A., *Evaluating the Cost-Effectiveness of Roadside Culvert Treatments*, Journal of Transportation Engineering, American Society of Civil Engineering (ASCE), Volume 137, Number 12, February 2011, pages 918-925.
14. Lechtenberg, K.A., Faller, R.K., Sicking, D.L., Rohde, J.R., and Reid, J.D., *Nonblocked, Midwest Guardrail System for Wire-Faced Walls of Mechanically Stabilized Earth*, Paper No. 11-2684, Transportation Research Record No. 2262, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2011.
13. Thiele, J.C., Sicking, D.L., Lechtenberg, K.A., Reid, J.D., Faller, R.K., Bielenberg, R.W., and Rosenbaugh, S.K., *Development of Low-Cost, Energy-Absorbing Bridge Rail*, Paper No. 11-2687, Transportation Research Record No. 2262, **Best Paper Award & Practice-Ready Paper Award** – TRB AFB20 Committee on Roadside Safety Design, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2011.
12. Sicking, D.L., de Albuquerque, F.D.B., Lechtenberg, K.A., and Stolle, C.S., *Guidelines for Implementation of Cable Median Barrier*, Paper No. 09-3657, Transportation Research Record No. 2120, **Best Paper Award** – TRB AFB20 Committee on Roadside Safety Design, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2009.
11. Lechtenberg, K.A., Bielenberg, R.W., Rosenbaugh, S.K., Faller, R.K., and Sicking, D.L., *High-Performance Aesthetic Bridge Rail and Median Barrier*, Paper No. 09-3051, Transportation Research Record No. 2120, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2009.
10. Polivka, K.A., Faller, R.K., Sicking, D.L., and Bielenberg, R.W., *Midwest Guardrail System Adjacent to a 2:1 Slope*, Paper No. 08-3076, Paper No. 08-3076, Transportation Research Record No. 2060, **Best Paper Award** – TRB AFB20 Committee on Roadside Safety Design, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2008.
9. Sicking, D.L., Reid, J.D., Bielenberg, R.W., Faller, R.K., Rohde, J.R., and Polivka, K.A., *Safety Grates for Cross Drainage Culverts*, Paper No. 08-2509, Transportation Research Record No. 2060, Journal of the Transportation Research Board, Transportation Research Board, Washington, D.C., January 2008.
8. Polivka, K.A., Coon, B.A., Sicking, D.L., Faller, R.K., Bielenberg, R.W., Rohde, J.R. and Reid, J.D., *Development of the Midwest Guardrail System (MGS) W-Beam to Thrie-Beam Transition*, Paper No. 07-2628, Transportation Research Record No. 2025, Journal of the Transportation Research Board, Transportation Research Board, Washington, D.C., January 2007.
7. Faller, R.K., Sicking, D.L., Bielenberg, R.W., Rohde, J.R., Polivka, K.A., and Reid, J.D., *Performance of Steel-Post W-Beam Guardrail Systems*, Paper No. 07-2642, Transportation Research Record No. 2025, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2007.
6. Faller, R.K., Polivka, K.A., Humphries, E., Kurz, K., Sicking, D.L., and Hascall, J., *A Test Level 4 Noise Wall for Attachment to Concrete Traffic Barriers*, Paper No. 06-1784, Transportation Research Record No. 1984, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2006.
5. Faller, R.K., Polivka, K.A., Kuipers, B.D., Bielenberg, B.W., Reid, J.D., Rohde, J.R., and Sicking, D.L., *Midwest Guardrail System for Standard and Special Applications*, Paper No. 04-4778, Transportation Research Record No. 1890, **Best Paper Award** – TRB AFB20 Committee on Roadside Safety Design, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2004.
4. Polivka, K.A., Faller, R.K., and Rohde, J.R., *A Guardrail Connection for Low-Fill Culverts*, Paper No. 03-4421, Transportation Research Record No. 1851, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., January 2003.
3. Polivka, K.A., Rohde, J.R., Faller, R.K., and Sicking, D.L., *Crash Testing and Analysis of Work Zone Sign Supports*, Paper No. 02-3675, Transportation Research Record No. 1797, Journal of the Transportation Research Board,

Transportation Research Board, Washington, D.C., January 2002.

2. Polivka, K.A., Sicking, D.L., Faller, R.K., and Rohde, J.R., *A W-Beam Guardrail Adjacent to a Slope*, Paper No. 01-0343, Transportation Research Record No. 1743, Journal of the Transportation Research Board, Transportation Research Board, Washington, D.C., January 2001.
1. Faller, R.K., Sicking, D.L., Polivka, K.A., Rohde, J.R., and Bielenberg, R.W., *A Long-Span Guardrail System for Culvert Applications*, Paper No. 00-0598, Transportation Research Record No. 1720, Journal of the Transportation Research Board, Transportation Research Board, Washington, D.C., January 2000.

2.1.2 Peer-Reviewed Journal Publications (Accepted for publication with or without revision)

2. Reid, J.D., Bielenberg, R.W., Faller, R.K., and Lechtenberg, K.A., *SAFER Barrier on Temporary Concrete Barriers*, International Journal of Crashworthiness, Taylor & Francis, MS Paper No. IJCR.685R1, Accepted March 30, 2013.
1. Reid, J.D., Faller, R.K., Bielenberg, R.W., and Lechtenberg, K.A., *Midwest Guardrail System Without Blockouts*, Paper No. 13-0418, Accepted for publication and presentation to the Transportation Research Board, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington D.C., January 2013.

2.1.3 Peer-Reviewed Journal Publications (Submitted for review)

1. Schrum, K.D., Sicking, D.L., de Albuquerque, F.D.B., Lechtenberg, K.A., Faller, R.K., and Reid, J.D., *Guidelines for Crash Cushion Selection*, Submitted to the Annual Meeting of the Transportation Research Board, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington, D.C., August 2012.

2.1.4 Books and Book Chapters

None

2.1.5 Other Peer-Reviewed Conference Proceedings, Papers, and Reports

4. Lechtenberg, K.A., Schrum, K.D., Stolle, C.S., Faller, R.K., and Sicking, D.L., *Cost-Effective Safety Treatment of Trees on Low-Volume Roads*, Paper No. 13-5333, Presented at the Annual Meeting of the Transportation Research Board and Published in the Compendium of Papers CD-ROM, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington, D.C., January 2013.
3. Stolle, C.S., Bohlken, J.C., Lechtenberg, K.A., and Sicking, D.L., *Recommendations for Impact Conditions Used in Side-Impact and Non-Tracking Testing*, Paper No. 11-3806, Presented at the Annual Meeting of the Transportation Research Board and Published in the Compendium of Papers CD-ROM, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington D.C., January 2011
2. Bielenberg, R.W., Rosenbaugh, S.K., Reid, J.D., Faller, R.K., Lechtenberg, K.A., and Sicking, D.L., *Termination and Transition of Temporary Concrete Barrier*, Paper No. 10-0431, Presented at the Annual Meeting of the Transportation Research Board and Published in the Compendium of Papers CD-ROM, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington D.C., January 2010.
1. Bielenberg, R.W., Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., Polivka, K.A., and Holloway, J.C., *Initial In-Service Performance Evaluation of the SAFER Racetrack Barrier*, Paper No. 2004-01-3526, Publication No. P-392, Proceedings of the 2004 SAE Motorsports Engineering Conference and Exhibition, Dearborn, Michigan, November 30 through December 2, 2004.

2.1.6 Conference Proceedings (Other than peer reviewed)

None

2.1.7 Conference & Technical Presentations and Invited Speeches

42. *Evolution of Guardrail*, Presented at the Workshop on *Safe System Approach to Roadway Departure Crashes*,

Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Technical Committee on Roadside Safety (TCRS), Hotel Monteleone, New Orleans, Louisiana, July 7-12, 2013.

41. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Lincoln, Nebraska, April 17-19, 2013.
40. *Proposed Changes to MASH Appendix B - Soil Performance Testing*, Presented at AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Subcommittee #7: Test Facilities, Lincoln, Nebraska, April 17-19, 2013.
39. *Cost-Effective Safety Treatment of Trees on Low-Volume Roads*, Presented at the 92nd Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 15, 2013.
38. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Gettysburg, Pennsylvania, October 5, 2012.
37. *Proposed Changes to MASH Appendix B - Soil Performance Testing*, Presented at AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Subcommittee #7: Test Facilities, Gettysburg, Pennsylvania, October 4, 2012.
36. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Lincoln, Nebraska, April 18-20, 2012.
35. *MASH Soil Performance Testing Concerns*, Presented at AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Subcommittee #7: Test Facilities, Lincoln, Nebraska, April 18-20, 2012.
34. *Development and Implementation of the Simplified MGS Stiffness Transition*, Presented at the 91st Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 23, 2012.
33. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Rapid City, South Dakota, September 12-13, 2011.
32. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Cleveland, Ohio, May 25-26, 2011.
31. *Midwest States Pooled Fund Update*, Presented at the Workshop on *Roadway Departure Crashes: Bridging the Gap Between Testing and Real World Performance and Joint Meeting with AASHTO/AGC/ARTBA Task Force 13*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Task Force 13, Hyatt Regency Cleveland at The Arcade, Cleveland, Ohio, May 23-25, 2011.
30. *Physics and Math Problems in Roadside Engineering*, Co-Prepared with Cody Stolle that was presented at the UNL Professional Development Science and Math Summer Technology Institute, Lincoln, Nebraska, June 9, 2011.
29. *Roadside Safety and SAFER Barrier Research*, Presented at the Roads, Rails & Race Cars Celebration, Culler Middle School, Lincoln, Nebraska, May 9, 2011.
28. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Kansas City, Missouri, September 20-21, 2010.
27. *Research Update from MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Yountville, California, May 19-20, 2010.
26. *Midwest States Pooled Fund Update*, Presented at the Workshop on *Managing Risk of Roadway Departure Crashes and Joint Meeting with AASHTO/AGC/ARTBA Task Force 13*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Task Force 13, Napa Valley Marriott Hotel & Spa, Yountville, California, May 16-19, 2010.
25. *Bridge Rail to Guardrail Transitions*, Presented at the 89th Annual Meeting of the Transportation Research Board,

Sponsored by Subcommittee AFB20(2) – International Activities, Washington, D.C., January 11, 2010.

24. *Roadside and Motorsports Safety Research*, Presented at the American Society of Mechanical Engineers (ASME) Nebraska Chapter Meeting, Lincoln, Nebraska, September 29, 2009.
23. *MwRSF Recent Crash Testing*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Rehoboth Beach, Delaware, September 21-22, 2009.
22. *Roadside and Motorsports Safety Research*, Presented at the Optimist Group Meeting, Lincoln, Nebraska, February 4, 2009.
21. *Midwest Guardrail System (MGS) Approach Transition with Standard Posts*, Presented at the 88th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 13, 2009.
20. *High-Performance Aesthetic Bridge Rail and Median Barrier*, Presented at the 88th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 13, 2009.
19. *Recent Crash Testing at MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Savannah, Georgia, September 29-30, 2008.
18. *Midwest Guardrail System (MGS) - Comparative Analysis of 31" Guardrail Designs*, Presented at the Workshop on *Recent Advances in Roadside Safety Technology*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design, Snow King Resort Hotel and Conference Center, Jackson, Wyoming, June 15-18, 2008.
17. *Roadside and Motorsports Safety Research*, Presented to students attending Discover Engineering Day, Lincoln, Nebraska, March 13, 2008.
16. *Roadside Safety and Crash Testing*, Presented to high-school female students from Ord, Nebraska Transportation Center, Lincoln, Nebraska, February 22, 2008.
15. *Midwest Guardrail System Adjacent to a 2:1 Slope*, Presented at the 87th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 14, 2008.
14. *Guardrail Safety Research*, Presented at the 4th Annual Nebraska Department of Roads District 1 Stand-Down Day, Palmyra State Shop, Palmyra, Nebraska, May 30, 2007.
13. *Midwest Guardrail System W-Beam to Thrie-Beam Transition*, Presented at the 86th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 22, 2007.
12. *Recent Crash Testing at MwRSF*, Presented at the AASHTO-AGC-ARTBA Task Force No. 13 Subcommittee Meeting, Toronto, Ontario, Canada, October 2-3, 2006.
11. *Flare Rates for Midwest Guardrail System*, Presented at the 85th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 24, 2006.
10. *W-Beam to Thrie-Beam Transition Element*, Presented at the 85th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design, Washington, D.C., January 24, 2006.
9. *Women Interested in Engineering - Applications of Engineering*, Presented at the Women Interesting in Engineering Day, Sponsored by the College of Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska, September 24, 2005.
8. *Exploration of Crash Test Conditions Proposed for the Update to NCHRP Report 350*, Presented at the 84th Annual Meeting of the Transportation Research Board, Sponsored by Committee AFB20 on Roadside Safety Design,

Washington, D.C., January 11, 2005.

7. *Work-Zone Device Testing - Why Test Only With Small Cars?*, Presented at the Workshop on the Update to NCHRP Report 350 and Current Safety Issues, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and Kansas Department of Transportation, Double Tree Hotel Overland Park-Corporate Woods, Overland Park, Kansas, July 18-21, 2004.
6. *NCHRP 350 Compliance Testing*, Presented at the 2003 Sign Conference, Scheman Center, Iowa State University, Ames, Iowa, August 20, 2003.
5. *Guardrail Connection for Low-Fill Culverts*, Presented at the 82nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 14, 2003.
4. *NCHRP 350 Compliance Testing*, Presented at the Iowa County Engineers Conference, Sponsored by the Iowa Department of Transportation, Scheman Center, Iowa State University, Ames, Iowa, December 11, 2002.
3. *Crash Testing and Analysis of Work Zone Sign Supports*, Presented at the 81th Annual Meeting of the Transportation Research Board, Washington, D.C., January 14, 2002.
2. *A W-Beam Guardrail Adjacent to a Slope*, Presented at the 80th Annual Meeting of the Transportation Research Board, January 8, 2001.
1. *Chi Epsilon District Conclave Presentation - Resent Crash Testing*, Presented at the 2001 Chi Epsilon District Conclave, Sponsored by the University of Nebraska-Lincoln and Chi Epsilon, Walter Scott Engineering Center, Lincoln, Nebraska, April 7, 2001.

2.1.8 Other Publications – Research Reports

143. 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.
142. 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: RPPF 07-01 Year 17, Midwest Roadside Safety Facility, University of Nebraska Lincoln, Lincoln, Nebraska, May 5, 2013.
141. 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 Curved Three-Cable Barrier*, Final Report to the New York State Department of Transportation, MwRSF Research Report No. TRP-03-263-12, Project No. TPF-5(193) Supplement Nos. 130 and 152, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 19, 2013.
140. 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., MwRSF Research Report No. TRP-03-273-12, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 25, 2013.
139. Schrum, K.D., Lechtenberg, K.A., Rosenbaugh, S.K., Faller, R.K., Reid, J.D., and Sicking, D.L., *Safety Performance Evaluation of the Non-Blocked Midwest Guardrail System (MGS)*, Final Report to the Midwest States Regional Pooled Fund Research Program, MwRSF Research Report No. TRP-03-262-12, Project No. TPF-5(193)-Year 21, Project Code: RPPF-11-MGS-3, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, January 24, 2013.
138. Schmidt, T.L., Mongiardini, M., Bielenberg, R.W., Lechtenberg, K.A., Faller, R.K., and Reid, J.D., *Dynamic Testing of MGS W6x8.5 Posts at Decreased Embedment*, Final Report to the Nebraska Department of Roads, MwRSF 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.

137. Kampschneider, L.R., Homan, D.M., Lechtenberg, K.A., Faller, R.K., Bielenberg, R.W., Sicking, D.L., Reid, J.D., Rosenbaugh, S.K., Evaluation of a Non-Proprietary, High-Tension, Four-Cable Median Barrier on Level Terrain, Final Report to the Midwest States Regional Pooled Fund Research Program, MwRSF Research Report No. TRP-03-258-12, Project Nos. TPF-5(091)-Year 19 and TPF-5(193)-Years 20 and 22, Project Codes: RPPF-09-01, RPPF-10-CABLE-2, and RPPF-12-CABLE1&2, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 29, 2012.
136. 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, MwRSF Research Report No. TRP-03-264-12, Project No. TPF-5(193) Supplement #14, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, November 26, 2012.
135. 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.
134. Schmidt, J.D., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., Rohde, J.R., Bielenberg, R.W., Reid, J.D., and Rosenbaugh, S.K., *Phase II Development of a Non-Proprietary, Four-Cable, Height Tension Median Barrier*, Final Report to the Midwest States Regional Pooled Fund Research Program, MwRSF Research Report No. TRP-03-253-12, Project No. TPF-5 (091)-Year 19, Project Codes: RPPF-09-01, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 21, 2012.
133. Schrum, K.D., 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, MwRSF Research Report No. TRP-03-252-12, Project No. TPF-5 (195) Supplement #16, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 20, 2012.
132. 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*, Final Report to the Midwest States Regional Pooled Fund Research Program, MwRSF Research Report No. TRP-03-255-12, Project No. TPF-5(193)-Year 20, Project Code: RPPF-10-MGS, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, March 9, 2012.
131. Terpsma, R.J., Zhu, L., Rohde, J.R., 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 Midwest States Regional Pooled Fund Research Program and Mid-America Transportation Center, MwRSF Research Report No. TRP-03-232-11, Project No. TPF-5(091)-Year 19, Project Code: RPPF-09-02, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 14, 2012.
130. Homan, D.M., Thiele, J.C., Faller, R.K., Rosenbaugh, S.K., Rohde, J.R., Arens, S.W., Lechtenberg, K.A., Sicking, D.L., and Reid, J.D., *Investigation and Dynamic Testing of Wood and Steel Posts for MGS on A Wire-Faced MSE Wall*, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, MwRSF Research Report No. TRP-03-231-11, Project No. DTFH68-07-E-00010, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 2012.
129. McGhee, M.D., Faller, R.K., Rohde, J.R., Lechtenberg, K.A., Sicking, D.L., and Reid, J.D., *Development of an Economical Guardrail for Use on Wire-Faced, MSE Walls*, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, MwRSF Research Report No. TRP-03-235-11, Project No. DTFH68-07-E-00010, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, Nebraska, February 2012.
128. Meyer, C.L., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., Rohde, J.R., Reid, J.D., and Rosenbaugh, S.K., *Phase II Continued Investigation and Dynamic Testing of Wood Posts for Use on a Wire-Faced MSE Wall*, Final Report to the U.S. Department of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, MwRSF Research Report No. TRP-03-256-12, Project No. DTFH68-07-E-00010, Midwest Roadside Safety Facility,

University of Nebraska-Lincoln, Lincoln, Nebraska, February 2012.

127. 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.
126. 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.
125. 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.
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1. 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.

2.2 Grantsmanship Record

2.2.1 Internally-Funded Research Grants

None

2.2.2 Externally-Funded Research Grants and Contracts – Principal or Co-Principal Investigator

Dynamic Testing and Evaluation of Mondo Polymer Technologies 12" Blockout, Awarded by Mondo Polymer Technologies, [Principal Investigator, Co-Principal Investigator: Ronald Faller, January 1, 2013 – August 31, 2013, Total Award: \$24,360, Sponsor: \$24,360, UNL: \$0], WBS No. 26-1121-1089-001.

Dynamic Evaluation of Cable Guide Rail with Strong and Standard J-Bolts under MASH, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 61, [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Robert Bielenberg, John Reid, and Cody Stolle, December 1, 2012 – May 31, 2014, Total Award: \$257,478, Sponsor: \$257,478, UNL: \$0], WBS No, 26-1121-1090-001.

Investigation, Dynamic Testing, and Evaluation of Guardrail Post for Use in Transitions between Temporary Concrete Barrier and Guardrail, Awarded by the Mid-America Transportation Center [Principal Investigator, Co-Principal Investigators: John Reid and Ronald Faller, July 1, 2012 – December 31, 2013, Total Award: \$52,500, MATC: \$52,500, UNL: \$0], WBS No. 25-1121-0003-057.

Safety Performance Evaluation of Posts for use in a New Short Radius Guardrail for Intersecting Roadways, Awarded by the Mid-America Transportation Center [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, July 1, 2012 – December 31, 2013, Total Award: \$52,500, MATC: \$52,500, UNL: \$0], WBS No. 25-1121-0003-056.

Midwest States Pooled Fund Program for Roadside Safety - Year 23 (2012-2015), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, TPF-5(193) Supplemental Nos. 53 through 58 and 60, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigators: Ronald Faller, Dean Sicking, and Robert Bielenberg, July 1, 2012 - June 30, 2015, Total Award: \$650,000, Sponsor: \$650,000, UNL: \$0], WBS Nos. 26-1121-1079-001 through 26-1121-1084-001 and 26-1121-1086-001.

FY 2013 Wisconsin DOT Roadside Safety Research Program (2012-2015), Phase IIA Vehicle Dynamics Testing, Validation of Vehicle Models, and Computer Simulation of Rock Ditch Liners, TPF-5(193) Supplemental No. 59, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: John Reid, Dean Sicking, Robert Bielenberg, and Mario Mongiardini, July 1, 2012 - June 30, 2015, Total Award: \$100,000, Sponsor: \$100,000, UNL: \$0], WBS No. 26-1121-1085-001.

Development of a TL-3 Transition between Temporary Concrete Barrier and Guardrail, Awarded by the Nebraska Department of Roads and the Smart Work-Zone Deployment Initiative (SWZDI) at Iowa State University, NDOR Agreement No. SPR-P1(13) M326, NDOR Project Designation TSPTI-06, SWZDI Contract No. 14074, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: John Reid, Robert Bielenberg, and Mario Mongiardini, July 1, 2012 – December 31, 2013, Total Award: \$141,814, NDOR: \$91,814, SWZDI: \$50,000, UNL: \$0].

Dynamic Testing and Evaluation of a Temporary Concrete Barrier Under MASH, Awarded by Powell Contracting Ltd, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, John Reid, and Robert Bielenberg, 2012-2013, Total Award: \$58,997, Sponsor: \$58,997, UNL: \$0], WBS No. 26-1121-1073-001.

Dynamic Evaluation of Curved Run of Cable Guide Rail Under MASH TL-3 Impact, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 52, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, John Reid, and Robert Bielenberg, December 15, 2011 - December 31, 2012, Total Award: \$58,350, Sponsor: \$58,350, UNL: \$0], WBS No. 26-1121-1074-001.

FY 2012 Wisconsin DOT Roadside Safety Research Program (2011-2014), Roadside Grading Guidance - Phase II - TPF-5(193) Supplemental No. 43, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Dean Sicking, and Robert Bielenberg, 2011-2014, Total Award: \$199,502, Sponsor: \$199,502, UNL: \$0].

FY 2012 Wisconsin DOT Roadside Safety Research Program (2011-2014), Zone of Intrusion for 36", 42", and 56" Single-Slope Concrete Barriers - TPF-5(193) Supplemental No. 42, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Dean Sicking, and Robert Bielenberg, 2011-2014, Total Award: \$58,942, Sponsor: \$58,942, UNL: \$0].

FY 2012 Wisconsin DOT Roadside Safety Research Program (2011-2014), Crashworthy Pedestrian Rail - TPF-5(193) Supplemental No. 41, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Dean Sicking, and Robert Bielenberg, 2011-2014, Total Award: \$234,629, Sponsor: \$234,629, UNL: \$0].

FY 2012 Wisconsin DOT Roadside Safety Research Program (2011-2014), Length of Need - B/C Analysis - TPF-5(193) Supplemental No. 40, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Dean Sicking, and Robert Bielenberg, 2011-2014, Total Award: \$113,499, Sponsor: \$113,499, UNL: \$0].

Deflection of Curved Runs of Cable Guide Rail Under MASH TL-3 Impacts, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 30, [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, John Reid, and Robert Bielenberg, 2010-2011, Total Award: \$180,655, Sponsor: \$180,655, UNL: \$0].

FY 2011 Wisconsin DOT Roadside Safety Research Program (2010-2013), Minimum Effective Guardrail Length for MGS - TPF-5(193) Supplemental No. 29, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Robert Bielenberg, and Dean Sicking, 2010-2013, Total Award: \$122,477, Sponsor: \$122,477, UNL: \$0].

FY 2011 Wisconsin DOT Roadside Safety Research Program (2010-2013), Downstream Anchoring Requirements for MGS - TPF-5(193) Supplemental No. 28, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Robert Bielenberg, and Dean Sicking, 2010-2013, Total Award: \$235,065, Sponsor: \$235,065, UNL: \$0].

FY 2011 Wisconsin DOT Roadside Safety Research Program (2010-2013), Short-Radius Guardrail for Large Radii - TPF-5(193) Supplemental No. 27, Awarded by Wisconsin Department of Transportation, [Co-Principal Investigator, Principal Investigator: John Reid, Co-Principal Investigator: Ronald Faller, Robert Bielenberg, and Dean Sicking, 2010-2013, Total Award: \$57,929, Sponsor: \$57,929, UNL: \$0].

Evaluation of Valmont Industries' Decorative Clamshell Bases on Luminaire Poles, Awarded by Valmont Industries, Inc.,

[Co-Principal Investigator, Co-Principal Investigators: Karla Lechtenberg and Scott Rosenbaugh, 2010, Total Award: \$12,674, Sponsor: \$12,674, UNL: \$0].

Dynamic Testing and Evaluation of Delta Bloc's DB80 Temporary Concrete Barriers According to MASH Test Level 3, Awarded by Delta Bloc Europa GmbH (Austria), [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, John Reid, and Robert Bielenberg, 2010, Total Award: \$94,180, Sponsor: \$94,180, UNL: \$0].

Dynamic Evaluation of High-Tension Cable Barrier System Under TL-3 of NCHRP Report No. 350, Awarded by Safence Inc., [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, John Reid, Robert Bielenberg, and James Holloway, 2010, Total Award: \$153,001, Sponsor: \$153,001, UNL: \$0].

Evaluation of Valmont Industries' Decorative Clamshell Bases on Luminaire Poles, Awarded by Valmont Industries, Inc., [Co-Principal Investigator, Co-Principal Investigators: Ronald Faller and Scott Rosenbaugh, 2009-2010, Total Award: \$33,736, Sponsor: \$33,736, UNL: \$0].

Safety Investigation and Guidance for Work-Zone Devices Subjected to Passenger Car and Truck Impacts with New Crash Standards, Awarded by Smart Work Zone Deployment Initiative (SWZDI) Pooled Fund Study with the States of Iowa, Kansas, Missouri, Nebraska, and Wisconsin, [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: James Holloway, and Dean Sicking, 2009-2010, Total Award: \$50,000, Sponsor: \$50,000, UNL: \$0].

Dynamic Evaluation of an Aluminum Pedestrian Pole Using NCHRP 350 (2009), Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 10, [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, Robert Bielenberg, and John Reid, 2009, Total Award: \$40,842, Sponsor: \$40,842, UNL: \$0].

Dynamic Evaluation of a Modified Type IIA Box Beam Terminal Using the MASH 2008 Guidelines, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 9, [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Dean Sicking, and John Reid, 2009, Total Award: \$112,626, Sponsor: \$112,626, UNL: \$0].

Safety Investigation and Guidance for Work-Zone Devices in Freight Transportation Systems Subjected to Passenger Car and Pickup truck Impacts with New Crash Standards, Awarded by the Dicke Tool Company and the Mid-America Transportation Center (MATC), [Co-Principal Investigator, Principle Investigator: Ronald Faller, Co-Principal Investigators: Jim Holloway, and Dean Sicking, 2008-2009, Total Award: 120,000, Sponsor: \$120,000 (Dicke Tool Company - \$60,000 and MATC - \$60,000), UNL: \$0].

Development of a Test Level 1 Timber Curb-Type Railing for Use on Transverse, Timber, Nail-Laminated Deck Bridges, Awarded by the West Virginia Department of Transportation, SPR-3(017) Supplemental No. 53, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: John Reid, Dean Sicking, and Robert Bielenberg, 2007-2009, Total Award: \$136,491, Sponsor: \$136,491, UNL: \$0].

Development of a Test Level 2 Steel Bridge Railing and Transition for Use on Transverse, Timber, Nail-Laminated Deck Bridges - Phase I, Awarded by the West Virginia Department of Transportation, SPR-3(017) Supplemental No. 52, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: John Reid, Dean Sicking, and Robert Bielenberg, 2007-2009, Total Award: \$53,923, Sponsor: \$53,923, UNL: \$0].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Skrips Marketing, Inc. of Fishers, Indiana, [Co-Principal Investigator, Principal Investigator: Ronald Faller, Co-Principal Investigators: James Holloway, April 2007, Total Award: \$2,454.50, Sponsor: \$2,454.50, UNL: \$0].

Qualification of Type II and Type I End Terminals for Box Beam and Evaluation of Box Beam Stiffening of Temporary Concrete Barrier, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, [Co-Principal Investigator, Principal Investigator: Dean Sicking, Co-Principal Investigators: Ronald Faller, Robert Bielenberg, and John Reid, 2007, Total Award: \$196,127].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Traffic Control West, Inc., [Principal Investigator, Co-Principal Investigators: Ronald Faller and James Holloway, 2006, Total Award: \$1,425, Sponsor: \$1,425, UNL: \$0].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Geyer Signal of St. Cloud MN, [Principal Investigator, Co-Principal Investigators: Ronald Faller and James Holloway, January 2006, Total Award: \$9,200, Sponsor: \$9,200, UNL: \$0].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Dicke Tool Company, [Principal Investigator, Co-Principal Investigators: Ronald Faller and James Holloway, 2005, Total Award: \$18,290, Sponsor: \$18,290, UNL: \$0].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Dicke Tool Company, [Principal Investigator, Co-Principal Investigators: Ronald Faller and James Holloway, 2005, Total Award: \$8,750, Sponsor: \$8,750, UNL: \$0].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by CC Enterprises - Traffic Control Specialists, Inc., [Principal Investigator, Co-Principal Investigators: Ronald Faller and James Holloway, 2005, Total Award: \$1,400, Sponsor: \$1,400, UNL: \$0].

2.2.2 Externally-Funded Research Grants and Contracts – Proposal Author and/or Key Researcher

Midwest States Pooled Fund Program for Roadside Safety - Year 22 (2011-2014), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principle Researcher, 2011-2014, Total Award: \$650,000, Sponsor: \$650,000, UNL: \$0].

Midwest States Pooled Fund Program for Roadside Safety - Year 21 (2010-2013), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principle Researcher, 2010-2013, Total Award: \$704,774, Sponsor: \$704,774, UNL: \$0].

Universal Breakaway Steel Post for Guardrail, Awarded by the Minnesota Department of Transportation, SPR-3(017) Supplemental No. 39, [Principle Researcher, 2007-2009, Total Award: \$197,494, Sponsor: \$197,494, UNL: \$0].

FY 2010 Wisconsin DOT Roadside Safety Research Program (2009-2011), Awarded by Wisconsin Department of Transportation, [Principle Researcher, 2009-2011, Total Award: \$601,736, Sponsor: \$601,736, UNL: \$0].

Midwest States Pooled Fund Program for Roadside Safety - Year 20 (2009-2012), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principle Researcher, 2009-2012, Total Award: \$600,000, Sponsor: \$600,000, UNL: \$0].

Dynamic Evaluation of New York State's Pinned Temporary Concrete Barrier, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 11, [Principle Researcher, Total Award: \$57,734, Sponsor: \$57,734, UNL: \$0].

Certification of Valmont Industries, Inc. New Dynamic Impact Testing Facility, Awarded by Valmont Industries, Inc., [Principle Researcher, 2008-2009, Total Award: \$13,291, Sponsor: \$13,291, UNL: \$0].

Dynamic Evaluation of New York State's Pinned Temporary Concrete Barrier, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, TPF-5(193) Supplemental No. 8, [Principle Researcher, 2008-2009, Total Award: \$50,766, Sponsor: \$50,766, UNL: \$0].

Midwest States Pooled Fund Program for Roadside Safety - Year 19 (2008-2010), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principle Researcher, 2008-2010, Total Award: \$590,000, Sponsor: \$590,000, UNL: \$0].

Dynamic Testing and Evaluation of a New TCB for FRP Bridge Deck Applications, Awarded by the Kansas Department of Transportation, [Principle Researcher, 2008-2009, Total Award: \$56,152, Sponsor: \$56,152, UNL: \$0].

Dynamic Evaluation of Box Beam End Terminal Using the MASH 2008 Guidelines, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, SPR-3(017) Supplemental No. 56, [Principle Researcher, 2008, Total Award: \$204,533].

Midwest States Pooled Fund Program for Roadside Safety - Year 18 (2007-2009), Awarded by States of Nebraska, Kansas,

Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principal Researcher, 2007-2009, Total Award: \$545,000, Sponsor: \$545,000, UNL: \$0].

Development of an Economical Guardrail System for Use on Gabion Walls, Awarded by the Central Federal Lands Highway Division, Federal Highway Administration, [Principal Researcher, 2007-2008, Total Award: \$150,000].

Development of an Economical Guardrail System for Use on Gabion Walls, Awarded by the Central Federal Lands Highway Division, Federal Highway Administration, [Principal Researcher, 2007-2008, Total Award: \$100,000].

Phase II Re-Evaluation of the Type I-TR End Terminal for Box Beam, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, [Co-Principal Investigator, Principal Investigator: Dean Sicking, Co-Principal Investigators: John Reid, 2007-2008, Total Award: \$41,753].

Phase II Evaluation of Box Beam Stiffening of Temporary Concrete Barrier, Awarded by the New York State Department of Transportation and the Nebraska Department of Roads, [Principal Researcher, 2007-2008, Total Award: \$53,109].

Test Plans and Impact Management Systems for the Next Generation Rail Tank Car (NGRTC) Project, Awarded by Union Pacific Railroad, The Dow Chemical Company, and Union Tank Car Company, [Researcher, 2007, Total Award: \$63,641].

Midwest States Pooled Fund Program for Roadside Safety - Year 17 (2006-2008), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Principal Researcher, 2006-2008, Total Award: \$545,000, Sponsor: \$545,000, UNL: \$0].

Universal Breakaway Steel Post for Guardrail, Awarded by the Minnesota Department of Transportation, [Principal Researcher, 2007-2009, Total Award: \$197,494, Sponsor: \$197,494, UNL: \$0].

2007 SAFER Barrier Training and Maintenance, Awarded by Indy Racing League, [Principal Researcher, 2006-2007, Total Award: \$??,??].

Dynamic Testing and Evaluation of the Car of Tomorrow, Awarded by NASCAR R&D Center, [Principal Researcher, 2006-2007, Total Award: \$109,374, Sponsor: \$109,374, UNL: \$0].

TL-4 Single-Unit Truck Test into Tensioned Cable Barrier on a 4:1 Slope (Modification of the Midwest States Pooled Fund Program for Roadside Safety - Year 16 (2005-2006)), Awarded by State of Wyoming [Principle Researcher, 2005-2006, Total Award: \$55,000, Sponsor: \$55,000, UNL: \$0].

NCHRP 22-14 Follow-On Testing Program - Phase IV (12000S Truck Test), Improved Procedures for Safety Performance Evaluation of Roadside Features, NCHRP Project Number 22-14(02), Awarded by the National Cooperative Highway Research Program [Researcher, Study: 2005-2006, Total Award: \$54,269].

NCHRP 22-14 Follow-On Testing Program - Phase III, Improved Procedures for Safety Performance Evaluation of Roadside Features, NCHRP Project Number 22-14(02), Awarded by the National Cooperative Highway Research Program [Researcher, Study: 2005-2006, Total Award: \$118,259].

Midwest States Pooled Fund Program for Roadside Safety - Year 16 (2005-2006), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, California, Connecticut, New Jersey, Wyoming, and Illinois [Principal Researcher, 2005-2006, Total Award: \$535,000, Sponsor: \$535,000, UNL: \$0].

High-Energy, Dynamic Evaluation of a Prototype Stock Car Chassis, Awarded by NASCAR, [Principle Researcher, 2005, Total Award: \$33,240].

Data/Film Analysis for Drop testing, Awarded by Intellistrobe Safety Systems, Inc., [Principal Researcher, 2004, Total Award: \$600].

Improved Procedures for Safety – Performance Evaluation of Roadside Features, NCHRP Project Number 22-14(02), Awarded by National Cooperative Highway Research Program [Researcher, Study: 2002-2005, Total Award: \$299,987; Testing: 2004-2006, Total Award: \$361,425; Testing: 2005-2006, Total Award: \$118,259, Ext. January, 2006].

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Flare Rates for W-Beam Guardrail, NCHRP Project Number 17-20(3), Awarded by the National Cooperative Highway Research Program [Researcher, Study: 2003-2005, Total Award: \$50,000].

Improving Race Track Containment Fences, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$87,236] (Project No. 1 of 8).

Development of a SAFER Barrier Gate, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$134,151] (Project No. 2 of 8).

Developing Crash Cushions for Race Tracks, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$137,385] (Project No. 3 of 8).

Analysis, Design, and Simulation of SAFER Barrier Attached to Movable Concrete Barriers, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$65,658] (Project No. 4 of 8).

Analysis, Design, and Simulation of a Backup Structure for Dover, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$62,768] (Project No. 5 of 8).

Continued Support for Installation Recommendations, Inspection, and Field Performance Evaluation of IRL/NASCAR Racetracks for SAFER Barrier, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$163,453] (Project No. 6 of 8).

Support of Foam Optimization for the Radiused SAFER Barrier, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$138,361] (Project No. 7 of 8).

Development of Alternative Backup Structures for the SAFER Barrier, Awarded by Indy Racing League and NASCAR, [Principal Researcher, 2004-2006, Total Award: \$141,387] (Project No. 8 of 8).

Midwest States Pooled Fund Program for Roadside Safety - Year 15 (2004-2005), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Texas, and Illinois [Principal Researcher, 2004-2005, Total Award: \$545,000, Sponsor: \$545,000, UNL: \$0].

Dynamic Evaluation of a New Noise Wall System Using an 2000P Vehicle, Awarded by CYRO Industries, [Principal Researcher, 2004-2005, Total Award: \$44,445].

Bogie Testing of Workzone Devices, Awarded by Dicke Tool Company, [Principal Researcher, August through September 2004, Total Award: \$13,460].

Bogie Testing of Workzone Devices, Awarded by Remcon Plastics, Inc., [Principal Researcher, July 20-22, 2004, Total Award: \$4,200].

Bogie Testing of Workzone Devices, Awarded by Three D Traffic Works, [Principal Researcher, July 9, 2004, Total Award: \$2,187.50].

Bogie Testing of Workzone Devices, Awarded by Intellistrobe Safety Systems, Inc., [Principal Researcher, June-July 2004, Total Award: \$1,400].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, June 2-4, 2004, Total Award: \$4,100].

Bogie Testing of Workzone Devices, Awarded by Intellistrobe Safety Systems, Inc., [Principal Researcher, May 27, 2004, Total Award: \$2,450].

Crash Testing of Minnesota Department of Transportation Work-Zone Devices - 2004 Add-On, Awarded by the Minnesota Department of Transportation, [Principal Researcher, 2004-2005, Total Award: \$19,321, Sponsor: \$19,321, UNL: \$0].

2004 Minnesota Roadside Safety Workshop - MnDOT, Awarded by Minnesota Department of Transportation, [Principal Researcher, January to June 2004, Total Award: \$18,000].

Bogie Testing of Workzone Devices, Awarded by Three D Traffic Works, [Principal Researcher, March 23, 2004, Total Award: \$1,400].

Bogie Testing of Workzone Devices, Awarded by Intellistrobe Safety Systems, Inc., [Principal Researcher, March 18, 2004, Total Award: \$1,000].

Bogie Testing of Breakaway Sign Supports, Awarded by Designovations, Inc., [Principal Researcher, August through October 2003, Total Award: \$8,000].

Bogie Testing of Workzone Devices, Awarded by Dicke Tool Company, [Principal Researcher, September through October 2003, Total Award: \$14,750].

Continued Development, Evaluation, and Field Installation of the SAFER Barrier for High-Speed Racetrack Applications, Awarded by Indy Racing League, [Principal Researcher, 2003-2005, Total Award: \$427,333].

Midwest States Pooled Fund Program for Roadside Safety - Year 14 (2003-2004), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Texas, and Illinois [Principal Researcher, 2003-2004, Total Award: \$550,000, Sponsor: \$550,000, UNL: \$0].

TL-2 Small Car Test Evaluation of a Longitudinal Channelizer Device - Additional Funds for Re-Test, Awarded by ROO GUARDS, INC., [Principal Researcher, 2003, Total Award: \$18,498].

Compliant Bogie Testing of Workzone Devices, Awarded by Dicke Tool Company, [Principal Researcher, July 8, 2003, Total Award: \$24,850].

TL-2 Small Car Test Evaluation of a Longitudinal Channelizer Device, Awarded by ROO GUARDS, INC., [Principal Researcher, 2003, Total Award: \$28,924].

Design, Analysis, and Testing of a New Noise Wall System, Awarded by CYRO Industries, [Principal Researcher, 2003, Total Award: \$69,872].

Analysis, Design, and Dynamic Evaluation of a New, TL-5 Aesthetic Concrete Median Barrier and Bridge Railing System - Phase II, Awarded by the Nebraska Department of Roads, [Principal Researcher, 2002-2003, Total Award: \$42,961].

TL-2 Small Car Test, Awarded by Roo Guards, Inc., [Principal Researcher, 2003, Total Award: \$28,925].

Bogie Testing of Workzone Devices, Awarded by Three D Traffic Works, [Principal Researcher, May 15, 2003, Total Award: \$1,400].

Bogie Testing of Workzone Devices, Awarded by Three D Traffic Works, [Principal Researcher, April 28, 2003, Total Award: \$1,400].

Bogie Testing of Workzone Devices, Awarded by ROO GUARDS INC., [Principal Researcher, April 28, 2003, Total Award: \$1,400].

Timber Rub-Rail for Noise Walls, Awarded by the Minnesota Department of Transportation, [Principal Researcher, 2003-2004, Total Award: \$84,995].

Bogie Testing of Workzone Devices, Awarded by Services and Materials Company, [Principal Researcher, April 17, 2003, Total Award: \$4,550].

Bogie Testing of Small, State Patrol Vehicle Sign Support Systems, Awarded by Gleason & Son Signs, Inc., [Principal Researcher, January 30, 2003, Total Award: \$2,450].

Bogie Testing of Workzone Devices, Awarded by Services and Materials Company, [Principal Researcher, January 29, 2003, Total Award: \$2,450].

Bogie Testing of Workzone Devices, Awarded by Services and Materials Company, [Principal Researcher, January 8, 2003,

Total Award: \$2,450].

Bogie Testing of Workzone Devices, Awarded by ROO GUARDS INC., [Principal Researcher, January 8, 2003, Total Award: \$2,450].

Analysis, Design, and Dynamic Evaluation of a New, TL-5 Aesthetic Concrete Median Barrier and Bridge Railing System, Awarded by the Nebraska Department of Roads, [Principal Researcher, 2002-2003, Total Award: \$117,754].

Development of Steel Tube and Foam Energy Reduction (SAFER) Barrier for Small Radius Racetrack Applications, Awarded by Indy Racing League, [Principal Researcher, 2000-2003, Total Award: \$256,898].

Dynamic Evaluation of 8"x6" Steel Tube and Foam Energy Reduction (SAFER) Barrier for Rearward Tracking IRL Vehicles, Awarded by Indy Racing League, [Principal Researcher, 2000-2003, Total Award: \$59,868].

Development of Steel Tube and Foam Combination Barrier System (May 2002 Continuation No. 1), Awarded by Indy Racing League, [Principal Researcher, 2000-2002, Total Award: \$20,714].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, August 30, 2002, Total Award: \$3,750].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, August 27, 2002, Total Award: \$5,450].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, July 10, 2002, Total Award: \$2,050].

Bogie Testing of Small, State Patrol Vehicle Sign Support Systems, Awarded by Gleason & Son Signs, Inc., [Principal Researcher, July 19, 2002, Total Award: \$1,650].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, June 25, 2002, Total Award: \$4,600].

Midwest States Regional Pooled Fund Program - Year 13 (2002-2003), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Texas, Montana, and Connecticut [Principal Researcher, 2002-2003, Total Award: \$505,000, Sponsor: \$505,000, UNL: \$0].

Bogie Testing of Workzone Devices, Awarded by Dicke Tool Company, [Principal Researcher, May 28, 2002, Total Award: \$5,850].

Minnesota Roadside Safety Workshop - 2002, Awarded by Minnesota Department of Transportation, [Principal Researcher, April 2002, Total Award: \$14,974].

Bogie Testing of Small Sign Supports, Awarded by Allied Tube and Conduit, [Principal Researcher, March - April 2002, Total Award: \$5,100].

Bogie Testing of Workzone Devices, Awarded by D.P. Sawyer, Inc., [Principal Researcher, February 28, 2002, Total Award: \$3,250].

Full-Scale Crash Test on Iowa's Temporary Steel Barrier (Re-Test), Awarded by the Iowa Department of Transportation, [Principal Researcher, 2002, Total Award: \$35,336, Sponsor: \$29,069, UNL: \$6,267].

Full-Scale Crash Testing of Steel Tube and Foam Combination Barrier Prototypes (February 2002 Continuation), Awarded by Indy Racing League, [Principal Researcher, 2000-2002, Total Award: \$109,673, Sponsor: \$98,772, UNL: \$10,901].

Midwest States Regional Pooled Fund Program - Year 12 (2001-2002), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Texas, Montana, and Connecticut [Principal Researcher, 2001-2002, Total Award: \$630,527, Sponsor: \$505,000, UNL: \$125,527].

Bogie Testing of Workzone Devices, Awarded by D.P. Sawyer, Inc., [Principal Researcher, December 17, 2001, Total Award: \$2,600].

Full-Scale Crash Testing of Steel Tube and Foam Combination Barrier Prototypes (October 2001 Continuation), Awarded by Indy Racing League, [Principal Researcher, 2000-2002, Total Award: \$110,809, Sponsor: \$99,568, UNL: \$11,240].

Full-Scale Crash Testing of Steel Tube and Foam Combination Prototypes, Awarded by Indy Racing League, [Principal Researcher, 2000-2002, Total Award: \$201,698, Sponsor: \$181,358, UNL: \$20,340].

Dynamic Evaluation of Michigan's Work-Zone Devices, Awarded by the Michigan Department of Transportation, [Principal Researcher, 2001, Total Budget Including Remaining Funds From Michigan DOT Guardrail Project: \$78,741, Total New Award: \$24,653, Sponsor: \$20,215, UNL: \$4,438].

Bogie Testing of Workzone Devices - Phase VI, Awarded by Dicke Tool Company, [Principal Researcher, September 11, 2001, Total Award: \$2,600].

Bogie Testing of Composite Stop-Sign Supports, Awarded by Designovations, Inc., [Principal Researcher, June 15, 2001, Total Award: \$2,600].

Bogie Testing of Plastic Barricade Devices, Awarded by Plastic Safety Systems, Inc., [Principal Researcher, June 5, 2001, Total Award: \$2,600].

Development of an Energy-Absorbing Cushion Wall - Phase II (Continuation 2), Awarded by Indy Racing League, [Principal Researcher, 2000-2001, Total Award: \$102,484, Sponsor: \$94,192, UNL: \$8,292].

Development of Rigid Panel, Temporary Sign Support Systems, Awarded by the Minnesota Department of Transportation and the Nebraska Department of Roads, [Principal Researcher, 2001, Total Award: \$20,004, Sponsor: \$15,931, UNL: \$4,073].

Bogie Testing of Plastic Barricade Devices - Phase I, Awarded by Cortina Tool and Molding Company, [Principal Researcher, March 22, 2001, Total Award: \$3,900].

Bogie Testing of Workzone Devices - Phase V, Awarded by Dicke Tool Company, [Principal Researcher, April 10, 2001, Total Award: \$9,100].

Bogie Testing of Workzone Devices - Phase IV, Awarded by Dicke Tool Company, [Principal Researcher, February 20, 2001, Total Award: \$4,550].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Plastic Safety Systems, Inc., [Principal Researcher, 2001, Total Award: \$30,865, Sponsor: \$28,408, UNL: \$2,457].

Dynamic Evaluation of Temporary Work Zone Devices, Awarded by Dicke Tool Company, [Principal Researcher, 2001, Total Award: \$80,920, Sponsor: \$74,584, UNL: \$6,336].

Development of a Breakaway, Single-Sign Support System for Temporary Work-Zones in Off-Road Applications, Awarded by the Missouri Department of Transportation, [Principal Researcher, 2000-2001, Total Award: \$85,522, Sponsor: \$66,580, UNL: \$18,942].

Midwest States Regional Pooled Fund Program - Year 11 (2000-2001), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, and Ohio, [Principal Researcher, 2000-2001, Total Award: \$525,885, Sponsor: \$445,000, UNL: \$80,885].

Bogie Testing of Workzone Devices - Phase III, Awarded by Dicke Tool Company, [Principal Researcher, December 7-8, 2000, Total Award: \$10,400].

Bogie Testing of Workzone Devices - Phase II, Awarded by Dicke Tool Company, [Principal Researcher, 2000, Total Award: \$10,650].

Crash Testing of Minnesota's Sign-Support Systems for Temporary Work Zones, Awarded by the Minnesota Department of

Transportation and the Nebraska Department of Roads, [Principal Researcher, 2000, Total Award: \$30,506, Sponsor: \$24,412, UNL: \$6,094].

Development of an Energy-Absorbing Cushion Wall - Phase II (Continuation), Awarded by Indy Racing League, [Principal Researcher, 2000-2001, Total Award: \$281,907, Sponsor: \$253,454, UNL: \$28,453].

Bogie Testing of Workzone Devices, Awarded by Dicke Tool Company, [Principal Researcher, 2000, Total Award: \$10,000].

Plastic Safety Systems Inc. Crash Tests - Year 2000 - Phase I, Awarded by Plastic Safety Systems, Inc., [Principal Researcher, 2000, Total Award: \$14,934, Sponsor: \$14,229, UNL: \$705].

Minnesota DOT Type III Barricade Crash Tests - Year 2000, Awarded by the Minnesota Department of Transportation and the Nebraska Department of Roads, [Principal Researcher, 2000, Total Award: \$25,946, Sponsor: \$22,291, UNL: \$3,655].

Development of an Energy-Absorbing Cushion Wall - Phase II, Awarded by Indy Racing League, [Principal Researcher, 1999-2000, Total Award: \$267,616].

Midwest States Regional Pooled Fund Program - Year 10 (1999-2000), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, and Ohio, [Principal Researcher, 1999-2000, Total Award: \$500,446, Sponsor: \$400,000, UNL: \$100,446].

Crash Testing of Portable Workzone Signs - 1999 - Phase IV, Awarded by Dicke Tool Company, [Principal Researcher, 1999, Total Award: \$11,197, Sponsor: \$10,704, UNL: \$493].

Crash Testing of Portable Workzone Signs - 1999 - Phase III, Awarded by Dicke Tool Company, [Principal Researcher, 1999, Total Award: \$42,934].

Crash Testing of Temporary Sign Stands, Awarded by the Missouri Department of Transportation, [Principal Researcher, 1999, Total Award: \$69,206, Sponsor: \$55,811, UNL: \$13,395].

Crash Testing of Portable Workzone Stands with Semi-Rigid Sign Panels - 1999 - Phase I, Awarded by Reflexite Corporation and GE Structured Products, [Principal Researcher, 1999, Total Award: \$19,547].

Crash Testing of Portable Workzone Signs - 1999 - Phase II, Awarded by Dicke Tool Company, [Principal Researcher, 1999, Total Award: \$28,345].

Crash Testing of Portable Workzone Signs - 1999 - Phase I, Awarded by Marketing Displays, Inc., [Principal Researcher, 1999, Total Award: \$19,225].

Crash Testing of Portable Workzone Signs - 1999 - Phase I, Awarded by Dicke Tool Company, [Principal Researcher, 1999, Total Award: \$27,924].

Crash Testing of Michigan's Type B and Type T Guardrail Systems, Awarded by the Michigan Department of Transportation, [Principal Researcher, 1999, Total Award: \$123,444].

Compliance Testing of Iowa's Skid-Mounted Sign Device, Awarded by the Iowa Department of Transportation, [Principal Researcher, 1999, Total Award: \$43,737, Sponsor: \$31,841, UNL: \$11,896].

Evaluation of Portable Workzone Signs - Phase I, Awarded by Lang Products International, Inc., [Principal Researcher, 1999, Total Award: \$17,773].

Development and Testing of a Crash Barrier - Phase I, Awarded by Indy Racing League, [Principal Researcher, 1998, Total Award: \$97,970].

Crash Testing of Portable Workzone Signs - Phase IV, Awarded by Dicke Tool Company, [Principal Researcher, 1998, Total Award: \$6,697].

Design and Compliance Testing of Missouri's Thrie Beam and Channel Bridge Rail to W-Beam Transition, Awarded by the

Missouri Department of Transportation, [Principal Researcher, 1998, Total Award: \$53,640, Sponsor: \$42,579, UNL: \$11,061].

Crash Testing of South Dakota's Cable Guardrail to W-Beam Transition, Awarded by South Dakota Department of Transportation, [Principal Researcher, 1998, Total Award: \$114,904, Sponsor: \$92,329, UNL: \$22,575].

Crash Testing of Portable Workzone Signs - Phase III, Awarded by Dicke Tool Company, [Principal Researcher, 1998, Total Award: \$33,392].

Crash Testing of Portable Workzone Signs - Phase II, Awarded by Dicke Tool Company, [Principal Researcher, 1998, Total Award: \$43,606].

Crash Testing of Portable Workzone Signs, Awarded by Dicke Tool Company, [Principal Researcher, 1998, Total Award: \$39,995].

Midwest States Regional Pooled Fund Program - Year 9 (1998-1999), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, and Ohio, [Principal Researcher, 1998-1999, Total Award: \$520,903, Sponsor: \$430,618, UNL: \$90,285].

Midwest States Regional Pooled Fund Program - Year 8 (1997-1998), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, and Ohio, [Principal Researcher, 1997-1998, Total Award: \$ 645,625, Sponsor: \$469,519, UNL: \$157,106, CIR: \$19,000].

Midwest States Regional Pooled Fund Program - Year 7 (1996-1997), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, and Ohio, [Principal Researcher, 1996-1997, Total Award: \$630,327, Sponsor: \$420,864, UNL: \$140,463, CIR: \$69,000].

Development and Evaluation of Two TL-2 Bridge Rails and Transitions for Transverse Timber Decks, Awarded by U.S. Department of Agriculture-Forest Service-Forest Products Laboratory, [Principal Researcher, 1997, Total Award: \$227,094, Sponsor: \$162,744, UNL: \$39,938, CIR: \$24,412].

Development and Evaluation of Two TL-4 Bridge Rails and Transitions for Transverse Timber Decks, Awarded by U.S. Department of Agriculture-Forest Service-Forest Products Laboratory, [Principal Researcher, 1995, Total Award: \$377,378, Sponsor:\$267,059, UNL: \$71,519, CIR: \$38,800].

Midwest States Regional Pooled Fund Program - Year 6 (1995-1996), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, and Minnesota, [Principal Researcher, 1995-1996, Total Award: \$420,847, Sponsor: \$304,818, UNL - \$92,029, CIR - \$24,000].

Development of Timber Bridge Rails for AASHTO PL-2, Awarded by U.S. Department of Agriculture-Forest Service-Forest Products Laboratory, [Principal Researcher, 1992, Total Award: \$65,186, Sponsor: \$54,000, UNL: \$11,186].

2.2.3 External Research Grants – Submitted But Unfunded

No records have been maintained of the significant number of research proposals that have been prepared, submitted, but unfunded.

2.3 Research Patents and Awards

2.3.1 Patents

Rohde, J.R., Faller, R.K., Sicking, D.L., Holloway, J.C., Reid, J.D., Bielenberg, R.W., and Polivka, K.A., *Cable Release Lever*, U.S. Patent No. 7,913,981 B2, March 29, 2011.

Faller, R.K., Rohde, J.R., Sicking, D.L., Bielenberg, R.W., Reid, J.D., Holloway, J.C., and Polivka, K.A., *High-Impact, Energy-Absorbing Vehicle Barrier System*, U.S. Patent No. 7,410,320 B2, August 12, 2008.

Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., Keller, E.A., Bielenberg, R.W., Holloway, J.C., Addink, K.H., and Polivka,

K.A., *High-Impact, Energy-Absorbing Vehicle Barrier System*, U.S. Patent No. 6,926,461 B1, August 9, 2005.

2.3.2 National and International Research Awards and Recognition

2012 Best Paper Award - TRB Committee AFB20 - Roadside Safety Design - *Development and Implementation of the Simplified MGS Stiffness Transition*, Lechtenberg, K.A., Mongiardini, M., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., and de Albuquerque, F.D.B., Presented at the 2012 Annual TRB Meeting.

Lechtenberg, K.A., Mongiardini, M., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., and Albuquerque, F.D.B., *Development and Implementation of the Simplified MGS Stiffness Transition*, Paper No. 12-3367, Submitted to the Transportation Research Board, 91st Annual Meeting, Washington, D.C., January 2012. **[Paper was nominated for the 2012 Practice-Ready Paper Award which is given by the Transportation Research Board of The National Academies]**

2011 Practice-Ready Paper Award - TRB Design and Construction Group - *Development of a Low-Cost, Energy-Absorbing, Bridge Rail*, Thiele, J.C., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Reid, J.D., and Rosenbaugh, S.K., Presented at the 2012 Annual TRB Meeting.

2011 Best Paper Award - TRB Committee AFB20 - Roadside Safety Design - *Development of a Low-Cost, Energy-Absorbing, Bridge Rail* - Thiele, J.C., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., Bielenberg, R.W., Reid, J.D., and Rosenbaugh, S.K., Presented at the 2011 Annual TRB Meeting.

2009 National Roadway Safety Awards - Best Practices - Honorable Mention in Infrastructure Improvements Category - *Development of the Midwest Guardrail System* - Presented by the Roadway Safety Foundation and the Federal Highway Administration, U.S. Department of Transportation, Presented to the Midwest States Pooled Fund Program, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, November 2009.

2008 Governor's Transportation Safety Challenge - Special Recognition Awards - Lane Departure Prevention Category - *Development of the Midwest Guardrail System* - Presented by the Nebraska Interagency Safety Committee, Presented to the Midwest Roadside Safety Facility, Nebraska Transportation Center, University of Nebraska-Lincoln, April 8, 2009.

2009 Best Paper Award - TRB Committee AFB20 - Roadside Safety Design - *Guidelines for Implementation of Cable Median Barrier* - Sicking, D.L., de Albuquerque, F.D.B., Lechtenberg, K.A., and Stolle, C.S., Presented at the 2009 Annual TRB Meeting.

2008 Best Paper Award - TRB Committee AFB20 - Roadside Safety Design - *Midwest Guardrail System Adjacent to a 2:1 Slope* - Polivka, K.A., Faller, R.K., Sicking, D.L., and Bielenberg, B.W., Presented at the 2008 Annual TRB Meeting.

2006 Better Roads Magazine Top Rollout Award - Awarded for the development of the *MGS Barrier System*, Developed by the Midwest Roadside Safety Facility (MwRSF), Presented at the 2006 American Traffic Safety Services Association (ATSSA) Annual Meeting, Jacksonville, Florida, January 2006.

2004 Best Paper Award - TRB Committee AFB20 - Roadside Safety Design - *Midwest Guardrail System for Standard and Special Applications* - Faller, R.K., Polivka, K.A., Kuipers, B.D., Bielenberg, B.W., Reid, J.D., Rohde, J.R., and Sicking, D.L., Presented at the 2004 Annual TRB Meeting.

Faller, R.K., Polivka, K.A., Kuipers, B.D., Bielenberg, B.W., Reid, J.D., Rohde, J.R., and Sicking, D.L., *Midwest Guardrail System for Standard and Special Applications*, Paper No. 04-4778, Submitted to the Transportation Research Board, 83rd Annual Meeting, Washington D.C., January 2004. **[Paper was nominated for the 2004 K.B. Woods Award which is given by the Transportation Research Board of The National Academies]**

2004 Inaugural Pioneering and Innovation Award, *Development of the SAFER Barrier*, Presented to Tony George and to the Creators of the SAFER Barrier (Midwest Roadside Safety Facility, University of Nebraska-Lincoln), Presented at the 2004 Autosport Awards Banquet at the Grosvenor House, London, United Kingdom, December 5, 2004.

2004 Pocono Raceway Bill France, Sr., Award of Excellence, *Development of the SAFER Barrier*, Presented to the Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Presented at the 2004 Pocono 500 NASCAR Nextel Cup Series Awards Banquet at Pocono, Pennsylvania, June 12, 2004.

2004 Herb Porter Indianapolis Memorial Motor Speedway Award, *Development and Implementation of the SAFER Barrier*, Presented to Brian Barnhart, Dr. Henry Bock, Phil Casey, Dr. Ron Faller, Leo Mehl, John Pierce, and Dr. Dean Sicking, Presented at the 2004 Indianapolis Motor Speedway Hall of Fame Museum AUTO RACING HALL OF FAME INDUCTION CEREMONY and the Indianapolis 500 Oldtimers SPECIAL RECOGNITION DINNER at the Indianapolis Downtown Marriott Hotel, Indianapolis, Indiana, Total Award of \$2,000, May 21, 2004.

2003 NASCAR Bill France, Jr., Award of Excellence, *Development of the SAFER Barrier*, Presented to the Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Presented at the 2003 Winston Cup Awards Banquet at New York City, New York, December 5, 2003.

2003 R&D Top 100 Award, *The Steel and Foam Energy Reduction Barrier System (SAFER Barrier)*, Presented to Faller, R.K., Sicking, D.L., Rohde, J.R., Reid, J.D., Holloway, J.C., Polivka, K.A., and Bielenberg, R.W., of the Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Presented by R&D Magazine at the Awards Banquet at Chicago's Navy Pier, Chicago, Illinois, October 16, 2003.

2002 SEMA Motorsports Engineering Award, *Development of the SAFER Barrier*, Presented to the Midwest Roadside Safety Facility and the Indy Racing League/Indianapolis Motor Speedway, Sponsored by Specialty Equipment Market Association (SEMA) in conjunction with the Society of Automotive Engineers (SAE) and the 2002 Motorsports Engineering Conference and Exhibition, Indianapolis, Indiana, December 3, 2002.

2002 Best of What's New Award (BOWN) and Top 100 Tech Innovations 2002, *SAFER Barrier*, Automotive Technology Category, Popular Science Magazine, December 2002 Issue.

2.3.3 National and International – Practical & Practice-Ready Papers – Transportation Research Board

2012 Catalog of Practical Papers, Paper No. 12-3367, *Development and Implementation of the Simplified MGS Stiffness Transition*, Lechtenberg, K.A., Mongiardini, M., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., and de Albuquerque, F.D.B., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2012.

2012 Catalog of Practical Papers, Paper No. 12-3604, *Development of the Universal Breakaway Steel Post for the Bullnose Median Barrier*, by Bielenberg, R.W., Arens, S., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., and Reid, J.D., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2012.

2011 Catalog of Practical Papers, Paper No. 11-2687, *Development of a Low-Cost, Energy-Absorbing Bridge Rail*, by Thiele, J.C., Sicking, D.L., Lechtenberg, K.A., Reid, J.D., Faller, R.K., Bielenberg, R.W., and Rosenbaugh, S.K., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2011.

2011 Catalog of Practical Papers, Paper No. 11-2684, *Nonblocked Midwest Guardrail System for Wire-Faced Walls of Mechanically Stabilized Earth*, Lechtenberg, K.A., Faller, R.K., Rohde, J.R., Sicking, D.L., and Reid, J.D., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2011.

2010 Catalog of Practical Papers, Paper No. 10-0431, *Termination and Transition of Temporary Concrete Barrier*, by Bielenberg, R.W., Rosenbaugh, S.K., Reid, J.D., Faller, R.K., and Lechtenberg, K.A., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2010.

2006 Catalog of Practical Papers, Paper No. 06-1784, *A Test Level 4 Noise Wall for Attachment to Concrete Traffic Barriers*, by Faller, R.K., Kurz, K., Polivka, K.A., Sicking, D.L., Humphries, E., and Hascall J.A., Design and Construction Practice - Ready Papers - Design, Transportation Research Board, Washington D.C., 2006.

2004 Catalog of Practical Papers, Paper No. 04-4778, *Midwest Guardrail System for Standard and Special Applications*, by Faller, R.K., Polivka, K.A., Kuipers, B.D., Bielenberg, R.W., Reid, J.D., Rohde, J.R., and Sicking, D.L., Safety, Division A - Technical Activities, Group 2 Standing Committees and Task Forces, Subject Area - Design, Transportation Research Board, Washington D.C., 2004.

2003 Catalog of Practical Papers, Paper No. 03-4421, *A Guardrail Connection for Low-Fill Culverts*, by Polivka, K.A., Faller, R.K., Reid, J.D., Rohde, J.R., and Sicking, D.L., Safety, Division A - Technical Activities, Group 2 Standing Committees and Task Forces, Design and Construction of Transportation Facilities, Transportation Research Board, Washington D.C., 2003.

2002 Catalog of Practical Papers, Paper No. 02-3675, *Crash Testing and Analysis of Work Zone Sign Supports*, by Polivka, K.A., Rohde, J.R., Faller, R.K., and Sicking, D.L., Section 8 - Safety, Division A - Technical Activities, Group 2 Standing Committees and Task Forces, Design and Construction of Transportation Facilities, Transportation Research Board, Washington D.C., 2002.

2001 Catalog of Practical Papers, Paper No. 01-0343, *A W-Beam Guardrail Adjacent to a Slope*, by Polivka, K.A., Sicking, D.L., and Faller, R.K., Section 10 - Safety, Division A - Technical Activities, Group 2 Standing Committees and Task Forces, Design and Construction of Transportation Facilities, Transportation Research Board, Washington D.C., 2001.

2000 Catalog of Practical Papers, Paper No. 000598, *A Long-Span Guardrail System for Culvert Applications*, by Faller, R.K., Sicking, D.L., Polivka, K.A., Rohde, J.R., and Bielenberg, R.W., Section 10 - Safety, Division A - Technical Activities, Group 2 Standing Committees and Task Forces, Design and Construction of Transportation Facilities, Transportation Research Board, Washington D.C., 2000.

2.3.4 Regional and Local Research Awards and Recognition

None

2.4 Other Research Accomplishments

2.4.1 Workshops, Advanced Training, and Review Panels

Participated in the Workshop on *Strategic Directions on Roadway Departure Crashes: Supporting the Decade of Action and Joint Meeting with AASHTO TCRS*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Technical Committee on Roadside Safety (TCRS), Beckman Center and Hyatt Regency Irvine Hotel, Irvine, California, Ohio, July 29 through August 2, 2012.

Participated in the Workshop on *Roadway Departure Crashes: Bridging the Gap Between Testing and Real World Performance and Joint Meeting with AASHTO/AGC/ARTBA Task Force 13*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Task Force 13, Hyatt Regency Cleveland at The Arcade, Cleveland, Ohio, May 23-25, 2011.

Participated in the Workshop on *Design, Testing, Managing Risk of Roadway Departure Crashes and Joint Meeting with AASHTO/AGC/ARTBA Task Force 13*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and AASHTO Task Force 13, Napa Valley Marriott Hotel & Spa, Yountville, California, May 16-19, 2010.

Participated in the Workshop on *Recent Advances in Roadside Safety Technology*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design, Snow King Resort Hotel and Conference Center, Jackson, Wyoming, June 15-18, 2008.

Participated in the Workshop on *Cable Barrier Systems*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design, Rushmore Plaza Holiday Inn, Rapid City, South Dakota, July 8-11, 2007.

Participated in the Workshop on *Positive Protection in Work Zones*, Sponsored by the Transportation Research Board (TRB) Committees AFB20 on Roadside Safety Design and AHB55 on Work Zone Traffic Control, Jackson Rancheria Casino, Hotel, and Conference Center, Jackson, California, July 23-26, 2006.

Participated in the Workshop on the *Review of NCHRP Report 350 Update and Current Roadside Safety Issues*, Sponsored by the Transportation Research Board (TRB) Committees AFB20 on Roadside Safety Design and the Utah Department of Transportation, St. George, Utah, July 10-13, 2005.

Participated in the SAI ImageExpress Motion Plus Workshop, Lecture by John Barnes of Sensor Applications, Minneapolis, Minnesota, August 2, 2004.

Participated in the Workshop on the *Update to NCHRP Report 350 and Current Safety Issues*, Sponsored by the Transportation Research Board (TRB) Committee AFB20 on Roadside Safety Design and Kansas Department of Transportation, Double Tree Hotel Overland Park-Corporate Woods, Overland Park, Kansas, July 18-21, 2004.

Participated in the Workshop on *Context Sensitive Utilization of Roadside Safety Features*, Sponsored by the Transportation Research Board (TRB) Committee A2A04 on Roadside Safety Features and Minnesota Department of Transportation, Radisson Hotel South, Minneapolis, Minnesota, July 13-16, 2003.

Participated in the ACI Two-Day Reinforced Concrete Design Seminar, Sponsored by American Concrete Institute, Lectures by Drs. Douglas Lee of Douglas D. Lee & Associates and Javeed Munshi of STS Consultants LTD., Marriott Hotel, Omaha, Nebraska, June 4-5, 2003.

Participated in the SAI ImageExpress Motion Plus Workshop, Lecture by John Ivory of Sensor Applications, Minneapolis, Minnesota, August 29, 2002.

Participated in the Workshop on *Updating Needs for NCHRP 350 Guidelines - Revisited*, Sponsored by the Transportation Research Board (TRB) Committee A2A04 on Roadside Safety Features and California Department of Transportation, Asilomar Conference Grounds, Pacific Grove, California, July 21-24, 2002.

Participated in the FHWA and NDOR Roadside Safety Hardware Workshop, Sponsored by the Federal Highway Administration, Midwest States Pooled Fund, and the Nebraska Department of Roads, Clifford Hardin Nebraska Center for Continuing Education, Lincoln, Nebraska, April 3, 2002.

Participated in the Federal Highway Administration (FHWA) *LS-DYNA Workshop*, An Advanced Lecture by Paul DuBois, University of Nebraska-Lincoln, June 21-25, 1999.

3 Teaching/Mentoring Accomplishments

3.1 Ph.D. Students - Completed

None

3.2 M.S. Students - Completed

None

3.3 Post-Doctoral Research Assistants

None

3.4 Undergraduate Students

None

3.5 Teaching Awards and Recognition

3.5.1 International and National Teaching Awards and Recognition

None

3.5.2 Regional, Local, and University Teaching Awards and Recognition

None

3.6 Other Teaching Accomplishments

None

3.7 Other Academic Mentoring

None

4 Service Accomplishments

4.1 Professional Service

4.1.1 Journal Editorships

None

4.1.2 Journal Reviewer

Journal of the Transportation Research Board - Transportation Research Record
Journal of Transportation Safety and Security – Taylor & Francis

4.1.3 Leadership Positions in International and National Organizations

4.1.3.1 Transportation Research Board (TRB)

Subcommittee Member - National Academy of Sciences, Transportation Research Board (TRB), A2A04(1) and AFB20(1) Subcommittee on Computational Mechanics, 2008-Present.

Subcommittee Member - National Academy of Sciences, Transportation Research Board (TRB), A2A04(2) and AFB20(2) Subcommittee on International Activities, 2008-Present.

Subcommittee Member - National Academy of Sciences, Transportation Research Board (TRB), AFB20(3) Subcommittee on Positive Protection in Work Zones, 2009-Present.

Chair of AFB20 Webpage Development, National Academy of Sciences, Transportation Research Board (TRB), January 2007 to December 2009

4.1.3.2 International Road Federation (IRF) - Washington

Committee Member - Work Zone & Temporary Traffic Control Safety Committee, 2013 - Present

4.1.3.3 American Association of State Highway and Transportation Officials (AASHTO)

Task Force 13 - Standardization of Details for Bridge and Road Hardware, AASHTO-AGC-ARTBA Subcommittee on New Highway Materials

- Co-Chair, Subcommittee No. 7 – April 2013- present
- Technical Representative of the Guardrails/Median Barriers Hardware Review Group, Subcommittee No. 2 - Barrier Hardware, October 2005 to present

4.1.4 Leadership Positions in Regional and Local Organizations

None

4.1.5 Memberships in Professional Organizations

Member of America's Registry of Outstanding Professionals.

Member of Pi Tau Sigma (Mechanical Engineering Honorary Society).

Member of Tau Beta Pi (Engineering Honorary Society).

Member of Golden Key National Honor Society.

Member of American Society of Mechanical Engineers (ASME).

Member of National Society of Professional Engineers (NSPE).

Member of The Order of Engineers.

Judge for Steel Bridge Competition, American Society of Civil Engineers (ASCE) Mid-Continent Regional Conference, University of Nebraska-Lincoln, April 22, 2004.

4.1.6 National and International Service Awards

None

4.1.7 Regional and Local Service Awards

None

4.1.8 Research Review Panels

None

4.2 University Service

4.2.1 Leadership on University Committees

None

4.2.2 Membership on University Committees

MwRSF Staff Representative, Staff Advisory Council, University of Nebraska-Lincoln, November 2004 –2009

4.3 College Service

4.3.1 Leadership on College Committees

None

4.3.2 Membership on College Committees

None

4.4 Unit Service

4.4.1 Leadership on Unit Committees

None

4.4.2 Membership on Unit committees

None

4.5 Other Community Service

4.5.1 St. Mary's Catholic Church, Davey, Nebraska

Committee Member – Social Group of St. Mary's Altar Society, 2006 - present

4.5.2 St. John Nepomucene Catholic School, Weston, Nebraska

Volunteer - Room Parent for Pre-K class – 2011-present

Volunteer - Home School Association Fundraiser Committee, 2011-present

4.5.3 Valparaiso Area Ball Association

Volunteer Coach – Blast Ball Team – summer 2012

Volunteer Coach – T-ball Team – summer 2012

4.5.4 Service to Local Students

Sponsored students in the UNL 2011 Professional Development Science and Math Summer Technology Institute, Mid-America Transportation Center, Lincoln, Nebraska, June 23, 2011.

Sponsored students in the College of Engineering Upward Bound , June 2007.

Sponsored students in the College of Engineering 4-H Science and Technology Camp, July 2006.

Sponsored Russell Fortik in a Job Shadowing experience at MwRSF, November 19, 2002.

Sponsored Cheney 6th grade students in a math field trip to MwRSF, February 7, 2002.

Sponsored students in the College of Engineering and Technology's Bright Lights Engineering Camp, July 2002, July 2003, July 2004, July 2006, July 2007, July 2008.

Sponsored students in the Engineering Research Center's (ERC's) MESA Program, June 1999, June 2000, June 2001, June 2002, June 2003, June 2004, June 2005.

5 Other Accomplishments

5.1 Professional Licensure

Engineer in Training: Mechanical Engineer in the State of Nebraska (EI-7074), December 1995

5.2 Miscellaneous

Secretary of UNL Chapter of Pi Tau Sigma, 1995-1996.

Vice President of UNL Chapter of Pi Tau Sigma, 1994-1995.

Dean's Honor List in Engineering and Technology College.

Jaycee's War Memorial Fund Scholarship, the Walter and Mildred Scott Scholarship, the Beach-Byer Trust Scholarship, the 3M Scholarship, the Nebraska Society of Professional Engineers Auxiliary Scholarship, and the University Foundation (UNL) Scholarship.

6 Professional Consulting

6.1 General Engineering Consulting

Intellistrobe Safety Systems, Inc., Springfield, Missouri - 2004

Remcon Plastics Incorporated, Reading, Pennsylvania - 2004

Gleason and Son Signs, Salina, Kansas - 2003

Three D Traffic Works, Inc. Burbank, California, California - 2003 - 2004

ROO GUARDS, INC., Spirit Lake, Iowa - 2003

Services and Materials Company, Jackson Products, Inc., St. Charles, Missouri - 2003

D.P. Sawyer, Inc., Lincoln, Nebraska - 2002

Dicke Tool Company, Downers Grove, Illinois - 1998 - 2003

6.2 Expert Witness and/or Safety Engineering Consultant

Lechuga vs. Alcorn Fence Company, Law Firm: Campion - Rodolff, LLP, Engineering Consultant, 2004, Case Settled Out of Court.

Nebraska State Attorney General's Office, Lincoln, Nebraska - 2001 - 2004