

Curriculum Vitae

Jennifer D. Schmidt, Ph.D., P.E.

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Midwest Roadside Safety Facility
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Education and Employment History

Education History

Doctor of Philosophy, University of Nebraska-Lincoln, December 2012, GPA 3.97
Major: Civil Engineering
Emphasis: Structural Engineering
Dissertation: Development of a New Energy-Absorbing Roadside/Median Barrier System with Restorable Elastomer Cartridges

Master of Science, University of Nebraska-Lincoln, December 2009, GPA 3.92
Major: Civil Engineering
Emphasis: Structural Engineering
Thesis: Analysis of Existing Work-Zone Devices with MASH Safety Performance Criteria

Bachelor of Science, University of Nebraska-Lincoln, May 2008, GPA 3.75
Major: Civil Engineering

Employment History

Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Post-Doctoral Research Associate, December 2012 - Present

Civil Engineering Department, University of Nebraska-Lincoln, Lecturer, CIVE898: Special Topics in Structural Engineering, January 2013 – May 2013

Civil Engineering Department, University of Nebraska-Lincoln, Graduate Teaching Assistant, CIVE341: Introduction to Structural Engineering Laboratory, August 2011 - December 2011

Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Graduate Research Assistant, May 2008 – December 2012

Research Accomplishments

Publication Record

Reviewed Journal Publications in print

2. Schmidt, J.D., Jowza, E.R., Faller, R.K., Rosenbaugh, S.K., and Reid, J.D., *Safety Investigation and Guidance for Retrofitting Existing Approach Guardrail Transitions*, **Best Paper Award** - Paper No. 14-4613 Transportation Research Board AFB20 Committee on Roadside Safety Design, Transportation Research Record, Journal of the Transportation Research Board, Washington D.C., No. 2437, Highway Design 2014 Volume 2, pages 52-62, 90% contribution.
1. 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, 95% contribution.

Reviewed Journal Publications accepted for publication

2. Schmidt, J.D., Weiland, N.A., Reid, J.D., and Faller, R.K., *Minimum Effective Guardrail Length for the Midwest Guardrail System*, Paper No. 15-0484, Recommended for publication in Transportation Research Record, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., Submitted: July 31, 2014, 90% contribution.
1. Rosenbaugh, S.K., Schmidt, J.D., and Faller, R.K., *Development of Socketed Foundations for Cable Guardrail Posts*, Paper No. 15-4518, Recommended for publication in Transportation Research Record, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., August 1, 2014, 20% contribution.

Conference Proceedings: peer reviewed

1. Rosenbaugh, S.K., Schmidt, J.D., and Faller, R.K., *Evaluation of the Midwest Guardrail System Stiffness Transition with Curb*, Paper No. 15-4502, Submitted to Transportation Research Record, Journal of the Transportation Research Board, Transportation Research Board, Washington D.C., August 1, 2014, 50% contribution.

Conference Presentations

5. *Minimum Effective Length for the Midwest Guardrail System*, Presented at the Transportation Research Board 94th Annual Meeting, Session 209, Washington, D.C., January 12, 2015.
4. *Rapid Construction for Bridge Railings and Barriers*, Presented at the Transportation Research Board AFB20 Committee on Roadside Safety Design Summer Meeting and Workshop, Portland, ME, July 15, 2014.
3. *Safety Investigation and Guidance for Retrofitting Approach Guardrail Transitions*, Presented at Transportation Research Board 93rd Annual Meeting, Washington, D.C., January 14, 2014.
2. *Development of a New Energy-Absorbing, Restorable Longitudinal Barrier System*, Presented at Transportation Research Board 93rd Annual AFB20 Committee Meeting, Washington, D.C., January 14, 2014.

1. *Safety Performance of Work-Zone Devices Under MASH Testing*, Presented at Transportation Research Board 89th Annual AFB20 Committee on Roadside Safety Design Meeting, Washington, D.C., January 12, 2010.

Invited Talks, Webinars, or Keynote Speeches

3. *Safety Performance of Work-Zone Devices Under MASH Testing*, Presented at the Midwest Pooled Fund and Task Force 13 Joint Spring Meeting, Lincoln, Nebraska, April 17, 2013.
2. *Safety Performance of Work-Zone Devices Under MASH Testing*, Presented at 2012 Mid-America Transportation Center (MATC) Research Showcase Webinar, Lincoln, Nebraska, June 7, 2012.
1. *Safety Performance of Work-Zone Devices Under MASH Testing*, Presented at 2010 Smart Work Zone Deployment Initiative (SWZDI) Research Showcase Webinar, Lincoln, Nebraska, July 26, 2010.

Other Publications – Research Reports

10. 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 Regional Pooled Fund Program, Transportation Research Report No. TRP-03-294-14, 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, March 21, 2014.
9. Schmidt, J.D., Schmidt, T.L., Faller, R.K., Sicking, D.L., Reid, J.D., Lechtenberg, K.A., Bielenberg, R.W., Rosenbaugh, S.K., and 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, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, February 6, 2014.
8. 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.
7. 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.
6. Schmidt, J.D., 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, MwRSF Research Report No. TRP-03-283-13, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 11, 2013.
5. 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.

4. 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.
3. 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.
2. Schmidt, J.D., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., and Holloway, J.C., *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.
1. 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 #57, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 13, 2009.

Grantsmanship Record

Externally Funded Research Grants

Development of Concrete Bridge Rails, Median Barriers, and Roadside Barriers for Test Level 5 of AASHTO MASH in Manitoba, Canada, Submitted to Manitoba Infrastructure and Transportation [Principal Investigator: Ronald Faller, Co-Principal Investigators: Jennifer Schmidt and Scott Rosenbaugh, Submitted January 22, 2015, Awarded February 16, 2015, Total Award: \$297,890, Sponsor: \$297,890, UNL: \$0]

Midwest States Pooled Fund Program for Roadside Safety - Year 25 (2014-2017), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, Illinois, Indiana, and New Jersey, [Principal Investigator: John Reid, Co-Principal Investigators: Ronald Faller, Robert Bielenberg, and Karla Lechtenberg, July 1, 2013 - June 30, 2016, Total Award: \$780,000, Sponsor: \$780,000, UNL: \$0], **WBS Nos. 26-1121-1111-001 through 26-1121-1111-002 and 26-1121-1112-001 through 26-1121-1117-001.**

Midwest States Pooled Fund Program for Roadside Safety - Year 24 (2013-2016), Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, TPF-5(193) Supplemental Nos. 63 through 69, [Principal Investigator: John Reid, Co-Principal Investigators: Ronald Faller, Robert Bielenberg, and Karla Lechtenberg, July 1, 2013 - June 30, 2016, Total Award: \$650,000, Sponsor: \$650,000, UNL: \$0], **WBS Nos. 26-1121-1095-001 through 26-1121-1101-001 and 26-1121-1103-001**.

External Research Grants that have been submitted

Application of MASH Test Criteria to Breakaway Sign and Luminaire Supports and Crashworthy Work-Zone Traffic Control Devices, Solicitation No. NCHRP 03-119, Submitted to the National Cooperative Highway Research Program, National Academy of Sciences [Principal Investigator: Ronald Faller, Co-Principal Investigators: John Reid, Karla Lechtenberg, Jennifer Schmidt, Cody Stolle, Submitted: January 27, 2015, Total Award: \$600,000, Sponsor: \$600,000 (\$325,000 George Mason University, \$275,000 University of Nebraska-Lincoln), UNL: \$0]

Research Patents and Awards

Patents

Angled joint to add continuity in spanning variable width gaps in prefabricated structural segments, [Scott Rosenbaugh, Jennifer Schmidt, Robert Bielenberg, and Ronald Faller], Patent disclosure under internal review and preparation for patent application.

National and International Research Awards and Recognition

2014 Best Paper Award - TRB AFB20 Committee on Roadside Safety Design - *Safety Investigation and Guidance for Retrofitting Existing Approach Guardrail Transitions*, Schmidt, J.D., Jowza, E.R., Faller, R.K., Rosenbaugh, S.K., and Reid, J.D., Presented at the 2014 Annual TRB Meeting.

Research Projects

FY 2014 Wisconsin DOT Roadside Safety Research Program (2013-2016), Phase I Safety Investigation and Design Guidance for Curb and Gutter Near Energy-Absorbing Terminals, TPF-5(193) Supplemental No. 62, Awarded by Wisconsin Department of Transportation, [Lead Engineer, July 1, 2013 - June 30, 2016, Total Award: \$173,716, Sponsor: \$173,716, UNL: \$0], **WBS No. 26-1121-1094-001**

Numerical Investigation on the Safety Performance of Guardrail When Steel Mechanical Properties Vary, Contract No. 60320, Awarded by CRM Group, ArcelorMittal, [Lead Engineer, 2012-2013, Total Award: \$56,331, Sponsor: \$56,331, 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, [Project Team Member, 2011-2014, Total Award: \$234,629, Sponsor: \$234,629, 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, [Project Team Member, 2010-2011, Total Award: \$180,655, Sponsor: \$180,655, UNL: \$0].

Adaptation of the SAFER Barrier for Roadside & Median Applications, Awarded by the Federal Highway Administration and the Nebraska Department of Roads, DPU-STWD(94), [Lead Engineer, 2009-present, Total Award: \$990,000, Sponsor: \$990,000, 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, [Lead Engineer, 2009-2010, Total Award: \$50,000, Sponsor: \$50,000, 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), [Lead Engineer, 2008-2009, Total Award: 120,000, Sponsor: \$120,000 (Dicke Tool Company - \$60,000 and MATC - \$60,000), UNL: \$0].

Midwest States Pooled Fund Program for Roadside Safety - Year 20 (2009-2012), Additional Funding to Complete Development of a Crash-Worthy Terminal for Midwest Four-Cable, HT, Barrier System, Awarded by States of Nebraska, Kansas, Missouri, Iowa, South Dakota, Wisconsin, Minnesota, Ohio, Wyoming, and Illinois, [Lead Engineer, 2009-present, Total Award: \$159,193, Sponsor: \$159,193, UNL: \$0].

Teaching Accomplishments

UNL Undergraduate Courses

CIVE341 – Introduction to Structural Engineering Lab, Fall 2011

UNL Graduate Courses

CIVE898 – Special Topics in Structural Engineering, Spring 2013

Service Accomplishments

Journals for which you review papers

1. Journal of the Transportation Research Board - Transportation Research Record (2012-present)

Memberships in Professional Organizations

Member of Chi Epsilon (Civil Engineering Honorary Society).

Member of American Society of Civil Engineers (ASCE).

Membership positions on university wide committees

Institute for International Teaching Assistants, Final evaluation panel member

August 12, 2014; August 13, 2013

Undergraduate Creative Activities and Research Experiences (UCARE), 2014-2015 School Year, Selection Committee

Other Accomplishments

Professional Licensure

Licensed Professional Civil Engineer in the State of Nebraska (E-14946), December 2013