

STEPHEN T. MUENCH

Curriculum Vitae

Department of Civil & Environmental Engineering
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EDUCATIONAL HISTORY

University of Washington, Seattle WA
Doctor of Philosophy in Civil Engineering 2004
Dissertation: A Computer-Based Multimedia Pavement Training Concept for use in a Self-Managed Learning Program for Engineers

University of Washington, Seattle WA
Masters of Science in Civil Engineering
1998
Thesis: Asphalt Concrete Temperature Differential Damage in Washington State

University of Washington, Seattle WA
Bachelor of Science in Civil Engineering
1990

EMPLOYMENT HISTORY

University of Washington
Seattle, WA, USA
Associate Professor, Department of Civil & Environmental Engineering 9/2010 – present

University of Washington
Seattle, WA, USA
Assistant Professor, Department of Civil & Environmental Engineering 9/2004 – 9/2010

University of Washington
Seattle, WA, USA
Research Assistant, Department of Civil & Environmental Engineering 1/2001 – 6/2004

Pavia Systems, Inc.
Seattle, WA, USA
Founder and Board Member 10/2005 – present

Greenroads Foundation (501(c)3 nonprofit)
Redmond, WA, USA
Founder and Board Member 8/2010 – present

Perteet, Inc. Everett, WA, USA Design Engineer II	1/1999 – 12/2000
University of Washington Seattle, WA, USA Research Assistant, Department of Civil & Environmental Engineering	9/1997 – 12/1998
United States Navy Various locations and positions (see below) Nuclear Submarine Officer	8/1990 – 9/1997
Naval Submarine Training Center Pacific Pearl Harbor, HI Tactics Training Department Director	8/1996 – 9/1997
Naval Submarine Training Center Pacific Pearl Harbor, HI Senior Instructor	5/1995 – 8/1996
USS WILLIAM H. BATES (SSN 680) Pearl Harbor, HI Quality Assurance Officer, Division Officer, Watch Officer	4/1992 – 5/1995
Submarine School Groton, CT Student	1/1992 – 3/1992
Nuclear Propulsion Training Unit, Idaho National Engineering Lab. Idaho Falls, ID Student	6/1991 – 12/1991
Naval Nuclear Power School Orlando, FL Student	11/1990 – 5/1991
Combined Federal Campaign Seattle, WA Loaned Executive	8/1990 – 11/1990

AWARDS AND HONORS

White House Champion of Change (Greenroads Foundation): whitehouse.gov/champions
28th Annual South African Transportation Conference (SATC) best paper award, 2009
Nominated for Distinguished Teaching Award, 2009, University of Washington
K.B. Woods Award, 2004, Transportation Research Board
Premier Award, 2003, National Engineering Education Delivery System (NEEDS)
R1edu Award, 2003, R1edu (34-university consortium)
Valle Scholar, 1997-1998, Valle Scholarship and Scandinavian Exchange Program
Coral Sales Scholarship, 1998, Coral Sales Company
Naval Reserve Officer Training Corps (NROTC) 4-year scholarship, 1986-1990, U.S. Navy
Navy Commendation Medal, 1997, U.S. Navy
Navy Achievement Medal (3 awards), 1992, 1993, 1995, U.S. Navy
Navy Expeditionary Medal, 1992, U.S. Navy

AFFILIATIONS AND OTHER APPOINTMENTS

None.

PUBLICATIONS

Superscript legend: 1: my graduate student, 2: other graduate student, 3: institutional collaborator, 4: external collaborator

Refereed archival journal publications

1. Anderson, J.² and **Muench, S.T.** (2013). Sustainability Trends Measured by Greenroads Rating System. *Transportation Research Record 2357*. TRB, National Research Council, Washington, D.C., pp. 24-32.
2. **Muench, S.T.**; Scarsella, M.²; Bradway, M.⁴; Hormann, L.⁴ and Cornell, L.⁴ (2012). Evaluating a Project-Based Roadway Sustainability Rating System for Public Agency Use. *Transportation Research Record 2285*. TRB, National Research Council, Washington, D.C., pp. 8-18.
3. **Muench, S.T.**; Armstrong, A.⁴ and Allen, B.⁴ (2012). Sustainable Roadway Design and Construction in the Federal Lands Highway Program. *Transportation Research Record 2171*. TRB, National Research Council, Washington, D.C., pp. 19-30.
4. Weiland, C.¹ and **Muench, S.T.** (2010). Life-Cycle Assessment of Reconstruction Options for Interstate Highway Pavement in Seattle, Washington. *Transportation Research Record 2170*. TRB, National Research Council, Washington, D.C., pp. 18-27.
5. **Muench, S.T.**; Mahoney, J.P.³ White, G.C.⁴ (2010). Pavement Interactive: Pavement Knowledge Transfer with Web 2.0. *Journal of Transportation Engineering*, Vol. 136, Issue 12. pp. 1165-1172.

6. **Muench, S.T.;** Anderson, J.L.¹ and Bevan, T.⁴ (2010). Greenroads: A Sustainability Rating System for Roadways. *International Journal of Pavement Research and Technology*, Vol. 3, No. 5, pp. 270-279.
7. **Muench, S.T.;** Anderson, J.L.¹ and Soderlund, M.¹ (2010). Greenroads: a sustainability performance metric for roadways. *Journal of Green Building*, Vol. 5, No. 2. pp. 114-128.
8. Li, J.⁴; Uhlmeyer, J.S.⁴; Mahoney, J.P.³; **Muench, S.T.** (2010). Updating the Pavement Design Catalog for the Washington State Department of Transportation: Using the 1993 AASHTO 1993 Guide, Mechanistic-Empirical Pavement Design Guide and Historical Performance. *Transportation Research Record 2154*. TRB, National Research Council, Washington, D.C., pp. 124-129.
9. **Muench, S.T.** (2010). Roadway Construction Sustainability Impacts: A Life Cycle Assessment Review. *Transportation Research Record 2151*, TRB, National Research Council, Washington, D.C., pp. 36-45.
10. Mahoney, J.P.³; Uhlmeyer, J.S.⁴; Morin, P.⁴; Luhr, D.⁴; Willoughby, K.A.⁴; **Muench S.T.** and Baker, T.⁴ (2010). Pavement Preservation Funding and Performance in Washington State. *Transportation Research Record 2150*, TRB, National Research Council, Washington, D.C., pp. 55-62.
11. Pierce, L.M.¹; Munden, H.J.²; Mahoney, J.P.³ **Muench, S.T.;** Waters, M.⁴ and Uhlmeyer, J.⁴ (2009). Quieter HMA Pavements in Washington State. *Transportation Research Record 2095*, TRB, National Research Council, Washington, D.C., pp. 84-92.
12. Li., J.¹; Mahoney, J.P.³, **Muench, S.T.** and Pierce, L.M.¹ (2008). Bituminous Surface Treatment Protocol for the Washington State Department of Transportation. *Transportation Research Record 2084*, TRB, National Research Council, Washington, D.C., pp. 65-72.
13. Kristjansdottir, O.¹; **Muench, S.T.;** Michael, L.⁴ and Burke, G.⁴ (2007). Assessing the Potential for Warm Mix Asphalt Technology Adoption. *Transportation Research Record 2040*, TRB, National Research Council, Washington, D.C., pp. 91-99.
14. **Muench, S.T.;** Mahoney, J.P.³; Wataru, W.⁴; Chong, L.⁴ and Romanowski, J.⁴ (2007). Best Practices for Long-Lasting Low-Volume Pavements. *Journal of Infrastructure Systems*, Vol. 13, No. 4. pp. 311-320.
15. Li., J.¹; **Muench, S.T.;** Mahoney, J.P.³; Sivaneswaran, N.⁴; Pierce, L.M.¹ and White, G.C.³ (2006). Calibration of NCHRP 1-37A software for the Washington state department of transportation: Rigid pavement portion. *Transportation Research Record 1949*, TRB, National Research Council, Washington, D.C., pp. 43-53.
16. **Muench, S.T.** (2006). A Self Managed Learning Model for Civil Engineering Training. *Journal of Professional Issues in Engineering Education and Practice*, Vol. 132, No. 3, pp. 209-216.
17. Li., J.¹; **Muench, S.T.;** Mahoney, J.P.³; Pierce, L.M.¹; Sivaneswaran, N.⁴ and White, G.C.³ (2005). The Highway Development and Management System in Washington State: Calibration and Application for the Department of Transportation Road Network.

Transportation Research Record 1933. Transportation Research Board, National Academies, Washington, D.C., pp. 53-61.

18. **Muench, S.T.** and Mahoney, J.P.³ (2004). A Computer-Based Multimedia Pavement Training Tool for Self-Directed Learning. In *Transportation Research Record 1896*. TRB, National Research Council, Washington, D.C., pp. 3-12. Winner of the 2004 K.B. Woods Award best paper in the area of design and construction of transportation facilities.
19. **Muench, S.T.**; White, G.C.³; Mahoney, J.P.³; Turkiyyah, G.M.³; Sivaneswaran, N.⁴; Pierce, L.M.⁴ and Li, J.¹ (2004). Washington State's Web-Enabled Pavement Management System. *Transportation Research Record 1889*. TRB, National Research Council, Washington, D.C., pp. 35-46.
20. Mahoney, J.P.³; **Muench, S.T.**; Pierce, L.M.⁴; Read, S.A.⁴; Jakob, H.⁴; Moore, R.⁴ (2000). Construction-Related Temperature Differentials in Asphalt Concrete Pavement: Identification and Assessment. *Transportation Research Record 1712*. TRB, National Research Council, Washington, D.C., pp. 93-100.

Journal articles accepted but not yet published

Journal articles submitted but not yet reviewed

Conference proceedings and other non-journal articles

- ***Fully refereed publications***

1. **Muench, S.T.**; Martinez Caraballo, E.²; Lin, Y.Y.²; Gutub, S.²; Willoughby, K.⁴ and Uhlmeyer, J.⁴ (2013). Impact on Emissions and Energy Consumption of Evolving Pavement Materials Practices from 1990 to 2010: A Washington State Department of Transportation Case Study. 2014 *TRB Annual Meeting*, TRB, National Research Council, Washington, D.C.
2. **Muench, S.T.**; Uhlmeyer, J.⁴; Luhr, D.⁴ and Li, J.⁴ (2012). Long-Life Concrete Pavements in Washington State – Past and Present. *International Conference on Long-Life Concrete Pavements*, 18-21 September 2012, Seattle, WA.
3. Martinez-Caraballo¹, E.; Redruello, I.⁴; Gonzalez, M.J.⁴; **Muench, S.T.**; Garcia Navarro, J.⁴ (2012). Quantity of CO2 Emissions in the Life Cycle of a Highway. *Eighth International Conference on Environmental, Cultural, Economic, and Social Sustainability*, 10-12 January 2012, Vancouver, BC.
4. **Muench, S.T.**; Anderson, J.L.¹ and Bevan, T.⁴ (2010). Greenroads: A Sustainability Rating System for Roadways. *International Conference on Sustainable Concrete Pavements: Practices, Challenges, and Directions*, Sacramento, CA, 15-17 September 2010.

5. **Muench, S.T.**; Anderson, J.L.¹ and Bevan, T.⁴ (2010). Greenroads: A Sustainability Performance Metric for Roadways. *16th International Road Federation (IRF) World Road Meeting*, Lisbon, Portugal, 25-28 May 2010.
6. Pierce, L.M.⁴; Mahoney, J.P.³; **Muench, S.T.**; Uhlmeyer, J.⁴ and Luhr, D.⁴ (2010). Utilization of Bituminous Surface Treatments for Maintaining Hot Mix Asphalt Pavements Due to Restricted Budgetary Constraints. *First International Conference on Pavement Preservation*, 12-16 April 2010, Newport Beach, CA.
7. **Muench, S.T.**; Anderson, J.L.¹ and Bevan, T.⁴ (2010). Greenroads: A Sustainability Performance Metric for Roadways. Presentation at the *Transportation Research Board's 2010 Annual Meeting*, 10-14 January 2010 Washington, DC.
8. Pierce, L.M.¹; **Muench, S.T.** and Mahoney, J.P.³ (2010). Long-Term Performance of Dowel Bar Retrofit in Washington State. Presentation at the *Transportation Research Board's 2010 Annual Meeting*, 10-14 January 2010, Washington, DC.
9. Steyn, W.⁴; Mahoney, J.P.³; **Muench, S.T.** and White, G.C.⁴ (2009). *Implementation of Interactive Web-Based Training Tools in Pavement Engineering*. 28th Annual South African Transportation Conference (SATC), 6-9 July 2009, Pretoria, South Africa. Winner of Best Paper award.
10. **Muench, S.T.**; Anderson, J.L.¹ and Soderlund, M.¹ (2009). Greenroads: Development of a Sustainability Rating System for Roadways. Presentation at the *Transportation Research Board's 2009 Annual Meeting*, 11-15 January 2009, Washington, DC.
11. Uhlmeyer, J.S.⁴; Pierce, L.M.¹; Kinne, C.⁴; Anderson, K.A.⁴; **Muench, S.T.**; Mahoney, J.P.³ and Valentine, C.⁴ (2008). Cold In-Place Recycling in Washington State. *Proceedings of the International ISAP Symposium: Asphalt Pavements and the Environment*, 18-20 August 2008, Zurich, Switzerland, pp. 119-131.
12. **Muench, S.T.**; Soderlund, M.¹ and Willoughby, K.A.¹ (2008). Green Roads: an Environmental Rating System for Road Design and Construction. *Proceedings of the International ISAP Symposium: Asphalt Pavements and the Environment*, 18-20 August 2008, Zurich, Switzerland, pp. 611-622.
13. Soderlund, M.¹; **Muench, S.T.**; Willoughby, K.⁴; Uhlmeyer, J.⁴ and Weston, J.⁴ (2008). Green Roads: A Sustainability Rating System for Roadways. Presented at the *Transportation Research Board's 2008 Annual Meeting*, 13-17 January 2008, Washington, D.C.
14. Ozolin, B.¹; **Muench, S.T.**; Uhlmeyer, J.⁴ and Pierce, L.M.¹ (2007). CA4PRS Use in Washington State. *International Conference on Optimizing Paving Concrete Mixtures and Accelerated Concrete Pavement Construction and Rehabilitation*, 7-9 November 2007, Atlanta, GA.
15. **Muench, S.T.**; Ozolin, B.¹; Uhlmeyer, J.⁴ and Pierce, L.M.¹ (2007). Rapid Concrete Panel Replacement in Washington State: Lessons Learned. *International Conference on Optimizing Paving Concrete Mixtures and Accelerated Concrete Pavement Construction and Rehabilitation*, 7-9 November 2007, Atlanta, GA.

16. **Muench, S.T.**; Mahoney, J.P.³; Pierce, L.M.¹; Uhlmeier, J.⁴ and Anderson, K.⁴ (2006). The Evolution of Long-Life Concrete Pavements in Washington State. *Proceedings of the International Conference on Long-Life Concrete Pavements*, 24-27 October 2006, Chicago, IL.
17. **Muench, S.T.**; White, G.C.³; Mahoney, J.P.³; Sivaneswaran, N.⁴; Pierce, L.M.⁴ (2004). *Maintenance and Rehabilitation of Low-Volume Pavements in Washington State*. Transportation Research Board 2005 annual meeting, Washington, D.C.
18. **Muench, S.T.**; Mahoney, J.P.³; White, G.C.³; Pierce, L.M.⁴ and Sivaneswaran, N.⁴ (2004). Long-Lasting Low-Volume Pavements in Washington State. *Proceedings of the International Symposium on the Design and Construction of Long Lasting Asphalt Pavements*. June 7-9, 2004, Auburn, AL.
19. White, G.C.³; **Muench, S.T.**; Mahoney, J.P.³; Turkiyyah, G.M.³; Sivaneswaran, N.⁴ and Pierce, L.M.⁴ (2004). PMSView: A Web-Enabled Pavement Management System. *Proceedings: 6th International Conference on Managing Pavements*. October 19-24, 2004, Brisbane, Australia.
20. **Muench, S.T.** and Mahoney, J.P.³ (2004). Computer-Based Training for an Expanding Workforce. *8th Conference on Asphalt Pavements for Southern Africa*, Sun City, North West Province, South Africa, September 12-16, 2004.

- **Refereed by abstract only**

1. Anderson, J.L.¹; **Muench, S.T.** and Cornell, L.⁴ (2012). "Oregon Department of Transportation Evaluation of Greenroads." *Northwest Transportation Conference*, 7-9 February 2012, Corvallis, OR.
2. Mader, S.⁴; **Muench, S.T.**; Anderson, J.L.¹ and Bevan, T.⁴ (2010). Greenroads: A Sustainability Performance Metric for Roadway Design and Construction. *Association for Environmental Studies and Sciences (AESS) Annual Conference*, Lewis and Clark College, Portland, OR, 17-20 June 2010.
3. **Muench, S.T.**; Anderson, J.L.¹ (2010). Sustainability Best Practices for the Federal Lands Highway Program (FLHP). *U.S. Department of the Interior 2010 Conference on the Environment*, 26-30 April 2010, Portland, OR.
4. **Muench, S.T.**; Anderson, J.L.¹ and Cornell, L.⁴. (2010). Greenroads performance metric and Oregon case studies. *Northwest Transportation Conference*, 9-11 February 2010, Corvallis, OR.
5. Anderson, J.L.¹; **Muench, S.T.** and Soderlund, M.¹ (2009). Greenroads: A Sustainability Rating System for Roadways. *Engineering Sustainability 2009: Innovations that Span Boundaries*, 19-21 April 2009, Pittsburgh, PA.
6. White, G.C.³; **Muench, S.T.**; Mahoney, J.P.³; Turkiyyah, G.M.³; Sivaneswaran N.⁴; Pierce, L.M.⁴; Ahmed K.M.³ (2004). PMSView: A Web-Enabled GIS Application for

Abstracts, letters, non-refereed papers, technical reports

• **Technical Reports**

1. Garbacik, S.¹; **Muench, S.T.** (2012). *Oregon Department of Transportation Greenroads Pilot Project: OR 34: Corvallis – Roche St. to Wolcott Rd.* TNW 2012-05. Transportation Northwest Regional Center X (TransNow), Seattle, WA.
2. Li, Jianhua⁴; Uhlmeier, J.S.⁴; Mahoney, J.P.³ and **Muench, S.T.** (2011). *Use of the 1993 AASHTO Guide, MEPDG and Historical Performance to Update the WSDOT Pavement Design Catalog.* WA-RD 779.1. Washington State Department of Transportation (WSDOT), Olympia, WA.
3. **Muench, S.T.** (2011). *Sustainable Pavement Solutions for O’ahu. An Exploration into the Use of Reclaimed Asphalt Pavement (RAP), Warm Mix Asphalt (WMA) and other Sustainable Strategies for O’ahu’s Hot Mix Asphalt (HMA) Pavements.* Report done for the Hawai’i Community Foundation, Honolulu, HI.
4. **Muench, S.T.**; Scarsella, M.¹ (2011). *Oregon Department of Transportation Greenroads Pilot Project: US 97: Lava Butte – S. Century Drive Section.* TNW 2011-06. Transportation Northwest Regional Center X (TransNow), Seattle, WA.
5. **Muench, S.T.**; Weiland, C.D.³; Hatfield, J.¹ and Wallace, L.K.¹ (2011). *Open-Graded Wearing Courses in the Pacific Northwest.* FHWA-OR-RD-17. Oregon Department of Transportation, Salem, OR.
6. **Muench, S.T.** (2010). *Portland Cement Concrete Pavement Best Practices Summary Report.* WA-RD 744.1. Washington State Department of Transportation (WSDOT), Olympia, WA.
7. **Muench, S.T.**; Pierce, L.M.¹; Uhlmeier, J.⁴ and Anderson, K.⁴ (2010). *A Brief History of Long-Life WSDOT Concrete Pavements.* WA-RD 744.2. Washington State Department of Transportation (WSDOT), Olympia, WA.
8. Cotter, A.¹ and **Muench, S.T.** (2010). *Studded Tire Wear on Portland Cement Concrete Pavement in the Washington State Department of Transportation Route Network.* WA-RD 744.3. Washington State Department of Transportation (WSDOT), Olympia, WA.
9. Weiland, C.¹ and **Muench, S.T.** (2010). *Life Cycle Assessment of Portland Cement Concrete Interstate Highway Rehabilitation and Replacement.* WA-RD 744.4. Washington State Department of Transportation (WSDOT), Olympia, WA.
10. Bodvarsson, G.A.¹ and **Muench, S.T.** (2010). *Effects of Loop Detector Installation on the Portland Cement Concrete Pavement Lifespan: Case Study on I-5.* WA-RD 744.5. Washington State Department of Transportation (WSDOT), Olympia, WA.’

11. Brown, S.⁴; **Muench, S.T.** and Anderson, J.L.¹ (2009). Sustainable Roadway Design and Construction: An Online Course. TNW 2009-14. Transportation Northwest Regional Center X (TransNow), Seattle, WA.
12. **Muench, S.T.**; Anderson, J.L.¹. (2009). *Greenroads: A sustainability performance metric for roadway design and construction*. WA-RD 725.1 and TNW 2009-13. Washington State Department of Transportation (WSDOT) and Transportation Northwest Regional Center X (TransNow), Seattle, WA.
13. Pierce, L.M.¹. and **Muench, S.T.** (2009). *Evaluation of Dowel Bar Retrofit for Long-Term Pavement Life in Washington State*. WA-RD 727.1, Washington State Department of Transportation (WSDOT), Olympia, WA.
14. **Muench, S.T.** and Moomaw, T.⁴ (2009). *De-Bonding of Hot Mix Asphalt Pavements in Washington State: An Initial Investigation*. WA-RD 712.1 and TNW 2008-10. Washington State Department of Transportation (WSDOT) and Transportation Northwest Regional Center X (TransNow), Seattle, WA.
15. Brown, E.R.⁴; Ahlrich, R.⁴; Rollings, R.⁴; **Muench, S.T.**; Prowell, B.⁴; Cooley, A.⁴ and James R.⁴ (2008). *Airfield Asphalt Pavement Construction Best Practices Manual*. AAPTP Project 05-01. Auburn University, Auburn, AL.
16. Li, J.¹; Mahoney, J.P.³ and **Muench, S.T.** (2007). *Bituminous Surface Treatment Protocol*. WA-RD 652.1. Washington State Department of Transportation (WSDOT), Olympia, WA.
17. Ozolin, B.¹ and **Muench, S.T.** (2007). *Rapid Pavement Construction Tools, Materials and Methods*. WA-RD 670.1. Washington State Department of Transportation (WSDOT), Olympia, WA.
18. Li, J.¹; **Muench, S.T.** and Mahoney, J.P.³ (2004). *PCC Models for Rehabilitation/Reconstruction Decision-Making*. WA-RD 588.2. Washington State Department of Transportation (WSDOT), Olympia, WA.
19. Li, J.¹; **Muench, S.T.**; Mahoney, J.P.³; White, G.C.³; Pierce, L.M.⁴ and Sivaneswaran, N.⁴ (2004). *Application of HDM-4 in the WSDOT Highway System*. WA-RD 588.1. WSDOT, Olympia, WA.
20. **Muench, S.T.** (2004). *A Computer-Based Multimedia Pavement Training Concept for use in a Self-Managed Learning Program for Engineers*. Doctoral Dissertation. University of Washington, Seattle, WA.
21. **Muench, S.T.** and Mahoney, J.P.³ (2001). *A Quantification and Evaluation of WSDOT's Hot-Mix Asphalt Concrete Statistical Acceptance Specification*. WA-RD 517.1. Washington State Department of Transportation (WSDOT), Olympia, WA.
22. Willoughby, K.A.⁴; Mahoney, J.P.³; Pierce, L.M.⁴; Uhlmeyer, J.S.⁴; Anderson, K.W.⁴; Read, S.A.⁴; **Muench, S.T.**; Thompson, T.R.⁴ and Moore, R.⁴ (2001). *Construction-Related Asphalt Concrete Pavement Temperature Differentials and the Corresponding Density Differentials*. WA-RD 476.1. WSDOT, Olympia, WA.

23. **Muench, S.T.** (1998). *Asphalt Concrete Temperature Differential Damage in Washington State*. Master's Thesis. University of Washington, Seattle, WA.

Other significant research dissemination (web sites, software, Wikis, etc.)

- **Manuals**

1. **Muench, S.T.**; Anderson, J.L.¹; Hatfield, J.P.²; Koester, J.R.¹; & Söderlund, M.¹ et al. (2011). *Greenroads Manual v1.5*. (J.L. Anderson¹, C.D. Weiland¹, and **S.T. Muench**, Eds.). University of Washington, Seattle, WA.

- **Websites**

1. **Muench, S.T.** et al. (2008-present). *Greenroads*. [<http://www.greenroads.org>]. This is the website for our current Greenroads performance metric. Google Analytics shows 20,000 visits and 101,000 page views from 132 countries From September 2011 to September 2012.

- **Multimedia Publications (electronic and web-based learning)**

1. **Muench, S.T.** (2007). *Hot Mix Asphalt Airport Construction Best Practice Manual*. Airfield Asphalt Pavement Technology Program (AAPTTP). Demonstration website done for AAPTTP Project 05-01. [<http://www.aaptp.org>]
2. **Muench, S.T.**; Mahoney, J.P.³ and White, G.C.³ (2006). *Pavement Interactive*. An online collaborative environment for pavements. Pavement Tools Consortium, Seattle, WA [<http://www.pavementinteractive.org>].
3. **Muench, S.T.**; Mahoney, J.P.³ and Pierce, L.M.¹ (2005). *PTC Pavement Guide Interactive*. Pavement Tools Consortium, Seattle, WA. [<http://ptc.ce.washington.edu>].
4. **Muench, S.T.** and the National Center for Asphalt Technology⁴. (2004). *The Virtual Superpave Laboratory*. Publication ED-001. National Asphalt Pavement Association, Landham, MD. Also available online for review at [<http://training.ce.washington.edu/VSL>]
5. **Muench, S.T.**; Mahoney, J.P.³ and Pierce, L.M.⁴ (2003). *WSDOT Pavement Guide Interactive*. Washington State Department of Transportation, Olympia, WA.
6. **Muench, S.T.** (2003 and 2012 update). *HAPI Asphalt Pavement Guide*. Hawaii Asphalt Paving Industry, Honolulu, HI. [<http://hawaiiasphalt.org>].
7. **Muench, S.T.** (2002). *WAPA Asphalt Pavement Guide*. Washington Asphalt Pavement Association, Seattle, WA.
8. **Muench, S.T.** and Mahoney, J.P.³ (2002). *NAPA Guide for Hot Mix Asphalt Pavement*. Publication TAS-030. National Asphalt Pavement Association, Landham, MD.

- **Non-Refereed Articles**

1. **Muench, S.T.** and Seskin, S.⁴ (2012). Greenroads: Encouraging Green Procurement in the Road Industry. Initiative on Procurement and Green Growth, International Institute for Sustainable Development (IISD).
2. **Muench, S.T.** (2012). Greenroads. *Environment & Climate Change, Volume 2*. IRF Bulletin – March 2012. International Road Federation, Geneva, Switzerland, pp. 4-7.
3. **Muench, S.T.** and Anderson, J.L.¹ (2011). Doing and Rating Sustainability. *HMAT*, Vol. 16, No. 2. Pp. 44-48.
4. **Muench, S.T.** and Anderson, J.L.¹ (2011). Greenroads, desarrollo de una aplicación para una carretera más sostenible. *Carreteras Magazine* (Jan-Feb 2011).
5. **Muench, S.T.**, Anderson, J.L.¹ and Bevan T.⁴ (2010). *Greenroads: A Sustainability Performance Metric for Roadways*. Article written for publisher RGRA (Revue Generale des Routes et des Aerodromes) as a companion publication to the 16th International Road Federation (IRF) World Road Meeting, Lisbon, Portugal.
6. Cervarich, M.B.⁴ and **Muench, S.T.** (2006). Online training: What, why, and how. *Better Roads*, v. 76, no. 11, p. 97-101.
7. **Muench, S.T.** and Willoughby, K.A.⁴ (2006). Research Pays Off: Preventing Pavement Failure Caused by Hot-Mix Asphalt Temperature Differentials: Washington State's Systematic Approach. *TR News*, No. 246, pp. 26-28.
8. **Muench, S.T.** (2005). Perpetual Pavements for the Rest of Us: Long-Lasting Low-Volume Pavements. *HMAT*, Vol. 10, No. 1. pp. 22-24.
9. **Muench, S.T.**; White, G.C.³ and Willoughby, K.A.⁴ (2004). New Tools for Hot Mix Asphalt Pavement. *Asphalt Magazine*. Asphalt Institute, Lexington, KY.
10. **Muench, S.T.** (2003). Rolling a perfect score. *Roads & Bridges*, August 2003.

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

1. University of Washington Child Care at Laurel Village (UWCCLV). *Transportation*. Invited presentation at UWCCLV preschool on transportation modes, 15 October 2013.
2. University of Washington CEE Staff. *Greenroads*. Invited presentation to CEE staff on current research, 6 March 2013.
3. Auburn University Civil and Environmental Engineering. *Greenroads and Roadway Sustainability*. Invited lecture at Auburn University, 11 February 2013.

4. U.S. Fish and Wildlife Service (USFWS) / Federal Highway Administration (FHWA) Refuge Roads Coordinators Meeting. *About Sustainability and Greenroads*. Talk and participation in expert panel at Western Federal Lands office, Vancouver, WA, 10 May 2012.
5. PEO. *Roads: The Inside Story*. Talk to the PEO Reciprocity Luncheon in Honolulu, HI, 21 April 2012.
6. University of Illinois at Urbana-Champaign. *Is a sustainable pavement an oxymoron?* Talk to faculty, graduate students and undergraduate students at UIUC, 2 December 2010.
7. City of Seattle. *Greenroads Overview*. Presented to Mercer corridor team at the City of Seattle, WA, 12 October 2010.
8. Eastside Transportation Association (ETA). *Greenroads*, Bellevue, WA, 27 July 2010.
9. City of Oak Harbor. *Greenroads Overview*. Presented to Oak Harbor City Engineer and Perteet, Inc., 14 July 2010.
10. University of Washington Office of Planning and Budgeting . *Greenroads Overview*. Presented to UW Planning and Budgeting Committee, Seattle, WA, 7 July 2010.
11. City of Kirkland. *Greenroads Overview*. Presented to engineers and planners at the City of Kirkland, WA, 3 May 2010.
12. Lafarge Sales group training. *Greenroads Overview and Sustainable Pavements*. Presented to Lafarge in Seattle, WA, 14 April 2010.
13. Transportation Association of Canada (TAC) Annual Conference, Vancouver, B.C.. *Green Guide to Roads* workshop panelist, 20 October 2009.
14. Arizona Association of General Contractors (AGC), Phoenix, Arizona. *Greenroads*, 13 October 2009.
15. Oregon Transportation Summit, Portland State University, Portland, OR, *Nuts and Bolts of Green Infrastructure*, 11 September 2009.
16. Washington State Department of Transportation Climate Change Activities Group, Olympia, WA, *Greenroads: a sustainability rating system for roadways*, 23 September 2008.
17. American Road and Transportation Builder's Association (ARTBA) headquarters, Washington, D.C. *Green Roads* Web-cast, 14 January 2008.

Presentations given at conferences (presenter listed first)

1. **Muench, S.T.** "Greenroads: From Research to Application." PacTrans Annual Conference, Seattle, WA, 18 October 2013.
2. **Muench, S.T.** "Greenroads: sustainability and savings." 2013 Northwest Pavement Management Association (NWPMA) Conference, Vancouver, WA, 16 October 2013.

3. **Muench, S.T.** “Greenroads.” Washington American Planners Association (APA) Conference, Bellevue, WA, 3 October 2013.
- 4.
5. **Muench, S.T.** “The Greenroads Rating System.” Alabama Transportation Conference, Montgomery, AL, 12-13 February 2013.
6. **Muench, S.T.** “Sustainability, Rating Systems, and Greenroads.” National Pavement Preservation Conference, Nashville, TN, 27-30 August 2012.
7. Anderson, J.L.¹ and **Muench, S.T.** “Greenroads: Insights from over 100 case studies.” *International Concrete Sustainability Conference*, Seattle, WA, 7-10 May 2012.
8. **Muench, S.T.** “The Roads of the Future: Doing Good, Being Green, Starting Now.” Keynote address at the *10th Conference on Asphalt Pavements for Southern Africa*, 11-14 September 2011, Champagne Sports Resort, Drakensburg, South Africa.
9. **Muench, S.T.** “Greenroads in Concrete Shoes: How a Rating System can Help the Sustainable Concrete Cause.” *International Concrete Sustainability Conference*, Boston, MA, 9-11 August 2011.
10. **Muench, S.T.** “Doing and Rating Sustainability.” Keynote address at the *Idaho Transportation Department 2011 Project Development Conference*, Boise, ID, 26-27 April 2011.
11. **Muench, S.T.** “Greenroads,” Session 532: Toward More Sustainable Highway Infrastructure, Part 1, *Transportation Research Board 90th Annual Meeting*, 23-27 January 2011.
12. **Muench, S.T.** “Greenroads,” Session 433: Environmental Sustainability Rating Systems, *Transportation Research Board 90th Annual Meeting*, 23-27 January 2011.
13. **Muench, S.T.** “Website Review” and “Use of the Scoring Feature and case Example Scoring.” Part of the FHWA’s Sustainable Highways Self-Evaluation Tool Saturday Workshop at the *Transportation Research Board 90th Annual Meeting*, 23-27 January 2011.
14. **Muench, S.T.** “Sustainability and Flexible Pavements,” *Illinois Bituminous Paving Conference*, Champaign, IL, December 1, 2010.
15. **Muench, S.T.** “Scoring Points for Being Green: Rating Systems,” *National Asphalt Pavement Association (NAPA) Paving Greener with Asphalt*, Denver, CO, November 17-18, 2010.
16. **Muench, S.T.** “Greenroads,” *T&D/ASCE Green Streets & Highways Conference*, Denver, CO, November 14-17, 2010.
17. **Muench, S.T.** “Sustainability Overview,” *National Asphalt Pavement Association (NAPA) Best Practices for Asphalt Pavements*, Seattle, WA, September 28-30, 2010.
18. **Muench, S.T.** “Greenroads,” *UKC2010*, Korean-American Scientists and Engineers Association (KSEA) annual conference, Seattle, WA 11-15 August 2010.

19. **Muench, S.T.** “Greenroads,” *Washington State Association of County Engineers (WSACE) Conference*, Grand Mound, WA, June 15-18, 2010.
20. Anderson, J.L.¹ and **Muench, S.T.** “An update on Greenroads,” *Road Builder’s Clinic*, Coeur d’Alene, ID, 2-4 March 2010.
21. **Muench, S.T.** and Anderson, J.L.¹ “Greenroads,” *Washington State Department of Transportation 2010 Design Construction Conference*, Shoreline, WA, February 23-24, 2010.
22. 9th Annual New Partners for Smart Growth: Building Safe, Healthy and Livable Communities, Seattle, WA 4-6 February 2010. *Sustainable Streets: Concepts, Metrics and Tools*, presentation and panelist, 4 February 2010.
23. **Muench, S.T.** “Positioning Your Company as a Green Contractor in a Green Environment: Scoring Points for Being Green,” *National Asphalt Pavement Association (NAPA) 55th Annual Meeting*, Wailea, HI, January 17-20, 2010.
24. **Muench, S.T.**, “Greenroads: a sustainability performance metric for roadways”, *Western Association of State Highway and Transportation Officials (WASHTO) 2009 Annual Meeting*, Seattle, WA, July 12-16, 2009.
25. **Muench, S. T.**, “Sustainable Roadways: Greenroads”, *American Publics Works Association (APWA) Washington Chapter Spring Conference*, Tacoma, WA, April 7-10, 2009.
26. **Muench, S.T.**, “Greenroads”, *Road Builder’s Clinic*, Coeur d’Alene, ID, 3-5 March 2009.
27. **Muench, S.T.**, Anderson, J.L.¹ and Weiland, C.¹, “Warm Mix Asphalt in Washington State”, *Rocky Mountain Asphalt Conference & Equipment Show*, Denver, CO, 18-20 February 2009.
28. **Muench, S.T.**, Anderson, J.L.¹ and Soderlund, M.¹, “Greenroads: a rating system that distinguishes high performance sustainable new, reconstructed or rehabilitated roads”, *Rocky Mountain Asphalt Conference & Equipment Show*, Denver, CO, 18-20 February 2009.
29. **Muench, S.T.** and Chan, C.⁴, “Greenroads”, *Roads to Green 2009 Conference* sponsored by the Consulting Engineers of British Columbia (CEBC), Vancouver, B.C., 3 February 2009.
30. **Muench, S.T.** and Croft, C.⁴, Western Federal Lands Highway Division (WFLHD) Sustainability Best Practices and Greenroads. *WFLHD Winter Conference*, Portland, OR, 27 January 2009.
31. **Muench, S.T.**, “Warm Mix Asphalt”, *Granite Northwest annual training*, Everett, WA, March 2009.
32. **Muench, S.T.**, “Greenroads”, *Transportation Research Board 2009 Annual Meeting*, Washington, D.C., 11-15 January 2009.
33. **Muench, S.T.**, “Rating your road for sustainability: Greenroads and construction activities”, *Transportation Research Board 2009 Annual Meeting*, Washington, D.C., 11-15 January 2009.

34. **Muench, S.T.**, “Integrating sustainability into our roads: learning, engineering and living green”, *Montana Joint Engineers Conference (JET)*, Helena, MT, 6-7 November 2008.
35. **Muench, S.T.**, “Greenroads”, *Rocky Mountain Asphalt User/Producer Group Annual Meeting*, Phoenix, AZ, 15-17 October 2008.
36. **Muench, S.T.** and Anderson, J.L.¹, “Greenroads: a sustainability rating system for roadways”, *ASCE Transportation and Development Institute (T&DI) Sustainable Pavements Workshop*, Bellevue, WA, 15 October 2008.
37. Anderson, J.L.¹ and **Muench, S.T.**, “Greenroads: a sustainability rating system for roadways”, *ASCE Transportation and Development Institute (T&DI) Committee Meeting*, Bellevue, WA, 16 October 2008.
38. **Muench, S.T.**, Bevan, T.⁴, “Integrating sustainability into our roads: learning, engineering and living green”, *Washington State APWA Chapter Spring 2008 conference*, Ocean Shores, WA, 2-4 April 2008.
39. **Muench, S.T.** and Willoughby, K.A.⁴, “Green Roads”, *U.S. EPA Resource Conservation Challenge (RCC) Workshop*, Crystal City, Arlington, VA, 5-6 March 2008.
40. **Muench, S.T.**, “The Foundation and Future of Sustainable Roadways”. *Transportation Research Board’s 2008 Annual Meeting*, Washington, D.C., 13-17 January 2008.
41. **Muench, S.T.**, “Tack Coats: What we know, what we don’t know, what we need to find out, and why”, *19th Annual WAPA/WSDOT Joint Technical Conference*, Everett, Seattle, Tacoma, and Kelso, WA, March 2007.
42. **Muench, S.T.**, “Online Training for the Hot Mix Asphalt Industry”, *18th Annual WAPA/WSDOT Joint Technical Conference*, Seattle and Tacoma, WA, March 2006.
43. **Muench, S.T.**, “Long-Lasting Low-Volume Pavements in Washington State”, *Greater Iowa Asphalt Pavement Conference*, Des Moines, IA, 1-2 March 2006.
44. **Muench, S.T.**; White, G.C.³; Mahoney, J.P.³; Sivanewaran, N.⁴; Pierce, L.M.⁴, “Long-Lasting Low-Volume Pavements in Washington State”, *59th Annual Ohio Transportation Engineering Conference*, Columbus, OH, 27-28 October 2005.
45. **Muench, S.T.**; White, G.C.³; Mahoney, J.P.³; Sivanewaran, N.⁴; Pierce, L.M.⁴, “Long-Lasting Low-Volume Pavements in Washington State”, *Asphalt Pavement Innovations Conference*, Peoria, IL, 12-13 April 2005.
46. **Muench, S.T.** and Mahoney, J.P.³, “Virtual Superpave Laboratory”, *WASHTO Construction and Materials Meeting*, Seattle, WA, 22-24 March 2005.
47. **Muench, S.T.**, “Perpetual Pavements for the Rest of Us: Long-Lasting Low-Volume Pavements”, *Oregon Asphalt Conference*, Eugene, OR, 3 March 2005.
48. **Muench, S.T.**, “Pavement Tools”, *Oregon Asphalt Conference*, Eugene, OR, 3 March 2005.

49. **Muench, S.T.**; Mahoney, J.P.³ and White, G.C.³, “New Computer Tools for Hot Mix Asphalt”, *2005 National Asphalt Pavement Association Annual Meeting*, Kona, HI, 12-15 February 2005.

Professional society memberships

Transportation Research Board	2004 - present
International Society of Asphalt Pavements (ISAP)	2004 – present
American Society of Civil Engineers	2004 – 2006
American Society of Engineering Education	2009 – 2012

Other (reviews)

- ***Archival journal paper reviews (number reviewed)***
 - Transportation Research Board (31)
 - ASCE Journal of Materials in Engineering (6)
 - ASCE Journal of Infrastructure Systems (5)
 - ASCE Journal of Professional Issues in Engineering Education and Practice (3)
 - International Journal of Pavement Engineering (7)
 - International Journal of Sustainable Transportation (2)
 - ASCE Journal of Transportation Engineering (11)
 - Resources, Conservation & Recycling (1)
 - Ecological Indicators (1)
 - The Open Construction & Building Technology Journal (1)
- ***Refereed conference reviews (number reviewed)***
 - ISAP 2nd International Symp.on Asphalt Pavements and the Environment (2)
 - T&DI/ASCE Congress 2011 (4)
 - Concrete Pavement Technology Program 2010 Conference (3)
 - Accelerated Pavement Testing International Conference (4)
 - Concrete Pavement Technology Program 2009 Conference (1)
 - ASCE 2008 Airfield and Highway Pavements Conference (1)
- ***Proposal reviews (number reviewed)***
 - The University of Washington Royalty Research Fund (3)
 - University Transportation Research Centers (8)
 - Qatar National Research Fund (3)

GRADUATE STUDENTS

Chaired Doctoral Degrees

Student Name	Dissertation Title	Completed (Year)	Current Employer
Julian Yamaura	None yet	2018 expected	Current student
Sohaib Gutub	None yet	2017 expected	Current student
Manisa Veeravigrom	An International Framework for Sustainable Roadway Rating Systems	Final exam scheduled 8/2014	Current student
Jeralee Anderson	Measuring Sustainability in Civil Engineering: Development, Testing and Implementation of the Greenroads™ Rating System	2012	Greenroads Foundation Executive Director
Yen Yu Lin	Eco-decision Making for Pavement Construction Projects	2012	Engineering, Taiwan
Linda M. Pierce	Evaluation of Dowel Bar Retrofit for Long-Term Pavement Life in Washington State	2009	Applied Pavement Technology
Jianhua Li (co-chair w/Mahoney)	Calibration and Application of Analytical Tools for the Washington State Department of Transportation Road Network	2006	Washington State DOT

Chaired Masters Degrees

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)	Current Employer
Mandana Ashti	Coursework	N/A	2015 (expected)	WSDOT
James Lew	Project	Transportation Improvement Board (TIB)	2014 (expected)	Current student
Sean Fahey	Coursework	N/A	2013	WSDOT
Jared England	Project	Physical Infrastructure Energy Use in the United States Armed Forces	2012	US Navy
Jason Isenberg	Coursework	N/A	2012	unknown
Headley Anderson	Coursework	N/A	2012	unknown
Guy Bates	Coursework	N/A	2012	San Luis Obispo County
Danny Weeks	Coursework	Recycling Concrete Airfield Pavement	2012	unknown
Sam Johnson	Project	Vertical Axis Wind Turbines	2011	US Navy
Richard Verreydt	Coursework	N/A	2011	unknown

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)	Current Employer
Stephanie Garbacik	Project	Greenroads Pilot Project Report: OR 34, Roche to Wolcott Rd.	2011	King County
Maleena Scarsella	Thesis	Integrating a Project-Based Sustainability Rating System with the Oregon Department of Transportation Sustainability Program	2010	USACE
Philip Pagels	Project	Project Labor Agreements: An Academic Review	2011	Unknown (in Gilbert, AZ)
Hendrik Schoeman	Project	None yet	2011 (expected)	Current student
Logan Wallace	Project	King County Shingle Paving	2010	USACE
John Beattie	Project	Unified Facility Criteria Anti-Terrorism Standards and the Effects on LEED® Certification Attainment: A Case Study	2010	US Navy
Thorvaldur Konradsson	Thesis	Renewable Energy Infrastructure – Geothermal	2010	Skanska USA
Jared Koester	Thesis	None yet	2010	Icon Materials
Eric Evans	Project	Sustainable Road Construction Methods Using Greenroads v1.0. Evaluated Project: South Park Bridge Replacement Project	2010	HNTB
Jon Salsman	Project	Greenroads Rating System Case Study: The Bogue Road Project, Montego Bay, Jamaica W.I. North Coast Highway Improvement Project Segment 1A	2010	Stanley Consultants, Inc.
Chris Croft	Thesis	Sustainable Roadway Design and Construction in the Rural Context	2009	Parson Brinckerhoff
Ryan Mak	Coursework	N/A	2012	unknown
Aleta Borschewa	Project	An Investigation into the Merits of Implementing Earned Value Management for Washington State Department of Transportation Contracts	2009	Washington State DOT
Ancelmo McCarthy	Project	A Case Study of the Greenroads Rating Credit System and Website using a Washington State Department of Transportation Project	2009	U.S. Navy
Sam Comer	Project	None yet	2009	Cornerstone GC, Inc.
Jeralee Anderson	Thesis	Sustainability in Civil Engineering	2008	Ph.D. student with me now

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)	Current Employer
				Greenroads Foundation
Gutmundur Bodvarsson (co-chair w/Wang)	Thesis	Effects of loop detector installation on portland cement concrete lifespan: case study on I-5	2008	Consulting, Iceland
Jessyca Woodruff	Project	Pervious Concrete	2008	Consulting, USA
Masoud Kayanda	Project	Workzone Impacts of Traffic Mitigation Strategies	2008	Washington State DOT
Konstantinos Kouvaras	Project	Evaluation of the Sustainability of Using Reclaimed Asphalt Pavement for the Production of Hot Mix Asphalt	2008	J&P-Avax S.A., Greece
Stephen Lampart	Project	Sustainability and the Use of B20 Biodiesel in Non-Road Construction Equipment	2008	U.S. Navy
Jeremy Siemens	Project	Construction Staking Productivity	2008	Unknown
Craig Weiland	Thesis	Life Cycle Assessment of Portland Cement Concrete Interstate Highway Rehabilitation and Replacement	2008	University of Washington Research Engineer
Shane Celeen	Project	A Review of the Current Specifications and Practices of the Use of Recycled Concrete Aggregate Nationwide	2007	U.S. Army
Nancy Myers	Project	Stone Matrix Asphalt: The Washington Experience	2007	Spokane Community College
Jeremy Ramberg	Project	Stormwater Mitigation: A Case Study on the use of Porous Pavements, Filter Cartridges, and Retention Ponds to Mitigate Stormwater Runoff	2007	U.S. Navy
Eric McGarrah	Project	Evaluation of Current Practices of Reclaimed Asphalt Pavement/Virgin Aggregate as Base Course Material	2007	Washington State DOT
Alisa Cotter	Thesis	Best Practices for PCC Pavements in Washington State: Studded Tire Wear Mitigation	2007	Habitat for Humanity, Ireland
Martina Söderlund	Thesis	Sustainable Roadway Design-A Model For An Environmental Rating System	2007	Stantec, Inc.
Brett Ozolin	Thesis	Rapid Pavement Construction Tools, Materials and Methods	2007	BergerABAM
Olof Kristjansdottir	Thesis	Warm Mix Asphalt for Cold Weather Paving	2006	Mannvit Engineering, Iceland

Other significant student supervision

- *Thesis Committee Participation*

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)
Eva Martinez	Exchange Student advisor	N/A	2013
Olafur Haraldsson	Committee member	Spread Footing Socket Connections for Precast Columns	2011
Megan Slater	Committee member	Optimal Timing and Design for Bituminous Surface Treatments	2010
Mike Hansen	Committee member	Assessment of the I-5 Portland cement concrete pavements of King County	2008
Ngan Ha Nguyen	Committee member	Quantitative safety analysis for intersections on Washington State two-lane rural highways	2007
Heather Munden	Committee member	Lower Noise Pavement Options for Washington State	2006
Joon-Ki Kim	Committee member	A numerical examination of freeway rear-end accidents considering the mechanism of accident occurrence	2004

- *Undergraduate Student Research Advising*

Student Name	Level of Supervision	Paper Title or Topic	Completed (Year)
Julia Cuprys	Undergrad. Research	Greenroads	2014-present
Darcy Akers	Undergrad. Research	Greenroads	2014-present
Andrews Sahl	Undergrad. Research	Greenroads	2009 – present
Eric Peterson	Undergrad. Research	Greenroads	2010
Rosslyn Luke	Undergrad. Research	Greenroads	2009
Nick Jones	Undergrad. Research	Greenroads	2009
Paul Prigge	Undergrad. Research	Greenroads	2009 – 2010
Josh Hatfield	Undergrad. Research	Greenroads	2009 – 2010
Jared Koester	Undergrad. Research	Greenroads, Best Practices for Hot Mix Asphalt Airport Construction	2008 – 2009
John Blair	Undergrad. Research	De-bonding of hot mix asphalt pavements in Washington State: an initial investigation	2008

RESEARCH ACTIVITIES

Funded Research

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other Pi's co-Pi's	Dates (start-finish)
WSDOT	Optimizing HMA Performance for Climate Zones within Washington State	\$120,000		\$33,000	Role: Co-PI PI: Haifang Wen, WSU	2013-2014
Washington TIB	Assessment and update of TIB Urban Program and Small City Preservation Program	\$150,000		\$96,000	Role: PI Co-PI: Jeralee Anderson, Greenroads Foundation	2013
CEDR	AllBack2Pave (Conference of European Directors of Roads Transnational Road Research Program)	\$600,000		\$10,000	Sponsor: agree to train/host researcher from UK	2013-2015
ERANET	Energy: "Sustainability and Energy Efficient Management of Roads"	\$420,000		\$2,000	Investigator, PIs are from VTI and TRL	2011-2013
FHWA	Western Federal Lands Highway Division: Sustainability Best Practices and Greenroads Rating System - supplement	\$120,000		\$120,000	Role: PI	2011-2013
FHWA	DTFH61-10-R-00017: "Develop FHWA Sustainable Pavements Program"	\$500,000 minimum		\$80,000 estimated	Role: Co-PI PI: Kurt Smith, APT	2010-2015
FHWA	DTFH61-10-Q-00112: "Criteria and Tools for Sustainable Highways"	\$900,000		\$195,000	Role: Co-PI PI: T. Bevan (CH2M HILL)	2010-2011
WSDOT	Determining Changes in Greenhouse Gas Emissions (Circa 1990-Present) Due to Pavement Technology	\$80,000		\$80,000	Role: PI	2011-2013
SHRP 2	R23: Using Existing Pavement in Place and Achieving Long Life	\$1,000,000		\$5,000	Role: Contract Researcher PI: Newt Jackson, Nichols	2008-2013
UW TGIF	Greenroads – Technology Gap Innovation Fund.	\$50,000		\$50,000	Role: PI	2010-2011
Transnow	Greenroads Application and Evaluation – Part 2	\$34,335		\$34,335	Role: PI	2010-2011
Oregon DOT	Greenroads: Pilot Project Assessment	\$110,000		\$110,000	Role: PI	2009-2012
NCHRP	NCHRP Project 01-46:	\$400,000		\$20,000	Role: Co-PI as part of Pavia Systems, Inc.	2009-2011

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other PI's co-PI's	Dates (start-finish)
	Handbook for Pavement Design, Construction and Management				PI: Linda Pierce (AP Tech, \$225k) Co-PI: Pavia Systems, Inc. (\$175k total incl. Muench amt.)	
TransNow	Greenroads: Pilot Project Assessment	\$26,166		\$26,166	PI	2009-2010
NCHRP	NCHRP Project 08-74: Sustainability Performance Measures for State Departments of Transportation and Other Transportation Agencies	\$500,000		\$20,000	Role: Co-PI PI: J. Zietsman (Texas Transp. Institute, \$215k) Co-PIs: C. Porter (Cambridge Systematics, \$175k), S. Seskin (CH2M HILL, \$30k), J. Crossett (High Street Consulting, \$25k), R. Hall (Virginia Tech, \$10k), G. Marsden (U of Leeds, \$25k)	2009-2011
FHWA	Western Federal Lands Highway Division: Sustainability Best Practices and Greenroads Rating System	\$190,000		\$190,000	Role: PI	2008-2010
TransNow	Sustainable Roadway Design and Construction: Online Course	\$40,000		\$16,408	Role: Co-PI PI: S. Brown (WSU) Co-PI: M. Wolcott (WSU) Co-PI: S. Shen (WSU)	2008-2009
Oregon DOT	Open Graded Friction Courses for the Pacific Northwest	\$140,000		\$107,000	Role: PI	2009-2010
State Pavement Technology Consortium (WA, CA, TX, MN)	Green Roads: A Sustainability Rating System for Roadway Design and Construction	\$80,000		\$80,000	Role: PI	2008-2010
TransNow	Green Roads: An Environmental Ratings System for Roadway Design and Construction	\$49,120		\$49,120	Role: PI	2007-2009
Airfield Asphalt Pavement Technology	AAPTP 05-01: Development of Hot Mix Asphalt Airport Construction Best Practice Manual	\$300,000		\$47,500	Role: Co-PI PI: E.R. Brown (Auburn University, \$145k)	2006-2009

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other PI's co-Pi's	Dates (start-finish)
Program (AAPTP)					Co-PIs: R. Ahlrich (Burns, Cooley & Dennis, Inc., \$62.5k), R. Rollings (\$45k)	
TransNow	De-Bonding Cracking in Hot Mix Asphalt Pavement	\$50,758		\$50,758	Role: PI	2006-2008
Washington State DOT	Best Practices for the Design and Construction of Portland Cement Concrete Pavements in Washington	\$180,000		\$180,000	Role: PI	2005-2009
Washington State DOT	Rapid Pavement Construction	\$50,000		\$50,000	Role: PI	2005-2007
Washington State DOT	AASHTO 2002 Design Guide Calibration	\$100,000		\$5,000	Role: Co-PI PI: J. Mahoney (UW CEE, \$95k)	2005-2007
Washington State DOT	Evaluation of Dowel Bar Retrofit for Long-Term Life	\$80,000		\$80,000	Role: PI	2005-2009
TransNow	Virtual Construction Paving Simulator	\$30,000		\$2,000	Role: Investigator PI: G. Turkiyyah (UW CEE, \$28k)	2005-2006
Pavement Tools Consortium (WA, CA, TX, MN, FL, MD, IL, ID, KS, FHWA)	Pavement Tools Consortium	\$1,000,000		\$50,000	Role: Investigator PI: J. Mahoney (UW CEE, \$1,000k)	2004-2009
Total		\$7,300,379		\$1,776,287		

Pending Proposals

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other PI's co-Pi's	Dates (start-finish)
Total		unknown		\$100,000		

Unfunded Proposals (Optional)

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other PI's co-PI's	Dates (start-finish)
PacTrans	SMALL CITIES PAVEMENT PRESERVATION WEB APP	\$150,000		\$120,000	PI Co-PI: Haifang Wen, WSU Co-PI: George White, Pavia Systems	2013-2014
NCHRP	NCHRP Project 10-91: Guidebook for Selecting and Implementing Sustainable Highway Construction Practices	\$475,000		\$100,000	PI Co-PI's: CH2M HILL, Greenroads Foundation, Mukherjee (Michigan Tech)	2013-2015
FHWA	DTFH61-12-R-00005: Quantifying Pavement Albedo	\$900,000		\$50,000	Role: Co-PI PI: M. Solaimanian (Penn State)	2012-2014
NCHRP	NCHRP Project 20-83(07) Sustainable Transportation Systems and Sustainability as an Organizing Principle for Transportation Agencies	\$1,000,000		\$60,000	Role: Co-PI PI: S. Seskin (CH2M HILL)	2010-2013
NCHRP	NCHRP Synthesis 20-05/Topic 41-04 Sustainable Pavement Maintenance Practices	\$35,000		\$35,000	Role: PI	2010-2011
NSF	NSF Engineering Research Center for Infrastructure Systems Research: A Systems Framework for Sustainable Interdependent Infrastructure	\$18,500,000		undet.	Role: Researcher	2010-2015
NCHRP	NCHRP Project 20-83(05) Climate Change and the Highway System: Impacts and Adaptation Approaches	\$1,000,000		\$100,000	Role: Co-PI PI: G. Flintsch (Virginia Tech)	2009-2012
National Energy Technology Lab. (US DOE)	Renewable Energy Research and Development program: SMART Move: Smart Cars, Smart Roads, Smart Jobs	\$9,471,691		\$250,000	Role: Co-PI PI: M. Soma (UW EE)	2010-2013
NSF	Integrative Graduate Education and Research Traineeship Program (IGERT) Engineering:	\$3,000,000		\$300,000	Role: Co-PI PI: J. Mahoney (UW CEE)	2010-2015

Funding Agency	Title	Total Amount (Subcontracts)	UW Match	Your Amount	Your Role, Other PI's co-PI's	Dates (start-finish)
	Theme - Eco-Highway Infrastructure				Co-PI: M. Soma, M. Sarikaya (UW EE and MS)	
NCHRP	SHRP 2 R06(A) Nondestructive Testing to Identify Bridge Deck Deterioration	\$800,000		\$63,598	Role: Co-PI PI: L. Khazanovich	2009-2012
FHWA	CTIP (Coordinated Federal Lands Highway Technology Implementation Program): Green Roads: An Sustainability Rating System for Roadway Design and Construction	\$90,000		\$90,000	Role: PI	2008-2010
FHWA	Recycled Materials Resource Center (RMRC)	\$4,000,000			Role: Co-PI PI: M. Marasteanu (U. of Minn.) Co-PI: Mahoney (UW)	2007-2011
TransNow	Content Management System for Technology Transfer	\$15,902		\$15,902	Role: PI	2006-2008
TransNow	University of Washington Undergraduate Student Employment Desires	\$3,866		\$3,866	Role: PI	2006
TransNow	Stone Matrix Asphalt (SMA) in Washington State	\$8,943		\$8,943	Role: PI	2006-2008
Washington DOT	Performance-Based Contracting	\$50,000		\$50,000	Role: PI	2005-2007
US Dept of Education	Fund for the Improvement of Post Secondary Education (FIPSE): Interactive, Media-rich, Web-enabled Tools for Transportation Infrastructure Education	\$500,000		\$100,000	Role: Co-PI PI: J. Mahoney (UW)	2004-2007
NCHRP	NCHRP Project 10-69 Guidelines for Dowel Alignment in Concrete Pavements (2 nd of 6 applicants)	\$500,000			Role: PI Co-PI: G. Turkiyyah (UW)	2005-2007
NCHRP	NCHRP Project 9-40 Optimization of Tack Coat for HMA Placement (2 nd of an unknown number of applicants)	\$350,000		\$25,000	Role: Co-PI PI: R. West (National Center for Asphalt Technology, Auburn University)	2005-2006

Un-sponsored research.

Title	Reason for Undertaking	Dates (Start, Finish)
Sustainable Technologies in Roadway Design and Construction	This helps keep me current in transportation infrastructure sustainability and allows investigation of these technologies as opportunity arises. Generally, work arises out of collaboration with the Washington State DOT (WSDOT) and has resulted in enough material for publication. Also supplements the work on Greenroads.	2007-present
Long-Lasting Low-Volume Pavements	WS DOT had substantial data to suggest that the idea of a long-lasting (> 35 years) low-volume pavement was viable. I saw an opportunity to help WSDOT and produce some basic implementable guidelines on how to produce such pavements on purpose.	2004-2006

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations

Course	Title	Quarter/Year	Credits	Enrollment	Eval.	Response	1 ^d	2 ^d	3 ^d	4 ^d	1-4 avg.
CEE 509	Engineering Rome	Autumn 2013	5	1							
CEE 409	Engineering Rome	Autumn 2013	5	16							
CEE 599	Sust.Roadway Design/Const.	Spring 2013	3	10							
CEE 441	Trans/Const Capstone	Spring 2013	4	44		37/44	4.0	4.0	4.1	4.1	4.0
CEE 307	Construction Engineering	Winter 2013	5	42			4.0	3.8	4.4	4.3	4.1
CEE 595	Construction Materials (online)	Winter 2013	3	22							
CEE 599	Sust.Roadway Design/Const.	Autumn 2012	3	6	Combined class with CEE 498						
CEE 498	Sust.Roadway Design/Const.	Autumn 2012	3	21	yes	22	4.6	4.6	4.8	4.6	4.6
CEE 599	Sust.Roadway Design/Const.	Summer 2012	3	11	yes	5	4.2	4.3	4.8	4.7	4.6
CEE 596	Pavement Construction (online)	Spring 2012	3	21	yes ^b	14/21	4.3	4.5	4.4	4.4	4.4
CEE 595	Construction Materials (online)	Winter 2012	3	21	yes ^a	8/21	4.0	4.0	4.7	4.2	4.2
CEE 597	Pavement Construction & QC	Spring 2011	3	10	yes	10/10	4.5	4.5	4.7	4.8	4.6
CEE 596	Pavement Construction (online)	Spring 2011	3	14	yes ^b						
CEE 360	Sustainability in CE	Spring 2011	3	127	yes	53/127	3.1	3.1	3.5	3.4	3.3
CEE 595	Construction Materials (online)	Winter 2011	3	27	yes ^a						
CEE 404	Infrastructure Construction	Winter 2011	4	46	yes	39/46	4.0	3.9	4.2	4.1	4.1
CEE 599	Special Topics	Spring 2010	3	2	no						
CEE 597	Pavement Construction & QC	Spring 2010	3	12	yes	12/12	4.6	4.6	4.8	4.8	4.7
CEE 596	Pavement Construction (online)	Spring 2010	3	23	yes ^b						
CEE 595	Construction Materials (online)	Winter 2010	3	21	yes ^a						
CEE 404	Infrastructure Construction	Winter 2010	4	32	yes	29/32	4.2	4.1	4.3	4.3	4.2
CEE 306	Construction Engineering	Autumn 2009	3	61	yes	52/61	4.0	3.8	4.4	4.3	4.1
CEE 597	Pavement Construction & QC	Spring 2009	3	12	yes	8/12	4.5	4.5	4.7	4.8	4.6
CEE 596	Pavement Construction (online)	Spring 2009	3	18	yes ^b	16/18	4.4	4.4	3.9	4.3	4.3
CEE 595	Construction Materials (online)	Winter 2009	3	11	yes ^a						

Course	Title	Quarter/Year	Credits	Enrollment	Eval.	Response	1 ^d	2 ^d	3 ^d	4 ^d	1-4 avg.
CEE 404	Infrastructure Construction	Winter 2009	4	33	yes	27/33	4.5	4.6	4.9	4.8	4.7
CEE 306	Construction Engineering	Autumn 2008	3	61	yes	48/61	3.7	3.6	3.8	3.9	3.7
CEE 597	Pavement Construction & QC	Spring 2008	3	11	yes	9/11	4.8	4.8	4.9	4.9	4.9
CEE 596	Pavement Construction (online)	Spring 2008	3	13	yes ^b						
CEE 595	Construction Materials (online)	Winter 2008	3	10	yes ^a						
CEE 404	Infrastructure Construction	Winter 2008	4	47	yes	27/47	4.1	4.0	4.3	4.3	4.2
CEE 306	Construction Engineering	Autumn 2007	3	48	yes	36/48	4.0	3.8	4.2	4.1	4.0
CEE 599	Pavement Construction & QC	Spring 2007	3	8	yes ^c						
CEE 320	Transportation Engineering I	Spring 2007	3	59	yes	43/59	4.4	4.0	4.6	4.4	4.3
CEE 596	Pavement Construction (online)	Spring 2007	3	9	yes ^a	2/9	4.5	4.5	4.5	4.0	4.3
CEE 595	Construction Materials (online)	Winter 2007	3	8	yes ^a						
CEE 404	Infrastructure Construction	Winter 2007	4	31	yes	29/31	4.1	4.1	4.3	4.1	4.1
CEE 500	Trans/Construction Seminar	Winter 2007	1	18	no						
CEE 498	21 st C. Civil & Env. Engr.	Winter 2007	1	71	yes	33/71	4.6	4.6	4.8	4.6	4.6
CEE 596	Pavement Construction (online)	Spring 2006	3	16	yes ^a						4.8
CEE 404	Infrastructure Construction	Spring 2006	4	38	yes	30/38	3.8	3.8	4.1	4.0	3.9
CEE 500	Trans/Construction Seminar	Winter 2006	1	12	no						
CEE 320	Transportation Engineering I	Winter 2006	3	39	yes	34/39	4.4	4.0	4.6	4.4	4.3
CEE 599	Construction Materials (online)	Winter 2006	3	16	yes ^a						
CEE 599	Pavement Construction (online)	Spring 2005	3	9	yes ^a						
CEE 599	Construction Materials (online)	Winter 2005	3	13	yes ^a						
CEE 500	Trans/Construction Seminar	Winter 2005	1	14	no						
CEE 320	Transportation Engineering I	Winter 2005	3	62	yes	49/62	4.1	4.0	4.5	4.5	4.4
CEE 500	Trans/Construction Seminar	Winter 2005	1	12	no						
CEE 320	Transportation Engineering I	Winter 2004	3	70	yes	55/70	4.1	4.0	4.4	4.3	4.2
CEE 599	Pavement Construction (online)	Spring 2004	3	9	yes ^a						
CEE 599	Pavement Construction (online)	Spring 2003	3	2	yes ^a						

Notes:

- a. This is a UW Educational Outreach (UWEO) course that was team taught with Professor Joe Mahoney. Duties were shared 50/50 in the teaching of this course. UWEO uses its own evaluation methods that closely mimic those used by UW. When I inquired about getting their historical records of course evaluations they were unable to produce any except CEE 596 for Spring 2007 and Spring 2009. From 2003-2006 mid-course evaluations were e-mailed to the instructor as they came in. These were generally very favorable but the response rate was low.
- b. This is a UW Educational Outreach (UWEO) course. UWEO uses its own evaluation methods that closely mimic those used by UW. Records other than for Spring 2007 and Spring 2009 are not available.
- c. This was the first time this course was taught. Although the official UW evaluation was not done, a non-standard evaluation was which is included in this dossier.
- d. 1 = the course as a whole, 2 = the course content was, 3 = the instructor's contribution to the course, 4 = the instructor's effectiveness in teaching the subject matter (for online courses 4 = the effectiveness of the delivery format was up through 2011)

Supervision of independent study (design projects and research).

Independent Study

Course	Student Name	Paper Title or Topic	Quarter	# Students (Credit Hrs.)
CEE 600	Ashley Thompson	Engineering Rome	Spring 2013	1 (2)
CEE 600	Ashley Thompson	Engineering Rome	Summer 2012	1 (2)
CEE 499	Andrew Sahl	Greenroads credit for Climate Change Adaptation	Spring 2012	1(2)
CEE 499	Sabine Eisma	Greenroads Evaluation of 2 nd and 4 th Avenue paving by the City of Seattle	Spring 2009	1(3)
CEE 600	Jeralee Anderson	The Green Structural Paradox	Autumn 2008	1(3)
CEE 600	Martina Soderlund	Investigate impacts of LEED standards on construction industry	Winter 2007	1(2)
CEE 499	Vahid Daneshford	Construction engineering careers – case study for Kiewit Pacific, Inc.	Autumn 2006	1(2)
CEE 499	Euneka Robinson-McCutcheon	Maturity Meter Use by WSDOT	Spring 2006	1(2)
CEE 499	Enrique Garcia	City of Seattle Internships	Spring 2006	1(2)
CEE 499	Maizer Oujidani	Costs of HMA/PCC for WSDOT	Spring 2006	1(2)
CEE 600	Olof Kristjánssdóttir	Use of TransCAD for Transportation design class	Winter 2006	1(2)
CEE 600	Thorsteinn Hermansson	Use of InRoads and Microstation for geometric design class	Winter 2005	1(3)

List of other teaching contributions

Engineering Rome (2013 and every other year thereafter)

UW Study Abroad Program: Exploration Seminar

Developed and will teach (for the first time in Early Fall 2013) a UW Study Abroad Exploration Seminar. Engineering-focused Exploration Seminar that covers Roman civil engineering over 3,000 years from Ancient Rome to the present day. Introduction to civil engineering topics reinforced by practical engineering calculations, local experts and site visits. Provides international and historical perspective on engineering and the contributions of engineers to infrastructure and society.

Curriculum Development

On campus courses. I have had the opportunity to develop and teach seven in-person (as opposed to online) classes at UW in 5 years. All these courses were developed from scratch rather than inheriting an existing syllabus. These are:

- **CEE 100.** I took the initiative to develop this highly successful course for freshmen and sophomores that introduces them to Civil and Environmental Engineering. Currently, it has over 100 enrolled and in course surveys has been credited with recruiting top students to our department.

- **CEE 320.** I developed my version of this course as a Ph.D. student. This class, as taught now by Yin Hai Wang and Anne Goodchild, still has most of the elements I developed as a Ph.D. student and new professor.
- **CEE 306.** In 2007 I switched my junior-level responsibility to CEE 306 to accommodate new teaching assignments in the division because I had the versatility to do so. I use some innovative teaching and have also included sustainability and environmental regulations components in this class.
- **CEE 360.** Along with my Ph.D. student, Jeralee Anderson, I took the initiative and helped develop a new required class for all juniors that covers sustainability in civil engineering.
- **CEE 404.** This class focuses on a real-world infrastructure construction project (repave I-5) and has strong elements of both transportation and construction. It usually attracts about 50 or so students but I limit enrollment to about 30 now.
- **CEE 409/509 Engineering Rome.** UW Study Abroad Exploration Seminar Class. I developed this course and teach it every 2 years.
- **CEE 498/599 Sustainable Roadway Design, Construction, and Assessment.** I developed this course and teach it every year.
- **CEE 500.** I redeveloped this seminar to focus on the elements of research/thesis writing since either a thesis or research paper is required of all transportation/construction graduate students.
- **CEE 597.** A graduate class in pavement construction, this one is case study based and all work is done online including writing construction case studies. We use the Pavement Interactive Wiki I helped develop through Joe Mahoney's work (<http://www.pavementinteractive.org/index.php?title=UW:CEE597>).
- **CEE 499/599 Sustainable Roadway Design, Construction & Evaluation.** I developed a new course that blends concepts of sustainability and roadway design/construction. Students rate a road using Greenroads as final project.

Online courses. I have developed and teach 3 online courses in the UW Construction Engineering Online Master's program that is administered by University of Washington Educational Outreach (UWEO). This has allowed me to become proficient at online education and is also a source of 20-30 CEE construction masters students, for which Joe Mahoney and I split advising duties.

- **CEE 599 Sustainable Roadway Design, Construction, and Assessment.** I developed a new course that blends concepts of sustainability and roadway design/construction. Students rate a road using Greenroads as final project.
- **CEE 596.** I co-developed this course on Pavement Construction with Joe Mahoney and now teach it solo. It is substantially different than the in-class 597 course.
- **CEE 595.** I co-developed and now co-teach this course on construction materials with Joe Mahoney.

Center for Sustainable Engineering Workshop (2007)

Center for Sustainable Engineering

As part of my effort to include sustainability in my academic work, I attended a competitively selected one-week workshop on sustainability and how to incorporate this into engineering curriculum. Workshop was run as part of a NSF grant to encourage sustainability in engineering.

Asphalt Technology Professor Training Course (2002)

National Center for Asphalt Technology, Auburn University, AL

As part of my effort to improve my technical abilities in transportation infrastructure, I attended a two-week intensive course on asphalt technology. Topics include construction practices, asphalt testing and grading, hot mix asphalt mix design, materials characterization, rehabilitation and maintenance.

• **Short Courses, Workshops and Other Educational Programs**

Date	Course Title	Instruction Hrs.	Participants
3/2013	Engineering Professional Programs PE Review Course	10	About 40
9/2012	Engineering Professional Programs PE Review Course	10	About 40
4/2012	The Life and Times of an Asphalt Pavement: Life Cycle Costing	8	About 40
4/2012	Asphalt Pavement Basics	8	About 60
3/2012	Engineering Professional Programs PE Review Course	10	About 40
9/2011	Engineering Professional Programs PE Review Course	10	About 40
3/2011	Engineering Professional Programs PE Review Course	10	About 35
10/2010	Engineering Professional Programs PE Review Course	10	About 50
8/2010	Green Roads for Hawaii	8	About 80
3/2010	Engineering Professional Programs PE Review Course	10	About 60
10/2009	Engineering Professional Programs PE Review Course	10	About 80
4/2009	Engineering Professional Programs PE Review Course	5	About 60
10/2008	Engineering Professional Programs PE Review Course	5	About 60
6/2008	HMA Pavements and Sustainability Seminar for Hawaii Asphalt Paving Industry/LTAP	8	About 100
3/2008	Engineering Professional Programs PE Review Course	5	About 60
9/2007	Engineering Professional Programs PE Review Course	5	About 50
3/2007	Engineering Professional Programs PE Review Course	5	About 70
10/2006	Engineering Professional Programs PE Review Course	5	About 50
10/2006	HMA Maintenance and Rehabilitation. 2 seminars for Hawaii Asphalt Paving Industry/LTAP	16	About 80
3/2006	Pavement Preservation, LCCA and Mix Design 1 seminar for Hawaii Asphalt Paving Industry/LTAP	8	About 100
3/2006	Engineering Professional Programs PE Review Course	5	About 60

Date	Course Title	Instruction Hrs.	Participants
6/2005	National Center for Asphalt Technology (NCAT) Professor Training Course	4	About 20
6/2005	HMA Structural Design 2 seminars for Hawaii Asphalt Paving Industry/LTAP	16	About 100
4/2005	Engineering Professional Programs PE Review Course	5	About 60
11/2004	HMA Construction 2 seminars for Hawaii Asphalt Paving Industry/LTAP	16	About 150
10/2004	Engineering Professional Programs PE Review Course	5	About 60
7/2004	HMA Maintenance and Rehabilitation. 2 seminars for Hawaii Asphalt Paving Industry/LTAP	16	About 100
4/2004	Engineering Professional Programs PE Review Course	5	About 80
4/2004	HMA Pavement Overview 3 seminars for Hawaii Asphalt Paving Industry/LTAP	24	About 200
10/2003	Engineering Professional Programs PE Review Course	5	About 80
6/2002	HMA Pavements 1 seminar for Hawaii Asphalt Paving Industry/LTAP	8	About 100

Other supporting documents

None.

Teaching Awards, Nominations for Teaching Awards

Nominated for Distinguished Teaching Award, 2009, University of Washington

SERVICE

Departmental service

- CEE Transportation/Construction division director 2012-present
- CEE transp./const. search committee co-chair (Muench and Wang) 2012-2013
- CEE space committee member (P. Arduino chair) 2010-2011
- CEE structures search committee member (M. Eberhard chair). 2011
- CEE transp./const. search committee member (C. Chen chair). 2009-2010
- CEE transp./const. search committee member (Y. Wang chair). 2008-2009
- CEE web committee (chair). 2008-2011
- CEE ABET committee (T. Larson chair). 2008-present
- CEE undergraduate education committee (P. Arduino chair). 2007-2010
- CEE strategic hiring committee member (R. Palmer chair) 2006-2007
- CEE transp./hydrology search committee member (Rutherford/Palmer chair) 2005
- Transportation/Construction division strategic plan (creator) 2005
- CEE computer committee member (P. Arduino chair) 2005-2006
- CEE transp./const./water resources search committee member (Turkiyyah chair) 2003

University service

- Engineers without Borders – UW Student Chapter Advisor AU/WI 2009
- University of Washington Club Trustee Board Member 2006-2011

Professional society and other service

- Licensed professional engineer in the state of Washington.
License number: 37404 2000-present
- Member of TRB committee AFH60 Flexible Pavement Construction. Organized 2 invited speaking sessions on sustainability topics at the Transportation Research Board (TRB) Annual Meeting (2007 and 2008). 2006-2011
- Member of TRB committee AFD40 Full-Scale Accelerated Pavement Testing. Drafted and published 2010 meeting call for papers for committee. 2010-present
- Member, leadership group for the Sustainability Track of the Concrete Pavement Road Map, National Concrete Pavement Technology Center 2009-present
- Member, GreenLITES Academic Advisory Council, NY State DOT 2008-2010
- Testimony before the City and County of Honolulu Transportation Committee on the condition of pavements in Hawaii 2006
- Seminars on pavement and sustainability-related material done for the Hawaii Asphalt Paving Industry (HAPI) – the professional trade association for asphalt pavements in Hawaii. Payment for these seminars is far below market value; I view them as service to the community.

Community service

- UW Engineering Open House 2003-2006

International, national or governmental service

- Washington State Department of Transportation (WSDOT) SR 520 Bridge Replacement and HOV Program Sustainability Review Panel 2010
- Washington State Department of Transportation (WSDOT) SR 520 Bridge Replacement and HOV Program Noise Mitigation Expert Review Panel 2008