

CIVIL, CONSTRUCTION, AND ENVIRONMENTAL ENGINEERING

OREGON STATE UNIVERSITY

College of Engineering

LUNDY, James R.

Associate Professor

BIRTH DATE

September 1, 1954

DEGREES

B.S., Civil Engineering, Oregon State University, 1984
M.S., Civil Engineering, Oregon State University, 1986
Ph.D., Civil Engineering, University of Texas-Austin, 1990

ACADEMIC POSITIONS

Instructor, Civil Engineering, Oregon State University, 1986
Assistant Professor, Civil Engineering, Oregon State University, 1990-1995
Associate Professor, Civil Engineering, Oregon State University, 1995-

NON-ACADEMIC POSITIONS

Construction Worker (Carpentry Foreman & Concrete Finisher), 1972-1982
Research Engineer, University of Texas-Austin, 1986-1990
Consulting, 1986-
Austin Research Engineers
Texas Attorney General's Office
City of Bainbridge Island, Washington
CH2M-Hill
Regional Manager, Nichols Vallergera & Associates, 1998-1999

FIELDS OF SPECIALIZATION

Transportation Materials
Concrete Construction
Pavement Design, Evaluation, and Management

PROFESSIONAL ACTIVITIES

Registration

Civil Engineer, California, 59080

Professional Societies

Association of Asphalt Paving Technologists
American Society of Civil Engineers
American Concrete Institute
American Society for Engineering Education

Professional Recognition

Engineer in Training, 1984
Best paper, Texas Section of ASCE, 1987
Best paper, Texas Section of American Concrete Paving Association, 1987

Committees, Commissions, and Boards

Triaxial Institute, 1991-present
American Society of Civil Engineers
Airfield Committee, 1991-1995
Materials Committee, 1991-present
Northwest Concrete Pavement Seminar Committee 1991-present
Northwest Roads and Streets Conference-Steering Committee 1992-present

PUBLICATIONS

Refereed Technical Journals

- James R. Lundy, R. Gary Hicks, and Emory Richardson, "Evaluation of Rubberized Asphalt Surfacing Materials: Mt. St. Helens Project," *Proceedings*, Association of Asphalt Pavement Technologists, Volume 56, February 1987, pp. 573-594.
- James R. Lundy, Robert McHattie, and R. Gary Hicks, "Evaluation of Percent Fracture and Gradation on Behavior of Asphalt Concrete Mixtures," *ASTM STP 1016*, Implication of Aggregates in the Design, Construction, and Performance of Flexible Pavements, American Society for Testing and Materials, Philadelphia, 1989, pp. 120-143.
- Haiping Zhou, Jim Huddleston, and James R. Lundy, "Implementation of Backcalculation in Pavement Evaluation and Overlay Design in Oregon," *Transportation Research Record 1377*, Transportation Research Board, 1992, pp. 150-158.
- James R. Lundy, R.G. Hicks, Todd V. Scholz, and David C. Esch, "Wheel Track Rutting Due to Studded Tires," *Transportation Research Record 1348*, Transportation Research Board, 1992, pp. 18-28.
- James R. Lundy, R.G. Hicks, and Haiping Zhou, "Ground Rubber Tires in Asphalt-Concrete Mixtures B Three Case Histories," *ASTM STP 1193*, Use of Waste Materials in Hot-Mix Asphalt, Philadelphia, 1993, pp. 262-275.
- Ronald L. Terrel, James R. Lundy, and Rita B. Leahy, "Evaluation of Mixtures Containing Waste Materials," *Journal of the Association of Asphalt Pavement Technologists*, Volume 63, 1994, pp. 22- 45.
- Rita B. Leahy, Carl L. Monismith, and James R. Lundy, "Performance Based Properties of Asphalt Concrete Mixtures," *ASTM STP 1265*, Engineering Properties of Asphalt Mixtures and the Relationship to Performance, American Society for Testing and Materials, Philadelphia, 1995, pp. 37-55.
- A.S. Noureldin, R.B. Leahy, and J.R. Lundy, "Development of Temperature Coefficients for the AASHTO Flexible Pavement Design Equation," accepted for publication, *Association of Asphalt Paving Technologists Journal*, Volume 66, March 1996.
- Bruce E. Brunette and James R. Lundy, "The Use and Effects of Studded Tires on Oregon Pavements," *Transportation Research Record 1536*, Transportation Research Board, 1996, pp. 64-72.
- D.I. Kachlakev, J.R. Lundy, V. Gillet, A. Le Bon, Y. Donon, C. Martinand, and G. Guerin, "A New Procedure for Evaluating the Bond Strength of Concrete Reinforcement," accepted for publication, Transportation Research Board, *Transportation Research Record*, 1996.
- W.J. Frederick, K. Iisa, J.R. Lundy, W.K. O'Connor, K. Reis, A.T. Scott, S.A. Siquefield, V. Sricharoenchaikul, and C.A. Vann Vooren, "Energy and Materials Recovery from Recycled Paper Sludge," *Tappi Journal*, Volume 79, No. 6, June 1996, pp. 123-131.
- Suvimol Sujjavanich and James R. Lundy, "Development of Strength and Fracture Properties of Latex Modified Concrete," Transportation Research Board, National Research Council.
- Suvimol Sujjavanich and James R. Lundy, "Early-Age Cracking of Latex-Modified Bridge Deck Overlays," American Concrete Institute, *Materials Journal*.
- Damian Kachlakev and James R. Lundy, "Performance of Hollow Glass Fiber-Reinforced Polymer Rebars," *Journal of Composite for Construction*, Volume 3, No. 2, May 1999, pp. 87-92.

Refereed Conference Proceedings

- James R. Lundy and B.F. McCullough, "Efforts to Reduce Illegally Overweight Truck Operations in Texas," *Proceedings*, Second North American Conference on Managing Pavements, Vol. 3, November 1987, pp. 203-214.
- B.F. McCullough and James R. Lundy, "The Performance of Bonded Concrete Overlays in Texas," *Proceedings*, Eighth Quinquennial Convention SAICE/ATC, Republic of South Africa, July 1988.
- James R. Lundy and B.F. McCullough, "Delamination in Bonded Concrete Overlays of Continuously Reinforced Concrete Pavement," *Proceedings*, Fourth International Conference on Concrete Pavement Design and Rehabilitation, Purdue University, April 1989, pp. 221-239.
- Willem A. van Metzinger, Y.S. Suh, James R. Lundy, and B.F. McCullough, "The Influence of Curing Temperature on the Design and Construction of Concrete Pavements," *Proceedings*, 10th Annual Transportation Conference, Republic of South Africa, August 1990.
- D.I. Kachlakev and J.R. Lundy, "Bond Strength Characteristics of Fiber Reinforced Bars," *Proceedings*, Fourth International Conference on Advanced Materials, Mexico City, Mexico, August 1995.
- R.G. Hicks, J.R. Lundy, R.B. Leahy and M.R. Smith, "The Use of Rubber Modifier in Asphalt Pavements: A National Research Program," *Proceedings*, 1995 ASCE Annual Convention and Exposition, San Diego, CA, October, 1995, pp. 786-797.
- James R. Lundy and Damian Kachlakev, "Evaluation of Bond Characteristics of Steel and Glass-Fiber Reinforcing Rebars," *Proceedings*, American Society of Civil Engineers, Annual Meeting, Washington, DC, November 1996.
- Damian Kachlakev, Thomas S. Ohnstad, and James R. Lundy, "A New Manufacturing Technique for Second Generation Hollow FRP Rebar," *Proceedings*, International Conference on Advanced Composites, December 1998, pp. 291-299.
- Damian Kachlakev, James R. Lundy, and William A. Barnes, "Shear and Flexural Strengthening of Reinforced Concrete Beams Using FRP Laminates," *Proceedings*, International Conference on Advanced Composites, December 1998, pp. 299-309.

Non-Refereed Conference Proceedings

- James R. Lundy, David W. Fowler, and B.F. McCullough, "Early-Age Thermal Stresses in Bonded Concrete Overlays," *Proceedings*, American Concrete Institute Annual Meeting, Washington, DC, March 1992.
- James R. Lundy, David W. Fowler, and B.F. McCullough, "Bonded Concrete Overlays," *Proceedings*, International Symposium on Advances in Concrete Technology, CANMET-ACI, Athens, Greece, May 1992.
- R.L. Terrel, J.R. Lundy, and R.G. Hicks, "Using SHRP Tests to Evaluate CRM Asphalt Pavements," *Proceedings*, Rim TransTech Conference, Seattle, WA, July 1993, Vol. II, pp. 331-337.
- R.L. Terrel, J.R. Lundy, and R.G. Hicks, "Existing and Evolving Methods of Materials Evaluation for Waste-Modified Asphalt Mixtures," *Proceedings*, Recovery and Effective Reuse of Discarded Materials and By-Products for Construction of Highway Facilities, FHWA/EPA, October 1993, pp. 1-29C1-39.

Research Reports and Others

- James R. Lundy and R. Gary Hicks, "Comparison of Asphalt Mix Design Methods in the Pacific Northwest," Report No. 83-11, Transportation Research Institute, Oregon State University, September 1983.
- James R. Lundy, R. Gary Hicks, and Emory Richardson, "Evaluation of Rubberized Asphalt Surfacing Materials: Mt. St. Helens Study," Report No. 84-3, Transportation Research Institute, Oregon State University, January 1985.

- James R. Lundy, R. Gary Hicks, and Emory Richardson, "Preliminary Development of Layer Equivalencies for Rubber-Modified Asphalt Concrete," Report No. 85-10, Transportation Research Institute, Oregon State University, January 1985.
- S. Albright, James R. Lundy, and R. Gary Hicks, "Evaluation of Percent Fracture and Gradation on Behavior of Asphalt Concrete and Aggregate Base - Final Report," Report No. 85-17, Transportation Research Institute, Oregon State University, December 1985.
- James R. Lundy, "Evaluation of Asphalt Concrete - Three Short Stories," Report No. 86-8, Transportation Research Institute, Oregon State University, July 1986.
- Y.C. Suh, James R. Lundy, B.F. McCullough, and D.W. Fowler, "A Summary of Studies of Bonded Concrete Overlays," Research Report 457-5F, Center for Transportation Research, University of Texas at Austin, November 1988.
- James R. Lundy, B.F. McCullough, and W.V. Ward, "Texas Highways Have a Weight Problem," video story and script prepared for Texas Department of Transportation, May 1998.
- William V. Ward and J.R. Lundy, "Texas House Bill 2060 - Briefing Document," report prepared for Texas Department of Transportation, August 1989.
- D.W. Fowler, D.P. Whitney, B.F. McCullough, and James R. Lundy, "Laboratory Investigation of Factors Affecting Interface Bond Strength of Concrete Overlays," Research Report 920-4, Center for Transportation Research, The University of Texas at Austin, September 1990.
- James R. Lundy, B.F. McCullough, and D.W. Fowler, "Delamination of Bonded Concrete Overlays at Early Ages," Research Report 1205-2, Center for Transportation Research, The University of Texas at Austin, November 1990.
- W.A. van Metzinger, James R. Lundy, B.F. McCullough, D.W. Fowler, "Design and Construction of Bonded Concrete Overlays," Research Report 1205-4F, Center for Transportation Research, The University of Texas at Austin, December 1990.
- James R. Lundy and Todd V. Scholz, "Rubber Modified Asphaltic Concrete Laboratory Test Results," Metropolitan Service District, December 1991.
- James R. Lundy, "Rigid Pavement Performance," Report 93-10, Transportation Research Institute, Oregon State University, November 1993.
- James R. Lundy, "Rigid Pavement Performance Data," FHWA-OR-RD-94-5, Research Unit, Oregon Department of Transportation, December 1993.
- James R. Lundy and Suvimol Sujjavanich, "Latex and Microsilica Modified Concrete Bridge Deck Overlays in Oregon," Interim Report, Report 94-14, Transportation Research Institute, Oregon State University, September 1994.
- R.G. Hicks, R.B. Leahy, J.R. Lundy, D.I. Hanson, and J.A. Epps, "Crumb Rubber Modifiers (CRM) in Asphalt Pavements - Accelerated Testing Plan," Interim report to Federal Highway Administration, July 1995.
- R.G. Hicks, J.R. Lundy, R.B. Leahy, D.I. Hanson, and J.A. Epps, "Crumb Rubber Modifies (CRM) in Asphalt Pavements - State of the Practice in Arizona, California and Florida," Interim report to Federal Highway Administration, July 1995.
- James R. Lundy and Rajesh K. Bhandari, "Structural Design of Pavement Containing CRM Materials," Interim report to Federal Highway Administration, September 1995.
- J.R. Lundy, C. Waters, R. Fortier, and T.S. Vinson, "Evaluation of Asphalt Rubber Project Idaho DPI-188(1) and PFH 30-1(1)," Final report to Federal Highway Administration, August 1995.
- J. Celorie, J. Doran, J.R. Lundy, R.L. Terrel, "Recycling Refinery Residuals - Study Findings and Implementation Recommendations," Final report to ARCO, September 1995.

CONFERENCE PRESENTATIONS AND INVITED LECTURES

Conference Presentations

- “Evaluation of Percent Fracture and Gradation on Behavior of Asphalt Concrete Mixtures,” ASTM Symposium, New Orleans, LA, December 1986.
- “Performance of Bonded Concrete Overlays,” Texas Section ASCE Meeting, Houston, TX, October, 1987.
- “The Effect of Forecasting Heavy Vehicles on Pavement Design,” WASHTO Planning Conference, Technical Session, Houston, TX, November 1987
- “Efforts to Reduce Illegally Overweight Truck Operations in Texas,” Second North American Conference on Managing Pavements, Toronto, Canada, November 1987.
- “Delamination in Bonded Concrete Overlays of Continuously Reinforced Concrete Pavement,” Fourth International Conference on Concrete Pavement Design and Rehabilitation, Purdue University, April 1989.
- “Long Term Performance Study of Rigid Pavements,” Fourth International Conference on Concrete Pavement Design and Rehabilitation, Purdue University, April 1989.
- “Wheel Track Rutting Due to Studded Tires,” Transportation Research Board Annual Meeting, Washington, DC, January 1991.
- “Evaluation of Mixtures Containing Waste Materials,” The Association of Asphalt Paving Technologists, Annual Meeting, March 21-23, 1994, St. Louis, MO.

Invited Presentations

- Invited Speaker, “Bonded Concrete Overlays in Houston, Texas,” Annual Concrete Pavement Conference, Arlington, TX, May 1988.
- Invited Speaker, “Concrete Research at Oregon State University,” Materials Seminar, University of Texas at Austin, March 1993
- Invited Speaker, “Existing and Evolving Methods of Materials Evaluation for Waste-Modified Asphalt Mixtures,” Symposium on Recovery and Effective Reuse of Discarded Materials and By-Products for Construction of Highway Facilities, Denver, CO, October 1993.
- Invited Speaker, “CRCP Open House and Technical Workshop,” Illinois Department of Transportation, Chicago, IL, April 19 - 20, 1994.
- Invited Speaker, “Scrap Tire Summit,” Kansas State Department of the Environment, Manhattan, KS, September 26, 1995.
- Invited Speaker, “Crumb Rubber Research Update,” Rubber Pavements Association Meeting, Palm Springs, CA, January 17, 1997.

Conference Participation

- Participant, The Engineering and Economics of Concrete Pavement, American Concrete Paving Association, Skokie, IL, June 1991.
- Participant, Writing Intensive Curriculum Seminar, Oregon State University, Fall Term 1991.
- Participant, Aircraft/Pavement Interaction B An Integrated System, American Society of Civil Engineers, Kansas City, MO, September 4-6, 1991.
- Participant, International Congress on Polymers in Concrete, American Concrete Institute, San Francisco, CA, September 24-27, 1991.
- Attendee, 62nd Annual Meeting of the Association of Asphalt Paving Technologists, Austin, TX, March 1993
- Participant, Transportation Research Board Annual Meeting, January 1993-2000

Short Courses and Workshops

- “Crumb Rubber Modifier Workshop,” for Federal Highway Administration, Presentor, Session 10:
Denver, CO, March 1-2, 1993
Spokane, WA, March 25-26, 1993
Dallas, TX, March 30-31, 1993

- “Oregon Ride Specification Workshop,” for Oregon Department of Transportation and Oregon Asphalt Paving Association, Wilsonville, OR, April 27, 1993.
- “Mechanistic Pavement Design Workshop,” for Alaska Department of Transportation and Public Facilities (Co-Instructor with Billy Connor):
Fairbanks, AK, May 17-18, 1993
Anchorage, AK, May 20-21, 1993
- “Techniques for Pavement Rehabilitation,” for National Highway Institute, (Co-Instructor with Newton Jackson):
Washington, DC, March 15-18, 1994
Columbus, OH, October 17-20, 1994
Honolulu, HI, February 14-17, 1995
Houston, TX, May 27-31, 1996
Dover, DE, February 22-26, 1999
Ravenna, OH, April 13-16, 1999
Santa Fe, NM, May 3-7, 1999
Tampa, FL, June 1-4, 1999

RESEARCH

Previous Research

- “Preparation of a Video Tape on Overloaded Trucks,” (PI - W.V. Ward), Texas Highway Department, \$60,000, 9/86 to 8/87.
- “Evaluation of Thin Bonded Overlays on IH-610 in Houston,” (PI - B.F. McCullough), Texas Highway Department, \$979,000, 9/86 to 12/90.
- “Design, Construction and Monitoring of Full-Scale Test Roads Used to Validate the Equivalencies Developed During the AASHO Road Test,” (PI - B.F. McCullough), Texas Highway Department, \$65,000, 9/87 to 8/88.
- “Development of a Prototype Long Range Planning Document for the Rehabilitation of Primary Highway Facilities in Texas,” (PI - B.F. McCullough), Texas Highway Department, \$758,000, 9/89 to 12/90.
- “Investigation of Early Age Characteristics of Bonded Concrete Overlays Using Finite Element Techniques,” (PI - B.F. McCullough), Texas Highway Department, \$210,000, 8/89 to 8/90.
- “RUMAC Analysis and Evaluation,” Metropolitan Service District, Portland, Oregon, \$8,600, 11/91 to 12/91, Principal Investigator.
- “Rigid Pavement Performance Data C Phase 1,” Oregon Department of Transportation, \$43,000, 1/92 to 6/93, Principal Investigator.
- “Development of An Improved Ride Specification for Oregon’s Pavements,” Oregon Department of Transportation, \$40,000, 4/91 to 6/94, Principal Investigator.
- “Energy from Recycled Fiber Sludge: A Technical Analysis,” (with W.J. Frederick), James River Corporation, \$11,762, 9/92 to 12/93.
- “Evaluation of CRM Asphalt Pavements Using SHRP Tests,” (with R.L. Terrel), Clean Washington Center, \$40,000, 2/93 to 12/93.
- “Evaluation of CRM Asphalt Mixtures in Idaho,” Federal Highway Administration-Western Federal Lands, \$24,000, 8/94 to 8/95, Principal Investigator.
- “Effective Utilization of Refinery Residuals,” CH2M-Hill Engineers, \$123,000, 6/94 to 12/95, Principal Investigator.
- “Paper Manufacturing Waste in Pavements,” CH2M-Hill Engineers, \$18,000, 9/94 to 6/95, Principal Investigator.
- “Composite Reinforcement in Concrete,” (with C.A. Bell), ORE, Ltd., \$32,000 8/94 to 12/95, Principal Investigator.

- “Premature Distress of LMC and MC Bridge Deck Overlays,” Oregon Department of Transportation, \$59,000, 1/92 to 6/96, Principal Investigator.
- “Review of Out-of-Service Criteria,” (with S.U. Randhawa and C.A. Bell), Public Utility Commission and Federal Highway Administration, \$166,000, 1/94 to 9/96, Research Team.
- “Crumb Rubber Modifier in Asphalt Pavements,” (with R.B. Leahy), Federal Highway Administration, \$1,800,000, 10/94 to 9/99, PI.

Current Research

- “Environmental Impact of Construction and Repair Materials on Surface and Ground Waters,” (with W.C. Huber and N.N. Eldin), National Cooperative Highway Research Program, \$1,200,000, 9/93 to 3/00, Research Team.
- “Unidirectional Glass-Fiber Reinforced Plastic Reinforcement,” Composite Rebar Technology, \$45,000.
- “Development of Pay-Factors for Dense-Graded Mixtures,” Oregon Department of Transportation, \$116,000, 8/99 to 8/02.