THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Standard Resume

FULL NAME: Thomas Wayne Rioux   **TITLE:** Lecturer and Research Engineer

DEPARTMENT: Civil, Architectural, and Environmental Engineering

SOCIAL SECURITY NO:

DATE OF BIRTH: June 26, 1947, El Campo, Texas

CITIZENSHIP: United States of America

SPOUSE'S NAME: Anne

EDUCATION:

El Campo ISD, El Campo, Texas	1st - 12th Grade		1953-1965
Wharton County Junior College, Wharton, Texas	Engineering		1965-1966
The University of Texas at Austin	Civil Engineering (Structural Mechanics)	BSCE	1970
The University of Texas at Austin	Civil Engineering (Traffic Engineering)	MSCE	1973
The University of Texas at Austin	Civil Engineering (Transportation Engr.)	Ph.D	1977

TRAINING:

- Texas Department of Transportation
  - GEOPAK I, October 1996
  - GEOPAK II, November 1996

- Fireman Training
  - Ground Cover Fire Suppression, Texas Forest Service, January 1986
  - Firefighting I, Texas A&M University System, Texas Fireman's Training School, July 1987
  - Firefighting III, Texas A&M University System, Texas Fireman's Training School, July 1988
  - Fire Service Rescue Practices I, Texas A&M University System, Texas Fireman's Training School, July 1989
  - Hazardous Materials Awareness for First Responders, Governor's Division of Emergency Management, February 1996

- Texas State Management Development Center
  - First Level Management Training Course, July 1982

- Emergency Medical Service (EMS)
  - Emergency Medical Technician Course (EMT), May 1981
  - Emergency Care Attendant Course (ECA), May 1989
  - Emergency Care Attendant Course (ECA), May 1995
  - Pre-Hospital Providers Pediatric Course (PPPC), October 1995
  - Pre-Hospital Trauma Life Support Course (PHTLS), Basic Provider, October 1995

TRAINING (Continued):

- Digital Equipment Corporation
  o VAX/VMS System Management, August 1981
  o Programming VMS in VAX-11 Fortran/Macro, September 1981
  o VAX/VMS Operating Systems Internals, December 1982
  o DEC OSF/1 Performance Management, August 1994

- Intergraph Corporation
  o Data Management and Retrieval System (DMRS) Training, September 1980
  o System Management Training, Phase II, May 1981
  o Customer Operator - Hardware Course #250, May 1981
  o VAX Programmer's Training, April 1982
  o Data Management and Retrieval System (DMRS) Training, May 1986
  o System Management Training II: Accelerated Training, September 1986
  o Informix - Structured Query Language, June 1989
  o InRoads - Design Basics, November 1992

PROFESSIONAL REGISTRATION:

- Registered Professional Engineer, Texas, September 1980-December 2014, Registration Number 48008.

LICENSES AND CERTIFICATIONS:

- Private Pilot, Single Engine - Land, Solo September 24, 1969, License November 14, 1969

- Scuba Diving
  o Scuba Diver - Basic Certification, National Association of Underwater Instructors (NAUI), October 1975
  o Advanced Open Water Diver Certification, Professional Association of Diving Instructors (PADI), November 1980

- Texas Department of Health
  o Licensed Emergency Medical Technician, 1981-1985
  o Licensed Emergency Medical Technician, 1985-1989
  o Licensed Emergency Medical Technician, 1989-1993
  o Licensed Emergency Medical Technician, 1995-1999

- Austin/Travis Emergency Medical Services System, Basic Provider Certification, June 1996-December 1997

ACADEMIC POSITIONS:

Department of Civil Engineering, The University of Texas at Austin, Austin	Teaching Assistant II	1973-1975
Department of Civil Engineering, The University of Texas at Austin, Austin	Supported teaching CE367 & CE391M (appointed as Research Associate)	1993-1997
Department of Civil Engineering, The University of Texas at Austin, Austin	Lecturer - ARE125, CE311K, CE367, CE376, CE391M, & CE397	1997 - 2005

OTHER PROFESSIONAL EXPERIENCE:

Chicago Bridge and Iron, Houston	Engineering Trainee	Summer 1967 & 1968
Prescon Corporation, Corpus Christi	Engineering Computer Programmer	Summer 1969
Department of Civil Engineering, The University of Texas at Austin, Austin	Laboratory Research Assistant	1969-1970
Center for Highway Research, The University of Texas at Austin, Austin	Research Engineering Assistant I	1970-1973
Center for Highway Research, The University of Texas at Austin, Austin	Research Engineering Assistant III	1974-1976
Computation Center, The University of Texas at Austin, Austin	Computer Programmer I	1976
S and A Systems, Inc., Dallas	Senior Systems Analyst	1977-1979
Texas State Department of Highways and Public Transportation, Division of Automation, Austin	Systems Analyst II	1979-1980
Texas State Department of Highways and Public Transportation, Division of Automation, Austin	Administrator of Technical Programs	1980-1981
Texas State Department of Highways and Public Transportation, Division of Automation, Austin	Director of Programs	1981-1982
Rioux Engineering, Inc., Austin	President	1982-1997
Center for Transportation Research, The University of Texas at Austin, Austin	Research Fellow	1988-1991
Center for Transportation Research, The University of Texas at Austin, Austin	Research Associate	1991-1994
Civil Engineering Department, The University of Texas at Austin, Austin	Research Associate	1993-1994
Center for Research in Water Resources, The University of Texas at Austin, Austin	Senior Operating Systems Specialist	1994-1995
Civil Engineering Department, The University of Texas at Austin, Austin	Senior Operating Systems Specialist	1994 - 2005
Construction Industry Institute, The University of Texas at Austin, Austin	Senior Operating Systems Specialist	1995-1996
Center for Transportation Research, The University of Texas at Austin, Austin	Senior Operating Systems Specialist	1995 - 2001
Center for Transportation Research, The University of Texas at Austin, Austin	Research Engineer	2001 - 2005
Rioux Engineering, Austin	President	1998-2014
Harmonia Holdings Group, LLC	Senior Research Engineer	4/2011- 11/2011

CONSULTING:

Metropolitan Atlanta Rapid Transit Authority, Atlanta, Georgia	1977-1979
Rioux Engineering, Inc., President	1982-1997
Rioux Engineering, President	1998-2014

HONORS AND AWARDS:

- The University of Texas at Austin American Society of Civil Engineers, elected delegate to Student Engineering Council, 1968-1969

- Kappa Sigma Fraternity National Scholarship-Leadership Scholarship, 1969

- The University of Texas at Austin Chi Epsilon, Honorary Civil Engineering Fraternity, inducted May 1969, elected Vice-President, 1969-1970

- The University of Texas at Austin Student Assembly, College of Engineering elected delegate, 1969-1970

- The University of Texas at Austin James Stephen Hogg Society, elected Parliamentarian, 1969-1971, elected Speaker, 1971-1973

- The University of Texas at Austin Committee on Student Organizations, appointed Member, 1969-1971

- The University of Texas at Austin Admissions and Registration Committee, appointed Member, 1969-1971

- The University of Texas at Austin Parking and Traffic Policies Committee, appointed Member, 1969-1971

- The University of Texas at Austin Tau Beta Pi Association, Honorary Engineering Association, inducted April 1970

- The University of Texas at Austin Kappa Sigma Fraternity Frank C. Erwin Scholarship Award, 1970

- The University of Texas at Austin Student Engineering Council, elected Chairman, 1970-1971

- The University of Texas at Austin Senior Cabinet, elected Chairman, 1970-1972

- The University of Texas at Austin College of Engineering Outstanding Engineering Student Award, 1970

- The University of Texas at Austin Students Association Distinguished Service Award, 1970

- The University of Texas at Austin Student Engineering Council Distinguished Service Award, 1970

- The University of Texas at Austin Omicron Delta Kappa, Honorary Leadership Fraternity, inducted April 1971, elected President, 1973-1974

- The University of Texas at Austin Graduate Student Council, Acting Chairman, 1971-1972

- The University of Texas at Austin Student Senate, elected Senator-at-Large, 1971-1972

- The University of Texas at Austin Shuttle Bus Committee, appointed Member, 1971-1973 and elected Chairman, 1972-1973

- The University of Texas at Austin Phi Kappa Phi, All-disciplines Honorary Fraternity, inducted December 1972

- The University of Texas at Austin Cactus Outstanding Student Award, April 1972

HONORS AND AWARDS (Continued):

- National Highway Institute $5000 Fellowship in Transportation, September 1973 - May 1974 (one of twenty national recipients)

- The University of Texas at Austin Student Chapter of the Institute of Transportation Engineers, elected President, 1974-1975

- Texas Section of the Institute of Transportation Engineers Outstanding Transportation Engineering Student Award, 1975

- The University of Texas at Austin College of Engineering Deans Executive Committee, elected Member 1983-1991 and elected Chairman May 1987 - May 1989

- The University of Texas at Austin Littlefield Society, Member, 1991 - present

- The University of Texas at Austin Texas Leadership Society, Member, December 1993 - present

- The University of Texas System Chancellor's Council, elected Member, October 1995 - present

- Transportation Research Board Committee on Pedestrians 2002 Outstanding Paper Award for "Sidewalk Cross-Slope Design: Analysis of Accessibility for Persons with Disabilities", January 2002

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

- American Society of Civil Engineers, student member, 1967-1970

- The University of Texas at Austin Chi Epsilon, Honorary Civil Engineering Fraternity, inducted May 1969, elected Vice-President, 1969-1970

- The University of Texas at Austin Tau Beta Pi Association, Honorary Engineering Association, inducted April 1970

- The University of Texas at Austin Phi Kappa Phi, All-disciplines Honorary Fraternity, inducted December 1972

- The University of Texas at Austin Omicron Delta Kappa, Honorary Leadership Fraternity, inducted April 1971, elected President, 1973-1974

- Institute of Transportation Engineers, Member, December 1977 - December 1989

- Texas Section of the Institute of Transportation Engineers, Member, December 1977 - December 1989

- National Society of Professional Engineers, Member, September 1980 - December 1988

- Texas Society of Professional Engineers, Member, September 1980 - December 1988

UNIVERSITY COMMITTEE ASSIGNMENTS:

Department Committees

Member	Computer Committee	1993-1999
Member	Safety Committee	1996-1997

UNIVERSITY COMMITTEE ASSIGNMENTS (Continued):

College Committees

Member	Deans Executive Committee	1983-1991
Chairman	Deans Executive Committee	1987-1989

University Committees

Member	Committee on Student Organizations	1969-1971
Member	Admissions and Registration Committee	1969-1971
Member	Parking and Traffic Policies	1969-1971
Member	Shuttle Bus Committee	1971-1973
Chairman	Shuttle Bus Committee	1972-1973

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES AND PANELS:

- Transportation Research Board, Washington, D. C., Committee on Traffic Flow Theory and Characteristics, A3A11, Member, February 1981 - February 1984

- Transportation Research Board, Washington, D. C., Committee on Computer Graphics and Interactive Computing, A1C06, Secretary, February 1982 - February 1985

- Transportation Research Board, Washington, D. C., Committee on Computer Graphics and Interactive Computing, A5003, Secretary, February 1985 - December 1988

- Texas Department of Transportation Research Management Committee 4 Traffic Operations, Technical Assistance Panel, Center for Transportation Research, The University of Texas at Austin, representative and alternate, 1995 - 2003

- Federal Highway Administration Next Generation Simulation Core Algorithms and Data Sets Project; software developer's stakeholder group member; January 2003 - 2008; Urban Lane Selection Expert Panel member; 2006 - 2008

- National Cooperative Highway Research Program Project 20-64 XML Schemas for Exchange of Transportation Data (TransXML), panel member, July 2003 - August 2005

- Transportation Research Board, Washington, D. C., Joint Traffic Simulation Subcommittee Awards Task Force Chairman, January 2006 - January 2011

COMMUNITY ACTIVITIES:

- Kappa Sigma, Social Fraternity, Pledged September 1966, Initiated March 1967

- The University of Texas at Austin Ex-Students Association, Life Member, 1974

- Travis County Emergency Services District #9 (Westlake) (formerly Travis County Rural Fire Prevention District #1), Austin
  - Volunteer Fireman and Emergency Medical Services (EMS) First Responder, May 1981 - December 1997
  - Support Services, January 1998 - 1999
  - Community Services, October 2005 through 2006

COMMUNITY ACTIVITIES (Continued):

- The University of Texas at Austin College of Engineering, Austin
  - o "World of Engineering" presentations, 1993-1996
  - o "Careers in Engineering for Women (CEW)" presentation, 1995
  - o "Explore UT" Roadway Design training session, Spring 2002
  - o "Explore UT" Roadway Design training session, Spring 2003
  - o "Women in Engineering" Roadway Design training session, Summer 2003
  - o "Explore UT" Roadway Design training session, Spring 2004

- Westlake United Methodist Church, Austin
  - o Administration Board, Member-At-Large, January 1993 - December 1997, Ex-Officio Member January 2002 - December 2002
  - o Finance Committee, Member, January 1994 - December 1997
  - o Solo Boomers Singles Group, Member and Chairman, January 1996 - 1998
  - o Building Committee, Member, January 1996 - 2000
  - o Trustees Committee, Member, January 2000 - December 2002, elected Chairman December 2001 - December 2002
  - o Leadership Advisory Team, Ex-Officio Member January 2002 - December 2002
  - o Long Range Planning Committee, January 2005 – 2007
  - o Lay Delegate to Annual Conference, 2007 - 2010

- Walk to Emmaus, a Christian Ecumenical Religious Retreat
  - o Pilgrim, Walk to Emmaus #666, July 23-26, 1998, Omega Center, Boerne, Texas
  - o Servant Team Member, Walk to Emmaus #838, July 6-9, 2000, Omega Center, Boerne, Texas
  - o Assistant Lay Director, Walk to Emmaus #881, January 11-14, 2001, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Servant Team Coordinator, Walk to Emmaus #919, July 5-8, 2001, Omega Center, Boerne, Texas
  - o Servant Team Member, Walk to Emmaus #930, September 6-9, 2001, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Servant Team Member, Walk to Emmaus #988, May 2-5, 2002, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Assistant Table Leader and Body of Christ Talk, Walk to Emmaus #1008, August 22-25, 2002, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Lay Director in Training, Greater Austin Emmaus Community, June 1, 2003 - May 31, 2004
  - o Lay Director in Training and Life of Piety Talk, Walk to Emmaus #1094, September 11-14, 2003, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Lay Director, Greater Austin Emmaus Community, June 1, 2004 - May 31, 2005
  - o Servant Team Member, Walk to Emmaus #1161, July 29 - August 1, 2004, Omega Center, Boerne, Texas
  - o Table Leader, Walk to Emmaus #1200, January 20-23, 2005, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Lay Director and Perseverance Talk, Walk to Emmaus #1247, October 6-9, 2005, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Board Representative, Walk to Emmaus #1316, August 24-27, 2006, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Treasurer, November 1, 2005 through May 31, 2006
  - o Database Coordinator, June 1, 2006 through 2007 and 2010 through 2017
  - o Servant Team Coordinator, Walk to Emmaus #1355, March 8-11, 2007, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Servant Team Member, Walk to Emmaus #1409, November 15-18, 2007, Highland Lakes Camp and Conference Center, Spicewood, Texas
  - o Servant Team Coordinator, Walk to Emmaus #1435, May 1-4, 2008, Highland Lakes Camp and Conference Center, Spicewood, Texas

COMMUNITY ACTIVITIES (Continued):

- Walk to Emmaus, a Christian Ecumenical Religious Retreat (continued)
    o Servant Team Member, Walk to Emmaus #1497, April 23-26, 2009, Highland Lakes Camp and Conference Center, Spicewood, Texas
    o Servant Team Member, Walk to Emmaus #1530, October 22-25, 2009, Highland Lakes Camp and Conference Center, Spicewood, Texas
    o Servant Team Member, Walk to Emmaus #1593, November 18-21, 2010, Camp Young Judaea, Wimberley, Texas
    o Servant Team Member, Walk to Emmaus #1644, February 2-5, 2012, Camp Young Judaea, Wimberley, Texas
    o Partial Weekend Servant Team Member, Walk to Emmaus #1659, May 3-6, 2012, Camp Young Judaea, Wimberley, Texas
    o Board Representative to the Southwest Texas Emmaus Community, June 1, 2012 – May 31, 2015
    o Servant Team Member, Walk to Emmaus #1674, September 20-23, 2012, Camp Young Judaea, Wimberley, Texas
    o Servant Team Member, Walk to Emmaus #1720, September 26-29, 2013, Camp Young Judaea, Wimberley, Texas
    o Partial Weekend Servant Team Member, Walk to Emmaus #1740, February 27-March 2, 2014, Camp Young Judaea, Wimberley, Texas
    o Servant Team Member, Walk to Emmaus #1775, November 13-16, 2014, Camp Young Judaea, Wimberley, Texas
    o Servant Team Member, Walk to Emmaus #1778, February 19-22, 2015, Camp Young Judaea, Wimberley, Texas
    o Board Representative, Walk to Emmaus #1803, October 14, 2015, Camp Young Judaea, Wimberley, Texas
    o Servant Team Member, Walk to Emmaus # 1839, May 5-8, 2016, Camp Young Judaea, Wimberley, Texas
    o Partial Weekend Servant Team Member, Walk to Emmaus #C141, March 30-April 2, 2017, Camp Young Judaea, Wimberley, Texas
    o Partial Weekend Servant Team Member, Walk to Emmaus #C142, October 12-15, 2017, Camp Young Judaea, Wimberley, Texas

- Boy Scouts of America, Capitol Area Council, Pack 30
    o Spring Camping Trip Coordinator, 2000
    o Fall Camping Trip Assistant Coordinator, 2000
    o Spring Camping Trip Coordinator, 2001
    o Pinewood Derby Race Coordinator, 2001 and 2002

- Boy Scouts of America, Capitol Area Council, Troop 454
    o Six Flags Fiesta Texas Trip Coordinator, 2004
    o Pace Bend Park Campout Coordinator, September 2006
    o Grand Teton Nation Park and Yellowstone National Park Summer Trip Coordinator, June 2008

- West Austin Youth Association, Austin, Flag Football Assistant Coach, Fall 2000

- The University of Texas at Austin CE/ARE 1970 Class Reunion Coordinator, March 2-4, 2001

- The University of Texas at Austin CE/ARE 1977 Class Reunion Committee, March 2-4, 2002

PUBLICATIONS:

Refereed Journal Publications

- Rioux, Thomas W., and Lee, Clyde E., "TEXAS - A Microscopic Traffic Simulation Package for Isolated Intersections, *Transportation Research Record No. 644*, National Academy of Sciences, Transportation Research Board, Washington, D.C., 1977, pages 45-51

- Kockelman, Kara M.; Heard, Lydia;, Kweon, Young-Jun; and Rioux, Thomas W., "Sidewalk Cross-Slope Design: Analysis of Accessibility for Persons with Disabilities", *Transportation Research Record No. 1818*, National Academy of Sciences, Transportation Research Board, Washington, D.C., 2002, pages 108-118

- Khoury, Joseph A.; Haas, Carl T.; Mahmassani, Hani; Logman, Haitham; and Rioux, Tom, "Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection", *Journal of Transportation Engineering - November/December 2003*, American Society of Civil Engineers, Volume 129, Issue 6, pages 600-607

- Rioux, Thomas W. (Tom), "Evolution of the TEXAS Model for Intersection Traffic Simulation Animation and Traffic Flow Theory Milestones", Traffic and Transportation Simulation, Looking Back and Looking Ahead: Celebrating 50 Years of Traffic Flow Theory, A Workshop, *Transportation Research Circular Number E-C195*, National Academy of Sciences, Transportation Research Board, Washington, D.C., January 12, 2014, pages 30-54

Refereed Conference Proceedings

- Rioux, Thomas W., and Machemehl, R. B., "Simulation for At-Grade Intersections and Interchanges", Seventh Pan-American Congress on Traffic and Transportation Engineering (VII Congreso Panamericano De Ingenieria de Transito Y Transporte), Caracas, Venezuela, September 7-11, 1992, pages 99-100

- Hudson, W. Ronald; Claros, German; Murphy, Mike; White, Ronald P.; and Rioux, Thomas W., "Inaugural Results of the Texas Accelerated Pavement Test Center", 2nd International Conference on Accelerated Pavement Testing, University of Minnesota, Minneapolis, Minnesota, September 26-29, 2004

- Badillo, Brian E.; Rakha, Hesham A.; Rioux, Thomas W.; and Abrams, Marc, "Queue Length Estimation Using Conventional Vehicle Detector and Probe Vehicle Data", 15th International IEEE Annual Conference on Intelligent Transportation Systems, Anchorage, Alaska, September 19, 2012

Invited Papers and Lectures

- Rioux, Thomas W., and Walton, C. Michael, "The Effects of a Special Purpose Transit System on an Urban Community", American Society of Civil Engineers 1975 National Annual Meeting, Denver, Colorado

- Rioux, Thomas W., "Microscopic Traffic Simulation Integrating VMS Signs and DSRC Vehicle-to-Vehicle and Wayside-to-Vehicle Messages", Research Opportunities in Radio Frequency Identification (RFID) Transportation Applications Conference, October 17-18, 2006, Washington, DC

Dissertation and Thesis

- Rioux, Thomas W., "Simulation of Traffic Movements in an Intersection", Masters Thesis, The University of Texas at Austin, Austin, Texas, May 1973

- Rioux, Thomas W., "The Development of the Texas Traffic and Intersection Simulation Package", Doctoral Dissertation, The University of Texas at Austin, Austin, Texas, December 1977

Technical Reports

- Lee, Clyde E., Grayson, G. E., Copeland, C. R., Miller, J. W., Rioux, Thomas W., and Savur, V. S., "The TEXAS Model for Intersection Traffic - User's Guide", Research Report No. 184-3, Project 3-18-72-184, Center for Highway Research, The University of Texas at Austin, July 1977, 82 pp

- Lee, Clyde E., Rioux, Thomas W., and Copeland, C. R., "The Texas Model for Intersection Traffic-Development", Research Report No. 184-1, Project 3-18-72-184, Center for Highway Research, The University of Texas at Austin, December 1977

- Lee, Clyde E., Rioux, Thomas W., Savur, V. S., and Copeland, C. R., "The Texas Model for Intersection Traffic - Programmer's Guide", Research Report No. 184-2, Project 3-18-72-184, Center for Highway Research, The University of Texas at Austin, December 1977

- Rioux, Thomas W., Inman, R. F., Berry, C. H., Jr., Lee, Clyde E., and Machemehl, R. B., " Interactive Graphics Intersection Design System: First-Stage Development", Research Report No. 1139-1F, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, August 1991

- Rioux, Tom, Inman, Robert, Machemehl, Randy B., and Lee, Clyde E., "TEXAS Model for Intersection Traffic: Additional Features", Research Report No. 1258-1F, Project 3-18-91/2-1258, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, January 1993

- Lee, Clyde E., Machemehl, Randy B., Rioux, Thomas W., and Inman, Robert F., "TEXAS Model for Intersection Traffic Version 3.0 Documentation (Updated for Version 3.20)", CTR/TTI (Misc), Center for Transportation Research, The University of Texas at Austin, Austin, Texas, November 1993

- Rioux, Thomas W., Inman, R. F., Machemehl, R. B., and Lee, Clyde E., "Interactive Graphics Intersection Design User's Manual", Research Report No. 1308-1F, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, December 1994

- Rioux, Thomas W., Inman, Robert F., Machemehl, Randy B., and Lee, Clyde E., "Interactive Graphics Intersection Design System (IGIDS) Training Manual", Research Report Number 1291-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, January 1998

- Rioux, Thomas W., Inman, Robert F., Machemehl, Randy B., and Lee, Clyde E., "Interactive Graphics Intersection Design System (IGIDS) Research Report", Research Report Number 1291-2, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, January 1998

- Rioux, Thomas W., Inman, Robert F., Machemehl, Randy B., and Lee, Clyde E., and "Interactive Graphics Intersection Design System (IGIDS) Project Summary Report", Research Report Number 1291-S, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, January 1998

Technical Reports (Continued)

- Zhang, Zhanmin, McNerney, Michael T., Rioux, Thomas W., and Hudson, W. Ronald, "Review of Current Geographic Information Systems Technology for TxDOT Pavement Management Information System", Research Report Number 1747-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, May 1998

- Landsberger, B. J., Rioux, Thomas W., Owen, Thomas E., McNerney, Michael T., and Harrison, Robert, "Study of Statewide Type II Noise Abatement Program for the Texas Department of Transportation", Research Report Number 1754-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, February 2000

- McNerney, Michael T.; and Rioux, Thomas W., Geographic Information Systems (GIS) Needs Assessment for TxDOT Pavement Management Information Systems", Research Report Number 1747-2, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, April 2000

- O'Shea, Jillyn K.; Machemehl, Randy B.; and Rioux, Thomas W., "Design Guidelines for Provision of Median Access on Principal Arterials", Research Report Number 0-1846-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, December 2000

- Haas, C.T., Mahmassani, H.S., Haynes, M., Khoury, J., Rioux, T., and Logman, H., "Evaluation of Automatic Vehicle Identification for San Antonio's TRANSGUIDE for Incident Detection and Advanced Traveler Information Systems", Research Report Number 4957-F, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, February 2001

- Machemehl, Randy B.; Rioux, Thomas W.; Tsyganov, Alexei; and Poolman, Pieter, "Freeway Operational Flexibility Concepts", Research Report Number 1844-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, March 2001

- Machemehl, Randy B.; Rioux, Thomas W.; Tsyganov, Alexei; and Poolman, Pieter, "Freeway Operational Flexibility Concepts", Research Report Number 1844-S, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, March 2001

- Kockelman, Kara M.; Heard, Lydia;, Kweon, Young-Jun; and Rioux, Thomas W., "Sidewalk Cross-Slope Design: Analysis of Accessibility for Persons with Disabilities", Research Report Number 4171-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2001, Revised May 2002

- O'Shea, Jillyn K.; Rioux, Thomas W., and Machemehl, Randy B.; "Design of Medians for Principal Arterials", Research Report Number 0-1846-S, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, August 2001

- Rioux, Thomas W.; Inman, Robert F.; and Machemehl, Randy B., "Interactive Graphics Intersection Design System (IGIDS) Enhancements", Research Report Number 5-1291-01-imp-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2002

- Rioux, Thomas W.; Inman, Robert F.; and Machemehl, Randy B., "Interactive Graphics Intersection Design System (IGIDS) User's Manual", Research Report Number 5-1291-01-imp-P2, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2002

- Rioux, Thomas W.; Inman, Robert F.; Machemehl, Randy B.; and Lee, Clyde E., "Interactive Graphics Intersection Design System (IGIDS) Training Manual", Research Report Number 5-1291-01-imp-P3, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2002

Technical Reports (Continued)

- Mahmassani, Hani S.; Haas, Carl; Logman, Haitham; Shin, Hyun-Joon; and Rioux, Thomas W., "Integration of Point-Based and Link-Based Data for Incident Detection and Traffic Estimation", Research Report Number 0-4156-1, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2002; Revised March 2004

- Hudson, W. Ronald; White, Ronald P.; and Rioux, Thomas W., "Annual Operating Report for the Texas Accelerated Pavement Test Center: Fiscal Year 2003, Research Report Number 9900-2, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, August 2003

- Rioux, Thomas W.; Inman, Robert F.; and Machemehl, Randy B., "Interactive Graphics Intersection Design System (IGIDS) Enhancements: Summary Report", Research Report Number 5-1291-01-S, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, October 2003

- Rioux, Thomas W., "Enhancing the Usability of the TEXAS Model for Intersection Traffic Final Report", Research Report Number SBIR DTRS57-04-C-10007-F, Rioux Engineering, Austin, Texas, August 2004

- Rioux, Thomas W., "Enhancement of the TEXAS Model for Simulating Intersection Collisions, Driver Interaction with Messaging, and ITS Sensors - Final Report", Research Report Number DTFH61-03-C-00138, Center for Transportation Research, The University of Texas at Austin, Austin, Texas, August 2005

- Rioux, Thomas W., Inman, Robert F., Copeland, Charlie R. Jr., Sanu, Moboluwaji "Bolu", and Ning, Zhonghui, "Enhancing the Usability of the TEXAS Model for Intersection Traffic Final Report", Research Report Number SBIR DTRT57-06-C-10016-F, Rioux Engineering, Austin, Texas, July 2008

Published Conference Proceedings

- Rioux, Thomas W., "Step-Through Simulation is Faster Than Driving", A Compendium of the Annual Meeting of the Texas Section Institute of Transportation Engineers, Bryan, Texas, January 26-27, 1973, pages 54-72

- Rioux, Thomas W., "The University of Texas at Austin Shuttle Bus System - Past, Present, and Future", Texas Section of the Institute of Transportation Engineers 1976 Winter Meeting

- Rioux, Thomas W., Snow, Carl, Tsyganov, Alexei, and Inman, Bobby, "Commercial Truck Survey in Laredo, Texas", 2000 Annual Air & Waste Management Association Conference, Salt Lake City, Utah, June 2000

ORAL PRESENTATIONS:

- Rioux, Thomas W., "Step-Through Simulation is Faster Than Driving", Texas Section of the Institute of Transportation Engineers 1973 Annual Meeting, Bryan, Texas, January 26-27, 1973

- Rioux, Thomas W., "The University of Texas at Austin Shuttle Bus System - Past, Present, and Future", Texas Section of the Institute of Transportation Engineers 1976 Winter Meeting

- Rioux, Thomas W., "The University of Texas at Austin Shuttle Bus System", 56th Annual Meeting of the Transportation Research Board, Washington, D. C., January 1977

ORAL PRESENTATIONS (Continued):

- Rioux, Thomas W., "TEXAS - A Microscopic Traffic Simulation Package for Isolated Intersections, 56th Annual Meeting of the Transportation Research Board, Washington, D. C., January 1977

- Rioux, Thomas W., "December 1982 Survey of Interactive Graphics at State DOTs", 62nd Annual Meeting of the Transportation Research Board, Washington, D. C., January 1983

- Rioux, Thomas W., "December 1983 Survey of Interactive Graphics at State DOTs", 63rd Annual Meeting of the Transportation Research Board, Washington, D. C., January 1984

- Rioux, Thomas W., "December 1984 Survey of Interactive Graphics at State DOTs", 64th Annual Meeting of the Transportation Research Board, Washington, D. C., January 1985

- Rioux, Thomas W., "The Evolution of Computer Animation", presentation, Intergraph Graphics Users Group Meeting, Orlando, Florida, October 1989

- Rioux, Thomas W., "Simulation of Diamond Interchange Traffic Operations", 70th Annual Meeting of the Transportation Research Board, Washington, D. C., January 1991

- Rioux, Thomas W., "The Texas Model for Intersection Traffic", Seventh Pan-American Congress on Traffic and Transportation Engineering, Caracas, Venezuela, September 1992

- Rioux, Thomas W., "Interactive Graphics Intersection Design System: an MDL Application", MicroStation FORUM and Exhibition, Dallas, Texas, February 1995

- Rioux, Thomas W., "Interactive Graphics Intersection Design System (IGIDS)", MicroStation FORUM and Exhibition, Austin, Texas, January 1997

- Rioux, Thomas W., "TEXAS Model for Intersection Traffic – Recent Enactments", Workshop On Traffic Modeling: Simulation Models: From the Labs to the Trenches, Sedona, Arizona, September 18, 2005 – September 21, 2005

- Rioux, Thomas W., "Recent Enhancements to the TEXAS Model for Intersection Traffic", Workshop On Traffic Modeling: Traffic Behavior and Simulation, Graz, Austria, June 30, 2008 – July 2, 2008

Refereed Presentations

- Rioux, Thomas W., "Evolution of the TEXAS Model for Intersection Traffic - Simulation Animation and Traffic Flow Theory Milestones", 93rd Annual Meeting of the Transportation Research Board, Workshop 172 – Simulation: Looking Back and Looking Ahead, January 12, 2014, Washington, D.C.

- Rioux, Thomas W., "Traffic Flow Theory Milestones in Developing the TEXAS Model for Intersection Traffic in the Early 1970s", Transportation Research Board Symposium Celebrating 50 Years of Traffic Flow Theory, August 11, 2014, Portland, Oregon

GRANTS AND CONTRACTS: (named in proposal or performed significant research effort)

Machemehl, R.B., Lee, C.E., and Rioux, T.W.	Interactive Graphics for Intersection Design	Center for Transportation Research (1139)	$391,300	9/1/1988-8/31/1991
Machemehl, R.B., Lee, C.E., and Rioux, T.W.	TEXAS Model for Intersection Traffic - Additional Features	Center for Transportation Research (1258)	$160,000	9/1/1990-8/31/1992
Machemehl, R.B., Lee, C.E., and Rioux, T.W.	Interactive Graphics Intersection Design System (IGIDS)	Center for Transportation Research (1308)	$191,00	9/1/1991-8/31/1993
Machemehl, R.B., Rioux, T.W., and Lee, C.E.	Interactive Graphics Intersection Design System (IGIDS)	Center for Transportation Research (1308M)	$77,000	9/1/1993-8/31/1994
Machemehl, R.B., Rioux, T.W., and Lee, C.E.	Interactive Graphics Intersection Design System (IGIDS)	Center for Transportation Research (0-1291)	$221,500	9/1/1995-8/31/1997
McNerney, M.T., Hudson, W.R., Zhang, Z., and Rioux, T.W.	Recommend a Geographic Information System (GIS) for the Pavement Management Information System (PMIS)	Center for Transportation Research (0-1747)	$189,387	9/1/1996-8/31/1998
McNerney, M.T., Owen, T.E., Harrison, R., and Rioux, T.W.	Statewide Type II Noise Abatement Program for the Texas Department of Transportation	Center for Transportation Research (0-1754)	$249,083	9/1/1996-8/31/1998
Machemehl, R.B. and Rioux, T.W.	Operational Flexibility for Controlled Access Facilities	Center for Transportation Research (0-1844)	$189,000	9/1/1998-8/31/2000
Machemehl, R.B. and Rioux, T.W.	Development of Design Guidelines for the Provision of Median Access on Principal Arterials	Center for Transportation Research (0-1846)	$194,000	9/1/1998-8/31/2000
Rioux, T.W., Walton, C.M., Allen, David T., and Machemehl, R.B.	Characterization and Assessment of Truck Emissions in and around Laredo, Texas	Center for Transportation Research (TNRCC)	$149,000	6/1/1999-5/31/2000
Mahmassani, H., Haas, C., and Rioux, T.W.	Evaluation of Automatic Vehicle Identification System Implementation in San Antonio	Center for Transportation Research (7-4957)	$85,000	9/1/1999-8/31/2000
Rioux, T.W., Kockelman, K.M., Inman, Bob., and Machemehl, R.B.	Interactive Graphics Intersection Design System (IGIDS) Enhancements	Center for Transportation Research (5-1291-01)	$174,250	11/9/1999-8/31/2001
Mahmassani, H., Haas, C., and Rioux, T.W.	Integration of Point-Based and Link-Based Data for Incident Detection and Traffic Estimation	Center for Transportation Research (0-4156)	$197,500	9/1/2000-8/31/2002
Kockelman, K. and Rioux, T.W.	Sample Size Expansion of Sidewalk Cross Slope Variability with Respect to the Americans with Disabilities Act Accessibility Guidelines	Center for Transportation Research (0-4171)	$100,000	9/1/2000-8/31/2001
Machemehl, R.B., Rioux, T.W., and Liapi, K.	Urban Intersection Design Guidance	Center for Transportation Research (0-4365)	$270,000	9/1/2001-8/31/2004

Rioux, T.W.	Evaluation & Enhancement of the TEXAS Model's Capabilities for Intersection Collision Avoidance	Center for Transportation Research (DTFH61-01-P-00449)	$99,999	9/22/2001-9/30/2002
Rioux, T.W.	GIS Accident Analysis Tool	Center for Transportation Research (02-0319)	$6,000	10/3/2002-12/31/2002
Rioux, T.W., and Hudson, R.W.	Further Development of the Texas Mobile Load Simulator Web-based Database	Center for Transportation Research (02-0341)	$58,000	10/28/2002-8/31/2003
Rioux, T.W.	Enhancement of the TEXAS Model for Simulating Intersection Collisions, Driver Interaction with messaging, and ITS sensors	Center for Transportation Research (DTFH61-03-C-00138)	$130,999	10/1/2003-9/30/2005
Rioux, T.W., and Hudson, R.W.	Further Development of the Texas Mobile Load Simulator Web-based Database	Center for Transportation Research (04-0052)	$45,000	9/1/2003-8/31/2004
Rioux, T.W., and White, Ron	Operation of TxAPT Center Phase IIA MLS interim Repairs and MLS Operation	Center for Transportation Research (0-9900-01)	$47,326	10/6/2004-8/31/2005
Rioux, T.W.	Enhancing the Usability of the TEXAS Model for Intersection Traffic - SBIR Phase I	Rioux Engineering (Federal Highway Administration Small Business Innovative Research Project DTRS57-04-C-10007)	$100,000	2/17/2004-8/24/2004
Rioux, T.W.	Enhancing the Usability of the TEXAS Model for Intersection Traffic - SBIR Phase II	Rioux Engineering (Federal Highway Administration Small Business Innovative Research Project DTRS57-04-C-10007)	$750,000	5/22/2006-8/15/2008
Rioux, T.W. and Harmonia Holdings, LLC	Simulating Signal Phase and Timing with an Intersection Collision Avoidance Traffic Model - SBIR Phase I	Harmonia Holdings, LLC (Federal Highway Administration Small Business Innovative Research Project Topic 10.1-FH3)	$99,407	3/10/2010-9/10/2010
Rioux, T.W. and Harmonia Holdings, LLC	Augmenting Inductive Loop Vehicle Sensor Data with SPAT and GrID (MAP) via Data Fusion - Phase I	Harmonia Holdings, LLC (Federal Highway Administration Small Business Innovative Research Project Topic 11.1-FH2)	$99,978	4/15/2011-11/14/2011

Rioux, T.W. and Harmonia Holdings, LLC	Simulating Signal Phase and Timing with an Intersection Collision Avoidance Traffic Model - SBIR Phase II	Harmonia Holdings, LLC (Federal Highway Administration Small Business Innovative Research Project Topic 10.1-FH3)	$749,950	5/20/2011-5/19/2013
Rioux, T.W. and Harmonia Holdings, LLC	Augmenting Inductive Loop Vehicle Sensor Data with SPAT and GrID (MAP) via Data Fusion - Phase II	Harmonia Holdings, LLC (Federal Highway Administration Small Business Innovative Research Project Topic 11.1-FH2)	$749,938	2/15/2013-2/14/2015

VITA:

Dr. Rioux has conducted research in transportation engineering and traffic operations since September 1970 and practiced as a professional engineer from September 1980 through December 2014.

Dr. Rioux began developing computer software in 1967 as an undergraduate student at The University of Texas at Austin using an IBM 1620 computer system and later using a CDC 6600 computer system. Dr. Rioux developed a stress analysis computer program for post-tensioned tendons in nuclear reactor secondary containment vessels on an IBM 1130 computer system while working for Prescon Corporation of Corpus Christi, Texas, during the summer of 1969. Dr. Rioux began developing interactive graphics software in 1969 at The University of Texas at Austin using a CDC 250 display system supported by a CDC 6600 computer system. The first program developed allowed a user to display, manipulate, and modify a finite elements mesh. In 1970, Dr. Rioux developed an interactive graphics package for a dynamic load truck model that displayed the theoretical and observed dynamic load between the tires and pavement and allowed the user to interactively change the spring constants and damping coefficients in the truck model. Starting in 1971, Dr. Rioux developed an interactive graphics animation for the Texas Model for Intersection Traffic that was used in the development of the model. He was the leader of the team that developed the Texas Model for Intersection Traffic as a graduate student and has continued enhancements to this model.

Dr. Rioux was one of two persons who developed the Atlanta Subway Simulation Model on a DG Eclipse computer system while working for S and A Systems, Inc., of Dallas, Texas, in the late 1970s.

Dr. Rioux worked for the Automation Division of the Texas State Department of Highways and Public Transportation (now the Information Systems Division of the Texas Department of Transportation) from 1979 through 1982 and was the technical person responsible for implementing computer aided design state-wide, developed the first Geographical Information System (GIS) within TxDOT in 1981, and performed the initial design of a GIS for transportation demand modeling.

Dr. Rioux modified the Data Management and Retrieval System (DMRS) bulk loading program for accident records and road inventory GIS system for the Ohio Department of Transportation in early 1984. Dr. Rioux's modifications allowed the data to be loaded ten times faster than before.

Dr. Rioux worked with KLD Associates, Inc., of Huntington Station, New York, to implement the intersection conflict checking logic and the lane change logic from the Texas Model for Intersection Traffic in the TRAF-NETSIM network traffic simulation model for the Federal Highway Administration.

Dr. Rioux was the leader of the team that developed the Interactive Graphics Intersection Design System for the Texas Department of Transportation. He has been affiliated with the Center for Transportation Research from 1970 until 1976 and 1988 until 2005. He has been principal investigator for several TxDOT and TNRCC projects and served as research staff for numerous other TxDOT projects. He taught a graduate course for civil and architectural engineering students on Computer Methods in Civil Engineering, taught the computer lab portion of the undergraduate and graduate roadway design classes using MicroStation and GEOPAK, and taught the computer lab portion of the undergraduate airport design class using MicroStation.

Dr. Rioux was President of Rioux Engineering from 1988 through 2014.

Dr. Rioux worked on several Small Business Innovative Research Projects as a consultant to Harmonia Holdings, LLC adapting the TEXAS Model for Intersection Traffic to participate in the Connected Vehicle program of the Federal Highway Administration from 2010 through 2015.