

## **CURRICULUM VITAE**

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### **Education**

Date: August 2011

B.S., Civil Engineering, 1980, the University of Texas at Austin  
M.S., Civil Engineering, 1981, the University of Texas at Austin  
Ph.D., Civil Engineering, 1984, the University of Texas at Austin

### **Employment History**

2005 - Present	Professor of Civil Engineering and Graduate Advisor The University of Texas at Arlington
1999 - 2005	Chair of Civil Engineering The University of Texas at Arlington
1997 - 1999	Professor of Civil Engineering The University of Texas at Arlington
1991 - 1997	Associate Professor of Civil Engineering The University of Texas at Arlington
1989 - 1991	Assistant Professor of Civil Engineering The University of Texas at Arlington
1985 - 1989	Assistant Professor of Civil Engineering Virginia Polytechnic Institute
1980-1984	Graduate Research Engineer, Center for Transportation Research The University of Texas at Austin

### **Professional Affiliations**

Member, American Society of Civil Engineers (member #229287)  
Subcommittee on Human-Powered Transportation  
Technical Council on Lifeline Earthquake Engineering  
Charter Member of the Transportation and Development Institute

Member, Institute for Operations Research and Management Science (member #8500)

Member, American Society of Engineering Education (member #167915)

Member, Review Panel of the Danish Council for Strategic Research.

Past Associate Editor, Journal of Transportation Research A

Past Associate Editor of the Transportation Science Journal

Past Member, TRB Committee on Alternative Transportation Fuels  
TRB Committee on Traffic Flow Theory & Characteristics  
TRB Taskforce on Time-Sensitive Response & Incident Management

Dallas/Fort Worth Contact for Conference on Minority Transportation Officials

Member, International Advisory Committee, Conference on Engineering Design and Automation

Member, Chi Epsilon Civil Engineering Honor Society (member #67657)

Registered Professional Engineer in Texas (#80768)  
Registered Professional Engineer in Virginia (#018753)

### **Honors and Awards**

The 2009 Civil Engineering Teacher of the Year Award  
The 2009 College of Engineering Research Excellence Award  
The 2007 College of Engineering Research Excellence Award  
The 2006 College of Engineering Research Excellence Award  
The 2005 College of Engineering Research Excellence Award  
The 1996 Halliburton College of Engineering Excellence in Teaching Award  
The 1996 UT-Arlington Nominee to the UT System Piper Award for Teaching Excellence  
The 1991 Halliburton Young Faculty Researcher Award, the University of Texas at Arlington  
The 1984 Engineering Foundation Fellowship, the University of Texas at Austin  
The 1984 General Electric Foundation Grant, the University of Texas at Austin

### **Courses Taught**

#### **Undergraduate Courses:**

Introduction to Transportation Engineering  
Stochastic Models in Civil Engineering  
Traffic Engineering  
Street and Highway Design

#### **Graduate Courses:**

Traffic Characteristics  
Traffic Operations  
Planning and Analysis of Mass Transit  
Geometric Design of Highways  
Advanced Planning Models

### **University Service**

Established the Leo Huang Professorship in Civil Engineering  
 Established the ASCE Fort Worth Branch Clark graduate scholarship in civil engineering  
 Established the James W. Mitchell Scholarship in Geotechnical Engineering  
 Established the Dorothy & Grover Grubb Scholarship in Civil Engineering  
 Raised \$17,000 for a scholarship established at the University of Texas  
     at Austin in honor of the late Professor Robert Herman  
 Vice Chair, Association of Academic Directors and Department Chairs  
 Faculty Advisor, Institute of Transportation Engineers  
 Faculty Advisor, Iranian Students Society  
 Technical Advisor to the University Transportation Committee  
 Member of the UTA Faculty Senate (1999-2001, 2006-present)  
 Member of UTA Graduate Assembly (2007-present)  
 Co-Chair of the UTA Committee for Diversity and International Understanding  
 Member of the Dean of Engineering Search Committee  
 Member of the College of Engineering Research Council  
 Member of the Civil Engineering Scholarship Committee  
 Member of the UTA Regional Water School Liaison Committee  
 Chair of the Civil Engineering Curriculum Committee  
 Civil Engineering Library Representative  
 Member of the Ad Hoc Committee of the Texas International  
     Education Consortium for a curriculum reform project for the  
     Universidad Autonomos de Nuevo Leon in Monterrey, Mexico

### **Research Projects as PI**

1. "Texas Transportation Sustainability Index," University Partnership Program, North Central Texas Council of Governments, 4/15/11-11/15/11, \$40,000.
2. "Support for the Integrated Corridor Management Demonstration Project," Dallas Area Rapid Transit, 7/1/10-6/30/2011, \$198,692.
3. "The Role of Managed Lanes in Long-Range Urban Mobility Planning," University Partnership Program, North Central Texas Council of Governments, 5/1/09-12/31/09, \$50,000.
4. "Support for the Integrated Corridor Management SmartNET System," Dallas Area Rapid Transit, 10/1/08-8/31/09, \$83,887.
5. "Bicycle and Pedestrian Friendly Crossings at Freeway Interchanges," TxDOT, 9/1/08-8/31/10, \$260,000 (with Texas Southern University-UTA Share \$60,000).
6. "Effect of Pavement Type on Fuel Consumption and Emissions," Ready-Mixed Concrete Research & Education Foundation, 4/1/2008-3/31/2010, \$119,230.
7. "Accelerating Response to Roadway Incidents in Conjunction with the Integrated Corridor Management Program in the Greater Dallas Area," Dallas Area Rapid Transit, 11/1/07-10/31/08, \$37,420.

8. "A Sensor for Remote Detection of Alcohol Vapors," Texas Higher Education Coordinating Board, 1/00-12/01, \$109,608.
9. "The Dallas Area Rapid Transit Personalized Public Transit Operational Test," Federal Transit Administration and Dallas Area Rapid Transit, 7/97-8/00, \$391,560.
10. "Modeling of Traffic Over the Dallas North Central Expressway," TxDOT, 9/1/97-8/31/99, \$24,000.
11. "Business and Residential Impacts, Traffic and Overpass Construction Planning Study for the TxDOT Dallas District North Central Expressway Project," Texas DOT, 9/95-8/97, \$13,000.
12. "Development of a Program to Encourage Safety Feature Usage for the Texas Border Communities," TxDOT, 9/95-8/97, \$55,843.
13. "A Quick Response Decision Tool for Traffic Diversion Around Roadway Incidents," Advanced Technology Program, Texas Higher Education Coordinating Board, 1/94-12/95, \$117,195.
14. "Detection and Mitigation of Roadway Hazards for Bicyclists," TxDOT, 9/93-8/95, \$85,000.
15. "A Decision Tool for Post-Earthquake Transportation Operations," National Science Foundation, 1/91-12/92, \$78,900.
16. "Optimal Diversion Strategies under Major Traffic Disruptions," Research Enhancement Program, UTA, 9/90-5/91, \$4,950.
17. "The Influence of Urban Network Features on the Quality of Traffic Service," Advanced Research Program of Texas, 11/89-10/91, \$50,000.
18. "A Low-Cost Fiber Optics Weigh-In-Motion Sensor," Strategic Highway Research Council, 4/89-12/89, \$41,753.
19. "Entrepreneurial Ventures for Suburban/Intercity Private Transit Operators," University Transportation Centers Program, U.S. Department of Transportation, 10/88-7/89, \$29,542
20. "Audible Pedestrian Signals," U.S. Department of Transportation, 6/88-2/89, \$15,063.
21. "An Attempt to Characterize the Development of Cities," The National Academy of Engineering, 1/86-11/86, \$6,000.

### **Research Projects as Co-PI**

1. "Examining the Use of Existing Public Rights-of-Way for High-Speed Rail or Other Infrastructure," TxDOT, 9/1/11-8/31/13, \$387,943.

2. "Sustainable Development Impacts on Land Use and Property Values," University Partnership Program, North Central Texas Council of Governments, 9/1/08-8/31/09, \$80,000.
3. "A Performance Model for Managed Lanes," Texas Transportation Institute, 2/1/07-9/30/07, \$39,072.
4. "Developing A Comprehensive Pricing Evaluation Model for Managed Lanes," TxDOT, 9/1/03-8/31/04, \$103,708.
5. "Development of Design Criteria for CCTV Camera Poles," TxDOT, 1/1/03-12/31/05, \$227,780.
6. "Planning for Innovative Transportation Technologies," TxDOT, 9/1/01-8/31/03, \$220,000.
7. "Evaluation of Travel Demand Models," Texas DOT, 9/1/01-8/31/03, \$232,346.
8. "Pricing Strategies for Managed Lanes," Texas DOT, 9/1/00-8/31/01, \$103,433.
9. "Arlington Community Travel Survey," City of Arlington, 6/1/97-8/31/97, \$14,900.
10. "A Comprehensive IVHS Plan for Texas," TxDOT and FHWA, 1/93-8/94, \$183,887.
11. "Network-Level Evaluation of Traffic Control Patterns in the San Antonio Central Business District," City of San Antonio, 3/92-6/93, \$111,000.
12. "Impacts of Traffic Signal Installation at Marginally Warranted Intersections," TxDOT and FHWA, 9/92-8/93, \$61,315.
13. "Selection Criteria for Left-Turn Phasing, Indication Sequence and Auxiliary Sign," TxDOT and FHWA, 9/90-8/91, \$95,687.
14. "Transportation Lessons Learned from the 1985 Mexico City Earthquake," The National Science Foundation, 6/86-2/88, \$69,998.
15. "Field Calibration of the MASSVAC Computer Simulation Model for Hurricane Evacuation/Earthquakes," National Hazards Research and Applications Information Center, 1/86-12/86, \$2,900.

### **Refereed Publications**

"Macroscopic Speed-Flow Models for Characterization of Freeway and Managed Lanes," Buletinul Institutului Politehnic Din Iași, Vol. LVII(LXI), No. 1, 2011, PP. 149-159 (with M. Ghandehari and S. Nepal).

"A New Paradigm in User Equilibrium – Application in Managed lane Pricing," International

Journal of Engineering, CSC Press, Vol. 5, No. 1, 2011, PP. 579-607 (with A. Sinprasertkool and S.P. Mattingly).

"A System of Partial Differential Equations for Traffic Flow," *Libertas Mathematica Journal*, Volume XXIX, 2009, PP. 139-142 (with M. Ghandehari).

"The Laplace Transform of the Linear Car-Following Model," *Libertas Mathematica Journal*, Volume XXVIII, October 2008, PP. 143-147 (with M. Ghandehari).

"Comparison of Quality of Service in Two Central Business Districts: Two-Fluid Model Approach in Texas, " in *Transportation Research Record*, Volume 1999, 2007, PP. 180-188 (with P.T. Vo and S.P. Mattingly).

"Management of Urban Road Networks following Man-Made or Natural Disasters," *Safety and Security Engineering*, WIT Press, 2005, PP.541-546.

"Development and Field Testing of an On-Board Alcohol Detection Sensor," *Proceedings of the Intelligent Transportation Systems Safety and Security Conference*, Miami Beach, FL, March 24-25, 2004 (with M. Allam and P. Oza).

"An Observational Study of Lane Changing on Basic Freeway Segment," *Transportation Research Record*, 2002 (CD-ROM) (with M.S. Uddin).

"Network Design for the Personalized Public Transit Service," *Transportation Research Record*, Volume 1791, 2002, PP.67-71(with B. Pashaie).

"A PC-Based Decision Tool for Roadway Incident Management," *ASCE Journal of Computer-Aided Civil and Infrastructure Engineering*, Vol 14, No.2, May 1999, PP.299-307 (With S. Govind and A. Kazmi).

"An Observational Study of the Network-Level Traffic Variables," *Transportation Research*, Vol.32A, No.4, May 1998, PP.271-278 (With B. Amini and J. Shahi).

"A GIS Approach to Roadway Incident Management," in *Proceedings of the 4th International Conference on Civil Engineering*, Volume III, May 1997, PP. 49-59 (With A.M. Kazmi and M.S. Ahmadi).

"A Simulation Study of the Operational Performance of Left-Turn Phasing and Indication Sequences," *Transportation Science*, Vol.30, No.2, May 1996.(With S. Asante and J.C. Williams).

"Calibrating NETSIM for a CBD Using the Two-Fluid Model," *Proceedings of the Advanced Traffic Management Conference*, PP. 169-184, October 1993.

"Selection Criteria for Left-Turn Phasing and Indication Sequence," *Transportation Research Record* 1421, 1993, PP.11-20 (with S.A. Asante and J.C. Williams).

"Motorist Understanding of Left-Turn Signal Indications and Auxiliary Signs," Transportation Research Record 1376, 1992, PP. 57-63 (with J.C. Williams and S.A. Asante).

"The Influence of Urban Network Features on the Quality of Traffic Service," Transportation Research Record 1358, 1992, PP. 6-12 (with J.C. Williams and S. Bhat).

"Transportation Operations Following the 1989 Loma Prieta Earthquake," Transportation Quarterly Journal, Vol. XLVI, No.2, April 1992.

"Economic Evaluation of Toll Plaza Operations," Transportation Research Record 1305, 1991, PP. 160-168, (with F.J. Torres).

"Audible Pedestrian Signals - Current Practices and Future Needs," ITE Journal, Vol. 60, No. 6, June 1990 (with M. Oliver and J. Fegan).

"Dematerialization," Technological Forecasting and Social Change, Vol. 38, No. 4, 1990 (with R. Herman and J. Ausubel).

"A Two-Point Vehicle Classification System," Transportation Research Record 1215, 1989 (with B.C. McCullough and L.R. Huang).

"A Heuristic Shortest-Path Method for Emergency Vehicle Assignment," Transportation Research Record 1168, 1988 (with A.G. Hobeika, R. Sivanandan, and P. Lockwood).

"The Dynamic Characterization of Cities," in Cities and Their Vital Systems, National Academy Press, Washington, D.C., 1988 (with R. Herman, S. Govind, and E. Dona).

"Trip Time - Stop Time Studies of Extreme Driver Behaviors," Transportation Research, Vol. 22A, No. 6, 1988 (with R. Herman and L. Malakhoff).

"Minimum Passing Sight Distance for Completing or Aborting the Passing Maneuver," ITE Journal, Vol. 58, No. 7, July 1988 (with F.A. Ohene).

"Logistics Decisions Following Urban Disasters," Microcomputers in Civil Engineering, Vol. 3, No. 1, 1988 (with A.G. Hobeika and D.L. Han).

"Logistics Problems in the Aftermath of the 1985 Mexico City Earthquake," Transportation Quarterly, Vol. XLII, No. 1, 1988 (with A.G. Hobeika).

"A Taxicab Fare Policy Formula Based on Fuel Consumption Observations," Transportation Research Record 1103, 1986 (with B. Jamei and R. Herman).

"Urban Network-Wide Traffic Variables and Their Relations," Transportation Science, Vol. 21, No. 1, February 1987 (with R. Herman).

"A Comparison of the Quality of Traffic in the Downtown Networks of Various Cities Around the

World," Traffic Engineering and Control, Vol. 26, No. 12, December 1985 (with R.Herman).

"El Modelo Bifluído y La Calidad del Tránsito en La Ciudad de México," Revista Ingeniería Civil, Colegio de Ingenieros Civiles de México, January/February 1985 (with V. Torres and R. Herman).

"The Influence of Stops on Vehicle Fuel Consumption in Urban Traffic," Transportation Science, Vol. 19, No. 1, 1985 (with R. Herman).

"Characterizing Traffic Conditions in Urban Areas," Transportation Science, Vol. 18, No. 2, 1984 (with R. Herman).

### **Book Chapters**

"Chapter 11. Urban Transportation Sustainability in China: Issues, Policies and a Planning Tool," in China's Economy in the Post-WTO Environment, RMIT University Press, 2010 (with J. Li and S. Mattingly).

"Chapter 7. Traffic Impact Models," in Traffic Flow Theory – A State-of-the-Art Report, TRB Committee on Traffic Flow Theory and Characteristics (AHB45), 2001 (with E. Hauer and B. Jamei).

"Dematerialization," in Technology and Environment, National Academy Press, Washington, D.C., 1989 (with R. Herman and J. Ausubel).

### **Other Publications**

"Practical Guide on Treatments for Pedestrian and Bicycle Crossings at Freeway Interchanges," TxDOT Research Report 0-6127-P1, September 2010 (with F. Qiao, Q. Zhu, P-H Kuo, R. Gampala, L. Yu, C. Lewis, K. Godazi, and M. Solares).

"Effect of Pavement Type on Fuel Consumption and Emissions in City Driving," Final Project Report, The Ready Mix Concrete Research & Education Foundation, March 2010 (with P. Sumitsawan).

"The Role of managed Lanes in Long-Range Urban Mobility Planning," Technical Report 2009-2-NCTCOG, The North Central Texas Council of Governments, January 2010 (with S.P. Mattingly, S. Daneshvar, and A. Sinprasertkool).

"Effect of Pavement Type on Fuel Consumption and Emissions," Proceedings of the 2009 Mid-Continent Transportation Research Symposium, Ames, Iowa, August 20-21, 2009 (with P. Sumitsawan and S.A. Romanoschi).

"The Role of Preferential Treatment for Carpools in Managed Lanes," TxDOT Research Report 0-5286-2, October 2008 (with G. Goodin, M. Burris, C. Dusza, D. Ungemah, J. Li, and S. Mattingly).

"A Modified Greenberg Speed-Flow Traffic Model," Technical Report #357, Department of

Mathematics, The University of Texas at Arlington, February 2008 (with M. Ghandehari).

"User Guide to Toll Pricing Model v3.1, " Research Report, January 2008 (with F. Kashefi, K. Abdelghany, and A. Hassan).

"A Comparison of Traffic Volumes Obtained by Stationary versus Moving Observers," Proceedings of The Fall 2007 Texas ASCE Meeting, Fort Worth, TX, October 2007 (with C. Osemeke).

"Development of Design Criteria for CCTV Camera Poles," TxDOT Research Report 0-4470-1, September 2005 (with A. Abolmaali and J. Jung)

"Developing a Comprehensive Pricing Evaluation Model for Managed Lanes," TxDOT Research Report 0-4818-F, June 2005 (with J. Li, S. Govind, S.P. Mattingly, J.C. Williams, and R. Cole).

"User Guide to Toll Pricing Model v2.0," TxDOT Research Report 0-4818-1, April 2005 (with S. Govind, K. Abdelghany, S.P. Mattingly, A. Upayokin, and J.C. Williams).

"Learning Travelers' Attitudes Towards Managed Lanes," Proceedings of the Third International Conference on Traffic and Transportation Studies (ICTTS'2002), Guilin, China, July 23-25, 2002, pp. 312-319 (with J. Li, R. Cole, S. Govind and J.C. Williams).

"A Sensor for Remote Detection of Drunk Driving," Proceedings of the 5th International Conference on Engineering Design and Automation, Las Vegas, NV, August 5-8, 2001, CD Reference #111 (with D. Singh and J.W. Bredow).

"Pricing Strategies for Managed Lanes," TxDOT Research Report 0-4009-F, December 2001 (with J. Li, S. Govind, J.C. Williams, and R. Cole).

"A Framework for the Personalized Public Transit Network Design," Proceedings of the 4th International Conference on Engineering Design and Automation, Orlando, FL, July 30-August 2, 2000, PP.110-115 (with B. Pashaie and M. Kuimil).

"Abstracts for the 1998 Transportation Science Section Dissertation Prize Competition," Journal of Transportation Science, Vol.33, No.1, February 1999, PP.124-131.

"A Framework for the Personalized Public Transportation Concept," Proceedings of the 2nd International Conference on Engineering Design and Automation, Maui, August 9-12, 1998 (with K. Olyai, B. Pashaie, and A. Mairzaei).

"A Survey of Seat Belt Usage in the Lower Rio Grand Valley of Texas," Center for Transportation Studies Research Report, October 1997 (with A.C. Lira).

"Planning a Jitney System for Arlington, Texas," Center for Transportation Studies Research Report, August 1997 (with S. Govind).

"A PC-Based Decision Tool for Roadway Incident Management," In Traffic Congestion and Traffic

Safety in the 21st Century, American Society of Civil Engineers, June 1997, PP. 361-367 (With A.M. Kazmi and M.S. Ahmadi).

"A Quick Response Decision Tool for Traffic Diversion Around Roadway Incidents," The Texas Higher Education Coordinating Board Advanced Technology Program Research Report 3656-024, Center for Transportation Studies, The University of Texas at Arlington, October 1996 (with M.S. Ahmadi and A.M. Kazmi).

"Impact of Traffic Signal Installation at Marginally Warranted Intersection," TxDOT Research Report 1350-1F, March 1996 (with J.C. Williams).

"Detection and Mitigation of Roadway Hazards for Bicyclists," Report No. FHWA/TXDOT-96/1394-2F, December 1995 (with S. Govind, S.P. Mattingly, A. Demers, H. Mahmassani, and D. Taylor).

"Bicycle Hazard Mitigation Manual," Report No. FHWA/TXDOT-96/1394-1, December 1995 (with A. Demers, A. Suddarth, H.S. Mahmassani, and S. Govind).

"Transportation Emergency Management of Post-Incident Operations - User Manual," The University of Texas at Arlington, October 1995.

"Post-Earthquake Transportation Operations Following the 1994 Northridge Earthquake," Proceedings of the ASCE 4th U.S. Conference on Lifeline Earthquake Engineering, San Francisco, pp 636-643, August 1995.

"Detection and Mitigation of Roadway Hazards for Bicyclists," TxDOT Research Report No. 1394-1, November 1994.

"A Comprehensive IVHS Plan for Texas," TxDOT Final Project Report No.1346-1F, January 1994.

"Selection Criteria for Left-Turn Phasing, Indication Sequence, and Auxiliary Sign," TxDOT Final Project Report No. 1256-1F, February 1993 (with S.A. Asante and J.C. Williams).

"The Influence of Urban Network Features on the Quality of Traffic Service," The Texas Higher Education Coordinating Board Advanced Research Program Report 3656-109, The University of Texas at Arlington, May 1992 (with C.S. Bhat and J.C. Williams).

"A Decision Tool for Transportation Operations Following Urban Disasters," Final Project Report to the National Science Foundation (Grant # BCS-9005042), April 1992.

"Guidelines for the Selection of Left-Turn Phase Sequence and Signal Indications," Proceedings of the ITE Western Region Meeting, PP 137-142, 11-14 July 1993, Las Vegas, Nevada (with J.C. Williams and S.A. Asante).

"Transportation Operations Following The 1989 Loma Prieta Earthquake," An Interim Project Report to the National Science Foundation (Grant # BCS-9005042), May 1991.

"Urban Transportation Problems after a Major Earthquake; A Case Study of the 1985 Mexico City Earthquake," Proceedings of the 11th IRF World Meeting, 16-21 April 1989, Seoul, Korea (with A.G. Hobeika).

"A Route Guidance System Under Emergency Conditions," Proceedings of the First International Conference on Applications of Advanced Technologies in Transportation Engineering, PP 211-215, San Diego, 6-8 February 1989 (with A.G. Hobeika and R. Sivananda).

"Entrepreneurial Ventures for Suburban/Intercity Private Transit Operators," Report No. MAUTC-VPI03-0189F, NTIS Accession No. PB92-104744, U.S. Department of Transportation, July 1989 (with T.J. English and W.S. Powers).

"A Low-Cost Fiber Optic Weigh-In-Motion Sensor," Research Report SHRP-ID/UFR-90-002, Strategic Highway Research Program, National Research Council, 1990 (with A.S. Jaazi and M. Mehdikhani).

"A Low-Cost Fiber Optic Weigh-In-Motion Sensor," Research Report SHRP-IDEA/FR-89-001, Strategic Highway Research Program, National Research Council, December 1989 (with A.S. Jaazi).

"A Decision Support System for Emergency Transportation Operations Following Major Urban Earthquakes: A Case Study of the 1985 Mexico City Earthquake," Final Project Report to the National Science Foundation and the Earthquake Engineering Research Institute, October 1987 (with A.G. Hobeika and A. Martinez-Marquez).

"Transportation Problems and Needs in the Aftermath of the 1985 Mexico City Earthquake," An Interim Project Report to the National Science Foundation and the Earthquake Engineering Research Institute, May 1987 (with A.G. Hobeika and A. Martinez-Marquez).

"The Dynamic Characterization of Cities," Submitted to the National Academy of Engineering Workshop on the Future of Infrastructure in the U.S., August 11-13, 1984, Woods Hole, Massachusetts (with R. Herman, S. Govind, and E. Dona).

"The Two-Fluid Characterization of Urban Traffic: Theory, Observation, and Experiment," Ph.D. Dissertation, University of Texas at Austin, December 1984.

"Characterizing the Quality of Traffic Service in Urban Street Networks," Report No. 304-2F, Center for Transportation Research, The University of Texas at Austin, November 1984.

"Quality of Traffic Service," Report No. 304-1, Center for Transportation Research, The University of Texas at Austin, June 1982.

### **Conference Presentations**

"The Role of Managed Lanes in Long-Range Urban Mobility Planning," The ASCE Transportation

and Development Institute Fort Worth Branch Meeting, Arlington, TX, March 1, 2011.

"The Role of Managed Lanes in Long-Range Urban Mobility Planning," The 2010 ITS Texas Meeting, Fort Worth, TX, November 12, 2010.

"Use of the Traingular Distribution for freeway Speed data," The 2010 INFORMS Annual Meeting, Austin, TX, November 7-10, 2010 (with M. Ghandehari).

"Effects of Pavement Type on Fuel Efficiency and Emissions," The 2010 California Concrete Pavement Workshop, ACPA Southwest, Pomona, CA, October 6, 2010 (with P. Sumitsawan).

"The Influence of City Street Pavement Types on Fuel Consumption and Emissions," The Concrete Sustainability Conference, Tempe, AZ, April 13-15, 2010 (with P. Sumitsawan).

"The Differential-difference Equation for the Car-Following," The Eastern Section Meeting of the American Math Society, University Park, PA, October 24-25, 2009 (with M. Ghandehari).

"The Z Transform of the Linear Car-Following Model," The INFORMS Annual Meeting, San Diego, CA, October 11-14, 2009 (with M. Ghandehari).

"Analyses of Fuel Consumption and Emissions on Urban Streets," The Sustainable Communities Conference, Dallas, TX, March 9-11, 2009.

"Effect of Pavement Type on Fuel Consumption and Emissions," The 45<sup>th</sup> Annual American Concrete Pavement Association Meeting, San Antonio, TX, December 1-5, 2008.

"The Fourier Transform of Linear Car-Following Model," The Informs Southwest Regional Conference, Colege Station, TX, April 18-19, 2008.

"Intelligent Pricing of Managed Lanes – A New Paradigm in User Equilibrium," ITS Texas Annual Meeting, Dallas, TX, November 14-16, 2007 (with A. Sinprasertkool).

"A Modified Greenberg Speed-Flow Traffic Model," The National Meeting of The Institute for Operations Research and Management Science, Seattle, WA, November 5, 2007 (with M. Ghandehari).

"The Laplace Transform of the Linear Car-Following Model," The 1032<sup>nd</sup> American Math Society Meeting, Albuquerque, NM, October 13-14, 2007 (with M. Ghandehari).

"A Comparison of Traffic Volumes Obtained by Stationary versus Moving Observers," The Fall 2007 Texas ASCE Meeting, Fort Worth, TX, October 4-6, 2007 (with C. Osemeke).

"A System of Delay Partial Differential Equations for Traffic Flow," The 1031<sup>st</sup> American Math Society Meeting, New Orleans, LA, January 10, 2007 (with M. Ghandehari).

"Comparison of Quality of Service in Arlington, Dallas, and Fort Worth Central Business Districts: Two-Fluid Model Approach," The 86th Transportation Research Board Meeting, Washington, D.C., January 2007 (with S. Mattingly and P. Vo).

"A Dynamic Transportation Planning Support System for Hurricane Evacuation," The 9<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems – ITSC 2006, Toronto, Canada, September 17-20, 2006 (with M. Lahmar and T. Assavapokee).

"Management of Urban Road Networks following Man-Made or Natural Disasters," The 1<sup>st</sup> Annual Conference on Safety and Security Engineering, Rome, Italy, June 13-15, 2005.

"Pricing Strategies for Managed Lanes," The 7<sup>th</sup> Annual Texas Transportation Summit, Irving, TX, August 12, 2004 (with J. Li and S. Govind).

"Development and Field Testing of an On-Board Alcohol Detection Sensor," The Intelligent Transportation Systems Safety and Security Conference, Miami Beach, FL, March 25, 2004 (with M. Allam and P.Oza).

"A Comparison of Quality of Traffic Service over Time in Dallas and Arlington," The Fort Worth Section of the Texas Institute of Transportation Engineers, Fort Worth, TX, October 16, 2003 (with D. Yasmin).

"Development and Field Testing of An On-Board Alcohol Detection Sensor," The 82<sup>nd</sup> Annual Meeting of the Transportation Research Board, January 2003, Washington, D.C. (with P. Oza and M. Allam).

"An In-Vehicle Alcohol Sensor – Sensitivity to Ambient Interferences," The National Meeting of The Institute for Operations Research and Management Science, San Jose, CA, November 2002.

"An Observational Study of Lane Changing on Basic Freeway Segment," Transportation Research Record, 2002, The 81th Transportation Research Board Meeting, Washington, D.C., January 2002 (with M.S. Uddin).

"Development and Testing of an Electro-Chemical Sensor for Remote Detection of Drunk Driving," The Fort Worth Section of the Texas Institute of Transportation Engineers, Fort Worth, TX, November 15, 2001.

"A Sensor for Remote Detection of Drunk Driving," The 5th International Conference on Engineering Design and Automation, Las Vegas, NV, August 5-8, 2001.

"Modeling Lane-Changing Using a System of Partial Differential Equations," The National Meeting of The Institute for Operations Research and Management Science, Salt Lake City, UT, May 2000 (with M. Ghandehari)

"Two-Fluid Characterization of Urban Traffic: Theory, Observation, and Experiment," The 77th Transportation Research Board Meeting, January 1998, Washington, D.C.

"Impacts of Signal Installation at Marginally Warranted Intersections," The 77th Annual Transportation Research Board Meeting, January 1998, Washington, D.C. (With J.C. Williams).

"Field Calibration of a Traffic Diversion Algorithm," The Fall 1997 National Meeting of The Institute for Operations Research and Management Science, Dallas, TX, October 26-29, 1997 (with M.A. McDonald).

"A PC-Based Decision Tool for Roadway Incident Management," The ASCE Conference on Traffic Congestion and Traffic Safety in the 21st Century, Chicago, IL, June 8-11, 1997.

"A Decision Tool for Traffic Incident Management," Dallas Branch of the American Society of Civil Engineers, February 3, 1997.

"Transportation Management in the Aftermath of Major Urban Disruptions," Dallas Branch of the Texas Society of Professional Engineers, October 15, 1996.

"The Dallas Area Rapid Transit's Personalized Public Transportation Operational Test," The Joint ITE and ASCE 3rd Annual Conference on Western Transportation Issues, Las Vegas, NV, September 27-28, 1996.

"A Heuristic Algorithm for Quick-Response Traffic Diversion," The Fall 1995 Institute for Operations Research and Management Sciences Conference, New Orleans, LA, October 29-November 1, 1995.

"A Quick-Response Tool for Traffic Management in the Aftermath of Major Incidents," The Joint ITE and ASCE 2nd Annual Conference on Western Transportation Issues, Las Vegas, NV, September 15-16, 1995.

"Post-Quake Transportation Operations Following the 1994 Northridge Earthquake," The ASCE 4th U.S. Conference on Lifeline Earthquake Engineering, San Francisco, CA, August 10-12, 1995.

"Traffic Management in the Aftermath of Major Incidents," Fort Worth Branch of The Texas ASCE Section, July 17, 1995.

"Post-Quake Transportation Operations Following the 1994 Northridge Earthquake," The 74th Transportation Research Board Meeting, January 1995, Washington, D.C. (With A. Shah).

"Effect of Geometric and Control Features of a Traffic Network on the Quality of Traffic Service," The 74th Transportation Research Board Meeting, January 1995, Washington, D.C. (With C.S. Bhat and J.C. Williams).

"Northridge Earthquake Investigation Report on Traffic Management," The Meeting of the ASCE Post-Earthquake Investigation Committee, Los Angeles, CA, September 1994.

"A Simulation Study of the Operational Performance of the Left-Turn Signal Phasing Design," The Joint National ORSA/TIMS Meeting, Phoenix, AZ, November 1993 (with S. Asante and J.C. Williams).

"Calibrating NETSIM for A CBD Using Two Fluid Model," The ATMS Conference on Management of Large Urban Systems, St. Petersburg, FL, October 1993 (with R.W. Denney, J.C. Williams and C.S. Bhat).

"Selection Criteria for Left-Turn Phasing Indication Sequence and Auxiliary Sign," Presented at the TexITE Summer Meeting, Amarillo, TX, June 1992 (with J.C. Williams and S. Asante).

"Traffic Management Following Major Earthquakes," The Joint National ORSA/TIMS Meeting, San Francisco, CA, November 1992.

"The Influence of Urban Network Features on the Quality of Traffic Service," The 71st Transportation Research Board Meeting, Washington, D.C., January 1992 (with J.C. Williams and S. Bhat).

"Motorists' Understanding of Left-Turn Signals," The 71st Transportation Research Board Meeting, Washington, D.C., January 1992 (with J.C. Williams and S. Asante).

"Traffic Diversion Around Link Closures," The Joint National ORSA/TIMS Meeting, Anaheim, CA, November 1991 (with A. Martinez-Marquez).

"The Influence of Urban Network Features on Traffic Service Quality," The Joint National ORSA/TIMS Meeting, Anaheim, CA, November 1991 (with J.C. Williams).

"Motorists' Understanding of Left-Turn Signals and Auxiliary Signs," Texas ASCE Conference, South Padre, TX, October 1991 (with J.C. Williams).

"Aerial Observation of Freeway Lane-Changing Behavior," Presented at the Joint National ORSA/TIMS Meeting, Las Vegas, NV, May 1990.

"An Interactive Transportation Decision Support Software for Major Urban Disasters," Presented at the Joint National ORSA/TIMS Meeting, Washington, D.C., April 1988.

"Transportation-Related Emergency Response in the Aftermath of the 1985 Mexico Earthquake," Presented at the Joint National ORSA/TIMS Meeting, St. Louis, MO, October 1987 (with A.G. Hobeika).

"Traffic Fluctuations in Urban Networks A Comparison of Four Cities," Presented at the Joint National ORSA/TIMS Meeting, Miami Beach, FL, October 1986.

### **Consulting Experience**

Signal Timing Coordination for a 166-signal Network in City of Leon, Mexico for The World Bank under contract with Torres Consultores En Ingenieria de Mexico, 1996.

A signal Coordination Feasibility Study of the Fort Worth Suburban Cities for the North Central Texas Council of Governments under contract with the Advanced Traffic Engineering of Dallas, April-August, 1994.

Traffic Accident Investigation for Roy English, Attorney-at-Law, Arlington, Texas, June 1991.

Traffic Impact Study of a Shopping Center in Wytheville, Virginia, Draper-Aden Associates, February 1988.

Traffic Site Impact Study of the Market Place Shopping Center in Christiansburg, Virginia, Draper-Aden Associates, April 1988.

Design of the Signal Hardware and Timing Plan of an Intersection in Wytheville, Virginia, Draper-Aden Associates, June 1988.

**Papers Under Review**

"Development of a Freeway Incident rating System," Submitted to the Open Transportation Journal, Bentham Science Publishers, June 2010 (with J. Lopez).

" Development and Validation of a Direct Mode Choice Model, " Manuscript # 12-0932, Submitted to the 91<sup>st</sup> Annual TRB Meeting and Journal of Transportation Research Records.