

# **Robert Harrison**

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## SUMMARY

**Robert Harrison** is a Senior Research Scientist and the Deputy Director at the Center for Transportation Research (CTR), The University of Texas at Austin. He has worked in the area of transportation planning for over 30 years and has published in the areas of economic impact studies, trade issues, cost/benefit analysis, and transport sector planning. His research studies have been funded by various organizations, including: the Texas Department of Transportation (TxDOT), the University Transportation Centers Program (UTCP), the U.S. Department of Transportation, the Federal Highway Administration, and the World Bank. He has also undertaken a number of trade and transportation studies in a wide variety of countries. More recently, these have focused on NAFTA trade corridors and inland ports, Texas-Mexico border trade issues, and the major markets served by the Texas gulf ports. He has contributed to 58 Texas Department of Transportation (TxDOT) reports, 8 Southwest University Transportation Center (UTC) reports, and has published 45 peer-reviewed papers. Mr. Harrison has made presentations to senior U.S. Department of Transportation (USDOT) staff, and has given testimony at a number of Texas Senate hearings. In addition, he served as Research Supervisor on two projects receiving the Texas Department of Transportation Top Innovation Award (*Impacts of Inland Ports on Trade Flows and Transportation in Texas* and *Criteria and Design for a Model Border Crossing*).

Mr. Harrison is a past president of the U.S. Transportation Research Forum (TRF) and currently serves as an Associate Editor of the TRF quarterly publication. He is currently Chairman of the Committee on Intermodal Freight Terminal Design (A2M03) and serves as Secretary to the Task Force on Agricultural Transportation (A1B55). He is also a member of both the Transportation Research Board Committee on Motor Vehicle Size and Weight (A1B04) the TRB Committee on International Trade and Transportation (A5006). He also served as the UT-Austin representative of the Texas Ports and Waterways Center consortium.

He holds a B.A. in Economics and Political Science from the University of Durham, England. After completing a period of post-graduate research with Gilbert Walker, Michael Beesley, and Sir Alan Walters, he held tenured teaching positions first at the University of Birmingham and then at the University of Aston in Birmingham, England from 1969 to 1976. Between 1976 and 1982, he was the economist on the United Nations and Brazilian Government highway research project that led to the development of the World Bank Highway Design and Maintenance Model (HDM III), which was subsequently used throughout the world. Subsequently, he worked as a consultant to the World Bank, first-co-authoring a publication on vehicle operating costs with Andrew Chesher, then working on a variety of transport sector projects in Latin America and Africa. During this time, he also held honorary research fellowships at both the University of Birmingham and the University of Bristol, England.

In 1987 he joined CTR, where he was responsible for the economics and program management of the Pavement group. In 1991, he was promoted to Research Scientist and made Associate Director of CTR, responsible for assisting the Director in managing the substantial TxDOT program at CTR. His research program since that time has covered a variety of economic issues, including the impact of loops and bypasses, rest area privatization, toll road feasibility, bridge needs along the Texas-Mexico border, and the development of a multi-modal investment process. During this time, he helped foster relationships between CTR staff and faculty at the LBJ School of Public Affairs at The University of Texas, and collaborated with Dr. Leigh Boske (LBJ School) and Dr. John McCray (UTSA) on a number of U.S.-Mexico trade and transportation studies. He has also worked on a number of Southwest Region VI UTCP studies, particularly related to multi-modal corridor analysis. He has since been further promoted to Senior Research Scientist and Deputy Director, to more accurately reflect his administrative responsibilities at CTR.

## ROBERT HARRISON

### I. PERSONAL

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Website: <http://uts.cc.utexas.edu/~harrison/index.html>

#### **Degree**

Durham University, England: B.A. Politics and Economics (Honors) 1965

#### **Professional Honors/Awards**

Texas Department of Transportation Top Research and Innovation Findings Award for project 0-4083, Impacts of Inland Ports on Trade Flows and Transportation in Texas (2002)

Texas Department of Transportation Top Research and Innovation Findings Award for project 5-9014, Criteria and Design for a Model Border Crossing (2001)

Transportation Research Forum Award for Best Paper in Rural and Agricultural Transportation, "Grain Transportation in Texas: Survey Results, Future Trends, and Policy Prescriptions," (2001)

#### **Professional Associations**

Transportation Research Board: Chairman, Intermodal Freight Terminal Design (A2M03)  
Secretary, Agricultural Transportation Task Force (A1B55)  
Member, International Trade and Transportation (A5006)  
Member, Motor Vehicle Size and Weight (A1B04)

Transportation Research Forum: Program Vice-President Elect (1995)  
Program Vice-President (1996)  
President (1997)  
Associate Editor—TRF quarterly publication (current)

Southwest Region University Transportation Center, Executive Committee Member

Texas Department of Transportation Research Management Committee on Transportation Planning (RMC 2), Technical Assistance Panel Member

Center for Ports and Waterways Consortium, Center Representative (1995-2001)

State Rail Planning Committee for Texas Rail Development Council, Member

## II. PROFESSIONAL EXPERIENCE

- 2001-present Deputy Director and Senior Research Scientist: Center for Transportation Research, The University of Texas at Austin.
- 1992-present Participating Faculty Member: Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin.
- 1996-present Associate Director for Administration and Senior Research Scientist: Center for Transportation Research, The University of Texas at Austin.
- 1993-1995 Associate Director and Senior Research Scientist: Center for Transportation Research, The University of Texas at Austin.
- 1991-1993 Associate Director and Research Scientist: Center for Transportation Research, The University of Texas at Austin.
- 1987-1991 Research Associate: Center for Transportation Research, The University of Texas at Austin.
- 1982-1987 World Bank Consultant: developing transports sector reviews and specific evaluations for pavement management systems, and life-cycle costing. Mission Reports prepared for Tunisia, Brazil, Cape Verde Islands, Mozambique, and Angola. Additional responsibilities included the preparation of a technical report for the UK Transport and Road Research Laboratory (TRRL) on vehicle costs in Botswana.
- 1976-1982 United Nations Development Project/World Bank Economist to the Brazil/UNDP-funded project studying the interrelationships between highway construction, maintenance, and utilization.
- 1972-1976 Associate Professor\* (tenured) in marketing at the Management Center of the University of Aston in Birmingham, England.
- 1970-1972 Assistant Professor (tenured) at the Graduate Center for Management Studies, University of Birmingham and University of Aston, England.
- 1968-1970 Research Fellow at the Graduate Center for Management Studies, University of Birmingham, England.
- 1968-1969 Transport Economist with Professor Sir A. A. Walters with Howard Humphreys, Keeble & Partners, Consulting Engineers. On temporary leave from the University of Birmingham while on assignment in the Republic of Honduras.
- 1966-1967 Research Officer, to Professor G.J. Walker and sponsored by the Ministry of Transport at the University of Birmingham, England
- 1965-1966 Research Assistant to Dr. D. E. C. Eversley, West Midlands Social and Political Research Unit, University of Birmingham, England.

\*American equivalent titles

### III. CTR RESEARCH PROGRAMS

#### A. Texas Department of Transportation Projects

##### Principal Investigator or Co-Principal Investigator

NAFTA Trade Literature Review Phase I (02-0364)  
Support During the 78<sup>th</sup> Texas Legislative Session (0-4849)  
Trans Texas Corridor ROW Royalty Payment Feasibility (0-4808)  
Managing Rural Truck Traffic in Texas (0-4169)  
Landside Access Needs for Deep-water Ports in Texas (0-4437)  
Gulf Intracoastal Waterway 2022 Study (IAC 02-0175)  
Assist the Texas Aerospace Commission in the Efforts and Spending Related to Establishing a Reusable Launch Facility or Spaceport (IAC 02-0131)  
Containerized Freight Movement in Texas (Study 0-4410)  
Impacts of Inland Ports on Trade Flows and Transportation in Texas (Study 0-4083)  
Criteria and Design for a Model Border Crossing Project (5-9014)  
Coordination System for Border Ports of Entry (IAC 02-0152)  
Construction Scheduling, Constructability, Traffic Planning, and Business Impact Support in the Dallas District, Texas Department of Transportation (IAC 02-0043).  
Laredo, Texas Traffic Flow Study (IAC 00-0199).  
Infrastructure Impacts and Operational Requirements Associated with the Next Generation Container Ships (Megaships) on the Texas Transportation System (Study 0-1833)  
Assess Current Best Practices and the State-of-the-Art in Seamless Connectivity of Intermodal Facilities (Study 0-1802)  
Enhancement of Full Cost Transportation Model (IAC 96-0387)  
Analysis of Union Pacific Railroad/Southern Pacific Railroad Merger Application and Its Significance to the Texas Department of Transportation (IAC 96-0202)  
Texas-Mexico Border: Transportation Planning Guidelines and Automated Data Base (Study 7-2932)  
Business & Residential Impacts, Traffic and Overpass Construction Planning Study for the TxDOT Dallas District North Central Expressway Project (Study 7-2922/IAC 96-0017/IAC98-0003)  
Statewide Type II Noise Abatement Program for the Texas Department of Transportation (Study 0-1754)  
Texas - Mexico Toll Bridge Study (Study 0-1976)  
Life-Cycle Cost Analysis of Rigid Pavements (Study 0-1739)  
The Railroad System of Texas: A Component of the State and National Transportation Infrastructure (Study 0-1703)  
Interaction of TxDOT with Other Public Agencies Involved in the Taxation, Control and Law Enforcement of the Transboundary Movement of Goods and People (Study 0-1500)  
Systems Planning for the Inland Water-Way and Port System in Texas (Study 0-1452)  
Preliminary Economic Evaluation of the Super Corridor Concept (Study 0-1326)  
Value of Access Rights (Study 0-1325)  
An Evaluation of the Status, Effectiveness, and Future of Toll Roads in Texas (Study 0-1322)  
Multi-Modal Planning and the U.S. - Mexico Free Trade Agreement (Study 0-1319)  
Truck Traffic in Laredo, Texas - A Case Study of Issues and Remedies (Study 0-1312)  
Increasing Mobility and Economic Development through Multi-modal Centers (Study 0-1282)  
Highway Privatization in Texas (Study 0-1281)  
Privatization of Rest Areas (Study 0-1269)  
Economic Impact of Highway Loops and Bypasses (Study 0-1247)  
Mitigating Adverse Effects of Urban Highway Construction (Study 0-1227)  
Development of Rigid and Flexible End-Product Smoothness Specifications (Study 0-1167)

## Reports

- “Texas Model Border Crossing Project: Retro-Fit Report” Study Deliverable for 5-9014 (with Cesar Quiroga, Edgar Kraus, and Bill Stockton), February 2003.
- “Inland Ports: Planning Successful Developments,” Study Report 4083-2 (with Jolanda Prozzi, Russell Henk, and John McCray), October 2002.
- “Infrastructure Impacts and Operational Requirements Associated with the Next Generation Containerships (Megaships) on the Texas Transportation Systems” Study Report 1833-01-imp (with Michael Bomba), October 2002.
- “Briefing Document on Texas Model Border Crossing Project” Study Deliverable for 5-9014 (with Bill Stockton), April 2001 (rev. January 2002).
- “Impacts of Containership Size, Service Routes, and Demand on Texas Gulf Ports” Study Report 1833-3 (with Miguel Figlozzi), December 2001.
- “The Identification and Classification of Inland Ports” Study Report 4083-1 (with Sara Jean Leitner), August 2001.
- “Texas Grain Transportation Study,” Report to the 77<sup>th</sup> Texas Legislature (with Stephen Fuller, Tun-Hsiang Yu, Dennis Collier, and Jerry Jamieson), January 2001.
- “An Identification Process and Evaluation Framework for Texas Gulf Containerships,” Study Report 1833-2 (with Michael Bomba), December 2000.
- “Alternatives to Weight Tolerance Permits,” Study Report 4036-1 (with David Luskin, C. Michael Walton, Zhanmin Zhang, and Jerry Jamieson), October 2000.
- “A Sensitivity Analysis of the Rigid Pavement Life-Cycle Cost Analysis Program,” Study Report 1739-2 (with Steve Waalkes, Terry Dossey, and B. Frank McCullough), September 1999 (rev. December 2000).
- “Mega-Containerships and Mega-Containerports in the Gulf of Mexico: A Literature Review and Annotated Bibliography” Study Report 1833-1 (with Miguel Figliozzi and C. Michael Walton), May 1999.
- Anzalduas International Bridge Traffic Study* (with I. Joskowitz and Angela J. Weissmann), report prepared for the City of McAllen, Texas under an Interlocal Cooperation Contract between the Center for Transportation Research at The University of Texas at Austin and the City of McAllen, Texas, report prepared by Traffic Engineers, Inc., Houston, Texas, August 1998.
- “Mitigating the Adverse Impacts of the Dallas North Central Expressway Construction,” Special Research Report (with Benjamin Waldman, Tamer El Diraby and James O’Connor), May 1998.
- “State Programs for Financing Port Development,” Special Project Report/Research Report 1452-3, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1997.
- “Transportation Issues and the U.S.-Mexico Free Trade Agreement,” Study Report 1319-6F (with Leigh Boske, Clyde Lee and John McCray), February 1997.
- “Development of an Urban Transportation Investment Model: Executive Summary,” Study Report 1356-8F (with José Weissmann, Michael Martello and Jiefeng Qin), December 1996.
- “A Methodology for Determining the Freight Border Transportation Impact of the North American Free Trade Agreement,” Study Report 1319-4 (with Christopher Strong and Hani Mahmassani), December 1996.
- “Port-Related State Programs and Federal Legislative Issues,” Policy Research Project Report 117/Research Report 1452-2, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1996.
- “Forecasting Freight Traffic Between the U.S. and Mexico,” Study Report 1319-2 (with Yolanda Fang and Hani Mahmassani), August 1996.
- “Historic Trends and Future Consequences of Projected Traffic Along Rural Interstate 35,” Study Report 1326-1 (with Salvador Gonzalez-Ayala, Mark Euritt, Clay Koontz, B.F. McCullough and Roberto Macias-Mohr), May 1996.
- “Preliminary Economic Evaluation of Alternatives for Reducing Congestion Problems in Texas,” Study Report 1326-2 (with B.F. McCullough, Mark Euritt, Salvador Gonzalez-Ayala, Roberto Macias-Mohr and Clay Koontz), May 1996.

- “A Vision for Increasing Personal Intercity Mobility,” Study Report 1326-3F (with Salvador Gonzalez-Ayala, Mark Euritt, Clay Koontz, B.F. McCullough and Roberto Macias-Mohr), May 1996.
- “Analysis of U.S.-Mexico Traffic Within Texas,” Study Report 2932-2 (with Angela Jannini Weissmann), December 1995.
- “Texas’ Role as a U.S.-Mexico Trade Gateway,” Study Report 2932-3F (with Angela Weissmann, Manuel Trevino and Supriya Mandava), November 1995.
- “An Evaluation of the Status, Effectiveness, and the Future of Toll Roads in Texas: Remaining Issues and Executive Summary,” Study Report 1322-3F (with Mark Euritt, Randy Machemehl and Chungwon Lee), October 1995.
- “Preliminary Economic Evaluation of the Managed Transportation System Concept,” Study 1326 Briefing Report prepared for the Texas Transportation Commission (with B.F. McCullough, Mark Euritt, Salvador Gonzalez-Ayala, Roberto Macias-Mohr and Clay Koontz), October 1995.
- “The Texas Seaport and Inland Waterway System,” Policy Research Project Report 114/Research Study 1452, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1995.
- “U.S.-Mexico Trade and Transportation: Corridors, Logistics Practices and Multimodal Partnerships,” Policy Research Project Report 113/Research Study 1319, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1995.
- “Strategies for Reducing Energy Consumption in the Texas Transportation Sector,” CTR SEDC-2 (with Mark Euritt, Angela Weissmann, Mike Martello, Jiefeng Qin and Sreedhar Varada), June 1995.
- “A Model for Estimating the Value of Property Access Rights,” Study Report 1325-1F (with Heidi Westerfield, Amado Velez Gallego, James Jarrett and Randy Machemehl), June 1995.
- “Texas Public Opinion Regarding Toll Roads,” Study Report 1322-1 (with Christopher Oswald, Chungwon Lee, Mark Euritt, Randy Machemehl and C. Michael Walton), March 1995.
- “Measurement and Analysis of Traffic Loads Along the Texas-Mexico Border,” Study Report 1319-1 (with Joseph P. Leidy and Clyde Lee), March 1995.
- “Full-Cost Approach to Airport Pavement Management,” *Handbook of Airline Economics, First Edition* (pg.121-129) published by McGraw-Hill, 1995.
- “Logistics Management and U.S.-Mexico Transportation Systems, A Preliminary Investigation,” Policy Research Project Report 109/Research Study 1319, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1994.
- “A Framework for Evaluating Multimodal Transportation Investment in Texas,” Study Report 1282-2F (with Mark A. Euritt), May 1994.
- “Overview of the Texas-Mexico Border: Capacity, Demand, and Revenue Analyses of Border Segment 1 (Gulf to Laredo),” Study Report 1976-4 (with Angela J. Weissmann, Mike Martello and B. Frank McCullough), April 1994.
- “Texas-Mexico Toll Bridge Study: Summary Report,” Study Report 1976-6F (with B. Frank McCullough and Angela J. Weissmann), April 1994.
- “Overview of the Texas-Mexico Border: Capacity, Demand, and Revenue Analyses of Border Segment 2 (Eagle Pass to El Paso),” Study Report 1976-5 (with Angela J. Weissmann, Mike Martello and B. Frank McCullough), March 1994.
- “Overview of the Texas-Mexico Border: Assessment of Traffic Flow Patterns,” Study Report 1976-3, (with Angela J. Weissmann, Mike Martello, James Hanania, Munther Shamieh, Claudia Said and B. Frank McCullough), February 1994.
- “Strategic and Implementation Issues in Texas’ Public-Private Transportation Projects,” Study Report 1281-3F (with James Jarrett, Mark Euritt and Randy Machemehl), February 1994.
- “An Overview of Highway Privatization,” Study Report 1281-1 (with Mark Euritt, Randy Machemehl and James Jarrett), February 1994.
- “Overview of the Texas-Mexico Border: Background,” Study Report 1976-1, (with James Hanania, Angela J. Weissmann, Mike Martello and B. Frank McCullough), January 1994.
- “Overview of the Texas-Mexico Border: Data Base,” Study Report 1976-2, (with Angela J. Weissmann, James Hanania and B. Frank McCullough), December 1993.

- “Transborder Traffic and Infrastructure Impacts on the City of Laredo, Texas,” Study Report 1312-1 (with Claudia Said and W.R. Hudson), November 1993.
- “Effect of the North American Free Trade Agreement on the Transportation Infrastructure in the Laredo-Nuevo Laredo Area,” Study Report 1312-2 (with Juan Carlos Espinosa Rescala and B. Frank McCullough), November 1993.
- “Executive Summary - Truck Traffic in Laredo, Texas: A Case Study of Issues and Remedies,” Study Report 1312-3F, November 1993.
- “Texas-Mexico Multi-Modal Transportation,” Policy Research Project Report 104/Research Study 1319, published by the Lyndon B. Johnson School of Public Affairs (with Leigh B. Boske), August 1993.
- “Reliability of Toll Road Revenue Forecasts for Selected Toll Roads in the United States,” Study Report 1281-2 (with B.P. Dedeitch, Randy Machemehl, Mark Euritt and C. Michael Walton), July 1993.
- “Feasibility of Safety Rest Area Commercialization in Texas,” Study Report 1269-1F (with Mark A. Euritt and Susan Grant), November 1992.
- “Economic Effects of Highway Bypasses on Business Activities in Small Cities,” Study Report 1247-1 (with Reijo Helaakoski, Hani S. Mahmassani, C. Michael Walton, Mark A. Euritt, and S. Johann Andersen), October 1992.
- “Traffic and Spatial Impacts and the Classification of Small Highway Bypassed Cities,” Study Report 1247-2 (with S. Johann Andersen, Hani S. Mahmassani, C. Michael Walton, and Mark A. Euritt), October 1992.
- “Economic Impacts of Highway Bypasses,” Study Report 1247-3F (with S. Johann Andersen, Mark A. Euritt, Hani S. Mahmassani, and C. Michael Walton), October 1992.
- “Conversion of the Texas Department of Transportation 6- and 10-Yard Dump Truck Fleet From Standard to Automatic Transmissions,” Study Report 979-1F (with Jose Weissmann and Mark A. Euritt), November 1991.
- “The Development of Smoothness Specifications for Rigid and Flexible Pavements in Texas,” Study Report 1167-1 (with Carl Bertrand), January 1991.
- “Evaluation of FHWA Requirements for the Calibration of Pavement Roughness Instrumentation,” Study Report 969-2F (with Carl Bertrand and B. Frank McCullough), February 1990.
- “Field Evaluation of the Auto-Read Version of the Face Dipstick” Study Report 969-1 (with Carl Bertrand and B. Frank McCullough), August 1989.
- “A Bridge Management System Module for the Selection of Rehabilitation Replacement Projects,” Study Report 439-4 (with José Weissmann, W. R. Hudson, and Ned H. Burns), January 1989.
- “Bridge Project Selection for Texas,” Study Report 439-3 (with Tony Tascione, W. R. Hudson, and Ned H. Burns), November 1987.

## **B. Southwest University Transportation Center VI (DOT) Projects**

### Principal Investigator

- Strategic Transportation Challenges and Issues Facing U.S. Agriculture and Rural Industry: A Methodology to Prioritize Rural Transportation Needs (Study 473700-00068)
- Monitoring US Safety Rules for Mexican Trucks (Study 473700-00067)
- Prefeasibility Evaluation Model for Toll Highways (Study 467502)
- An Analysis of U.S.-Mexico Trade Corridors (Project 472840-00071)
- Enhancing Pavement Life Cycle Cost Analysis Through Incorporating Sustainable Components (Project 167205)
- Inland Ports and Their Contributions to Transportation Corridor Efficiencies (Project 473700-00062)
- Expediting Construction in Urban Corridors: A Demonstration Project in Energy Impact Mitigation (Study 465520)
- Evaluating Texas-Mexico Border Crossing Mechanisms to Reduce Truck Movement and Fuel Consumption (Study 465610)

Work Zone Safety and the Relation Between Accident Rates and Vehicle Fuel Consumption (Study 465630)  
U.S.-Mexico Trade, Texas Border Gateways, Intermodal Demand and Energy Impacts (Study 465640)  
Rates and Vehicle Fuel Consumption (Study GRM 467305)  
Examining Trucking Alliances/Partnerships and Logistics Practices in the Movement of International Trade Along the Texas-Mexico Border (Study 472840-00069)  
Energy and System Cost Evaluation of Truck Size and Weight Changes (Study 60020)  
Fuel and Time Savings through Expediting Pavement Performance (Study 60021)  
Prediction of Mobile Source Emissions and Fuel Consumption (Study 60032)  
Multimodal Investment Analysis: A Corridor Study of Energy Efficiency and Cost Effectiveness (Study 60062)  
Evaluating High-Speed Ground Corridor (Study 71247)  
Alternative Fueled Bus Impacts on Transit Networks and City Streets (Study 721913)

### Reports

“Opening the Border to Cross-national Truck Traffic: The Texas Perspective,” (with Jerry Jamieson) December 2002.  
“Truck Trade Corridors Between the US and Mexico,” Report 472840-00071-1 (with Miguel Andres Figliozzi), August 2001.  
“Life Cycle Cost Analysis of Portland Cement Concrete Pavements,” Report 167205-1 (with William James Wilde and Steve Waalkes), August 2001.  
“Impact of Compressed Natural Gas Fueled Buses on Street Pavements,” Report 721913-1F (with Dingyi Yang), July 1995.  
“Commercial Surface Transportation Efficiency at the Texas-Mexico Border: A Look at the Laredo Gateway,” Report 465640-1F (with James Sassin and Leigh B. Boske), July 1995.  
“The Technical, Engineering, and Economic Feasibility of a High-Speed Ground Corridor,” Report 71247-1 (with Mohammed Suliman and B. Frank McCullough), May 1993.  
“Preliminary Economic Evaluation of the High-Speed Ground Corridor,” Report 71247-2 (with Salvador Gonzalez-Ayala and B. Frank McCullough), May 1993.  
“Workzone Mobile Source Emission Prediction,” Report 60021-3 (with Pattabiraman Seshadri), May 1993.

#### IV. GRADUATE STUDENTS

##### Ph. D.

- Sanchez, Rafael Manuel Aldrete, "Feasibility Evaluation Model for Toll Highways," Doctoral Dissertation, The University of Texas at Austin, August 1998.
- El-Diraby, Tamer El-Sayed, "System For Evaluating Bridge Construction Plans," Doctoral Dissertation, The University of Texas at Austin, May 1997.
- Andersen, S. Johann, "Modal Choice Strategies for Freight Distribution in Southern Africa," Doctoral Dissertation, Department of Civil Engineering, Faculty of Engineering, University of Stellenbosch, South Africa, December 1995.
- Suliman, Mohammed R., "Expediting Strategies to Mitigate the Adverse Effects of Pavement Construction in Texas," Doctoral Dissertation, The University of Texas at Austin, August 1993.
- De Sominihac, Hernan Eduardo, "System Analysis For Expediting Urban Highway Construction," Doctoral Dissertation, The University of Texas at Austin, May 1992.
- Lu, Jian, "Evaluation and Implementation of the Automatic Road Analyzer (ARAN)," Doctoral Dissertation, The University of Texas at Austin, December 1990.
- Weissmann, José, "A Bridge Management System Module for the Selection of Rehabilitation and Replacement Projects," Doctoral Dissertation, The University of Texas at Austin, May 1990.

##### Master's Student Supervision/Mentoring

- Leitner, Sara Jean, "The Identification and Classification of Inland Ports," Master of Science In Engineering, August 2001.
- Sanchez-Ruiz, Luis Alberto, "Heavy Vehicle Characteristics Under NAFTA: The Texas-Mexico Border," Master of Science in Engineering, The University of Texas at Austin, August 1996.
- Lubarsky, Scott, "Mitigation of Negative Impacts to Businesses Abutting Urban Highway Reconstruction," Master's Thesis, The University of Texas at Austin, May 1996.
- Wilde, William James, "Modification and Implementation of a User Cost Model for Work Zones in Urban Streets," Master of Science in Engineering, The University of Texas at Austin, May 1996.
- Strong, Christopher K., "A Methodology for Determining the Freight Border Transportation Impacts of the North American Free Trade Agreement," Master's Thesis, The University of Texas at Austin, May 1996.
- Macias-Mohr, Roberto, "Preliminary Economic Evaluation of the Managed Transportation System Concept," Master of Science in Engineering, May 1996.
- Fang, Yolanda Yulan, "Forecasting Freight Traffic Between the U.S. and Mexico," Master of Science in Engineering, August 1996.
- Gilani, Syed Amer Saeed, "QUEWZEE-93," Master's Thesis, The University of Texas at Austin, December 1994.
- Leidy, Joseph Paul, "Measurement and Analysis of Traffic Loads Along the Texas-Mexico Border," Master's Thesis, The University of Texas at Austin, December 1994.
- Yang, Dingyi, "Impact of Compressed Natural Gas Fueled Buses on Street Pavements," Master's Thesis, The University of Texas at Austin, December 1994.
- Oswald, Christopher Jon, "Evaluating the Acceptability of Highway Tolling in Texas: An Exploratory Analysis," Master of Science in Engineering, The University of Texas at Austin, August 1994.
- Jones, Michael A., "Cost Differences Between Expediting and Standard Urban-Freeway Construction," Master's Thesis, The University of Texas at Austin, December 1993.
- Trujillo Olguin, Eduardo, "Effectiveness of Accelerating Highway Rehabilitation in Urban Areas," Master's Thesis, The University of Texas at Austin, December 1993.
- Treviño González, Mario Gerardo, "U.S.-Mexico Trade Effects on the Monterrey-San Antonio Highway Corridor," Master's Thesis, The University of Texas at Austin, December, 1993.
- Said, Claudia, "Transborder Traffic and Infrastructure Impacts on the City of Laredo, Texas," Master's Thesis, The University of Texas at Austin, May 1993.

- Cato, Jacqueline Novella, "Effect of Highway Reconstruction on Roadway User Costs," Master's Thesis, The University of Texas at Austin, May 1993.
- Arellano, Arturo Sanchez, "Logistics of the Colombia - Laredo International Solidarity Bridge," Master's Thesis, The University of Texas at Austin, May 1993.
- Espinosa Rescala, Juan Carlos, "Effect of the North American Free Trade Agreement on the Transportation Infrastructure at Laredo, Texas - Nuevo Laredo, Tamaulipas," Master's Thesis, The University of Texas at Austin, May 1993.
- Westerfield, Heidi Rae, "A Model For Estimating the Value of Property Access Rights," Master of Science in Engineering, The University of Texas at Austin, December 1993.
- Seshadri, Pattabiraman, "Work Zone Mobile Source Emission Prediction," Master's Thesis, The University of Texas at Austin, August 1992.
- Friedman, Amanda D., "Opportunities for Private Sector Highway Financing," Master's Thesis, The University of Texas at Austin, August 1992.
- Andersen, Simen Johann, "Traffic and Spatial Impacts and the Classification of Small Highway Bypassed Cities," Master's Thesis, The University of Texas at Austin, May 1992.
- Helaakoski, Reijo, "Economic Effects of Highway Bypasses on Business Activities in Small Cities," Master's Thesis, The University of Texas at Austin, December 1991.
- Suliman, Mohammed, "Preliminary Economic Evaluation of the Highway Element of the Texas 2020 Corridor," Master's Thesis, The University of Texas at Austin, December 1990.
- Gonzalez-Ayala, Salvador, "Pre-feasibility Study for Designing a Texas High-Speed Ground Corridor for the next Century," Master's Thesis, The University of Texas at Austin, May 1990.
- Pezo, Raphael, "Truck Tire Pavement Contact Pressure Distributions," Master's Thesis, The University of Texas at Austin, December 1989.
- Hansen, Rex, "Truck Tire Pavement Contact Pressure Distribution Characteristics for 'Super Single' 18-22.5 and Smooth 11-24.5 Tires," Master's Thesis, The University of Texas at Austin, May 1989.
- Tascione, Tony, "Bridge Project Selection for Texas," Master's Thesis, The University of Texas at Austin, December 1987.

## V. CONSULTING ACTIVITIES

### FEDERAL HIGHWAY ADMINISTRATION (FHWA)

1992 to 1994 FHWA Study DTFH61-92-C-00099, "Impacts of Heavy Trucks on Bridge Investment" (Principal Investigator)

### WORLD BANK

1995 to 1997 Russia - Highway Cost Allocation Study  
1993 Venezuela - Cost Allocation Study (Advisor)  
1991 Nigeria - First Multistate Roads Project  
1989 Mozambique - Transport Sector Review  
1988 Angola - An Introductory Economic Review (Report No. 7283-Ang 2 Vols.) Transport Sector  
1987 Brazil - Fourth Urban Transport Project  
1987 Cape Verde - Draft Transport Sector Review

### COMPTROLLER'S OFFICE, STATE OF TEXAS

1994 Texas Performance Review - Transportation Issues

### TEXAS STATE ENERGY CONSERVATION OFFICE

1994 Texas Transportation Efficiency Study, Project for the Texas Sustainable Energy Development Council

## VI. PUBLICATIONS AND PRESENTATIONS

### A. Books

*Vehicle Operating Costs: Evidence from Developing Countries*, The Johns Hopkins University Press, (ISBN 0-8018-3588-7), Baltimore and London, 1987 (with Andrew D. Chesher).

### B. Refereed Papers

"Secret Life of the Container: Evidence from Texas," (with Jolanda Prozzi and Kellie Spurgeon), *Transportation Research Record*, to be published in 2002.

"Divisible-Load Permits for Overweight Trucks on Texas Highways: An Evaluation," (with David Luskin, C. Michael Walton, Zhanmin Zhang, and Jerry Jamieson), *Transportation Research Record 1790*, June 2002.

"A Computerized Model to Evaluate the Impacts of Truck Size and Weight Changes on Bridges," (with Jose Weissmann and Manuel Diaz), International Association for Bridge Maintenance and Safety First International Conference on Bridge Maintenance, Safety, and Management, June 2002.

"Grain Transportation in Texas: Survey Results, Future Trends, and Policy Prescriptions," (with Jerry Jamieson and Stephen Fuller), *Journal of the Transportation Research Forum*, Vol 56, Number 3, Washington DC, Summer 2002.

"The Feasibility of a Container-on-Barge Network along the Texas Gulf Coast," (with Michael Bomba), *Transportation Research Record 1782*, June 2002.

- “Planning for Mega-Containerships: Statewide Transportation Planning Approach,” (with Michael Bomba and C. Michael Walton), *Transportation Research Record 1777*, October 2001.
- “Estimating Texas-Mexico North American Free Trade Agreement Truck Volumes,” (with Miguel Figliozzi and John McCray), *Transportation Research Record 1763*, October 2001.
- “Harmonizing Truck Transportation,” presented at the Fifth Mexico/Canada/U.S. Conference on Policy Harmonization and Adjustment in the North American Agricultural and Food Industry, Acapulco, Mexico, and published in a joint University of Guelph (Ontario, Canada)/Texas A&M University publication, *Policy Harmonization and Adjustment in the North American Agricultural and Food Industry*, February 2000.
- “Using Weigh-in-Motion Data to Calibrate Trade Derived Estimates of NAFTA Truck Volumes in Texas,” (with Miguel Andres Figliozzi and John P. McCray), presented at the 79<sup>th</sup> Annual Meeting of the Transportation Research Board and published in the *Transportation Research Record 1719*, January 2000.
- “Using Brokers to Determine NAFTA Truck Origins and Destinations at the Texas-Mexico Border,” presented at the 79<sup>th</sup> Annual Meeting of the Transportation Research Board and published in the *Transportation Research Record 1719*, January 2000.
- “International Trade and Transport,” *Transportation in the New Millennium*, 2000.
- “North American Free Trade Agreement Trucks on U.S. Highway Corridors” (with John P. McCray), *Transportation Research Record 1653*, October 1999.
- “Mitigating the Adverse Impacts of the Dallas North Central Expressway Construction on Businesses,” *Transportation Research Record 1632*, September 1998 (with Benjamin Waldman).
- “Truck Traffic Crossing the Texas-Mexico Border,” *Transportation Research Record 1643*, November 1998 (with Luis Sanchez-Ruiz and Clyde E. Lee).
- “Impact of 97,000-Lb Six-Axle Semi-Trailer Trucks on the Rural and Urban U.S. Interstate Bridge Systems,” *Transportation Research Record 1624*, September 1998 (with Jose Weissmann).
- “Increasing U.S. Truck Size and Weight Regulations Under NAFTA: The Bridge Experience,” *Journal of the Transportation Research Forum*, 1998 (with Jose Weissmann).
- “A Survey Approach for the Acceptability of Highway Tolling and Congestion Pricing in Texas,” published in the *Journal of the Transportation Research Forum*, Volume 36, Number 1, 1996 (with Chungwon Lee, Christopher Oswald, Randy B. Machemehl, and Mark Euritt).
- “Impact on Street Pavements of Buses Fueled by Compressed Natural Gas,” *Transportation Research Record 1475*, 1995.
- “Large Truck Impacts on the Highway Infrastructure: The Bridge Dimension,” presented at the American Society of Civil Engineers Conference on Infrastructure Management and published in the proceedings, Denver, Colorado, June 1993 (with José Weissmann).
- “Modification of the QUEWZ Model to Estimate Fuel Costs and Tailpipe Emissions,” presented at the 72nd Annual Meeting of the Transportation Research Board, and published in the *Transportation Research Record - TRR 1395*, Washington, D.C., January 1993 (with Pattabiraman Seshadri and Hernan de Solminihac).
- “Analyzing Impacts of Highway Rehabilitation on Businesses,” presented at the 72nd Annual Meeting of the Transportation Research Board, and published in the *Transportation Research Record - TRR 1395*, Washington, D.C., January 1993 (with Hernan de Solminihac).
- “Economic Impacts of Highway Bypasses,” presented at the 72nd Annual Meeting of the Transportation Research Board, and published in the *Transportation Research Record-TRR 1395*, Washington, D.C., January 1993 (with Johann Andersen).
- “End-Result Smoothness Specifications for Acceptance of Asphalt Concrete Pavements,” ISAP 7th International Conference on Asphalt Pavements, Design, Construction and Performance, August 16 - 20, 1992 (with W.R. Hudson, Terry Dossey, and Demetrios Goulias).

- "A Methodology for the Development of End-Result Smoothness Specifications," 12th Annual Transportation Convention, University of Pretoria, Pretoria, South Africa, June 29 - July 3, 1992 (with W.R. Hudson and Terry Dossey).
- "The Impact of Turnpike Doubles and Triple 28s on the Rural Interstate Bridge Network," *Transportation Research Record - TRR 1319*, pp 32 - 42, Washington, D.C., April 1992 (with José Weissmann).
- "Determining the Truck System Costs for the Pennsylvania Interstate 80 Corridor," 71st Annual Meeting of the Transportation Research Board and published in the *Transportation Research Record 1359*, Washington, D.C., January 1992 (with Mike McNerney and Mark Euritt).
- "Evaluation of a High-Resolution Profiling Instrument for Use in Road Roughness Calibration," Fifth International Conference on Low-Volume Roads, Raleigh, N.C., May 1991 (with Carl Bertrand).
- "Load Rating Choice and Long Combination Vehicle Impacts on the Rural Interstate Bridge Network," 1991 Annual Transportation Research Forum Proceedings and published in the *Journal of the Transportation Research Forum*, Vol XXXII, Number 1, Virginia, January 1991 (with José Weissmann and Ray Barnhart).
- "A Bridge Management System Module for the Selection of Rehabilitation and Replacement Projects," *Third International Conference on Microcomputer Applications in Transportation*, Vol 1, ASCE, San Francisco, May 1989 (with José Weissmann and W.R. Hudson).
- "A Bridge Management System Module for the Ranking of Rehabilitation and Replacement Projects," *Proceedings of the ASTM Symposium on Extending the Life of Bridges*, ASTM STP 1100, Philadelphia, 1989 (with José Weissmann, W.R. Hudson, and Ned Burns).
- "Measuring the Smoothness of Newly Constructed Concrete Pavement for Acceptance Standards," *Proceedings of the Fourth International Conference on Concrete Pavement Design and Rehabilitation*, Purdue University, 1989 (with Carl Bertrand and W.R. Hudson).
- "Influence of Road Surface Roughness on Vehicle Operating Costs: Reviewing the Evidence from Developing Countries," *Proceedings of the First International Symposium on Surface Characteristics*, ASTM ST 1031, State College, Pennsylvania, June 1988.
- "Calibrating the Relationship between Operating Costs of Buses and Road Roughness on Low-Volume Roads," *Fourth International Conference on Low-Volume Roads*, Transportation Research Record 1106 (Vol 2), pp 95-103, TRB, Washington, D.C., January 1987 (with P.C. Curtayne, Alex Visser, and H.W. du Plessis).
- "The Use of Vehicle Operating Costs in Road Management," *Annual Transportation Convention*, Volume 2B, Pretoria, 1986.
- "Setting Maintenance Levels for Aggregate Surface Roads," *Proceedings of TRB 64th Annual Meeting*, Transportation Research Board, Washington D.C., 1985 (with B.C. Butler and P. Flannagan).
- "Implementing a Highway Maintenance Programme in Bolivia," *Proceedings of the Planning and Transport Research and Computation (PTRC) 13th Annual Meeting*, PTRC Volume P264, London, 1985 (with B.C. Butler).
- "Predicting Road User Costs for Highway Investment Decisions," *Proceedings of the Planning and Transport Research and Computation (PTRC)*. 11th Annual Meeting, PTRC Volume P237, London, 1983 (with Alex Chesher).
- "Vehicle Operating Costs in Brazil: Results of a Road User Survey," *Low-Volume Roads: Third International Conference*, Transportation Research Record 898, Washington, D.C., 1983 (with Alex Chesher).
- "Predicting Road User Costs for Highway Investment Decisions," *Proceedings of the Planning and Transport Research and Computation (PTRC)*. 11th Annual Meeting, PTRC Volume P237, London, 1983 (with Alex Chesher).
- "Study of Road User Costs," Research on the Interrelationships Between Costs of Highway Construction, Maintenance, and Utilization, Final Report, Vol. 5, GEIPOT, Brasilia, Brazil, 1982.
- "Vehicle Depreciation and Interest Costs: Some Evidence from Brazil," *Proceedings of the International Road Federation World Conference on Transportation Research*, IRF, London, 1980 (with Alex Chesher and J.D. Swait).

- "The Effect of Road Design and Maintenance on Vehicle Operating Costs-Field Research in Brazil," *Low-Volume Roads: Second International Conference, Transportation Research Record* 702, Washington, D.C., 1979 (with R.J. Wyatt, B.K. Moser, and L.P. Quadros).
- "Classic Pricing Rules, Cost Plus Pricing and the Capacity Constrained Firm," *Journal of Business Finance*, Spring, 1975 (with F.M. Wilkes).
- "Bank Loans and Small Business Financing in Britain," *Accounting and Business Research* No. 15, 1974 (with R.E.V. Groves).
- "Jaguar Pricing Policy," *European Journal of Marketing*, Winter, 1973 (with F.M. Wilkes).