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Education

Ph.D., Purdue University, West Lafayette, IN. 2010.
M.S., Brigham Young University, Provo, UT. 2003.
B.S., Brigham Young University, Provo, UT. 2001.

Professional Experience

Assistant Professor. July 2013- Present, Oregon State University, Corvallis, OR
Assistant Professor. Jan 2010- June 2013, University of Texas at El Paso, El Paso, TX
Graduate Research Assistant. Aug 2003-Dec 2009, Purdue University, West Lafayette, IN
Graduate Research Assistant. Jan 2002-Aug 2003, Brigham Young University, Provo, UT

Publications

Journal Papers

1. **Hernandez, S.**, Peeta, S., Mannering, F., 2013. An Exploratory Analysis of the Propensity for Freight Carrier Collaboration. *Transportmetrica A: Transport Science* (Under Review).
2. Romo, A., **Hernandez, S.**, Cheu, R., 2013. Identifying Pre-Crash Factors between Cars and Trucks on Interstate Highways: Mixed Logit Model Approach. *Journal of Transportation Engineering* 0.1061/(ASCE)TE.1943-5436.0000621 (Aug. 28, 2013)
3. Islam, M.B., **Hernandez, S.**, 2013. Large Truck Involved Crashes: An Exploratory Injury Severity Analysis. *Journal of Transportation Engineering*, 139(6), pp. 596-604.
4. Islam, M.B., **Hernandez, S.**, 2013. Modeling Injury Outcomes of Crashes involving Heavy Vehicles on Texas Highways. *Transportation Research Record: Journal of the Transportation Research Board*, (In Print).
5. **Hernandez, S.**, Peeta, S., 2013. A Carrier Collaboration Problem for Less-Than-Truckload Carriers: Characteristics and Carrier Collaboration Model. *Transportmetrica A: Transport Science* (doi:10.1080/23249935.2013.766279).
6. Aguirre, A., Espiritu, J.F., **Hernandez, S.**, 2013. Designing Optimal Aviation Baggage Screening Strategies Using Evolutionary Algorithms. *International Journal of Applied Evolutionary Computation*, 4(1), pp. 1-16.
7. **Hernandez, S.**, Unnikrishnan, A., and Awale, S., 2012. A Less-than-Truckload Centralized Carrier Collaboration Multi-hub Location Problem: A Hybrid Hub-and-Spoke Network. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2269, pp. 20-28.

8. **Hernandez, S.**, Peeta, S., Kalafatas, G., 2011. A Less-Than-Truckload Carrier Collaboration Planning Problem under Dynamic Capacities. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 2011, pp. 933-946.
9. **Hernandez, S.**, Peeta, S., 2011. A Centralized Time-Dependent Multiple Less-Than-Truckload Carrier Collaboration Problem. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2263, pp. 26-34.

Papers in Referred Proceedings

1. Islam, M.B., Hernandez, S., 2012. Multi-Vehicle Collisions Involving Large Trucks on Highways: An Exploratory Discrete Outcome Analysis. 53rd Annual Transportation Research Forum, Tampa, Florida.
2. Islam, M.B., Hernandez, S., 2012. Analysis of Single and Multiple Large Truck Involved Crash Severity: A Random Parameters Ordered Probit Approach. CD-ROM. Transportation Research Board of the National Academies, Washington, D.C.
3. Islam, M.B., Hernandez, S., 2011. An Empirical Analysis of Fatality Rates for Large Truck Involved Crashes on Interstate Highways. 3rd International Conference on Road Safety and Simulation, Indianapolis, Indiana.
4. Hernandez, S., Peeta, S., Mannering, F., 2011. An Exploratory Analysis of the Propensity for Freight Carrier Collaboration. CD-ROM. Transportation Research Board of the National Academies, Washington, D.C.
5. Hernandez, S., Peeta, S., 2010. Less-Than-Truckload Static Single Carrier Collaboration Problem. CD-ROM. Transportation Research Board of the National Academies, Washington, D.C.
6. Hernandez, S., Peeta, S., 2009 A Dynamic Single Freight Carrier Collaboration Problem with Holding Costs. Forth International Workshop on Freight Transportation and Logistics, ODYSSEUS Compendium Extended Abstracts (CD-ROM), Çeşme, Izmir, Turkey.
7. Hernandez, S., Peeta, S., 2006 One Freight Carrier Collaboration Problem. Third International Workshop on Freight Transportation and Logistics, ODYSSEUS Compendium Extended Abstracts (CD-ROM), Altea, Spain.
8. Hernandez, S., Saito, M., Yedlin M., Neyssen, J., Sherman, S.E., 2003 Evaluating the Benefits of Coordinated Ramp Metering. Proceedings of the Eighth International AATT Conference, Beijing, China.

Reports

1. Hernandez, S., Cheu, K., Romo, A., Perez, S., Miramontes, J.L., Hernandez, J.L., Hernandez, L.A., Borrego, M., Torres, E.J., 2013. Warehouse Location and Freight Attraction in the Greater El Paso Region, CTIS Research Report, EL Paso Metropolitan Planning Organization ELMPO.
2. Cheu, K., Hernandez, S., Cornejo, L., Perez, S., 2012. Systematic Methodology for the Evaluation of Park and Ride Facilities, CTIS Research Report, EL Paso Metropolitan Planning Organization ELMPO.

3. Middleton, D., Rajbhandari, R., Kraus, E., Hernandez, S., Cheu., K., Iragavarapua, V., Turner., S., 2011. TxDOT Uses of Real-Time Commercial Traffic Data: Opportunity Matrix, Texas Department of Transportation (TxDOT), Report No. 0-6659.
4. Peeta, S., Hernandez, S., 2011. Modeling of Collaborative Less-than-Truckload Carrier Freight Networks, NEXTRANS Project No. 042PY02.
5. Saito, M., Wright, M., Hernandez, S., Neyssen, J., Sherman, S.E., 2003. Evaluation of the Effectiveness of Coordinated Ramp Meter Controls, Utah Department of Transportation (UDOT), Report No-02.19.

Working Papers

1. Shahabi, M., Unnikrishnan, A., Hernandez, S.,(2013). Robust Formulation of Centralized Carrier Collaboration Multi-hub Location Problem: A Hybrid Hub-and-Spoke Under Demand and Capacity Uncertainty.
2. Varela, E., Hernandez, S., Murray, P. (2013). HAZMAT involved crashes on US Interstates: An Exploratory Analysis.

Presentations in Conferences

1. "Identifying Pre-Crash Factors between Cars and Trucks on Interstate Highways: Mixed Logit Model Approach," Transportation Research Board of the National Academies, Washington, D.C., 2013.
2. "Modeling Injury Outcomes of Crashes involving Heavy Vehicles on Texas Highways," Transportation Research Board of the National Academies, Washington, D.C., 2013.
3. "Multi-Vehicle Collisions Involving Large Trucks on Highways: An Exploratory Discrete Outcome Analysis," 53rd Annual Transportation Research Forum, Tampa, Florida, 2012.
4. "A Less-than-Truckload Centralized Carrier Collaboration Multi-hub Location Problem: A Hybrid Hub-and-Spoke Network," Transportation Research Board of the National Academies, Washington, D.C., 2012.
5. "Analysis of Single and Multiple Large Truck Involved Crash Severity: A Random Parameters Ordered Probit Approach," Transportation Research Board of the National Academies, Washington, D.C., 2012.
6. "An Empirical Analysis of Fatality Rates for Large Truck Involved Crashes on Interstate Highways," 3rd International Conference on Road Safety and Simulation, Indianapolis, Indiana, 2011.
7. "A Less-Than-Truckload Carrier Collaboration Planning Problem under Dynamic Capacities," Transportation Research Board of the National Academies, Washington, D.C., 2011.
8. "An Exploratory Analysis of the Propensity for Freight Carrier Collaboration," Transportation Research Board of the National Academies, Washington, D.C., 2011.
9. "A Centralized Time-Dependent Multiple Less-Than-Truckload Carrier Collaboration Problem," Transportation Research Board of the National Academies, Washington, D.C., 2011.
10. "Less-Than-Truckload Static Single Carrier Collaboration Problem," Transportation Research Board of the National Academies, Washington, D.C., 2010.

11. "Dynamic Single Freight Carrier Collaboration Problem with Holding Costs," ODYSSEUS Conference, Çeşme, Izmir, Turkey, 2009.
12. "Carrier-Carrier Collaborative Networks: A Network Design Formulation," INFORMS Annual Meeting, Seattle, Washington, November 2007.
13. "Effects of Load Splitting on Carrier Collaboration: A Network Design Formulation," INFORMS Annual Meeting, Pittsburg, Pennsylvania, 2006.
14. "Single Carrier Collaboration Problem," ODYSSEUS Conference, Altea, Spain, 2006.
15. "Carrier Freight Collaboration Problem," INFORMS Annual Meeting, San Francisco, California, 2005.
16. "Evaluating the Benefits of Coordinated Ramp Metering Algorithms Using WATSIM," Eighth International AATT Conference, Beijing, China

Graduate Students at OSU

Name	Degree	Country	Thesis	Graduation
Jasmine Pahukula	M.S.	USA	Safety: TBD	Fall 2015
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Graduate Students at UTEP

Name	Degree	Country	Thesis	Graduation
Mouyid B. Islam	Ph.D	Bangladesh	Modeling Large Truck Involved Crashes: An Econometric Modeling Framework	Fall 2012
Satyen Awale	M.S.	India	Carrier Collaborative Network: Hybrid Hub Location and Algorithm	Spring 2012
Jana Červinská	M.S.	Slovakia	Vulnerability of Intermodal Logistics Networks to Sea Port Disruption	Spring 2012
Jiří Tylich	M.S.	Czech Rep.	A Multimodal Freight Collaborative Hub Location and Network Design Problem	Spring 2012
Štefánia Semanová	M.S.	Slovakia	Condition Monitoring of Truck-Drivers in the EU and the USA	Spring 2012
Lynda Macias	M.S.	USA	TBD	Fall 2013
Jose Martinez	M.E.	USA	Zero Net Carbon and Sustainability on the UTEP Campus	Fall 2011

Teaching

1. Infrastructure Network Flow Analysis and Optimization, Spring 2010
2. Transportation Engineering, Fall 2010
3. Advanced Travel Demand Analysis, Spring 2011
4. Engineering Measurements, Fall 2011
5. Infrastructure Network Flow Analysis and Optimization, Fall 2011
6. Engineering Measurements, Spring 2012
7. Advanced Travel Demand Analysis, Spring 2012
8. Intermodal Transportation Systems, Fall 2012
9. Methods Engineering Computation, Fall 2012

Professional Activities

1. Committees:
 - Member of Freight Transportation Planning and Logistics (AT015) of the Transportation Research Board (National Research Council of the National Academies, USA)
 - Member of Transportation Network Modeling (ADB30) of the Transportation Research Board (National Research Council of the National Academies, USA)
 - Member of TRB committee Truck and Bus Safety (ANB70) of the Transportation Research Board (National Research Council of the National Academies, USA)
 - Member on Task Force on the Logistics of Disaster Response and Business Continuity, AT065T of the Transportation Research Board (National Research Council of the National Academies, USA)
2. Reviewer
 - **Journals:** Transportation Research Part E: Logistics and Transportation Reviews, Journal of Transportation Safety and Security, Journal of Transportation Engineering, Accident Analysis and Prevention, Journal of Advanced Transportation
 - **Conferences:** Transportation Research Board, INFORMS

Awards and Achievements

1. Region V Council of University Transportation Centers (CUTC) Student of the Year, 2008. The U.S. Department of Transportation (USDOT) in conjunction with CUTC honors and recognizes outstanding transportation engineering students through the Student of the Year award. Received the award at the 2009 TRB conference Jan. 10-15 in D.C.
2. Transportation Research Board's (TRB) Minority Fellows Program University Representative, 2011- Present
3. Purdue Doctoral Fellowship, Purdue University, 2003-2005
4. Graduate School Summer Grant, Purdue University, 2006.

Honor Societies

1. Chi Epsilon, The National Civil Engineering Honors Society – Purdue University

Technical Skills

1. *Transportation*: Transportation Systems Analysis, Urban Transportation Planning, Traffic Engineering Operations and Control, Traffic Flow Theory, Engineering Economics, Intelligent Transportation Systems.
2. *Optimization*: Linear, Non-linear, Mixed Integer, Network Optimization, Optimization with Simulation, Game Theory, Queuing Theory, Facility Location, Computer Algorithms for Systems Analysis.
3. *Statistics and Econometrics*: Applied Probability, Transportation Demand and Economics, Advanced Demand Modeling (Regression, Discrete Choice Theory and Analysis, Sampling, Design of Experiments).

Computer Skills

1. Programming: C, C++, Matlab
2. Platforms: GNU/Linux, DOS, Windows.
3. Statistical/Econometrics: Excel, LIMDEP, SST, MiniTab.
4. Engineering: CPLEX, Lp-solve, MATLAB, CORSIM, Synchro, AutoCad, DynusT, TransCAD, TransModeler, Vissim
5. Documentation: Word, HTML, Mendeley
6. Hardware: Experience building cutting-edge computers (servers).

Other Skills

1. Bilingual: Spanish/English.
2. Excellent team worker – Collaborated with other design engineers and public works staff in rehabilitation and design of city wide water and sewer line to put out for bid for the City of Orem, UT.
3. Member, officer, and leader of several student chapters of professional organization

Leadership

University of Texas at El Paso

1. Advisor, Institute of Transportation Engineers, 2011– Present
2. Co-Advisor, Chi Epsilon Civil Engineering Honor Society, 2010 – Present

Purdue University

1. Advisor, Society of Mexican American Engineers and Scientist. 2009 – present
2. Graduate Representative, Hispanic Society of Professional Engineers. 2006 – 2007
3. Secretary, Institute for Operation Research and Management Science. Academic year 2005 – 2006
4. Secretary, Institute of Transportation Engineers, Student Chapter. Academic year 2004 – 2005
5. Vice-President, Institute of Transportation Engineers, Student Chapter. Academic year 2002 – 2003
6. Secretary, American Society of Civil Engineers. 2000 – 2001