

Luana Clara Ozelim Broshears, Ph.D., PE

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Professional Summary

Luana Broshears has 8 years of experience in Civil Engineering with focus in transportation. During the first years after finishing her Bachelor's Degree in Civil Engineering, she has worked on applied transportation research, including modeling of pavement marking retroreflectivity and safety evaluation of shoulder rumble strips and stripes. As a Post-Doctoral Engineer, she was part of the team that updated the 3rd Edition of the Alabama Strategic Highway Safety Plan. Luana started working as a Traffic Engineer in 2016 and her experience includes transportation planning and traffic safety and operations. Luana has been a member of the Institute of Transportation since 2010 and has served as Vice President and President at the Auburn University ITE Student Chapter, as Chair of the Service Projects Committee at the Alabama Section of ITE (ALSITE), as a member of the Leadership Development Committee at the Southern District ITE (SDITE), and currently serves as a Secretary/Treasurer at the Southern Arizona ITE and as a member of the ITE Transportation Safety Council Executive Committee.

Education

PH.D. | MAY, 2015 | AUBURN UNIVERSITY

- Major: Civil Engineering (Traffic Safety)
- Minor: Statistics

MASTER OF SCIENCE | MAY, 2012 | AUBURN UNIVERSITY

- Major: Civil Engineering (Transportation)

BACHELOR OF SCIENCE | DECEMBER, 2009 | UNIVERSIDADE DE BRASILIA

- Major: Civil Engineering

Work Experience

Adjunct Instructor | University of Arizona | 8/18 - Current

Traffic Engineer | Psomas | 10/17 - Current

Traffic Designer/Graduate Engineer | Sain Associates | 6/16 - 10/17

Post Doctoral Engineer | The University of Alabama | 6/15 - 6/16

Graduate Research Assistant | Auburn University | 5/10 - 5/15

Graduate Teaching Assistant | Auburn University | 5/13 - 8/14

Licenses/Certifications

PROFESSIONAL ENGINEER | ARIZONA | 7/18 - CURRENT

- Registration #: 67059

Project Experience

TRAFFIC ENGINEER | PSOMAS | 10/17 – CURRENT

- 1) Annual HAWK Installation Program – HAWK Screening and Prioritization (Pima County, AZ)
- 2) Pima County Impact Fee Study (Pima County, AZ)
- 3) PAD Partners on 4th – Traffic Analysis (Tucson, AZ)
- 4) Green Valley RV Resort Access – Traffic Analysis (Sahuarita, AZ)
- 5) Nogales Highway Corridor Traffic Impact Analysis (Sahuarita, AZ)
- 6) Barrio Viejo Parking Study (Tucson, AZ)
- 7) Mt. San Antonio College – LOT S Parking Structure Traffic Analysis (Walnut, CA)
- 8) Mt. San Antonio College – Traffic Impact Analysis for Parking and Circulation Master Plan and Educational Facilities Master Plan (Walnut, CA)
- 9) Arcadia General Plan Addendum – Traffic Analysis (Arcadia, CA)
- 10) Tucson International Airport Transportation Planning Update (Tucson, AZ)
- 11) Leman Academy Crosswalk Study (Oro Valley, AZ)
- 12) La Cañada and Moore Road – Intersection Improvements (Oro Valley, AZ)
- 13) Houghton Road, Valencia Road to Mary Ann Cleveland Way – Evaluation of Projected Traffic Conditions at Rita Road/Rita Ranch Road (Tucson, AZ)
- 14) Arcadia and Timrod Bike Boulevards (Tucson, AZ)
- 15) Earvin “Magic” Johnson Park Master Plan – Traffic Evaluation (Los Angeles, CA)
- 16) Intersection Improvements at Five Points – Traffic Analysis (Coronado, CA)
- 17) Rio Antigua Apartments – Traffic Analysis for Gated Access (Pima County, AZ)

TRAFFIC DESIGNER/GRADUATE ENGINEER | SAIN ASSOCIATES | 6/16 – 10/17

- 1) Proposed Love's Travel Stop and Country Store Traffic Impact Assessment (Lowndes County, AL)
- 2) Bus Rapid Transit Analysis (Birmingham, AL)
- 3) Horizontal Curve Safety Improvement Program Services (ALDOT North Region, Alabama)
- 4) Pavement Striping, Markings, and Signing Evaluation - 17th Street S between 10th Avenue S and 11th Avenue S (Birmingham, AL)
- 5) Shelby County Bicycle and Pedestrian Plan (Shelby County, Alabama)
- 6) CR-47 and CR-39 Intersection Realignment Study (Shelby County, AL)
- 7) Mountain Brook Sidewalks Study (Mountain Brook, AL)
- 8) I-440/I-65 VISSIM Modeling (Davidson County – Nashville, TN)
- 9) US-431 Corridor Traffic and Access Management Study (Guntersville, Albertville, and Boaz - Marshall County, AL)
- 10) ALDOT Statewide Wrong-Way Interchange Assessment (ALDOT)

POST DOCTORAL ENGINEER | THE UNIVERSITY OF ALABAMA | 6/15 – 6/16

- 1) State of Alabama Strategic Highway Safety Plan (SHSP) (ALDOT)
- 2) Socio-Demographic Characteristics and Culture as Factors in Differential Safety Performance across Geography (University Transportation Center – University of Tennessee)

GRADUATE RESEARCH ASSISTANT | AUBURN UNIVERSITY | 5/10 – 5/15

- 1) A Study of the Effects of Pavement Widening, Rumble Strips, and Rumble Stripes on Rural Highways in Alabama (ALDOT)
- 2) Pavement Marking Specifications Compliance and Modeling of Retroreflectivity Performance in Alabama (ALDOT)

Skills & Abilities

SOFTWARE/METHODS

- Highway Safety Manual (HSM)
- Vissim, Vistro
- Synchro
- Geographic Information Systems (GIS)
- Highway Capacity Software (HCS)
- SAS, SPSS, R
- MicroStation

LANGUAGES

- English: Full professional proficiency
- Spanish: Limited working proficiency
- Portuguese: Native proficiency
- French: Elementary proficiency

LEADERSHIP

- **Transportation Safety Council Executive Committee (10/18 to Current)**
 - Institute of Transportation Engineers (SAITE)
- **Secretary/Treasurer (09/18 to Current)**
 - Southern Arizona Institute of Transportation Engineers (SAITE)
- **Member (01/2010 to Current)**
 - Institute of Transportation Engineers (ITE)
- **Chair (01/2017 to 10/2017)**
 - Service Projects Committee at the Alabama Section of the Institute of Transportation Engineers (ALSITE)
- **Member (01/2017 to 10/2017)**
 - Leadership Committee at the Southern District of the Institute of Transportation Engineers (SDITE)
- **President (01/2014 to 12/2014)**
 - Auburn University Institute of Transportation Engineers Student Chapter (AUIITE) - Auburn, AL.
 - Vice President of AUIITE in 2013.
- **Founder and Vice President (05/2014 to 05/2015)**
 - Auburn University Brazilian Student Association (BSA) - Auburn, AL.

Relevant Courses

TRANSPORTATION ENGINEERING

- Traffic Engineering Analysis
- Highway Geometrics
- Airport Engineering
- Transportation Design Project
- Intelligent Transportation Systems
- Pavement Design and Construction
- Traffic Microsimulation Modeling
- Transportation Planning
- Transit Planning and Operations

STATISTICS

- Experimental Statistics I
- Experimental Statistics II
- Regression Analysis
- SAS Programming and Applications

PLANNING

- History and Theory of Urban Form
- Geographic Information Systems
- Seminar in Transportation and Mobility

Relevant Publications and Presentations

- **Ozelim, L. and Turochy, R. (2014).** "Modeling Retroreflectivity Performance of Thermoplastic Pavement Markings in Alabama." J. Transp. Eng., 140(6), 05014001.
- **Ozelim, L. and Turochy, R. (2016).** "Safety Effectiveness of Pavement Widening, Rumble Strips, and Rumble Stripes on Rural Highways in Alabama." Accepted for presentation in the 95th Transportation Research Board Annual Meeting, January 10-14, 2016.
- **Ozelim, L., Zephaniah, S., Adanu, E., Smith, R. and Jones, S. (2016).** "Factors in Differential Safety Performance Across Different Income Levels." 17th Road Safety on Five Continents (RS5C) Conference, May 17-19, 2016.
- **Zephaniah, S., Ozelim, L., Adanu, E., Jones, S. and Smith, R. (2016).** "Using Geographic Information Systems to Map the Relationship Between Socio-Demographic Characteristics and Crash Severities in Alabama." Accepted for presentation in the 95th Transportation Research Board Annual Meeting, January 10-14, 2016.