As of 2/04/2016

1. CURRICULUM VITAE

1.1 Biographical Information

Min-Wook Kang, Ph.D., P.E.
Assistant Professor of Transportation Engineering
Department of Civil Engineering, University of South Alabama, Mobile, AL 36688
Office: (251) 460–7295; Email: mwkang@southalabama.edu; Website: http://southce.org/mwkang

1.2 Specialties & Research Areas of Interest

- Artificial Intelligent (AI)-based optimization for
  - Highway/rail transit line location and alignment planning and design
  - Cost-effective & sustainable highway planning, design and evaluation
- Simulation-based traffic safety and operation of highways and intersections
- Human factor research: driver's distraction and fatigued driving
- Test and evaluate various traffic control strategies (e.g., work zone and ramp metering)
- Microscopic simulation-based traffic safety, operation and congestion management
  - Surrogate crash assessment;
  - Intersection delay and queuing analysis; signal optimization, and signal timing coordination
- Other safety-related research
  - Highway safety analysis using Highway Safety Manual (HSM)
  - Accident analysis and prediction (modeling) – statistical approach
  - Speed safety: safety impacts of low-speed and aggressive driving
  - Prioritizing road safety improvement countermeasures
  - Access management and traffic calming study – low-cost countermeasure
  - Evaluating design consistency of existing and planned highways
- Hurricane/emergency evacuation: simulation, route selection, and optimization
- Application of GIS in transportation problems
- Transportation system improvements: traffic efficiency, safety, and economic impact

1.3 Education

Ph.D.	Civil & Environmental Engineering	Univ. of Maryland, MD	2003–2008
M.S.	Civil & Environmental Engineering	Univ. of Maryland, MD	2003–2007
M.S.	Transportation System Engineering	Hanyang Univ., South Korea	2001–2003
B.S.	Transportation System Engineering	Hanyang Univ., South Korea	1994–2001

1.4 Appointments & Practices

Assistant Professor, University of South Alabama	2012–Pre
Research Associate/Adjunct Professor, Morgan State University	2009–2011
Senior Research Scientist, ATRC, Inc.	2008–2009
Transportation Engineer, Brudis & Associates Inc. (BAI)	2008–2009
Graduate Research Assistant, National Center for Smart Growth Research & Edu.	2007–2008
Research Assistant, Korea Transport Institute, South Korea	Sum 2003
Graduate Research Assistant, University of Maryland, College Park, MD	2003–2007
Graduate Research Assistant, Hanyang University, South Korea	2001–2003
Undergrad. Research Assistant, Hanyang University, South Korea	2000–2001
Active Duty, Korea Air Force, South Korea	1995-1998

1.5 Professional Designation, Certification, and Licenses

Professional Engineer (P.E.), No. 37343, Maryland	2011–Pre

1.6 Teaching Experience

At USA

- CE 102: Intro. to Civil Engineering: SP/Fall 2012; SP/Fall 2013; SP/Fall 2014; SP/Fall 2015
- CE 352: Transportation Engineering: SP 2014; Fall 2015
- CE 452: Transportation Geometric Design: SP 2013
- CE 490: Special Topic – Highway Safety: SP 2012; Fall 2013
- CE 490: Special Topic – Traffic Engineering: Fall 2012; Fall 2014
- CE 551: Traffic Engineering: Fall 2012; Fall 2014
- CE 552: Highway Geometric Design: SP 2013; SP 2015
- CE 592: Directed Independent Study (Simulation-based Traffic Analysis; Highway Safety/Design) : SP 2013; SP/Sum 2014; Sum 2015
- CE 599: Thesis: Sum/Fall 2014
- EG 501: Research Integrity & Seminar: Fall 2013

Before Arriving at USA

- CEGR 670: Highway Safety: Fall 2011
- CEGR 656: Transportation Models and Simulation Analysis: SP 2011
- CEGR 467: Civil Engineering Systems and Optimization: SP 2011
- CEGR 697: Geographic Information System for Transportation: Fall 2010
- CEGR 651: Computer Aided Highway Engineering Design: SP 2010

1.7 Research Activity Summary

- Published/accepted 17 refereed journal articles (7 while at USA; 10 before USA)
- Published 12 refereed conference proceedings (5 while at USA; 7 before USA)
- Published 4 refereed book chapters (2 while at USA; 2 before USA)
- Published 16 technical reports (2 while at USA; 14 before USA)
- Delivered 38 technical presentations (17 while at USA; 21 before USA)
- Submitted/prepared 31 research proposals as a PI or CoPI (19 while at USA; 12 before USA)
- Total amount of funding received while at USA: $339,803
- Total amount of funding in pending status:$189,138
- Total amount of funding received before arriving at USA: $45,000
- Reviewed 31 referred journal articles as an invited reviewer (25 while at USA; 6 before USA)
- Supervised and advised 8 graduate students (5 while at USA; 3 before USA)
- Served as a MS/Ph.D thesis/comprehensive exam committee chair/member of 11 grad students (8 while at USA; 3 before USA)
- Supervised and advised 9 undergraduate researchers (7 while at USA; 2 before USA)
- Established Transportation Safety, Simulation, & Optimization (TSSO) Lab at USA CE Dept.
- Has brought a state-of-the-art driving simulator system at the TSSO Lab
- Has been actively collaborating with other researchers (9 external and 3 internal)
- Member of various professional organizations, including ASCE, TRB, ALSITE, and GRITS

1.8 Professional Activities

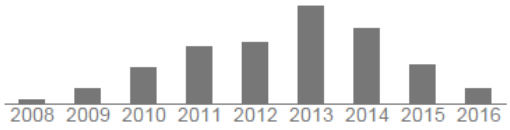
• Invited reviewer of *Transportation Research – Part C, Elsevier*	2013–Pre
• Invited reviewer of *ASCE – Journal of Transportation Engineering*	2012–Pre
• Invited reviewer of *Journal of Advanced Transportation*	2015–Pre
• Invited reviewer of *Journal of Transportation Research Board (TRB)*	2009–Pre
• Invited reviewer of *Canadian Journal of Civil Engineering*	2014–Pre
• Invited reviewer of *KSCE – Journal of Civil Engineering*	2012–Pre
• Organized World Scientific and Engineering Academy and Society (WSEAS) Series of International Conferences at Baltimore, Maryland.	2009; 2013
• Provided a training workshop for Office of Planning & Preliminary Eng., Maryland State Highway Admin.: Topic: *Highway Alignment Optimization Method*	2007

1.9 Participation in Professional Organizations

- Member, Gulf Region Intelligent Transportation Society (GRITS) 2013–Pre
- Member, National Society of Professional Engineers (NSPE) 2011–Pre
- Member, American Society of Civil Engineers (ASCE) 2008–Pre
- Member, Transportation Research Board (TRB) of National Academy of Sciences 2003–Pre
- Member, Korean-American Scientists and Engineers Association (KSEA) 2003–Pre
- Member, Korean Transportation Association in America (KOTAA) 2003–Pre

1.10 Journal Citations (as of Feb. 4th, 2016 from Google Citations)

Citation indices	All	Since 2011
Citations	191	159
h-index	7	7
i10-index	6	6



1.11 Special Awards and Honors

At South Alabama

- Travel Grant for NSF workshop for Transp. Eng. Educators Conference. Seattle, WA. Summer 2012.
- Daniel Corliss (supervised by Dr. Kang) was selected as a finalist of the 2013 UCUR Symposium, representing the USA College of Engineering

Before Arriving at USA

- Travel Grants for TRB Annual Meetings of National Academy of Sciences, Korean Transportation Association in America (KOTAA). January 2005, 2007, 2008 (3 times).
- NRF (National Research Foundation of Korea) Graduate Student Fellowship, 2003 – 2005
- 2nd Place, Poster Competition, 83th TRB Annual Meeting, 2004
- Graduate Student Scholarship, Hanyang University, 2001 – 2003 (4 times)
- Undergraduate Students Scholarship, Hanyang University, 1994 – 1995; 1998 – 2000 (7 times)

1.12 Synergistic Activities

- Student mentor of UCUR Program at University of South Alabama. 2013–Pre
- Invited speaker at ALSITE 2015 Summer Meeting, Gulf Shores, AL 2015
- Mobile Regional Science and Engineering Fair. Volunteer judge. 2014, 2015
- Designed and offered a highway safety education program for local K-12 students (*Risk of Texting While Driving and Drowsy Driving*) 2014
- Invited speaker at ASCE Mobile Branch Meeting 2012
- Invited speaker at Univ. of Virginia – Civil Engineering Graduate Seminar Series 2011
- Served as the secretary of KOTAA 2006–2008

1.13 Collaborators (in past 36 months)

- Jeff Lamondia (Auburn);
- Mike Anderson (UAH);
- Li Zhang (Mississippi State)
- Paul Schonfeld (Univ. of Maryland)
- Sabya Mishra (Univ. of Memphis)
- Andrew Whelton (Perdue)
- Eungcheol Kim (Incheon National Univ., Korea)
- Ramesh Buddharaju (MVGR College of Eng, India)
- Samantha Islam (USA)
- Sytske Kimball (USA)

- Ning Yang (Parsons)
- Samuel Russ (USA)

2. RESEARCH PROJECTS (FUNDED/ PENDING)

2.1 Funded

- *Development of a Roadway Congestion/Safety Improvement Tool based on the Surrogate Safety Assessment Model (SSAM)*; Sponsored by Alabama Department of Transportation (ALDOT)/FHWA; PI: Lamondia @ Auburn, Co-PI: Kang, Co-PI: Anderson @ UAH; Total Amount Fund: $294,890 (Dr. Kang's share: $97,711); Aug., 2015 – Aug., 2017
  Note: additional matching (up to $18,400 for tuition support of a graduate student) from the Graduate School of University of South Alabama.
- *A Safety Study of Alabama Highways – Reducing Crashes Caused by Drowsy Driving: Focusing on Drowsy Driving Warning Signs & Roadside Rest Area Signs*; Sponsored by Alabama Department of Transportation (ALDOT)/FHWA, PI: Kang; Total Amount Fund: $208,798; April. 2013 – July 2015; Note: additional matching ($8,006) from USA Civil Engineering Department.
- *Assessing USA Campus Parking Management*; Sponsored by University Council of Undergraduate Research (UCUR) – University of South Alabama; Team: Kang (Mentor) and Caldwell (Undergrad Student Researcher); $2,000; April, 2014 - June, 2014.
- Assessing Traffic Delay and Pedestrian Safety Risk of USA Main Campus; Sponsored by University Council of Undergraduate Research (UCUR) – University of South Alabama; Team: Kang (Mentor) and Noland (Undergrad Student Researcher); $2,388; April, 2014 – May, 2014.
- Feasibility of Roundabout Implementation at the Intersection of USA Drive N. and Health Services Drive, Using Microscopic Traffic Simulation Approaches; Sponsored by University Council of Undergraduate Research (UCUR) – University of South Alabama; Team: Kang (Mentor) and Corliss (Undergrad Student Researcher); $2,500; April, 2013 - Oct 2013.
- *Alternative Alignments Development and Evaluation for the US 220*; Sponsored by the State Highway Administration (SHA) of Maryland DOT, PI: Kang; Co-PI: Schonfeld @ UMD; Co-PI: Jha; Total Amount Fund: $45,000; Oct. 2010 – April 2011

2.2 Pending

- Dilemma Zone Protection (DZP) Systems for Rural High-Speed, High Risk Signalized Intersections in Alabama: Optimizing DZP Boundaries and System Assessment; Sponsored by Alabama Department of Transportation (ALDOT) and Federal Highway Administration (FHWA); PI: Kang; Total Funding Requested: $189,138; Feb. 1, 2016 – Feb. 30, 2018.
- Situational Awareness for Structural Health Monitoring; Sponsored by NextFlex, PI: Pradeep Lall @ Auburn, Co-PI: Russ, Kang, Cleary, and Islam @ USA.

3. PUBLICATIONS

3.1 Referred Journal Articles (18)

1. Momtaz, S. and **Kang**, M.-W. (under review), Effects of Auditory Warning Signals on Driver Compliance to Roadside Safety Signs - A Driving Simulator Study, *Accident Analysis & Prevention*.
2. **Kang**, M.-W., Momtaz, S., and Barnett, T. (2015), Crash Analysis and Public Survey for Drowsy Driving Advisory Systems, *Journal of Transportation Engineering – ASCE*., Vol. 141, Issue 9.
3. Kim, E., Jha, M.K., and **Kang**, M.-W. (2015). A Sensitivity Analysis of Critical Genetic Algorithm Parameters: Highway Alignment Optimization Case Study, *International Journal of Operations Research and Information Systems.* Vol. 6, Issue 1, pp. 30-48.
4. Mishra, S., **Kang**, M.-W., and Jha, M.K. (2014). An Empirical Model with Environmental Considerations in Highway Alignment Optimization, *Journal of Infrastructure Systems – ASCE*, Vol.

20, No. 4, pp. 1-12.

5. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. (2014) Multi-objective Highway Alignment Optimization Incorporating Preference Information, *Transportation Research Part C – Emerging Technology*, Vol. 40, March 2014, pp. 36-48.
6. **Kang**, M.-W., Jha, M.K., and Buddharaju, R. (2014), A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland, *Journal of Transportation Engineering – ASCE*, Vol. 140, No. 1, pp. 1-11.
7. **Kang**, M.-W. and Jha, M.K. (2013), New Highway Geometric Design Methods for Minimizing Vehicular Fuel Consumption and Improving Safety, *Transportation Research Part C – Emerging Technology*, Vol. 31, June 2013, pp. 99-111.
8. **Kang,** M.-W., Jha, M.K., and Schonfeld, P. (2012), Applicability of Highway Alignment Optimization Models, *Transportation Research Part C – Emerging Technology*, Vol. 21, Issue 1, pp. 257-286.
9. **Kang**, M.-W., Jha, M.K., and Hwang, D. (2011), A GIS-Based Simulation Model for Military Path Planning of Unmanned Ground Robots, *International Journal of Safety and Security Engineering*, Vol. 1, No. 3, pp. 248-264.
10. **Kang,** M.-W., Yang, N., Schonfeld, P., and Jha, M.K. (2010), Bilevel Highway Route Optimization, *Transportation Research Record: Journal of the Transportation Research Board, No. 2197*, Transportation Research Board of National Academy of Sciences, Washington, D.C., pp.107-117.
11. **Kang,** M.-W., Schonfeld, P., and Yang, N. (2009), Prescreening and Repairing in a Genetic Algorithm for Highway Alignment Optimization, *Computer-Aided Civil and Infrastructure Engineering,* Vol. 24, No. 2, pp. 109-119.
12. Jha, M.K. and **Kang,** M.-W. (2009), GIS-Based Model for Highway Noise Analysis, *Journal of Infrastructure Systems-ASCE*, Vol. 15, No. 2, pp. 88-94.
13. Yang, N., Schonfeld, P., and Kang, M.-W. (2009), A Hybrid Methodology for Freeway Work Zone Optimization with Time Constraints, *Public Works Management & Policy*, Vol. 13, No. 3, pp. 253-264.
14. **Kang,** M.-W., Schonfeld, P., and Jong, J.-C. (2007), Highway Alignment Optimization through Feasible Gates, *Journal of Advanced Transportation,* Vol. 41, No. 2, pp. 115-144.
15. Jha**,** M.K., Davis, C., and **Kang,** M.-W. (2007), State-of-the-art Intelligent Road Design Model with Genetic Algorithms, Geographic Information Systems, and CADD, *Advances in Transportation Studies-An International Journal, Section A*, Issue 13, pp. 41-52.
16. **Kang**, M.-W., Son, B., and Doh, T.W. (2003), Development of A Dividing Method and Accident Estimation Models for Highway Horizontal Curve Sections Based on Geometric Characteristics*, Journal of Eastern Asia Society for Transportation Studies*, Vol. 5, pp. 2695-2707.
17. **Kang**, M.-W., Son, B., and Doh, T.W. (2002), Development of Accident Prediction Models Based on Roadway Geometric Characteristics at Freeway Curve Sections, *Journal of The Korean Society of Civil Engineers*, Vol. 22, No. 6-D, pp.1077-1088.
18. **Kang**, M.-W., Doh, T.W., and Son, B. (2002), Fitting Distribution of Accident Frequency of Freeway Horizontal Curve Section & Development of Negative Binomial Regression Model, *Journal of Korean Society of Transportation*, Vol. 20, No. 7, pp. 197-204.

3.2 Referred Conference Proceedings (12)

1. Momtaz, S., Kang, M.-W., and Eluru, N. (accepted). Modeling Driver Behavior: Towards Effective Usage of Roadside Rest Areas to Prevent Fatigued and Drowsy Driving, In *Proceedings of International Conference on Sustainable Design, Engineering and Construction - ICSDEC 2016*, May 18-20, Tempe, Arizona.
2. Mishra, S., **Kang**, M.-W., and Jha, M.K. (2014), A Tri-Level Model with Environmental Considerations in Highway Alignment Optimization, In *Proceedings of 93rd Annual Meeting of*

Transportation Research Board of National Academy of Sciences, Paper No. 14-0376 on CD-ROM.

3. Jha, M.K., **Kang**, M.-W., Mishra, S., Samanta, S., and Lyons, N. (2014), Urban Rail Transit Planning and Design: Discussion of Practical Issues and Analytical Modeling Techniques, In *Proceedings of 93rd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 14-5309 on CD-ROM.
4. Buddharaju, R., Jha, M.K., **Kang,** M.-W., Mishra, S., and Ponnada, M. (2013), Predicting Road Accidents and Prioritizing Road Safety Improvement Measures in India Using Adapted Traffic Conflict Techniques, In *Proceedings of 92nd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 13-5157 on CD-ROM.
5. **Kang,** M.-W., Jha, M.K., and R. Buddharaju. (2012), A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland, In *Proceedings of 91st Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 12-2060 on CD-ROM.
6. **Kang**, M.-W., Wang, S., Jha, M.K., Chen, C.-C., and Schonfeld, P. (2011), A Simulation Framework for the Path Planning of Unmanned Autonomous Systems, In *Proceedings of Vulnerability, Uncertainty, and Risk: Analysis, Modeling, and Management,* B. Ayyub (ed.), ISBN: 9780784411704, pp. 129-137.
7. **Kang,** M.-W., Yang, N., Schonfeld, P. and Jha, M.K. (2010) Bi-Level Highway Route Optimization, In *Proceedings of 89th Annual Meeting of T Transportation Research Board of National Academy of Sciences*, Paper No. 10-1330 on CD-ROM.
8. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. (2010) Multiple Objective Optimization of Highway Alignments Incorporating Preference Information, In *Proceedings of 89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 10-1128 on CD-ROM
9. Burnier, C., Clifton, K.J., Huang, S., **Kang**, M.-W., and Schneider, R. (2008) A Meso-Scale Model of Pedestrian Demand, In *Proceedings of ACSP-AESOP 4th Joint Congress*
10. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. (2006) Three-Dimensional Highway Alignment Optimization for Brookeville Bypass, In *Proceedings of 85th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 06-1023 on CD-ROM
11. **Kang,** M.-W., Kim, T., and Doh, T.W. (2005) A New Methodology to Determine Length of Highway Horizontal Curve Sections for Accident Estimation Model, In *Proceedings of 84th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 05-2691 on CD-ROM
12. **Kang**, M.-W. and Doh, T.W. (2001) Optimization Strategy with External Metering on Urban Network: a Simulation Study, In *Proceedings of 50th Korean Society of Civil Engineers Annual Conference*, pp. 131-134.

3.3 Referred Book Chapters (4)

1. Corliss, D. and **Kang,** M.-W. (2013) Roundabout Feasibility for Improving a University Campus Intersection, Using Microscopic Traffic Simulation Approaches, In *Recent Researches in Urban Sustainability, Architecture and Structures, O.* Owolabi and M. Jha (ed.), ISBN: 978-960-474-331-5, pp. 58-65, WSEAS Press.
2. Jha, M.K., Djiki, B., **Kang**, M.-W., and Kim, E. (2013), Cost-Benefit Analysis in Applying Design Flexibility and Context Sensitive Solutions: A Case Study of Alternative Alignment of MD 43 Extension, in *Highways: Construction, Management, and Maintenance,* Samantha R. Jones (ed.), ISBN: 978-1-61728-862-3, pp. 133-147, Nova Science Publishers, Inc.
3. **Kang**, M.-W., Jha, M.K. and Karri, G. (2010) Determination of Robot Drop Locations for Military Path Planning Using GIS Application, In *Recent Advances in Computer Engineering and Applications,* S. Lagakos, L. Perlovsky, M. Jha, B. Covaci, A. Zaharim, N. Mastorakis (eds.), ISBN: 978-960-474-151-9, pp. 194-200, WSEAS Press.

4. Jha, M.K., Karri, G., and **Kang**, M.-W. (2010), A Military Path Planning Algorithm Using Visualization and Dynamic GIS, In *Recent Advances in Computer Engineering and Applications,* S. Lagakos, L. Perlovsky, M. Jha, B. Covaci, A. Zaharim, N. Mastorakis (eds.), ISBN: 978-960-474-151-9, pp. 188-193, WSEAS Press.

3.4 Other Technical Reports (16)

1. **Kang**, M.-W. and Momtaz, S. (2016). *A Safety Study of Alabama Highways – Reducing Crashes Caused by Drowsy Driving: Focusing on Drowsy Driving Warning Signs & Roadside Rest Area Signs*. Final Report prepared for Alabama Department of Transportation, Research Project No: 930-856R, University of South Alabama
2. Corliss, D. and **Kang,** M.-W. (2013), *Feasibility of Roundabout Implementation at the Intersection of USA Drive N and Health Service Drive, Using Analytical and Microscopic Traffic Simulation Approaches*, USA UCUR Summer Undergraduate Research Program. Mobile, AL.
3. **Kang**, M.-W., Jha, M.K. and Schonfeld, P. *Alternative Alignments Development and Evaluation for the US 220 Project in Maryland*. Final Report for Maryland State Highway Administration, MD-11-SP009B49, Maryland Department of Transportation, June 2011.
4. **Kang**, M.-W., Jha, M.K., and Hwang, D., *A GIS-Based Simulation Model for Positioning & Routing Unmanned Ground Vehicles*, Part I – Phase II Final Report of Software-Simulated Test and Evaluation of Military Missions Using Positioning and Routing Algorithms, Submitted to Test & Evaluation/Science and Technology (T&E/S&T), Test resource Management Center (TRMC), US. Department of Defense, June 2010.
5. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K. A *MultiObjective Bilevel Approach to Highway Alignment Optimization*. Phase-IB Final Report for U.S. National Science Foundation (NSF) STTR Program, NSF-STTR-074098, July 2009.
6. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K*. A MultiObjective Bilevel Approach to Highway Alignment Optimization*. Phase-I Final Report for U.S. National Science Foundation (NSF) STTR Program, NSF-STTR-074098, January 2009.
7. Giering, G., Xiao, Q., **Kang**, M.-W., and Warren, D. *Engineering Countermeasures for Reducing Speeds*: *A Desktop Reference of Potential Effectiveness*, Prepared for FHWA Office of Safety, May 2009. Available on-line at http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count
8. **Kang**, M.-W. *An Alignment Optimization Model for A Simple Highway Network*. Ph.D. Dissertation, University of Maryland, College Park, May 2008
9. Giering, G. and **Kang**, M.-W. *Feasibility Study for Widening of MD State Highway 272*. Final Report for Maryland State Highway Administration, Maryland Department of Transportation (MDOT), 2008.
10. Clifton, K.J., Burnier, C., Huang, S., **Kang**, M.-W., and Schneider, R. *Pedestrian Demand Model and Crash Analysis Protocol*, Prepared for Office of Traffic and Safety, Maryland State Highway Administration, Maryland Department of Transportation, June 2008.
11. Clifton, K.J., Burnier, C., Huang, S., **Kang**, M.-W., and Schneider, R. *Pedestrian Demand Model for Evaluating Pedestrian Risk Exposure*. Final Report for Office of Traffic and Safety, Maryland State Highway Administration, Maryland Department of Transportation, June 2008.
12. **Kang**, M.-W., Schonfeld, P., Jha, M.K., and Karri, G. *Improved Alignment Optimization and Evaluation*, Final Report for Maryland State Highway Administration, MD-07-SP608B4P, Maryland Department of Transportation, June 2007.
13. **Kang**, M.-W. and Schonfeld, P. *Analysis of Towboat Operating Areas*, Final Report for the Institute for Water Resources (IWR), IWR Report 06-NETS-R-04, US Army Corps of Engineers, *Navigation Economic Technologies (NETS) News*, Vol. II, Issue 3, March 2006.

    Available at http://www.corpsnets.us/docs/TowboatOper/06-NETS-R-04.pdf
14. **Kang**, M.-W. and P. Schonfeld, *Prescreening and Repairing in Highway Alignment Optimization*,

TSC Report 2006-23, University of Maryland, College Park, August 2006.

15. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. *3D Highway Alignment Optimization for Brookeville Bypass*. Final Report for Maryland State Highway Administration, MD-04-XXX, Maryland Department of Transportation, November 2004.
16. **Kang**, M.-W. *Development of Accident Prediction Models Based on Roadway Geometric Characteristics at Freeway Curve Sections*. Master's Thesis, Hanyang University, Korea (South), February 2003.

3.5 Conference and Podium Presentations (38)

1. **Kang**, M.-W. Crash Analysis and Public Survey for Drowsy Driving Advisory System Development, Joint Alabama Section Institute of Transportation Engineers (ALSITE)-DSITE 2015 Annual Meeting, Gulf Shores, AL, June 3-5, 2015
2. Lamondia, J., **Kang**, M.-W., and Anderson, M. Safety Improvement Program: Using the Surrogate Safety Assessment Model (SSAM) to Identify Impacts of Traffic-Promoting Roadway Characteristics on Crash Occurrence, *Research Meeting with ALDOT Maintenance Bureau*, Montgomery, AL, Oct. 2014. [platform]
3. **Kang**, M.-W. Assessing Safety and Operational Aspects of Interstate Highway Guide Signs, *Research Meeting with ALDOT Maintenance Bureau*, Montgomery, AL, March 2014. [platform]
4. Mishra, S., **Kang**, M.-W., and Jha, M.K. "A Tri-Level Model with Environmental Considerations in Highway Alignment Optimization," *93th Annual Meeting of Transportation Research Board of the National Academy of Sciences*, Washington DC, January 2014. [poster]
5. Jha, M.K., **Kang**, M.-W., Mishra, S., Samanta, S., and Lyons, N. "Urban Rail Transit Planning and Design: Discussion of Practical Issues and Analytical Modeling Techniques," *93th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2014. [poster]
6. Corliss, D. and **Kang,** M.-W. Roundabout Feasibility for Improving a University Campus Intersection, Using Microscopic Traffic Simulation Approaches, *2nd International Conference on Sustainable Cities, Urban Sustainability and Transportation* (SCUST '13), Baltimore MD, September 2013. [platform]
7. **Kang**, M.-W. Reducing Crashes Caused by Drowsy & Fatigued Driving, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, April 2013. [platform]
8. **Kang**, M.-W. Introducing Transportation Engineering Research at University of South Alabama. *ALDOT / ADEM Meetin*g. Mobile, AL, January 2013. [platform]
9. Raju, R., Jha, M.K., **Kang**, M.-W., and Mishra, S. "Predicting Road Accidents and Prioritizing Road Safety Improvement Measures in India Using Adapted Traffic Conflict Techniques," *92th Annual Meeting of Transportation Research Board of the National Academy of Sciences*, Washington DC, January 2013. [poster]
10. **Kang**, M.-W. Finding Minimum-Cost Alignments of Existing/Planned Highways in Alabama, using HAO Model, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, October 2012. [platform]
11. **Kang**, M.-W. Alabama Hurricane Evacuation Route Development: An Optimization Approach, *Research Meeting with ALDOT Transportation Planning Bureau*, Montgomery, AL, September 2012. [platform]
12. **Kang**, M.-W. Discussion to Improve Traffic Operation and Safety of Airport Blvd, *Research Meeting with City of Mobile Traffic Engineering Office*, Mobile, AL, September 2012. [platform]
13. **Kang,** M.-W., Schonfeld, P., and Jha, M.K. A Simulation Model for Energy Efficient and Safe Train Operation for Rail Transit Lines, *Research meeting with Maryland Transit Authority (MTA) Red Line Team*, Baltimore, MD, September 2012. [platform]

14. **Kang**, M.-W. Customizing HSM Predictive Models for AL Highways, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, July 2012. [platform]
15. **Kang**, M.-W. Optimizing Cost-effective & Sustainable Highways, *ALDOT Research Meeting*. Mobile, AL. June 2012. [platform]
16. **Kang**, M.-W. Bi-Level Highway Route Optimization, *ASCE – Mobile Branch Meeting*. Mobile, AL. May 2012. [platform]
17. **Kang,** M.-W., Jha, M.K., and R. Buddharaju. "A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland," *91th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2012. [poster]
18. **Kang**, M.-W. Genetic Algorithm-based Cost-effective Highway Alignment Optimization, *Invited talk at the University of Virginia – Civil and Environmental Engineering Seminar Series*. Charlottesville, VA. April 2011. [platform]
19. **Kang**, M.-W., Wang, S., Jha, M.K., Chen, C.-C., and Schonfeld, P. "A Simulation Framework for the Path Planning of Unmanned Autonomous Systems," *ASCE - International Conference on Vulnerability and Risk Analysis and Management* (ICVRAM)/*Fifth International Symposium on Uncertainty Modeling and Analysis* (ISUMA-2011), Hyattsville, MD, April 2011. [platform]
20. **Kang**, M.-W. and Shariat, S. Highway Vertical Alignment Optimization based on Fuel Efficiency, Safety and Earthwork, *Morgan Innovation Day*, Annapolis MD. February 2011. [poster]
21. **Kang**, M.-W., Jha, MK, and Raju, R. A Bi-Level Multi-Objective Optimization Model for Sustainable Green Highway Infrastructure Design, *Morgan Innovation Day*, Annapolis MD. February 2011. [poster]
22. **Kang**, M.-W., Jha, M.K., Buddharaju, R., and Hunter, J. "An Equilibrium Traffic Assignment Model for Minimizing Pollutions Derived from the Vehicular Traffic on Road Infrastructures." *International Symposium on Advances in Transport Sustainability* (ISATS2010), Arizona State University, Tempe Campus, Nov. 17-19, 2010. [platform]
23. **Kang**, M.-W., Jha, M.K., and Karri, G. "Determination of Robot Drop Locations for Military Path Planning Using GIS Application." *4th WSEAS International Conference on Computer Engineering and Applications* (CEA '10), Harvard University, Cambridge, Jan. 2010. [platform]
24. Jha, M.K., Karri, G., and **Kang**, M.-W. "A Military Path Planning Algorithm Using Visualization and Dynamic GIS." *4th WSEAS International Conference on Computer Engineering and Applications* (CEA '10), Harvard University, Cambridge, Jan. 2010. [platform]
25. **Kang,** M.-W., Yang, N., Schonfeld, P., and Jha, M.K. "Bi-Level Highway Route Optimization." *89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, January 2010, Washington DC. [platform] [poster]
26. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. "Multiple Objective Optimization of Highway Alignments Incorporating Preference Information." *89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, January 2010, Washington DC. [platform]
27. **Kang**, M.-W. Multi-objective Bi-Level Highway Alignment Optimization, *Invited talk at the Korea Transportation Institute*. Seoul, Korea. March 2009. [platform]
28. Burnier, C., Clifton, K.J., Huang, S., **Kang**, M.-W., and Schneider, R. "A Meso-Scale Model of Pedestrian Demand." *ACSP-AESOP 4th Joint Congress*, in Chicago, Illinois, 2008 [platform]
29. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Optimizing Highway Alignments with Genetic Algorithms and GIS." *Research Meeting with Pennsylvania Department of Transportation*, Harrisburg PA, November, 2008. [platform]
30. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Highway Alignment Optimization with Genetic Algorithms and GIS." *Research Meeting with Virginia Department of Transportation*, Richmond VA, October, 2008. [platform]

31. Karri, G., Jha, M.K., **Kang**, M.-W., and Schonfeld, P. “Application of GIS in Highway Alignment Optimization.” *TUgis07: 20th Annual Geographic Information Science Conference*, Towson, MD, March 2007. [platform]
32. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. “Improved Alignment Evaluation and Optimization Model,” *Intermediate Research Meeting with Maryland State Highway Administration*, Baltimore MD, June, 2006. [platform]
33. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. “Improved Alignment Evaluation and Optimization Model,” *Interim Research Meeting with Maryland State Highway Administration*, Baltimore MD, March, 2006. [platform]
34. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. “3D Highway Alignment Optimization for Brookeville Bypass.” *85th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC. January 2006. [poster]
35. Schonfeld, P. and **Kang**, M.-W. “Innovative Highway Alignment Optimization Methods,” *Research Meeting with FHWA-Turner Fairbank*, McLean, VA, 2005. [platform]
36. **Kang**, M.-W., Kim, T., and Doh, T.W. “A New Methodology to Determine Length of Highway Horizontal Curve Sections for Accident Estimation Model.” *84th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC. January 2005. [poster]
37. **Kang**, M.-W., Son, B., and Doh, T.W. “Development of A Dividing Method and Accident Estimation Models for *Society for Transportation Studies Conference*, Fukuoka Japan. November 2003. [platform] Highway Horizontal Curve Sections Based on Geometric Characteristics.” *5th Eastern Asia*
38. **Kang**, M.-W. and Doh, T.W. “Optimization Strategy with External Metering on Urban Network: a Simulation Study.” *50th Korean Society of Civil Engineers Annual Conference*, Seoul Korea. 2001. [platform]

4. SUPERVISION OF STUDENT RESEARCH

4.1 Graduate Students

- Master's Thesis Committee Chair, "Balancing traffic performance and safety when investing corridor improvement projects – microscopic simulation approach," Civil. (January 2, 2016 – TBD). Advised: **Muqtasid Mahbub**
- Master's Thesis Committee Chair, "Effectiveness of Audible Pavement Treatments on Drivers’ Compliance to Roadside Safety Signs – A Driving Simulator Study," Civil. (January 2, 2014 – July 11, 2015). Advised: **Salah Momtaz**
- Master’s Degree Supervisory Committee Chair (for Course Work-Only Student), Advising, Comprehensive Exam Design/Evaluation, Civil Engineering. (Aug. 2013 – Dec. 2015) Advised: **Jayaprakash Nalluri**
- Master’s Degree Supervisory Committee Chair (for Course Work-Only Student), Advising Comprehensive Exam Design/Evaluation, Civil Engineering. (Spring 2014 – May 2016) Advised: **Varun Kumar Nagelli**
- Master’s Degree Supervisory Committee Chair (for Course Work-Only Student), Advising Comprehensive Exam Design/Evaluation, Civil Engineering. (Spring 2014 – May 2016) Advised: **Surya Prakash Rao Puttamraju**
- Master’s Degree Supervisory Committee Member (for Course Work-Only Student), Advising, Comprehensive Exam Design/Evaluation, Civil Engineering. (Aug. 2013 – May 2016) Advised: **Ranadeep Ravula**

- Master's Degree Supervisory Committee Member (for Course Work-Only Student), Comprehensive Exam Design/Evaluation, Civil Engineering. (Spring 2014 – May 2016) Advised: **Anusha Mandadi**
- Master's Degree Supervisory Committee Member (for Course Work-Only Student), Comprehensive Exam Design/Evaluation, Civil Engineering. (May 2013) Advised: **Jenfier Buttler**
- Master's Thesis Committee Member, "Finite Element Analysis of the Interaction between a Crack and Clusters of Speed Signalized Intersections Inclusions in Aligned CNF Composites under Quasi-Static Loading Conditions," Mechanical. (August 2013). Advised: **Sungmin Kim**

4.2 Undergraduate Research Students

- Supervised Research, "Identifying High-Risk, High- in Rural Alabama - Dilemma-Zone Crash Focus," Civil. (July 15, 2015 – Present). Advised: **Ryan Brainard**
- Supervised Research, "Modeling a Simulation Network of Airport Blvd and University Blvd, using VISSIM," Civil. (July 1, 2015 – Present). Advised: **Jessie Parfait**
- Supervised Research, "Assessing USA Main Campus Parking," Civil. (March 14, 2014 – Aug. 2014). Advised: **Jonathan Ellzey**
- Supervised Research, "Public Survey for Drowsy Driving Advisory Safety Messages," Civil. (May 19, 2014 – July 31, 2014). Advised: **Jonathan Ellzey**
- 2014 UCUR Summer Research, "Assessing USA Main Campus Parking Management", (Completed), Civil. (March 14, 2014 - June 23, 2014).Advised: **Timothy Caldwell**
- 2014 UCUR Summer Research, "Assessing Traffic Delay and Pedestrian Safety Risk of USA Main Campus", (In-Process), Civil. (March 14, 2014 - April 14, 2014). Advised: **Tyler Noland**
- Supervised Research, "Developing Driving Simulation Scenarios of Rural Interstate Highways," Civil. (August 2013 – May 2014). Advised: **Timothy Caldwell**
- 2013 UCUR Summer Research, "2013 Summer UCUR Program: Feasibility of Roundabout Implementation at the USA Main Campus", (Completed), Civil. (May 2013 - October 2013). Advised: **Daniel Corliss**
- Supervised Research, "Investigating Current State of Rest Area Information Signs on Alabama Interstate Highways," Civil. (May 2013 – Aug. 2013). Advised: **Andrew Patch**

4.3 Other Research Activities at South Alabama

- Oral Presentation at 2013 UCUR Symposium, "*Feasibility of Roundabout Implementation at the USA Main Campus*" by Daniel Corliss, M.-W. Kang; Selected as a finalist of the symposium, representing the USA College of Engineering
- Poster Presentation at USA – 22nd Annual Graduate Research Forum, "*Effectiveness of Audible Pavement Treatments on Drivers' Compliance to Roadside Safety Signs - A Driving Simulator Study*" by S. U. Momtaz, M.-W. Kang, T. Caldwell, J. Ellzey, Mar. 16, 2015.
- Poster Presentation at USA – 22nd Annual Graduate Research Forum, "*Crash Analysis and Public Survey for Drowsy Driving Advisory Systems*" by M.-W. Kang, S. U. Momtaz, T. Caldwell, J. Ellzey, Mar. 16, 2015.

4.4 Other Institutions while at South Alabama

- Ph.D. Dissertation Committee Member, "*Strategies to Improve the Efficiency of a Multimodal Interdependent Transportation System in Disaster*," Civil. (2009–Present). Advised: Francis Udenta at Morgan State Univ.
- Ph.D. Dissertation Committee Member, "*Modeling Gap Acceptance and Driver Behavior at Stopped Controlled Intersections (Priority Intersections)*," Civil. (2008 – December 2012). Advised: Rene Lord-Attivor at Morgan State Univ

5. SERVICE

5.1 University Level

- Student Marshall, USA Graduation Commencement Exercise (October 13, 2014 - Present).
- Judge, Mobile Regional Science and Engineering Fair. (March 7, 2014; March 2015).
- Attendee, USA Spring and Fall Graduation Ceremony. (January 2012 - Present).

5.2 College Level

- Committee Chair, COE Safety Committee. (August 15, 2014 - Present).
- Committee Chair, COE Computing Committee. (August 17, 2015 - Present).
- Committee Member, COE Undergraduate Affairs committee (UAC). (August 19, 2013 – August 16, 2015).
- Committee Member, COE EG 501 committee. (August 17, 2014 – August 16, 2015).
- College of Engineering Outreach Activity. (January 2014 - Present).
- College of Engineering - Order of the Engineer Ceremony. (January 2012 - Present).

5.3 Department Level

- Webmaster, USA CE Department Website Management. (March 18, 2014 - Present).
- Attendee, Student Success Collaborative Training for CE Department. (January 21, 2015 - Present).
- Attendee, USA CE Advisory Board. (January 2012 - Present).
- Judge/Advising, USA CE Senior Design Project Presentation. (January 2012 - Present).
- Attendee, USA campus All-Star Reception. (April 25, 2014).
- Assistant, Interview Skills Review Seminar. (February 19, 2013).

5.4 Extracurricular Activities

- Student Organization, ALSITE Student Chapter, Student Org Co-advisor with Dr. Islam. (Starting from Summer 2015).
- Student Organization, USA GRITS Student Chapter, Student Org Co-advisor with Dr. Islam. (August 2013 - Present).
- Reference, Providing Letters of Recommendation for Students, Faculty Mentor. (January 2012 - Present).
- Student Organization, USA AGC Student Chapter, Meeting Attendee. (January 2013 - Present).
- Student Organization, USA ASCE Student Chapter, Meeting Attendee. (January 2012 - Present).
- Student Organization, USA Civil Engineering Graduate Student Chapter, Meeting Attendee. (January 2012 - Present).