

Subasish Das

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EDUCATION

- Ph.D. Systems Engineering (Civil Engineering Focus), University of Louisiana at Lafayette, LA (2015)
Dissertation: *"Effectiveness of Inexpensive Crash Countermeasures to Improve Traffic Safety"*
- M.S. Mathematics (Major in Statistics), University of Louisiana at Lafayette, Lafayette, LA (2015)
(completed required 36 semester hour course works)
- M.S. Civil Engineering, University of Louisiana at Lafayette, Lafayette, LA (2012)
Thesis: *"Evaluating Safety Improvement from Edge Lines on Rural Two-lane Highways"*
- B.Sc. Civil Engineering, Bangladesh University of Engineering & technology, Dhaka (2007)
Thesis: *"Scope of Intelligent Transportation Systems in the Developing Countries"*

EXPERIENCE

- 2015- Associate Transportation Researcher, Texas A&M Transportation Institute, College Station, TX
- 2014-2015 Research Associate, University of Louisiana at Lafayette, LA
- 2013-2014 Teaching Assistant, University of Louisiana at Lafayette, LA
- 2010-2012 Research Assistant, University of Louisiana at Lafayette, LA
- 2008-2009 Quantity Surveyor, Hennessey LLC, Dubai, U.A. E.
- 2007-2008 Project Engineer, Mak Estate Developments, Dhaka, Bangladesh

AWARDS

- 2018 Texas A&M Transportation Institute (TTI) Young Researcher Award
- 2017 Best of Urban Street Symposium Award: TRB 5th Urban Street Symposium
- 2016 Atlas/TTI Competitive Research Program Award
- 2015 Eno Leadership Development Fellow
- 2015 Gulf Region ITS (GRITS) Scholarship
- 2015 Best Paper Award (2nd Place) in University of Louisiana Graduate Research STEM Core
- 2015 Data Incubator Data Science Fellowship Semi-finalist
- 2014 2014 SASHTO Outstanding Graduate Research Award
- 2014 2014 AASHTO High Value Research Sweet Sixteen Award
- 2013 2013 Gulf Region ITS (GRITS) Scholarship First Place Award
- 2012 Travel award for 9th Postgraduate Academic Forum of Beihang University, China
- 2012 University of Louisiana Engineering Designing Leader
- 2011-2014 Deep South Institute of Transportation Engineers Scholarship

PROFESSIONAL SERVICE ACTIVITIES

- 2019-2020 Member, Association of Pedestrian and Bicycle Professionals (APBP)
- 2015-2016 Vice Chair for Membership, Young Professionals in Transportation (YPT) Houston Chapter
- 2014- Member, Gulf Region Intelligent Transportation Society
- 2012- Associate Member, American Society of Civil Engineers (ASCE)
- 2011- Member, Institute of Transportation Engineers (ITE)

COMMITTEE MEMBERSHIPS

Transportation Research Board

- 2019-2021 Panel Member, NCHRP 23-03: Targeted Guidance and Information Support to State DOT CEOs on Cybersecurity Issues and Protection Strategies
- 2018-2021 Panel Member, NCHRP 08-120: Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors
- 2020-2023 Member, Artificial Intelligence and Advanced Computing Applications (ABJ70)
- 2016-2020 Member, Library and Information Science for Transportation (ABG40)
- 2018-2021 Member, Alcohol, Other Drugs, and Transportation (ANB50)
- 2019-2021 Member, Data-Driven Safety Analysis (DDSA) Sub-committee, TRB

- 2014- Friend, Safe Mobility of Older Persons (ANB60) [*membership was offered; declined due to the membership maximum 2 committees*]
- 2014- Friend, Safety Data, Analysis and Evaluation (ANB20)
- 2014- Friend, Statistical Methods (ABJ80)

SERVICE

- Editor, *IATSS Research*, Elsevier.
- Handling Editor, *Transportation Research Record: Journal of the Transportation Research Board*, Sage Journals.
- Academic Editor, *PLOS One*
- Area Editor (Highway Safety & Crash Data Analysis), *Journal of Transportation Safety & Security*, Taylor & Francis.
- Editorial Board Member, *Transportation Research Interdisciplinary Perspectives*, Elsevier.
- Committee Member, The 7th International Conference on Geology Resource Management and Sustainable Development (ICGRMSD2019), December 28-29, 2019, Beijing, China
- Reviewer, *Accident Analysis and Prevention*
- Reviewer, *Nature Energy*
- Reviewer, *Transportation Research Part C: Emerging Technologies*
- Reviewer, *Journal of Safety Research*
- Reviewer, *Cities*
- Treasurer, ITE Student Chapter, University of Louisiana at Lafayette
- Mentor, *Investigating Safety Effectiveness of Centerline Rumble Strips on Rural Two-Lane Roads in Louisiana with Empirical Bayes Method*, M.S. Thesis of M. A. Rahman, 2016.
- Mentor, *Development of Crash Prediction Models for Transportation Planning Analysis*, M.S. Thesis of N. Broussard, 2015.
- Mentor, *Estimating Annual Average Daily Traffic for Non-State Roads in Louisiana*, M.S. Thesis of C. W. LeBoeuf, 2014.
- Mentor, *Analyzing the Safety Impact of Crash-Prone Drivers in Louisiana*, M.S. Thesis of F. Wang, 2013.
- Mentor, *Safety Effectiveness of Raised Pavement Markers*, M.S. Thesis of S. Rasel, 2012.

RESEARCH PROJECTS

Principal Investigator or Co Principle Investigator

[Total funded project as PI or Co-PI=**\$1.8 Million**]

- 2019-2021 **(PI)** Develop a Real-Time Decision Support Tool for Rural Roadway Safety Improvements. TxDOT Project. (\$300,000.00)
- 2019-2021 **(PI)** Develop Speed Crash Modification Factors (CMFs) from SHRP-2 Data. FHWA Project. (\$189,891.00)
- 2019-2023 **(PI)** Safety Enhancements at Short-Storage-Space Railroad Crossings, Michigan DOT Project. (\$110,000.00)
- 2019-2021 **(Co-PI)** Use of Disruptive Technologies to Support Safety Analysis and Meet New Federal Requirements, SafeD UTC. (\$1,601,000.00 [Matching fund from StreetLight Data: \$1,425,000.00])
- 2019 **(PI)** Innovative Data Sources for Real-time Crash Prediction. SafeD UTC Project. (\$20,000.00).
- 2019-2020 **(Co-PI) NCHRP 20-07 (Task 384):** Core Competencies for Key Safety Training. National Academies Project. Role: Co-Principal Investigator (\$75,000.00).
- 2018-2019 **(PI)** Transportation Safety Planning Noteworthy Practices. FHWA Project. (\$30,000.00)
- 2018-2019 **(PI)** Rural Speed Safety Project for USDOT Safety Data Initiative. FHWA Project. (\$240,000.00).
- 2018-2020 **(Co-PI)** Louisiana's Alcohol-Impaired Driving Problem: An Analysis of Crash and Cultural Factors. LADOTD Project. (\$175,000.00).
- 2017-2019 **(Co-PI) NCHRP 14-40:** Comparison of Cost, Safety, and Environmental Benefits of Routine Mowing and Managed Succession of Roadside Vegetation. National Academies Project. (\$300,000.00).
- 2016 **(PI)** Safety Impacts of Reduced Visibility in Inclement Weather. Atlas TTI Competitive Research Project; (\$44,000.00).
- 2016 **(PI)** Improper Passing-Related Crashes on Rural Roadways. TTI Strategic Research Project; (\$21,000.00).
- 2016 **(Co-PI)** Urban Roadway Fatality Analysis. TTI Research Project; (\$30,000.00).
- 2015 **(Co-PI)** User Sentiment Analysis with Louisiana Social Media Data for Better and Effective Crash Countermeasures. LTRC TIRE Project; (\$30,000.00).

Key Researcher

46. 2020-2023 **NCHRP 15-76:** Designing for Target Speed, National Academies.
45. 2020-2022 Develop Highway Safety Manual (HSM) Safety Performance Functions (SPFs) and Calibration Factors for Texas, TxDOT Project.
44. 2019-2022 Enhancing Freeway Safety Prediction Models. TxDOT Project.
43. 2019-2022 Improving and Communicating Speed Management Practices. TxDOT Project.
42. 2019-2022 Quantifying the value of Right of Way. TxDOT Project.
41. 2019-2022 Implementation of Automated Traffic Signal Performance Measures. TxDOT Project.
40. 2019-2022 Examine Trade-off between Centerline Separation and Shoulder Width Allotment. TxDOT Project.
39. 2019-2022 **NCHRP 03-134:** Determination of Encroachment Conditions in Work Zones
38. 2019-2024 **NCHRP 17-92:** Developing Safety Performance Functions for Rural Two-Lane Highways that Incorporate Speed Measures.
37. 2019-2023 ELCSI-PFS, Phase XI, Safety Evaluations of Mini-Roundabouts and Wrong Way Driving Improvements, FHWA.
36. 2019 Using Machine Learning Tools to Identify Pedestrian Crash Types. TTI
35. 2019 Winter-Related Performance Analysis, PennDOT
34. 2019-2022 **NCHRP 06-18:** Guide for Snow and Ice Control Operations
33. 2019-2022 Transportation Pooled Fund Study # TPF-5(361): SHRP2 Naturalistic Driving Study Pooled Fund: Advancing Implementable Solutions
32. 2019-2023 Pre-Crash Modification Factors Study for Curb Extensions and Bicycle Specific Intersection Markings, FHWA
31. 2018-2020 Traffic Safety Improvements at Low Water Crossings, TxDOT.
30. 2018-2020 Evaluation of Roadside Treatments to Mitigate Roadway Departure Crashes, TxDOT.
29. 2018-2021 Development of Pedestrian Intersection Crash Modification Factors, FHWA project.
28. 2018-2020 **NCHRP 05-24:** Guidelines for Vehicle and Equipment Color, Marking, and Lighting.
27. 2018-2020 **NCHRP 14-41:** Permanent Vegetation Control Treatments for Roadside.
26. 2018 Evaluation of Bicycle and Pedestrian Monitoring Equipment to Establish Collection Database/Methodologies for Estimating Non-Motorized Transportation. TxDOT project.
25. 2017-2019 Collection and Estimation of Annual Average Daily Traffic (AADT) on Lower-Volume Roads. FHWA Project.
24. 2017-2019 A Data-Driven Safety Analysis Framework for the Beaumont District. TxDOT project.
23. 2017-2019 Identifying Infrastructure-Based Motorcycle Crash Countermeasures – Phase I. FHWA project.
22. 2017-2019 Evaluation of Safety Improvement Projects and Countermeasures. TxDOT project.
21. 2017-2019 Knowledge Extraction using Natural Language Processing from Farm Equipment related Crash Narratives. NIOSH project.
20. 2017-2019 Development of Crash Modification Factors for Different Separated Bike Lane (SBL) Configurations. FHWA project.
19. 2017-2019 CV Pilot Deployment and Program Evaluation– Planning for SMEE Assessment of Smart Columbus Program. FHWA project.
18. 2017-2018 Influences on Bicyclists and Motor Vehicle Operating Speed within a Corridor. UTC Project.
17. 2017 Measuring Automated Vehicle Safety. TTI project
16. 2017 Transit Automation Tech Reviews. Volpe.
15. 2016-2020 Field Evaluation of At-Grade Alternative Intersection Designs. FHWA project.
14. 2016-2019 Technical Support for Focus Approach to Roadway Departure (RwD) Safety. FHWA project.
13. 2016-2019 Pedestrian and Bike Scalable Risk Assessment Methodology (ScRAM). FHWA project.
12. 2016-2018 **NCHRP 17-76:** Guidance for the Setting of Speed Limits.
11. 2016-2018 **NCHRP 17-71:** Proposed AASHTO Highway Safety Manual, Second Edition.
10. 2016 Safety Performance of Truck Lane Restrictions in Dallas-Fort Worth. TTI Research project.
9. 2016 Analysis of the Shoulder Widening need on the State Highway System. TxDOT project.
8. 2016 Is Age a Factor in Crashes at Channelized Right-Turn Lanes? An Exploration of Potential Relationships. Atlas Research project.
7. 2015 User Sentiment Analysis with Louisiana Social Media Data for Better and Effective Crash Countermeasures. LTRC 2014 TIRE Award project.
6. 2015 Developing a method for estimating AADT on all Louisiana roads. Louisiana DOT project.
5. 2013-2014 A Comprehensive Study on Pavement Edge Line Implementation. Louisiana DOT project.

4. 2012 Safety Improvement from Edge Lines on Rural Two-Lane Highways. Louisiana DOT project.
3. 2012 Developing Inexpensive Crash Countermeasures for Louisiana Local Roads. Louisiana DOT project.
2. 2011 Mining Potentially Interesting Positive and Negative Association Patterns from Traffic Safety Data. LTRC 2011 TIRE Award project.
1. 2010 Developing Louisiana Crash Reduction Factors. Louisiana DOT project.

PUBLICATIONS

Research Reports

19. 2020 Evaluation of Roadside Treatments to Mitigate Roadway Departure Crashes, TxDOT.
18. 2020 Rural Speed Safety Project for USDOT Safety Data Initiative (SDI), USDOT.
17. 2019 Evaluation of Highway Safety Improvement Projects and Countermeasures. TxDOT.
16. 2018 Guide for Scalable Risk Assessment Methods for Pedestrians and Bicyclists. FHWA.
15. 2018 Improving the Amount and Availability of Pedestrian and Bicyclist Count Data in Texas. TxDOT Report.
14. 2018 Influences on Bicyclists and Motor Vehicle Operating Speed within a Corridor. SafeD UTC Project Report.
13. 2018 Pavement Safety-based Guidelines for Horizontal Curve Safety. TxDOT Report.
12. 2018 MCCS Data Analysis and Literature Review. FHWA Project Report.
11. 2017 Safety Impacts of Reduced Visibility in Inclement Weather. Report No.: ATLAS-2017-19.
10. 2017 Synthesis of Methods for Estimating Pedestrian and Bicyclist Exposure to Risk at Area wide levels and on Specific Transportation Facilities. Publication No. FHWA-SA-17-041.
9. 2017 Safety Performance of Truck Lane Restrictions in Dallas-Fort Worth. TTI Report.
8. 2017 Measuring and Benchmarking Automated Vehicle Safety. TTI Report.
7. 2016 Analysis of the Shoulder Widening need on the State Highway System. Report No. 0-6840-1.
6. 2016 Is Age a Factor in Crashes at Channelized Right-Turn Lanes? An Exploration of Potential Relationships. Report No.: ATLAS-2016-14.
5. 2015 User Sentiment Analysis with Louisiana Social Media Data for Better and Effective Crash Countermeasures. Report No. 14-4TIRE.
4. 2015 Developing a method for estimating AADT on all Louisiana roads. Report No. FHWA/LA.15/14-3SA.
3. 2014 A Comprehensive Study on Pavement Edge Line Implementation. Report No. FHWA/LA.13/508. (**2014 AASHTO High Value Research Sweet Sixteen Award**)
2. 2013 Developing Crash Modification Factor for Louisiana. Report No. FHWA/LA.12/506.
1. 2011 Safety Improvement from Edge Lines on Rural Two-Lane Highways. Report No. FHWA/LA.11/487.

Book

- 2020 **Das, S.** *Artificial Intelligence in Highway Safety*. CRC Press, Boca Raton, FL.

Book Chapter

5. 2020 **Das, S.,** S. Chatterjee, and S. Mitra. Improper Passing and Lane-Change related Crashes: Pattern Recognition using Association Rules Negative Binomial Mining. Springer.
4. 2020 Dutta, A., and **S. Das.** Tweets about Self Driving Cars: Deep Sentiment Analysis using Long Short-Term Memory network (LSTM). Springer.
3. 2020 **Das, S.,** Dutta, A., Mudgal, A., and Datta, S. Non-fear-based Road Safety Campaign as a Community Service: Contexts from Social Media. Communication in Computer and Information Science. Conference Proceeding Book of 20th International Conference on Innovations for Community Services (I4CS), 12-14 January 2020, Bhubaneswar, India. Volume 717. Springer, Hessen, Germany.
2. 2019 **Das, S.** Automobile Safety Inspection. *International Encyclopedia of Transportation*, Elsevier. Amsterdam, Netherlands.
1. 2018 Jalayer, M, Zhou, H., and **S. Das.** Exploratory Analysis of Run-Off-Road Crash Patterns. *Data Analytics for Smart Cities*. CRC Press, Boca Raton, FL.

Peer Reviewed Journal Articles (* indicates Student)

(First Author: 47 papers, Second Author: 5 papers, N-Author: 6 papers)

59. 2020 **Das, S.**, and A. Dutta. Characterizing Public Emotions and Sentiments in COVID-19 Environment: A Case Study of India. *Journal of Human Behavior in the Social Environment*.
58. 2020 Kong, X., **S. Das**, K. Jha, and Y. Zhang. Understanding Speeding Behavior from Naturalistic Driving Data: Applying Classification Based Association Mining. *Accident Analysis and Prevention* (in press).
57. 2020 **Das, S.** City Transit Rider Tweets: Understanding Sentiments and Politeness. *Journal of Urban Technology* (in press).
56. 2020 **Das, S.**, A. Dutta, and K. Fitzpatrick. Technological Perception on Autonomous Vehicles: Perspectives of the Non-motorists. *Technology Analysis & Strategic Management*.
55. 2020 **Das, S.** Identifying key patterns in motorcycle crashes: findings from taxicab correspondence analysis. *Transportmetrica A: Transport Science* (in press).
54. 2020 **Das, S.**, M. Le, and B. Dai. Application of Machine Learning Tools in Classifying Pedestrian Crash Types: A Case Study. *Transportation Safety and Environment* (in press).
53. 2020 **Das, S.**, and S. Geedipally. Inclusion of Speed and Weather Measures in Safety Performance Functions for Rural Roadways. *IATSS Research*.
52. 2020 **Das, S.**, S. Ashraf*, L. Tran*, and A. Dutta. Pedestrians Under Influence (PUI) Crashes: Patterns from Correspondence Regression Analysis. *Journal of Safety Research*.
51. 2020 **Das, S.**, L. Tran*, and M. Theel*. Understanding Patterns in Marijuana Impaired Traffic Crashes: A Case Study. *Journal of Substance Use*.
50. 2020 **Das, S.** A Short Review of Transportation Research Record Articles: Focusing on Authors, Co-authorships, and Research Trends. *TR News*. Nov-December Issue.
49. 2020 **Das, S.**, and S. Geedipally. Rural Speed Safety Project for USDOT Safety Data Initiative: Findings and Outcomes. *ITE Journal*. September Issue.
48. 2020 **Das, S.**, and A. Dutta. Extremely serious crashes on urban roadway networks: Patterns and trends. *IATSS Research*.
47. 2020 **Das, S.**, X. Sun, S. Goel*, M. Sun, A. Rahman, and A. Dutta. Flooding related Traffic Crashes: Findings from Association Rules. *Journal of Transportation Safety and Security*.
46. 2020 **Das, S.**, and L. White. RuralSpeedSafetyX: Interactive Decision Support Tool to Improve Safety, SoftwareX.
45. 2020 Rahman, M., X. Sun, and **S. Das**. Reconfiguring Urban Undivided Four-Lane Highways to Five-Lane: An Unideal but Very Effective Solution for Crash Reduction. *ASCE Journal of Transportation Engineering, Part A: Systems*.
44. 2020 **Das, S.**, and G. Griffin. Big Data and Transportation Safety: Connecting the Dots. *Transportation Research Record: Journal of the Transportation Research Board*.
43. 2020 **Das, S.**, Dutta, A., Tsapakis, I. Automated vehicle collisions in California: Applying Bayesian latent class model. *IATSS Research*.
42. 2020 **Das, S.**, Dutta, A., and Brewer, M. Transportation Research Record Articles: A Case Study of Trend Mining. *Transportation Research Record: Journal of the Transportation Research Board*.
41. 2020 **Das, S.**, Islam, M., Dutta, A., and Shimu, T*. Uncovering Deep Structure of Determinants in Large Truck Fatal Crashes. *Transportation Research Record: Journal of the Transportation Research Board*.
40. 2020 Geedipally, S., **Das, S.**, Pratt, M., and Lord D. Determining Skid Resistance Needs on Horizontal Curves for Different Levels of Precipitation. *Transportation Research Record: Journal of the Transportation Research Board*.
39. 2020 Dadashova, B., G. Griffin, **S. Das**, S. Turner, and B. Sherman. Estimation of Average Annual Daily Bicycle Counts using Crowdsourced Strava Data. *Transportation Research Record: Journal of the Transportation Research Board*.
38. 2019 **Das, S.**, and I. Tsapakis. Interpretable Machine Learning Approach in Estimating Traffic Volume on Low-Volume Roadways. *International Journal of Transportation Science and Technology*. Vol 9(1), pp. 76-88.
37. 2019 **Das, S.**, and A. Bibeka*. Understanding Crime and Demographic Influence on Non-motorized Trips: Macro-level Analysis. *Journal of Human Behavior in the Social Environment*.
36. 2019 **Das, S.**, B. Storey, T. Shimu*, S. Mitra, M. Theel*, and B. Maraghepour*. Severity Analysis of Tree and Utility Pole Crashes: Applying Fast and Frugal Heuristics. *IATSS Research*.
35. 2019 **Das, S.**, A. Dutta, and S. Geedipally. Applying Bayesian Data Mining to measure the Effect of Vehicular Defects on Crash Severity. *Journal of Transportation Safety & Security*.
34. 2019 **Das, S.** #TRBAM: Influence of Twitter Hashtags. *TR News*, Nov-December Issue.

33. 2019 **Das, S.**, L. Kyle, L. Wu, and R. Henk. Understanding Crash Potential Associated with Teen Driving: Survey Analysis using Multivariate Graphical Method. *Journal of Safety Research*.
32. 2019 **Das, S.**, X. Kong*, and I. Tsapakis. Hit and Run Crash Analysis using Association Rules Mining. *Journal of Transportation Safety and Security*.
31. 2019 McCourt, R., K. Fitzpatrick, P. Koonce, and **S. Das**. Speed Limits: Leading to Change. *ITE Journal*, pp. 40-45.
30. 2019 Jalayer, M., and **S. Das**. Application of Unmanned Aerial vehicle to Inspect and Inventory Interchange Assets to Mitigate Wrong-Way Entries. *ITE Journal*.
29. 2019 **Das, S.**, A. Dutta, and X. Sun. Patterns of Rainy Weather Crashes: Applying Rules Mining. *Journal of Transportation Safety and Security*.
28. 2019 **Das, S.**, M. Le, M. Pratt, and C. Morgan. Safety effectiveness of truck lane restrictions: a case study on Texas urban corridors. *International Journal of Urban Sciences*.
27. 2019 Trueblood, A., E. Shipp, A. Pant, and **S. Das**. Farm Equipment Crash Narrative Analysis. *Traffic Injury Prevention*.
26. 2019 **Das, S.**, I. Tsapakis, and S. Datta*. Safety Performance Functions of Low-Volume Roadways. *Transportation Research Record: Journal of the Transportation Research Board*.
25. 2019 **Das, S.**, K. Jha, K. Fitzpatrick, M. Brewer, and T. Shimu*. Pattern Identification from Elderly Cyclist Fatal Crashes. *Transportation Research Record: Journal of the Transportation Research Board*.
24. 2019 **Das, S.**, A. Dutta, T. Lindheimer, M. Jalayer, and Z. Elgart. YouTube as a Source of Information in Understanding Autonomous Vehicle Consumers: A Natural Language Processing (NLP) Study. *Transportation Research Record: Journal of the Transportation Research Board*.
23. 2019 Fitzpatrick, K., R. McCourt, and **S. Das**. Are Attitudes Changing with Respect to the Setting of Posted Speed Limits? *Transportation Research Record: Journal of the Transportation Research Board*.
22. 2019 **Das, S.**, A. Bibeka*, X. Sun, T. Zhou, and M. Jalayer. Aging Pedestrian Fatal Crash related Contributing Factors: Applying Empirical Bayes Geometric Mean Method. *Transportation Research Record: Journal of the Transportation Research Board*.
21. 2019 **Das, S.**, S. Geedipally, K. Dixon, X. Sun, and C. Ma*. Measuring the Effectiveness of Vehicle Inspection Regulations in Different States of the U.S. *Transportation Research Record: Journal of the Transportation Research Board*.
20. 2019 **Das, S.**, A. Dutta, R. Avelar, K. Dixon, X. Sun, and M. Jalayer. Supervised Association Rules Mining on Pedestrian Crashes in Urban Areas: Identifying Patterns for Appropriate Countermeasures. *International Journal of Urban Sciences*.
19. 2018 **Das, S.**, A. Dutta, Kong, X.*, and Sun, X. Hit and Run Crashes: Knowledge Extraction from Bicycle Involved Crashes using First and Frugal Tree. *International Journal of Transportation Science and Technology*.
18. 2018 **Das, S.**, A. Dutta, G. Medina, L. Minjares-Kyle, and Z. Elgart. Extracting patterns from Twitter to promote biking.
17. 2018 **Das, S.**, A. Dutta, M. Jalayer, A. Bibeka*, and L. Wu. Factors influencing the patterns of wrong-way driving crashes on freeway exit ramps and median crossovers: exploration using 'Eclat' association rules to promote safety. *International Journal of Transportation Science and Technology*, Vol. 7 Iss. 2, pp. 114-123.
16. 2018 **Das, S.**, R. Avelar, K. Dixon, and X. Sun. Investigation on the Wrong Way Driving Crash Patterns using Multiple Correspondence Analysis. *Accident Analysis and Prevention*. Vol. 111, pp. 43-55.
15. 2018 **Das, S.**, A. Dutta, K. Dixon, L. Minjares-Kyle, and G. Gillette. Using Deep Learning in Severity Analysis of At-Fault Motorcycle Rider Crashes. *Transportation Research Record: Journal of the Transportation Research Board*. Vol. 2672, Iss. 34, pp. 122-134.
14. 2018 **Das, S.**, A. Mudgal, A. Dutta, and S. Geedipally. Vehicle Consumer Complaint Reports Involving Severe Incidents: Mining Large Contingency Tables. *Transportation Research Record: Journal of the Transportation Research Board*. Vol. 2672, Iss. 32, pp. 77-82.
13. 2018 **Das, S.**, X. Sun, K. Dixon, and A. Rahman. Safety Effectiveness of Roadway Conversion with a Two Way Left Turn Lane. *Journal of Traffic and Transportation Engineering*. Vol. 5, Iss. 5, pp. 309-317.
12. 2017 **Das, S.**, B. Brimley, T. Lindheimer, and M. Zupancich*. Association of Reduced Visibility with Crash Outcomes. *LATSS Research*. Vol. 42, Iss. 3, pp. 143-151.
11. 2017 **Das, S.**, K. Dixon, X. Sun, A. Dutta, and M. Zupancich*. Trends in Transportation Research: Exploring Content Analysis in Topics. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2614, pp. 27-38.
10. 2016 **Das, S.**, X. Sun, and A. Dutta. Text Mining and Topic Modeling on Compendium Papers from Transportation Research Board Annual Meetings. *Transportation Research Record: Journal of the Transportation*

- Research Board*, Vol. 2552, pp. 48-56.
9. 2016 **Das, S.**, and X. Sun. Association knowledge for fatal run-off-road crashes by Multiple Correspondence Analysis. *LATSS Research*, Vol. 39, Iss. 2, pp. 146–155.
 8. 2015 **Das, S.**, and X. Sun. Factor Association with Multiple Correspondence Analysis in Vehicle-Pedestrian Crashes. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2519, pp. 95-103.
 7. 2015 **Das, S.**, X. Sun, F. Wang, and C. Leboeuf. Estimating likelihood of future crashes for crash-prone drivers. *Journal of Traffic and Transportation Engineering*, Vol. 2 Iss. 3, pp. 145-157.
 6. 2015 Khattak, M., A. Khattab, H. Rizvi, **S. Das**, and M. Bhuyan. Imaged-based Discrete Element Modeling of Hot Mix Asphalt Mixtures. *Materials and Structures*, Vol. 48, Iss. 8, pp. 2417–2430.
 5. 2015 **Das, S.**, X. Sun, and A. Dutta. Investigating User Ridership Sentiments for Bike Sharing Programs. *Journal of Transportation Technologies*, Vol. 5, Iss.2, pp. 69-75.
 4. 2014 Sun, X., **S. Das**, Z. Zhang, F. Wang, and C. Leboeuf. Investigating Safety Impact of Edgelines on Narrow, Rural Two-Lane Highways by Empirical Bayes Method. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2433, pp. 121-128.
 3. 2014 Sun, X., **S. Das**, and Y. He. Analyzing Crash-Prone Drivers in Multiple Crashes for Better Safety Educational and Enforcement Strategies. *Journal of Transportation Technologies*, Vol. 4, Iss.1, pp. 93-100.
 2. 2013 **Das, S.**, X. Sun, Y. He, F. Wang, and C. Leboeuf. Investigating the Safety Impact of Raised Pavement Markers on Freeways in Louisiana. *International Journal of Engineering Research & Innovation*, Vol. 5, Iss. 2, pp. 74-80.
 1. 2013 Sun, X., **S. Das**, N. Fruge, R. Bertinot, and D. Magri. Four-Lane to Five-Lane Urban Roadway Conversions for Safety. *Journal of Transportation Safety & Security*, Vol. 5, Iss. 2, pp. 106-117.

Peer Reviewed Computer Science Conference Proceeding Papers (* indicates Student)

2. 2020 Wang, R.*, **S. Das**, and A. Mudgal. Patterns of Origin Destination Distributions: Rules Mining using Massive GPS Trajectory Data. Proceeding in the First International Conference on Urban Data Science, January 20-21, Madras, India.
1. 2012 He, Y., X. Sun, L. Du, R. Jinmei, and S. Das. Level of service for parking facilities. 15th International IEEE Conference on Intelligent Transportation Systems, Anchorage, AK.

Peer Reviewed Transportation Engineering Conference Proceeding Papers (* indicates Student)

55. 2020 **Das, S.**, Dutta, A., Dey, K., Jalayer, M., and Mudgal, A. Single and Multiple Vehicle Crashes due to Hydroplaning: A Case Study of Interpretable Machine Learning. *Transportation Research Record: Journal of the Transportation Research Board*.
54. 2020 **Das, S.**, K. Fitzpatrick, and A. Dutta. Survey of Bicyclists and Pedestrians towards Autonomous Vehicles. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
53. 2020 **Das, S.**, and A. Dutta. Co-Author Networks in Transportation Research: Findings from TRID Data. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
52. 2020 Dutta, A., and **S. Das**. Framework of a Job Lexicon for Future Transportation Workforce. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
51. 2020 **Das, S.**, X. Kong*, R. Wang*, and A. Mahmoudzadeh*. Pedestrian Collisions with Bicyclist: Emotion Mining using YouTube Data. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
50. 2020 **Das, S.**, K. Jha*, and A. Dutta. Vision Zero Hashtags in Social Media: Understanding End-User Needs from Natural Language Processing. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
49. 2020 **Das, S.**, A. Dutta, and I. Tsapakis. Traffic Collisions Involving Autonomous Vehicles in California: Bayesian Model Based Clustering. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
48. 2020 **Das, S.**, L. Tran*, and B. Maraghepour*. Understanding Patterns in Marijuana Impaired Traffic Crashes: A Case Study on Louisiana. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
47. 2020 **Das, S.**, S. Ashraf*, A. Dutta, and L. Tran*. Pedestrians Under Influence: Findings from Correspondence Regression Analysis. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
46. 2020 Sun, M., X. Sun, M. Rahman, M. Akter, and **S. Das** Safety Performance Functions for Rural Two-Way Stop-Controlled Intersections. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.

45. 2020 Jalayer, M., M. Pour-Rouholamin, D. Patel, **S. Das**, and H. Parvardeh. A Penalized-likelihood Approach to Characterizing Bridge-related Crashes in New Jersey. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
44. 2020 Sun, M., X. Sun, M. Rahman, M. Akter, and **S. Das**. Two-Way Stop-Controlled Intersection Analysis with Zero-inflated Models. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
43. 2020 **Das, S.**, X. Sun, S. Goel*, M. Sun, M. Rahman, and I. Narsaria. Flooding related Traffic Crashes: Findings from Association Rules. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
42. 2020 Kong, X.*, **S. Das**, K. Jha, and Y. Zhang. Understanding Speeding Behavior from Naturalistic Driving Data: Applying Classification Based Association Mining. The 99th Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
41. 2020 **Das, S.** Extremely Serious Crashes on Urban Roadway Networks: Patterns and Trends. The 6th International Symposium on Highway Geometric Design, featuring the 6th Urban Street Symposium. Amsterdam, The Netherlands, June 28-July 1.
40. 2019 Sun, X., and **S. Das**. Estimating Annual Average Daily Traffic for Low-Volume Roadways. The 12th TRB International Conference on Low Volume Roads, being held September 15–18, Kalispell, Montana.
39. 2019 **Das, S.**, I. Tsapakis, and S. Datta*. Safety Performance Functions of Low-Volume Roadways. The 12th TRB International Conference on Low Volume Roads, being held September 15–18, Kalispell, Montana.
38. 2019 **Das, S.**, A. Dutta, S. Geedipally, C. Ma*, and Z. Elgart. Effect of Vehicular Defects on Crash Severity: A Bayesian Data Mining Approach. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
37. 2019 **Das, S.**, I. Tsapakis, W. Holik, S. Datta*, and X. Kong*. Estimation of Traffic Volumes on Low-Volume Roads: Interpretable Machine Learning Approach. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
36. 2019 **Das, S.**, A. Dutta, and S. Datta*. Injury Severity Analysis from Crash Narratives of Tree and Utility Pole associated Crashes: An Interpretable Machine Learning Approach. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
35. 2019 Jalayer, M., M. O'Connell, H. Zhou, P. Szary, and **S. Das**. Application of Unmanned Aerial Vehicle to Inspect and Inventory Interchange Assets to Mitigate Wrong-Way Entries. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
34. 2019 Sun, M., X. Sun, D. Shan, D. Armstrong, and **S. Das**. Louisiana Pedestrian Crash Analysis with Multinomial Logit Model and Bayesian Network. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
33. 2019 **Das, S.**, and A. Dutta. Data Curation using Deep Learning. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
32. 2018 **Das, S.**, L. Minjares-Kyle, R. Avelar, and B. Bommanayakanahalli*. Improper Passing related Crashes: Identifying Patterns using Negative Binomial Precise Rules. The 7th International Symposium on Naturalistic Driving Research (NDRS 2018), Blacksburg, VA, Aug 28-30.
31. 2018 **Das, S.**, Fitzpatrick, K., and C. M*. Vehicle Speeds in Presence of Bicyclists. Joint Western and Texas District Meeting, Keystone, CO, June 24-27.
30. 2018 **Das, S.**, M. Le, M. Pratt, and C. Morgan. Safety Performance of Truck Lane Restrictions in Texas: Empirical Bayes Observational Before-After Analysis. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
29. 2018 **Das, S.**, L. Minjares-Kyle, K. Dixon, A. Palanisamy, and A. Dutta. #TRBAM: Understanding Communication Patterns and Research Trends by Twitter Mining. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
28. 2018 **Das, S.**, G. Medina, L. Minjares-Kyle, Z. Elgart. Social Media Hashtags Associated with Bike Commuting: Applying Natural Language Processing Tools. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
27. 2018 **Das, S.**, and A. Dutta. Knowledge Extraction from Transportation Research Thesaurus. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
26. 2018 L. Minjares-Kyle, **Das, S.**, G. Medina, and R. Henk. Knowledge about Crash Risk Factors and Self-Reported Driving Behavior: Exploratory Analysis on Multi-State Teen Driver Survey. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
25. 2018 Bibeka, A.*, **S. Das**, M. Martin, M. Jalayer, and S. Munira. Macro Level Analysis of Pedestrian and Bike Commuting: Using Self-Organizing Map to Associate Crime, Poverty, and Demographics. The 97th

- Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
24. 2018 Rahman, A., X. Sun, and **S. Das**. Safety Performance Evaluation of Urban Undivided Four-Lane to Five-Lane Conversion in Louisiana. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 7-11.
 23. 2017 **Das, S.** Exploring SHRP2 NDS for the perspective of Self-Driving Cars in Difficult Driving Condition. Autonomous Vehicle Symposium, San Francisco, CA, Jul 10-14.
 22. 2017 **Das, S.**, X. Sun, and K. Dixon. Converting Four lane roadways into Five lane roadways on Urban structure: Study on Safety Effectiveness. Urban Street Symposium 5, Raleigh, North Carolina, May 21-24 (**2017 Urban Street Symposium Best Paper Award**).
 21. 2017 **Das, S.**, K. Dixon, R. Avelar, and K. Fitzpatrick. Using Machine Learning Techniques to estimate non-motorized trips for rural roadways. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 20. 2017 **Das, S.**, B. Brimley, T. Lindheimer, and M. Zupancich*. Safety Impacts of Reduced Visibility in Inclement Weather. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 19. 2017 **Das, S.**, R. Avelar, K. Dixon, and X. Sun. Pedestrian Crash Analysis Using Association Rules Mining. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 18. 2017 **Das, S.**, L. Minjares-Kyle, R. Avelar, K. Dixon, and B. Bommanayakanahalli*. Improper Passing-Related Crashes on Rural Roadways: Using Association Rules Negative Binomial Miner. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 17. 2017 **Das, S.**, X. Sun, A. Dutta, and M. Zupancich*. Twitter in Circulating Transportation Information: A Case Study on Two Cities. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 16. 2017 Avelar, R., T. Lindheimer, K. Dixon, J. Miles, and **S. Das**. Safety Evaluation of the Seasonality of Crashes with Tire Debris on Highways and Freeways. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 8-12.
 15. 2016 X. Sun, **S. Das**, and N. Broussard. Developing crash models with supporting vector machine for urban transportation planning. The 17th Road Safety on Five Continents (RS5C) Conference, Rio de Janeiro, Brazil, May 17-19.
 14. 2016 **Das, S.**, and X. Sun. Estimating Traffic Volume of Non-state Roadways with Support Vector Regression. The 95th Transportation Research Board Annual Meeting, Washington D.C., Jan 10-14.
 13. 2016 **Das, S.** Effectiveness of Inexpensive Crash Countermeasures to Improve Traffic Safety. The 95th Transportation Research Board Annual Meeting, Washington D.C., Jan 10-14.
 12. 2015 **Das, S.**, and X. Sun. Zero-Inflated Models for Different Severity Types in Rural Two-Lane Crashes. The 94th Transportation Research Board Annual Meeting, Washington D.C., Jan 10-14.
 11. 2015 **Das, S.**, and X. Sun. Determining the Knowledge Gap in Performance Based Analysis of Geometric Design and Condition Incorporating Safety. The 94th Transportation Research Board Annual Meeting, Washington D.C., Jan 10-14.
 10. 2015 **Das, S.**, X. Sun, D. Magri, N. Fruge, and R. Bertnotane. Conversion for Urban Roadway: An Unideal but Effective Way to Improve Roadway Safety. The 94th Transportation Research Board Annual Meeting, Washington D.C., Jan 10-14.
 9. 2014 **Das, S.**, and X. Sun. Exploring Clusters of Contributing Factors for Single-Vehicle Fatal Crashes Through Multiple Correspondence Analysis. The 93rd Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
 8. 2014 Sun, X., **S. Das**, Z. Zhang, and F. Wang. Investigating Safety Impact of Edge Line on Narrow Rural Two-Lane Highways by Empirical Bayes Method. The 93rd Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
 7. 2014 **Das, S.**, and X. Sun. Investigating the Pattern of Traffic Crashes under Rainy Weather by Association Rules in Data Mining. The 93rd Transportation Research Board Annual Meeting, Washington D.C., Jan 12-16.
 6. 2014 **Das, S.**, X. Sun, and A. Dutta. Sentiment Analysis of the Riders of the Bike Sharing Programs. 55th Annual Transportation Research Forum, San Jose, CA, Mar 13-15.
 5. 2014 **Das, S.** Analyzing At-fault Crash-Prone Drivers of Louisiana associated with Multiple Crashes. SASHTO 2014 Annual Conference, New Orleans, LA, Aug 23-27 (**2014 SASHTO Outstanding Graduate Research Award**).
 4. 2013 Sun, X., and **S. Das**. Converting Divided Urban Four-Lane Roadway to Five-Lane Roadway: Successful Case Study in Louisiana. The 92nd Transportation Research Board Annual Meeting, Washington D.C., Jan

- 13-17.
3. 2013 Sun, X., **S. Das**, S. Rasel, and F. Wang. Analyzing Crash-Prone Drivers in Multiple Crashes for Better Safety Educational and Enforcement Strategies. The 92nd Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
 2. 2013 **Das, S.**, and X. Sun. Investigating the Safety Impact of Raised Pavement Markers. The 92nd Transportation Research Board Annual Meeting, Washington D.C., Jan 13-17.
 1. 2012 Sun, X., **S. Das**, N. Fruge, R. Bertinot, and D. Magri. Crash Modification Factor for an Inexpensive yet Very Cost-Effective Safety Improvement: Converting Undivided Four-Lane Urban Roadways to Five-Lane Roadways. The 91st Transportation Research Board Annual Meeting, Washington D.C., Jan 22-26.

TALKS/WORKSHOPS

14. 2019 AADT Estimation Errors in Predicting Safety of Low-volume Roadways. The 98th Transportation Research Board Annual Meeting, Washington D.C., Jan 13.
13. 2019 Youtube as a Source of Information in Understanding Autonomous Vehicle Consumers: A Natural Language Processing (NLP) Study, Washington D.C., Jan 14.
12. 2019 Injury Severity Analysis from Crash Narratives of Tree and Utility Pole associated Crashes: An Interpretable Machine Learning Approach, Washington D.C., Jan 15.
11. 2019 Estimation of Traffic Volumes on Low-Volume Roads: Interpretable Machine Learning Approach, Washington D.C., Jan 16.
10. 2018 Using Deep Learning in Severity Analysis of At-Fault Motorcycle Rider Crashes. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 9.
9. 2018 #TRBAM: Understanding Communication Patterns and Research Trends by Twitter Mining. The 97th Transportation Research Board Annual Meeting, Washington D.C., Jan 9.
8. 2017 Developing a Method for Estimating AADT on Local Roads. 2017 TRC Transportation Engineering Conference, Hot Springs, AK, May 17.
7. 2017 Text mining on 100 years of Air Crash Narratives: Key Findings. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 11.
6. 2017 Workshop on Text Mining in R: Understanding 100 years of Air Crash Narratives. Texas A&M University ITE General Meeting, College Station, TX, February 9, 2017.
5. 2017 Workshop on R in Transportation Safety Research: Case Studies. Texas A&M University ITE General Meeting, College Station, TX, February 7, 2017.
4. 2017 Visualization Lightning Talk: Visual Analytics by using Web GIS Tools in Transportation Decision Making. The 96th Transportation Research Board Annual Meeting, Washington D.C., Jan 11.
3. 2016 Modeling in Roadway Safety: The Two Cultures. Texas A&M University ITE General Meeting, College Station, TX, May 17.
2. 2015 Two days' workshop on Interactive Highway Safety Design Model (IHSDM). Civil Engineering Department, University of Louisiana at Lafayette, LA, Mar.
1. 2014 Two days' workshop on Interactive Highway Safety Design Model (IHSDM). Civil Engineering Department, University of Louisiana at Lafayette, LA, Mar.