

## CURRICULUM VITAE

Mecit Cetin, Associate Professor

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### Education

Ph.D. in Transportation Engineering, December 2002, *Rensselaer Polytechnic Institute*, Troy, New York

- Thesis: Integrating Information and Physical Flow Layers in Transportation Systems Models
- Dissertation Advisor: George F. List

M.S. in Civil Engineering, 1999, *Rensselaer Polytechnic Institute*, Troy, New York

- Thesis: Revenue Transfer Approach to Congestion Pricing
- Thesis Advisor: Jeffrey L. Adler

B. S. in Civil Engineering, 1995, *Bogazici University*, Istanbul, Turkey

### Professional Experience

**Associate Professor**, Department of Civil and Environmental Engineering (primary), Modeling, Simulation & Visualization Engineering (secondary), ODU, Norfolk, VA (2012 – )

**Director**, Transportation Research Institute (TRI), Department of Civil and Environmental Engineering, Old Dominion University (ODU), Norfolk, VA (August 2013 – )

**Associate Director**, Center for Innovative Transportation Solutions (CITS), ODU, Norfolk, VA (2012 – )

**Assistant Professor**, Department of Civil and Environmental Engineering, ODU, Norfolk, VA (August 2008 – August 2012)

**Assistant Professor**, Department of Civil and Environmental Engineering, University of South Carolina, Columbia, SC (August 2004 – August 2008)

**Postdoctoral Research Associate and Instructor**, Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, Troy, NY (January 2003 – August 2004)

**Graduate Research Assistant**, Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, Troy, NY (June 1999 – December 2002)

### Research Areas

Intelligent Transportation Systems (ITS), mobile devices/sensors, system-state prediction, traffic flow theory and simulation, connected vehicles, big data analytics, congestion pricing, traffic signal control and optimization.

### Refereed Journal Papers

#### *Under Review:*

1. R. Paleti, O. Sahin, and M. Cetin “Modeling the Impact of Latent Driving Patterns on Traffic Safety using Mobile Sensor Data” Submitted to *Accident Analysis & Prevention*, 2017.
2. G. Basar, and M. Cetin, “Auction-Based Tolling Systems in a Connected and Automated Vehicles Environment: Public Opinion and Implications for Toll Revenue and Capacity Utilization” To be revised and resubmitted to *Transportation Research Part C: Emerging Technologies*, 2017.

3. G. Basar, M. Cetin, and A.P. Nichols “Comparison of Vehicle Re-Identification Models for Trucks Based on Axle Spacing Measurements” To be revised and resubmitted for publication in *Journal of Intelligent Transportation Systems*, 2017.
4. U. Ahmed and M. Cetin, “Impacts of Heavy Vehicles on Inter-vehicle Interactions and Passenger Car Equivalents for Tunnel Traffic,” Revised and resubmitted to *Case Studies on Transport Policy*, 2017.

**Published/Accepted:**

5. S. Rompis, F. Habtemichael, M. Cetin, “Probe Vehicle Lane Identification for Queue Length Estimation at Intersections,” *Journal of Intelligent Transportation Systems*, <http://dx.doi.org/10.1080/15472450.2017.1300887>, 2017.
6. U. Ahmed, O. Sahin, and M. Cetin, “Minimizing GPS Dependency for a Vehicle’s Trajectory Identification by Utilizing Data from Smartphone Inertial Sensors and OBD device” To appear in *Transportation Research Record*, 2017.
7. G. Comert, A. Bezuglov, and M. Cetin, “Adaptive traffic parameter prediction: Effect of number of states and transferability of models” *Transportation Research Part C: Emerging Technologies*, 72, pp. 202-224, 2016.
8. F. Habtemichael, and M. Cetin, “Short-Term Traffic Flow Rate Forecasting Based on Identifying Similar Traffic Patterns” *Transportation Research Part C*, 66, pp. 61-78, 2016.
9. I. Makohon, Nguyen, D. and Cetin, M. “Java Computer Animation for Effective Learning of the Cholesky Algorithm with Transportation Engineering Applications” *Journal of Software Engineering and Applications*, 9, 491-500, 2016. doi: 10.4236/jsea.2016.910032.
10. Bakhtyar, G., Nguyen, V., Cetin, M. and Nguyen, D. “Backward Dijkstra Algorithms for Finding the Departure Time Based on the Specified Arrival Time for Real-Life Time-Dependent Networks” *Journal of Applied Mathematics and Physics*, 4, 1-7, 2016, doi: 10.4236/jamp.2016.41001.
11. A.P. Nichols and M. Cetin “Use of Reidentified Vehicles to Evaluate Differential Calibration Accuracy between Weigh-in-Motion Stations” *Transportation Research Record*, 2527, pp. 37-48, 2015.
12. F. Habtemichael, M. Cetin, and K.A. Anuar, “Methodology for Quantifying Incident-Induced Delays on Freeways by Grouping Similar Traffic Patterns” *Transportation Research Record: Journal of the Transportation Research Board*, 2484, pp. 60-69, 2015.
13. A.J. Collins, E. Frydenlund, R. M. Robinson, M. Cetin, “Exploring a Toll Auction Mechanic Enabled By Vehicle-To-Infrastructure Technology” *Transportation Research Record: Journal of the Transportation Research Board*, 2530, pp. 106-113, 2015.
14. H. Zhang, M. Cetin, and A.J. Khattak “Joint Analysis of Queuing Delays Associated with Secondary Incidents” *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*, Vol. 19, Issue 2, pp. 192-204, 2015.
15. S. Son, M. Cetin, and A.J. Khattak “Exploring Traffic Data Aggregation Bias Due to the Transition of Traffic States in the Aggregation Interval” *Transportation Research Record: Journal of the Transportation Research Board* 2443 v 2, pp. 78-87, 2014.
16. M. Cetin, A. P. Nichols, C. Chou “Re-Identification of Trucks Based on Axle Spacing Measurements to Facilitate Analysis of WIM Accuracy” *Transportation Research Record: Journal of the Transportation Research Board* 2443 v 2, pp. 96-105, 2014.
17. C.A. Jordan, M. Cetin, and R.M. Robinson, “Clearing Paths for Emergency Vehicles Using Vehicle-to-Vehicle Communication” *Transportation Research Record*. *Transportation Research Record: Journal of the Transportation Research Board*, 2381, pp. 45–53, 2013.
18. M. Cetin “Estimating Queue Dynamics at Signalized Intersections from Probe Vehicle Data: A Methodology Based on Kinematic Wave Model” *Transportation Research Record: Journal of the Transportation Research Board* 2243, pp. 164–172, 2012.
19. M. Cetin, C.M. Monsere, A.P. Nichols, and I. Ustun, “Investigating the Key Factors Affecting the Accuracy of Re-identification of Trucks over Long Distances Based on Axle Measurement Data” *Transportation Research Record: Journal of the Transportation Research Board* 2243, pp. 1-8, 2011.

20. G. Comert and M. Cetin, "Analytical Evaluation of the Error in Queue Length Estimation at Traffic Signals from Probe Vehicles Data," *The IEEE Transactions on Intelligent Transportation Systems*, Vol. 12, Issue 2, pp. 563-573, 2011. ([10.1109/ITITS.2011.2113375](https://doi.org/10.1109/ITITS.2011.2113375))
21. M. Cetin, C. M. Monsere, and A.P. Nichols, "Bayesian Models for Re-identification of Trucks over Long Distances on the Basis of Axle Measurement Data," *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*, Volume 15, Issue 1, pp. 1 – 12, 2011.
22. M. Cetin and A.P. Nichols, "Improving the Accuracy of Vehicle Reidentification Algorithms by Solving the Assignment Problem," *Transportation Research Record 2129*, pp. 1-8, 2009.
23. J. Holguín-Veras and M. Cetin, "Optimal Tolls for Multi-Class Traffic: Analytical Formulations and Policy Implications," *Transportation Research Part A. Policy and Practice* Vol. 43, No 4, 445-467, 2009. ([doi:10.1016/j.tra.2008.11.012](https://doi.org/10.1016/j.tra.2008.11.012))
24. G. Comert and M. Cetin, "Queue Length Estimation from Probe Vehicle Location and the Impacts of Sample Size," *European Journal of Operational Research*, 197, pp. 196-202, 2009. (<http://dx.doi.org/10.1016/j.ejor.2008.06.024>)
25. A.P. Nichols and M. Cetin, "Characterization of Gross Vehicle Weight Distributions from Weigh-in-Motion Data," *Transportation Research Record 1993*, pp. 148-154, 2007.
26. J. Holguín-Veras, N. Xu, Q. Wang, K. Ozbay, J. C. Zorrilla, M. Cetin, "New Jersey Turnpike's Time-of-Day Pricing Initiative: Behavioral Impacts and Observed Role of Travel Distance on Underlying Elasticities," *Transportation Research Record 2010*, pp. 53-61, 2007.
27. M. Cetin and G. Comert, "Short-Term Traffic Flow Prediction with Regime Switching Models," *Transportation Research Record 1965*, pp. 23-31, 2006.
28. M. Cetin and G.F. List, "Integrated Modeling of Information and Physical Flows in Transportation Systems," *Transportation Research Part C*, Vol. 14 No. 2, pp.139-156, 2006 (<http://dx.doi.org/10.1016/j.trc.2006.06.003>).
29. J. Holguin-Veras, M. Cetin, and S. Xia, "A Comparative Analysis of US Toll Policies," *Transportation Research Part A. Policy and Practice*, Vol. 40, No. 10, pp. 852-871, 2006. ([doi:10.1016/j.tra.2006.03.003](https://doi.org/10.1016/j.tra.2006.03.003))
30. J. Holguín-Veras, Q. Wang, N. Xu, K. Ozbay, M. Cetin and J. Polimeni, "The Impacts of Time of Day Pricing on the Behavior of Freight Carriers in a Congested Urban Area: Implications to Road Pricing," *Transportation Research Part A: Policy and Practice* Vol. 40, No. 9, pp. 744-766, 2006. ([doi:10.1016/j.tra.2005.12.011](https://doi.org/10.1016/j.tra.2005.12.011))
31. M. Cetin and G.F. List, and Y. Zhou, "Factors Affecting the Minimum Number of Probes Required for Reliable Travel Time Estimation," *Transportation Research Record 1917*, pp. 37-44, 2005.
32. M. Cetin and G.F. List, "Investigating the Effects of Correlated Service Times on System Performance: Implications in Border Crossing Operations," *Transportation Research Record*.1870, pp. 70-76, 2004.
33. G.F. List and M. Cetin, "Modeling Traffic Signal Control Using Petri Nets," *IEEE Transactions on Intelligent Transportation Systems*, Vol. 5, No. 3, pp. 177-187, 2004
34. J.L. Adler and M. Cetin "A Direct Redistribution Model of Congestion Pricing," *Transportation Research Part B: Methodological*, Vol. 35, No. 5, pp. 447-460, June 2001. ([doi:10.1016/S0191-2615\(00\)00003-5](https://doi.org/10.1016/S0191-2615(00)00003-5))
35. J.L. Adler, G.F. List, B. Menyuk, and M. Cetin, "Advanced Educational Technologies and Intelligent Transportation Systems Training: State of the Practice," *Transportation Research Record*, 1729, pp. 65-74, 2000.

## Papers in Refereed International Conference Proceedings

1. C. Sazara, R. Vatani Nezafat, and M. Cetin, "Offline Reconstruction of Missing Vehicle Trajectory Data from 3D LIDAR" Submitted to *IEEE Intelligent Vehicle Symposium*, Redondo Beach CA, June 11-14, 2017.
2. M. Cetin and K.A. Anuar, "Using Probe Vehicle Trajectories in Stop-and-Go Waves for Inferring Unobserved Vehicles" *5<sup>th</sup> IEEE International Conference on Models and Technologies for ITS*, Naples, Italy, June 26-28 2017.
3. P. Johnson, D. Nguyen, M. Ng, and M. Cetin, "Domain Decomposition-Based Shortest-Path Algorithm" *The 96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 8-12, 2017.
4. U. Ahmed, O. Sahin, and M. Cetin, "Minimizing GPS Dependency for a Vehicle's Trajectory Identification by Utilizing Data from Smartphone Inertial Sensors and OBD device" *The 96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 8-12, 2017.
5. A. Collins, R.M. Robinson, M. Cetin, "Survey Results Comparing Value of Time Distributions for Future Auction Tolling" *The 96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 8-12, 2017.
6. G. Basar, E. Frydenlund, and M. Cetin, "Public Opinion and Attitudes towards Auction-Based Tolling Systems in a Connected and Automated Vehicle Environment" *The 96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 8-12, 2017.
7. O. Sahin, R. Paleti, and M. Cetin, "Investigating Relationship between Driving Patterns and Traffic Safety using Smartphones Based Mobile Sensor Data" *The 96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 8-12, 2017.
8. K. A. Anuar and M. **Cetin**, "Estimating Freeway Traffic Volume Using Shockwaves and Probe Vehicle Trajectory Data", In *Transportation Research Procedia* and presented at the 19th EURO Working Group on Transportation Meeting (EWGT2016), Istanbul, Turkey, September 5-7, 2016.
9. A. Alghamdi, T. Nadeem, and M. **Cetin** "itsBlue: A Bluetooth-Based Framework for Intersection Management ITS Applications" 2<sup>nd</sup> IEEE International Conference on Smart Computing (SMARTCOMP), St. Louis, Missouri, May 18-20, 2016.
10. M. **Cetin**, I. Ustun, and O. Sahin, "Classification Algorithms for Detecting Vehicle Stops from Smartphone Accelerometer Data", *The 95<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
11. U. Ahmed and M. **Cetin**, "Analyzing the Passenger Car Equivalencies for Heavy Vehicles at Tunnels and the Impacts of Bottleneck Location," *The 95<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
12. A. Collins, E. Frydenlund, R.M. Robinson, M. **Cetin**, "Comparing Value of Time Distributions in a Tolling Auction Mechanism Enabled by Vehicle-To-Infrastructure Technology" *The 95<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
13. I. Makohon, M. **Cetin**, N. Ng, and D. Nguyen, "Unloading and Premarshalling Algorithms with Java Computer Animation for Terminal Yard Operations," *The 95<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
14. G. Bakhtyar, V. Nguyen, M. **Cetin**, and D. T. Nguyen "Backward Dijkstra Algorithms for Finding the Departure Time Based on the Specified Arrival Time for Real-Life Time Dependent Networks", Presented at the 3<sup>rd</sup> Computational Mathematics and Applications (CMA'2016) Conference in Bangkok, Thailand, January 14-16, 2016.

15. K.A. Anuar, F. Habtemichael, and M. **Cetin**, “Estimating Traffic Flow Rate on Freeways from Probe Vehicle Data and Fundamental Diagram,” *The 18<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems*, Canary Islands, Spain, September 15 – 18, 2015.
16. A. Salem, T. Nadeem, M. **Cetin**, S. EL-Tawab, “DriveBlue: Traffic Incident Prediction through Single Site Bluetooth”, *The 18<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems*, Canary Islands, Spain, September 15 – 18, 2015.
17. Shin-Ting (Cindy) Jeng, L. Chu, M. Cetin "Weigh-In-Motion Station Monitoring and Calibration using Inductive Loop Signature Technology" *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
18. A.P. Nichols and M. **Cetin** “Evaluation of Differential Calibration Accuracy Between WIM Stations Using Reidentified Vehicles,” *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
19. S. Rompis, F. Habtemichael, and M. **Cetin**, “Calibrating Simulation Models for Traffic During Incidents Using Shock Wave Speeds Estimated from Field Data” *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
20. F. Habtemichael, M. **Cetin**, and K.A. Anuar, “Methodology for Quantifying Incident-Induced Delays on Freeways by Grouping Similar Traffic Patterns” *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
21. A.J. Collins, E. Frydenlund, R. M. Robinson, M. **Cetin**, “Exploring a Toll Auction Mechanic Enabled By Vehicle-To-Infrastructure Technology” *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
22. C. Jordan and M. **Cetin** “Signal Preemption Strategy for Emergency Vehicles Using Vehicle to Infrastructure Communication” *The 94<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
23. S. Rompis, F. Habtemichael, and M. **Cetin**, “A Methodology for Calibrating Microscopic Simulation for Modeling Traffic Flow under Incidents” *17<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems*, Qingdao, China, October 8-11, 2014.
24. I. Ustun, A. Alasaadi, T. Nadeem, M. **Cetin**, “Detecting Vehicle Stops from Smartphone Accelerometer Data”, Presented at the 21st ITS World Congress, Detroit, MI, Sept 7-11, 2014.
25. A. Alghamdi, T. Nadeem, M. **Cetin**, “BlueEye: A Bluetooth-Based Vehicle Location Identification System for Queue Length Estimation at Signalized Intersections”, Presented at the 21st ITS World Congress, Detroit, MI, Sept 7-11, 2014.
26. M. **Cetin**, A. P. Nichols, C. Chou “Re-Identification of Trucks Based on Axle Spacing Measurements to Facilitate Analysis of WIM Accuracy” *The 93<sup>rd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 12-16, 2014.
27. M. **Cetin** and H. Rakha “Estimating Fuel Consumption at Signalized Intersections from Probe Vehicle Trajectories” *The 93<sup>rd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 12-16, 2014.
28. O. Unal and M. **Cetin** “Estimating Queue Dynamics and Delays at Signalized Intersections from Probe Vehicle Data” *The 93<sup>rd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 12-16, 2014.
29. C.A. Jordan, M. **Cetin**, and R.M. Robinson, “Clearing Paths for Emergency Vehicles Using Vehicle-to-vehicle Communication” *The 92<sup>nd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 13-17, 2013.
30. P. Foytik, M. **Cetin**, and, M. Robinson, “Calibration of BPR Function Based on Link Counts and its Sensitivity to Varying Demand” *The 92<sup>nd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 13-17, 2013.

31. C.S. Chou, A.P. Nichols, S. Yoo, and M. **Cetin** "Methodology to Estimate Percent of Overweight Trucks without Proper Permits" *The 92<sup>nd</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 13-17, 2013.
32. M. **Cetin** and C. A. Jordan, "Making Way for Emergency Vehicles at Oversaturated Signals under Vehicle-to-Vehicle Communications" *2012 IEEE International Conference on Vehicular Electronics and Safety (ICVES'12)*, Istanbul, Turkey, July 24-27, 2012.
33. M. **Cetin** "Estimating Queue Dynamics at Signalized Intersections from Probe Vehicle Data: A Methodology Based on Kinematic Wave Model" *The 91<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
34. M. **Cetin** and T. Rashid, "Comparing the Performance of Neural Networks and Bayesian Models in Solving the Vehicle Re-Identification Problem" *The 91<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
35. M. **Cetin**, P. Foytik, S. Son, A.J. Khattak, M. Robinson, and J. Lee "Calibration of Volume-Delay Functions for Traffic Assignment in Travel Demand Models" *The 91<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
36. S. Son, M. **Cetin**, and A.J. Khattak, "Exploring Transition of Traffic Conditions in Aggregated Sensor Data" *The 91<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
37. C. Jordan, P. Foytik, and M. **Cetin** "Investigating the Benefits of Vehicle-to-Vehicle Communications in Emergency Response: A Conceptual Methodology" *The 91<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
38. H. Zhang, M. **Cetin**, and A.J. Khattak, "Queuing Delays Associated with Secondary Incidents" *18<sup>th</sup> World Congress on Intelligent Transport Systems*, Orlando, Florida, October 16-20, 2011. (Best Paper Award)
39. M. **Cetin**, C.M. Monsere, A.P. Nichols, and I. Ustun, "Investigating the Key Factors Affecting the Accuracy of Re-identification of Trucks over Long Distances Based on Axle Measurement Data" *The 90<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
40. P. Foytik and M. **Cetin**, "Genetic Algorithm Optimization of BPR Volume Delay Parameters" *The 90<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
41. S. Son, M. **Cetin**, and A.J. Khattak, "Are Some Freeway Lanes Under-Utilized?" *The 90<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
42. M. **Cetin**, C. M. Monsere, and A.P. Nichols, "Bayesian Models for Re-identification of Trucks over Long Distances Based on Axle Measurement Data," *The 89<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2010.
43. H. Zhang, M. **Cetin**, and A.J. Khattak, "Evaluating Factors that Impact Queuing Delays of Secondary Incidents" , " *The 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2010.
44. M. Abuelela, S. Olariu, M. **Cetin**, and D. Rawat "Enhancing Automatic Incident Detection Using Vehicular Communications" *The 70<sup>th</sup> IEEE Vehicular Technology Conference*, Anchorage, Alaska, September 20 – 23, 2009.
45. M. **Cetin** and A.P. Nichols, "Improving the Accuracy of Vehicle Reidentification Algorithms by Solving the Assignment Problem," *The 88<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2009.
46. G. Comert, M. **Cetin**, A. P. Nichols " Incorporating Queue Length Measurements into Actuated Signal Control: Evaluation of Efficiency Benefits at an Intersection," *The 88<sup>th</sup> Annual meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2009.

47. M. **Cetin** and G. Comert, "Flow Rate Estimation from Probe Vehicle Data and Sample Size Requirements," *15th World Congress on Intelligent Transportation Systems*, New York NY, Nov 16-20, 2008.
48. J. Holguín-Veras and M. **Cetin**, "Optimal Tolls for Multiple User Classes," *European Transport Conference*, Netherlands, October 6-8, 2008.
49. M. **Cetin** and G. Comert, "Estimating Queues at Signalized Intersections: Value of Location and Time Data from Instrumented Vehicles," *IEEE Intelligent Vehicle Symposium*, Istanbul, Turkey, June 13-15, 2007.
50. G. Comert and M. **Cetin**, "Queue Length Estimation from Probe Vehicle Location: Undersaturated Conditions," *The 86th Annual meeting of the Transportation Research Board*, Washington, D.C., January 21-25, 2007.
51. A.P. Nichols and M. **Cetin**, "Commercial Vehicle Re-Identification Using WIM and AVC Data," *The 86th Annual meeting of the Transportation Research Board*, Washington, D.C., January 21-25, 2007.
52. A.P. Nichols and M. **Cetin**, "Characterization of Gross Vehicle Weight Distributions from Weigh-in-Motion Data," *The 86th Annual meeting of the Transportation Research Board*, Washington, D.C., January 21-25, 2007.
53. M. **Cetin** and G. Comert, "Short-Term Traffic Flow Prediction with Regime Switching Models," *The 85th Annual meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2006.
54. M. **Cetin** and G.F. List, and Y. Zhou, "Factors Affecting the Minimum Number of Probes Required for Reliable Travel Time Estimation," *The 84th Annual meeting of the Transportation Research Board*, Washington, D.C., January 9-13, 2005.
55. S. Xia, M. **Cetin**, J. Holguin-Veras, "An Econometric Investigation of Toll Policies in the United States" *Proceedings of the XIII PANAM Conference*, Albany, NY, September 26-29, 2004.
56. M. **Cetin** and G. F. List, "Integrating Information Flow and Physical Flow Layers in Transportation Networks," *7th ASCE International Conference on the Application of Advanced Technologies in Transportation*, Cambridge, MA, pp. 951-958, August 5-7, 2002.
57. G.F. List and M. **Cetin**, "Petri Nets for Modeling Traffic Control and Operations," *Workshop on Next Generation of Models for Traffic Analysis, Monitoring and Management*, Tucson, AZ, pp. E2.1-E2-12, September 23-26, 2001.
58. J.L. Adler and M. **Cetin**, "A Direct Redistribution Model of Congestion Pricing," *The 79th Annual meeting of the Transportation Research Board*, Washington, D.C., January 9-13, 2000.
59. J.L. Adler, G. F. List, B. Menyuk, and M. **Cetin**, "State of the Practice of Advanced Educational Technologies and ITS Training," *The 79th Annual meeting of the Transportation Research Board*, Washington, D.C., January 9-13, 2000.

## Other Publications

1. A. Salem, T. Nadeem, and M. Cetin, "Poster: DriveBlue: Can Bluetooth Enhance your Driving Experience?" The 12th International Conference on Mobile Systems, Applications, and Services, June 16-19, 2014, Bretton Woods, NH, USA.
2. I. Ustun and M. Cetin, "Commercial Truck Classification using Logistic Regression, Neural Networks, and K-means Clustering" 2012 Student MS&V Capstone Conference, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 19, 2012
3. C. Jordan and M. Cetin, "Using Vehicle-to-Vehicle Communications to Clear Paths for Emergency Vehicles", 2012 Student MS&V Capstone Conference, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 19, 2012
4. C. Jordan and M. Cetin "Evaluating Vehicle Queue Length Estimations at the HRBT Based on Probe Vehicle Data Using Micro-Simulation" 2011 Student MS&V Capstone Conference, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 14, 2011

5. T. Rashid and M. Cetin “Vehicle Re-identification Using Neural Networks”, *2011 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 14, 2011. (Paper won the first place Gene Newman Award in the Transportation Track).
6. I. Ustun and M. Cetin “Model Transferability in the Re-Identification of Trucks Based on AVC and WIM Data” *2011 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 14, 2011
7. S. Son, M. Cetin, and A.J. Khattak “Freeway Lane Utilization Behavior” *2011 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 14, 2011
8. I. Ustun and M. Cetin, “Origin Destination Estimation for Trucks Based on Re-identification Methods,” *2010 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 8, 2010 (Paper won the first place Gene Newman Award in the Transportation Track).
9. F. Mahmud and M. Cetin, “Transit Signal Priority Assessment for LRT in Downtown Norfolk: Transit Preference vs. Traffic Impacts,” *2010 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, April 8, 2010 (Paper won the second place award in the Transportation Track).
10. J. Wang, O. Unal, M. Cetin, Y. Shen, and Y. Papeilis “Automatic High-Fidelity Roadway Generation,” *2009 Student MS&V Capstone Conference*, Virginia Modeling Simulation and Analysis Center (VMASC), Suffolk, VA, 2009. (Paper won the first place Gene Newman Award in the INFORMS M&S Engineering Track).

## Technical Reports

1. “Network-wide Impacts of Eco-routes and Route Choice Behavior/Evaluation of AERIS Applications” H. Rakha, K. Ahn, B. Park, M. Cetin, Mid-Atlantic Transportation Sustainability Center – Region 3 University Transportation Center, Final Report, 2016
2. “Investigating Relationship between Driving Patterns and Traffic Safety using Smartphones Based Mobile Sensor Data” O. Sahin, R. Paleti, and M. Cetin, Mid-Atlantic Transportation Sustainability Center – Region 3 University Transportation Center, Final Report, 2016
3. “Multimodal Freight Distribution to Support Increased Port Operations” W. Talley, M. Ng, M. Cetin, H. Rakha, B. Park, Mid-Atlantic Transportation Sustainability Center – Region 3 University Transportation Center, Final Report, 2016
4. “Performance Measures for Freight & General Traffic: Investigating Similarities and Differences Using Alternate Data Sources” F. Habtemichael, R. Paleti, M. Cetin, Mid-Atlantic Transportation Sustainability Center – Region 3 University Transportation Center, Final Report, 2015
5. “Open Toll Lanes in a Connected Vehicle Environment: Development of New Pricing Strategies for a Highly Dynamic and Distributed System” A. Collins, G. Basar, E. Frydenlund, M. Robinson, and M. Cetin, National Transportation Center at Maryland (NTC@Maryland), Final Report, 2015
6. “Combining Different Data Sources to Predict Origin-Destinations and Flow Patterns for Trucks in Large Networks” M. Cetin, O. Sahin and I. Ustun, National Transportation Center at Maryland (NTC@Maryland), Final Report, 2015.
7. “Development of Base Macro and Micro Models for the City of Virginia Beach” M. Cetin, M. Robinson, C. Jordan, X. Wang, P. Foytik, K. Anuar, and D. Gerstle, Final Report for the City of Virginia Beach, Center for Innovative Transportation Solutions, 2014.



8. “Improving Travel Times for Emergency Response Vehicles: Traffic Control Strategies Based on Connected Vehicles Technologies”, C. Jordan and M. Cetin, published by TranLIVE University Transportation Center, September 2014.
9. “Real-time prediction of queues at signalized intersections to support eco-driving applications”, published by TranLIVE University Transportation Center, M. Cetin and O. Unal, August 2014
10. “Investigation of Sources of Congestion at the Hampton Roads Bridge Tunnel (HRBT)” Prepared for Virginia Department of Transportation, M. Cetin, F. G. Habtemicheal, and K. A. Anuar, July 2014
11. “Investigation of New Equilibrium Assignment Methods for the VDOT Travel Demand Models” Prepared for Virginia Department of Transportation, M. Cetin, A. J. Khattak, M. Robinson, P. Foytik, K. Anuar, I. Ustun, and S. Rompis May 2013
12. “Exploratory Methods for Truck Re-identification in a Statewide Network Based on Axle Weight and Axle Spacing Data to Enhance Freight Metrics: Phase II” Oregon Transportation Research and Education Consortium (OTREC), M. Cetin, and C. Monsere, May 2012.
13. “Primary and Secondary Incident Management: Predicting Durations in Real Time” A.J. Khattak, X. Wang, H. Zhang, M. Cetin, Virginia Center for Transportation Innovation and Research, Final Report VCTIR 11-R11, 2011.
14. “Evaluation of Volume-Delay Functions and Their Implementation in VDOT Travel Demand Models” VDOT Project Number: 0095078, M. Cetin, A. J. Khattak, M. Robinson, S. Son, and P. Foytik. May 2011.
15. “Development of Truck Trip Generation Models” James E. Clyburn University Transportation Center (JECUTC), Y. Xie, N. Huynh, M. Cetin, and R. Warren, November 30, 2009.
16. “Exploratory Methods for Truck Re-identification in a Statewide Network Based on Axle Weight and Axle Spacing Data to Enhance Freight Metrics” Oregon Transportation Research and Education Consortium (OTREC), M. Cetin, C. Monsere, and A. Nichols, December 2009.
17. “Primary and Secondary Incident Management: Predicting Durations in Real-time” Virginia Transportation Research Council (VTRC), VDOT, A. J. Khattak, X. Wang, H. Zhang, and M. Cetin, November 2, 2009.
18. “Hampton Roads Transportation Alternatives Traffic Simulation: Final Report,” Virginia Modeling, Analysis, and Simulation Center (VMASC), December 2008.
19. “Survey of Manufacturers in Central Midlands”, Part of the “Regional Motor Freight Study” published by the Central Midlands Council of Government, SC, Wilbur Smith Associates, 2008.
20. “Survey of North Carolina Trucking Companies” Part of the “Statewide Logistics Plan for North Carolina: An Investigation of the Issues with Recommendations for Action” Published by North Carolina Office of State Budget and Management, May 13, 2008.
21. “ITS and Construction Management Modules: SCDoT Resident Engineer Academy” M. H. Chaudhry, M. Cetin, A.P. Nichols, September 2007.
22. “Intelligent Transportation Systems: A multimedia interactive educational CD-ROM for ITS Education”, W.A. Wallace, G.F. List, M. Cetin, et al. Rensselaer Polytechnic Institute, Troy NY, 2000.

## Research Papers Presented at Professional Meetings

*(This list does not include the presentations of 57 papers listed under conference proceedings)*

1. "Impacts of Connected and Automated Vehicles on Traffic Flow on a Freeway Sag Curve," E. Beheshtitabar, R. Vatani, E. Williams, and G. F. List, SDITE 2017 Annual Meeting, Columbia SC, March 27-28, 2017.
2. "Tolling and Auctioning in a Connected Vehicles Environment" M. Cetin, S. Basar, A. Collins, E. Frydenlund, and M. Robinson, Transportation Innovation & Policy Summit, University of Maryland, College Park, MD, April 14, 2016
3. "Investigating the Relationship between Driving Patterns and Traffic Safety Using Smartphones Based Mobile Sensor Data" R. Paleti and M. Cetin, NATMEC: Improving Traffic Data Collection, Analysis, and Use, Miami FL, May 1-4, 2016.
4. "A City-wide Microsimulation Model for Virginia Beach", D. Gerstle, C. Jordan, P Foytik, M Robinson, M. Cetin, the 15th TRB National Transportation Planning Applications Conference, Atlantic City, NJ, May 17-21, 2015.
5. "Fuel Consumption Estimation Based on Smartphone Low Energy Sensors" Transportation for Sustainability – An International Conference, Washington DC, May 6-8, 2015.
6. "Mining Motion Sensor Data from Smartphones for Estimating Vehicle Motion" NSF's DriveSense'14 Workshop, Norfolk VA, Oct 30-31, 2014.
7. "Collecting Vehicle Trajectory Information by Smartphones when GPS Signal is Lost" M. Cetin, T. Nadeem, I. Ustun, A. Alasaadi, M. Orensky, VASITE Meeting, Virginia Beach, June 25 - 27, 2014.
8. "Enhancing a Vehicle Reidentification Methodology Based on WIM Data to Minimize the Need for Ground Truth Data", A. P. Nichols, Cetin, C.S. Chou, NATMEC: Improving Traffic Data Collection, Analysis, and Use, Chicago, IL, June 29– July 2, 2014
9. "Connected Vehicle Research and Probe Vehicle Data" Modeling & Simulation Multi-Con, Virginia Modeling, Analysis and Simulation Center (VMASC), Suffolk, VA, Sept 25-27, 2012.
10. (Invited) "Optimization of Volume-Delay Functions and Their Implementations in VDOT Travel Demand Models" Presented at the *Symposium on Transportation Issues and Problems in the Hampton Roads*, Hampton University, Hampton, VA, October 1, 2010.
11. "Using Truck Characteristics Data Collected by WIM and AVC Sensors to Re-Identify Trucks for Estimating Origin-Destination Flows and Truck Travel Times," *Workshop on Toward Better Freight Transportation Data: A Research Road Map*, Arnold and Mabel Beckman Center of the National Academies, Irvine, California, May 19-20, 2010.
12. "Short-Term Traffic Flow Prediction with Regime Switching Model" *NSF's Pan-American Advanced Studies Institute on Transportation Sciences (PASI) 2005*, Toluca and Queretaro, Mexico, July 24<sup>th</sup> - August 7<sup>th</sup> 2005.
13. "Determining the Number of Probe Vehicles Required to Estimate Travel Times in a Network," *INFORMS Annual Meeting*, Denver CO, October 24-27, 2004.
14. "A Traffic Simulation Model for the I-90 Testbed in Paramics," Capital Region's Celebration of National Engineers Week 2003, Albany NY, February 12, 2003.
15. "A Multi-layered Modeling Paradigm for Transportation Systems," Paper received the second best student paper prize at the *American Society of Civil Engineers AATT2002 Conference*, Cambridge, MA, 2002.
16. "Advanced Educational tools for Intelligent Transportation Training," *IEEE International Engineering Management Conference - EM 2000*, Albuquerque, NM, August 13-15, 2000.

## Grants Awarded

### At Old Dominion University (ODU)

PI (Principal Investigator): 2014-2018 – “*ODU’s Subcontract with MATS UTC: Base funding for all years,*” funded by MATS UTC<sup>†</sup>, ODU’s budget: \$637,279 (plus \$215,901 provided to ODU by VDOT as cost share – see projects # 10, 11, and 12). Research projects through this MATS UTC grant:

1. “*Multimodal Freight Distribution to Support Increased Port Operations*” M. Cetin, W. Talley and M. Ng (ODU), H. Rakha (VT), and B. Park (UVA). 2014-2015
2. “*Network-wide Impacts of Eco-routes and Route Choice Behavior/ Evaluation of AERIS Applications*” PI: H. Rakha (VT), CoPIs: M. Cetin (ODU), and B. Park (UVA). 2014-2015
3. “*Exploring the use of LIDAR data from Autonomous Cars for Estimating Traffic Flow Parameters and Vehicle Trajectories*” M. Cetin. 2016-2017
4. PI: 2017-2018 – “*Estimating Road Inundation Levels Due to Recurrent Flooding from Image Data,*” funded by MATS UTC<sup>‡</sup>, Co-Investigators: K. Iftekharuddin (ODU), J. Goodall (UVA); \$108,000 (ODU) & \$42,000 (UVA) plus 1:1 cost share.
5. Co-PI: 2017-2018 “*An Integrated Dynamic Modeling Approach for Flooding of Coastal Transportation Infrastructure: Assessment of Impacts on Emergency Operations,*” funded by MATS UTC, PI: Tahvildari (ODU), Co-PIs: Cetin (ODU), J. Goodall (UVA), P. Murray-Tuite (VT); \$66,694 for ODU, \$38,500 for UVA, \$44,800 for VT, plus 1:1 cost share.
6. Co-PI: 2017-2018 “*Feasibility of Estimating Commodity Flows on Highways with Existing and Emerging Technologies*” funded by MATS UTC<sup>‡</sup>; PI: A. Nichols (Marshall Univ.), Co-PI: M. Cetin (ODU); \$67,701 for MU, \$64,625 for ODU, plus 1:1 cost share.
7. Co-PI: 2016-2017 “*Leveraging Connected Vehicles to Enhance Traffic Responsive Traffic Signal Control*” PI: A. Nichols (Marshall Univ.), funded by MATS UTC<sup>‡</sup>; Co-PIs: M. Abbas (VT), M. Cetin (ODU); \$30,000 for MU, \$75,000 for VT, \$75,000 for ODU, plus 1:1 cost share (\$50K from Econolite).
8. Co-PI: 2016-2017 “*Real-Time System State Prediction & Optimal Rebalancing Strategies for Public Bike Sharing Systems,*” MATS UTC<sup>‡</sup>, PI: Paleti. \$88,116 for ODU.
9. Co-PI: 2016-2017 “*Investigating the Vulnerability of the Transportation Infrastructure in Hampton Roads Region to Extreme Weather and Sea Level Rise,*” VTRC/VDOT (MATS UTC cost share project), PI: Tahvildari, \$71,967.
10. Co-PI: 2015-2016 “*Investigating Relationship between Driving Patterns and Traffic Safety using Smartphones Based Mobile Sensor Data,*” VTRC/VDOT (MATS UTC cost share project), PI: Paleti, \$71,967.
11. Co-PI: 2015-2015 “*Performance Measures for Freight Transport and General Traffic: Investigating Similarities and Differences Using Alternative Data Sources,*” VTRC/VDOT (MATS UTC cost share project), PI: Paleti, \$71,967.
12. Co-PI: 2015-2016 “*LiDAR for Air Quality Measurement*” MATS UTC<sup>‡</sup>, PI: K. Iftekharuddin, Co-PIs: Cetin (ODU), H. Rakha (VT), \$100,000 for ODU; \$50,000 for VT.

PI: 2013-2018 “*ODU’s Subcontract with the National Center for Strategic Transportation Policies, Investments, and Decisions (UMD’s National UTC),*” Funded by the U.S. Department of Transportation’s Research and Innovative Technology Administration (RITA), USDOT, \$322,700. Research projects through this grant:

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<sup>†</sup> Mid-Atlantic Transportation Sustainability (MATS) Center, Region 3 University Transportation Center (UTC), Funded by the U.S. Department of Transportation’s Office of the Assistant Secretary for Research and Technology.

<sup>‡</sup> Awarded through a peer-review and competitive process where approximately 20-30% of proposals selected for funding.

13. “Open Toll Lanes in a Connected Vehicle Environment: Development of New Pricing Strategies for a Highly Dynamic and Distributed System: Phase I” PI: M. Cetin, CoPIs: R. Robinson, and A. Collins (ODU)
  14. “Open Toll Lanes in a Connected Vehicle Environment: Development of New Pricing Strategies for a Highly Dynamic and Distributed System: Phase II” PI: M. Cetin, Co-PIs: R. Robinson, and A. Collins (ODU), and L. Zhang (UMD)
  15. “Combining Different Data Sources to Predict Origin-Destinations and Flow Patterns for Trucks in Large Networks” M. Cetin (ODU)
  16. “Standards and guidance for field and sensor-based measurement of HCM and simulation performance measures” PI: N. Rouphail (NCSU), Co-PI: M. Cetin (ODU)
  17. “Active Bottleneck Management on Freeways through Connected Vehicles” PI: M. Cetin (ODU), Co-PI: G. F. List (NCSU)
18. PI: 2014-2015 – “*Smartphone-Based Solutions to Monitor and Reduce Fuel Consumption and CO<sub>2</sub> Footprint*” Funded by TranLive Tier-I UTC <sup>§</sup> (competitive selection process), Co-PIs: T. Nadeem (ODU) and H. Rakha (VT), \$150,000 for ODU, \$50,000 for VT.
  19. PI: 2013-2015 – “ODU’s Subcontract for TranLive Tier-I University Transportation Center: Year II” Funded by the U.S. Department of Transportation’s Research and Innovative Technology Administration (RITA), USDOT, \$300,000.
  20. PI\*\*: 2012-2014 – “ODU’s Subcontract for TranLive Tier-I University Transportation Center” Funded by the U.S. Department of Transportation’s Research and Innovative Technology Administration (RITA), USDOT, \$600,000.
  21. PI\*\*: 2013-2016 – “*Reducing Energy Use and Emissions through Innovative Technologies and Community Designs: Methodology and Application in Virginia*” Funded by Commonwealth Research Commercialization Fund (CRCF) \$100,000
  22. Co-PI: 2014-2015 “Southeastern Parkway & Greenbelt Assessment during Hurricane Evacuation and Traffic Incidents”, City of Virginia Beach, PI: Robinson, \$739,762.
  23. Co-PI: 2014-2015 “Developing and Field Implementing a Dynamic Eco-Routing System” Funded by TranLive Tier-I University Transportation Center the U.S. Department of Transportation’s Research and Innovative Technology Administration (RITA), PI: T. Nadeem, \$50,000
  24. PI\*\*: 2013-2014 – “Development of Base Macro and Micro Models for the City of Virginia Beach”, Funded by the City of Virginia Beach, \$352,394.
  25. PI: 2013-2014 – “Investigation of Sources of Congestion at the Hampton Roads Bridge Tunnel” Funded by VDOT, \$98,505
  26. PI: 2012-2013 – “Real-time prediction of queues at signalized intersections to support eco-driving applications” Funded by TranLive UTC Tier-I.
  27. PI: 2012-2013 – “New strategies for the emergency vehicle routing to reduce response time using vehicle-to-vehicle communications” Funded by TranLive UTC Tier-I, \$70,000
  28. PI: 2011-2013 – “Investigation of New Equilibrium Assignment Methods for the VDOT Travel Demand Models” Funded by VDOT, \$200,000
  29. Co-PI: 2012-2012 “Investigating the Feasibility of Exploiting Bluetooth Technology in Locating Vehicles at Intersections” Funded by ODU Research Foundation (ODURF), PI: T. Nadeem, \$61,000.
  30. Co-PI: 2011-2013 “Unmet Data Needs of Transportation Planners” Funded by Virginia Center for Transportation Innovation and Research (VCTIR), VDOT, PI: A.J. Khattak, \$94,400.
  31. PI: 2011-2011 – “Developing a Visualization of Traffic Operations at HRBT under Different Conditions” Funded by Tunnel Vision, LLC, \$50,000.

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<sup>§</sup> TranLive Tier-I University Transportation Center (UTC) funded the U.S. Department of Transportation’s Research and Innovative Technology Administration (RITA).

\*\* Initially, Dr. Asad Khattak was the Principal Investigator while at ODU and Dr. Cetin was the Co-PI until 2013.

32. PI: 2009-2011 – “Exploratory Methods for Truck Re-identification in a Statewide Network Based on Axle Weight and Axle Spacing Data to Enhance Freight Metrics: Phase II” Funded by Oregon Transportation Research and Education Consortium (OTREC), (\$51,803+\$63,680 Match).
33. PI: 2009-2011 – “Evaluation of Volume-Delay Functions and Their Implementations in VDOT Travel Demand Models” Funded by Virginia Department of Transportation (VDOT), (\$195,000)
34. Co-PI: 2010-2011 “Hampton Roads-Crater Multimodal Transportation and Distribution Study” Funded by USDOT, PI: M. Robinson (VMASC), \$243,500
35. Co-PI: 2009-2010 “Hampton Roads Transportation Alternatives Modeling: Phase II” Funded by ODU Research Foundation, PI: M. Robinson (VMASC), \$147,679.
36. PI: 2008-2009 – “Development of Truck Trip Generation Models” Funded by James E. Clyburn University Transportation Center (JECUTC), (\$9,598).
37. PI: 2008-2009 – “Exploratory Methods for Truck Re-identification in a Statewide Network Based on Axle Weight and Axle Spacing Data to Enhance Freight Metrics” Funded by Oregon Transportation Research and Education Consortium (OTREC), (\$51,944+ \$52,000 Match).
38. Co-PI: 2008-2009 “Primary and Secondary Incident Management: Predicting Durations in Real-time” Funded by Virginia Trans Research Council (VTRC), Virginia Department of Transportation, PI: A. J. Khattak, 169,000.
39. Co-PI: 2008-2009 “Technical Evaluation of Synthetic Texture Generation Algorithms” Funded by Diamond Visionics, PI: Papelis, \$225,000.
40. Co-PI: 2008-2008 “Hampton Roads Transportation Alternatives Traffic Simulation: Phase I,” Funded by ODU Research Foundation, PI: Robinson (VMASC), \$250,000.

### **At the University of South Carolina (USC)**

41. PI: 2007-2008 “Lower Savannah Council of Governments Regional Freight Mobility Study” Funded by Wilbur Smith Associates/ Lower Savannah Council of Governments (\$26,904)
42. PI: 2007-2008 “Central Midlands Motor Freight Transportation Study” Funded by Wilbur Smith Associates/ Central Midlands Council of Governments (\$13,820)
43. PI: 2008-2008 “Vehicle Infrastructure Integration (VII) and Optimization of System Performance in Large-Scale Transportation Networks” Funded by USC Research Foundation (\$19,000)
44. PI: 2008-2008 “Assessment of the Needs of Freight Carriers to Support the Statewide Logistics Plan for North Carolina” Funded by NCSU/ North Carolina Office of State Budget and Management (\$40,000)
45. Co-PI: 2004-2007 “Intelligent Transportation Systems (ITS) Module: SCDOT Resident Engineer Academy,” Funded by SCDOT, \$159,438.
46. Co-PI: 2005-2006 “Survey the Public to Assess Perception of the Performance of the South Carolina Department of Transportation,” Funded by SCDOT, \$50,000.

### **Teaching**

Based on the student course evaluations for all the courses taught at ODU, Dr. Cetin's effectiveness as a teacher ranks consistently higher than the departmental average.

### **Courses Taught**

At ODU

- ENG 110 (One module): Explore Engineering Technology (Fall 2011, Spring 2012, Fall 2013, Fall 2014)
- CEE 771/871: Transportation Operations II (Spring 2009, Fall 2012, Fall 2014, Fall 2016)
- CEE 304: Probability, Statistics and Risk (Fall 2009, Fall 2010)

CEE 470/570: Transportation Fundamentals (Fall 2009, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014)

CEE 776/876: Simulation Modeling in Transportation Networks (Spring 2010, Fall 2011, Spring 2014, Spring 2016)

CEE 471/571: Transportation Operations I (Spring 2011, Spring 2012, Fall 2013, Spring 2017)

CEE 775/875: Computational Methods for Transportation Systems (Spring 2015)

CEE 772/872: Intelligent Transportation Systems (Fall 2015)

CEE 595: Transportation Sustainability –co-taught by MATS UTC members, Dr. Cetin taught a module on Connected and Automated Vehicles (Fall 2016)

#### At USC

ECIV 340 – Introduction to Transportation Engineering (Fall 2007, Spring 2008)

ECIV 540 – Transportation Systems Planning (Spring 2005, Fall 2006, Fall 2007)

ECIV 542 – Traffic Engineering (Spring 2006, Spring 2007)

ECIV 798 – Graduate Seminar (1 credit hour) (Fall 2005, Spring 2006, Fall 2006 Spring 2007):

#### At RPI

ENG 110 – Introduction to Engineering Analysis (Spring 2003, Fall 2003, Spring 2004)

### **Awards/Honors**

1. Shining Star Award (Fall 2014): Given to faculty members who demonstrate evidence of helping students succeed academically, professionally, and personally. Office of the Dean of Students and Executive Director of Student Affairs, Old Dominion University.
2. Best Paper Award, “Queuing Delays Associated with Secondary Incidents” 18th World Congress on Intelligent Transport Systems, Orlando, Florida, October 16-20, 2011.
3. Shining Star Award (Spring 2011): Given to faculty members who demonstrate evidence of helping students succeed academically, professionally, and personally. Office of the Dean of Students and Executive Director of Student Affairs, Old Dominion University.
4. Shining Star Award (Spring 2010): Given to faculty members who demonstrate evidence of helping students succeed academically, professionally, and personally. Office of the Dean of Students and Executive Director of Student Affairs, Old Dominion University.
5. Shining Star Award (Fall 2009): Given to faculty members who demonstrate evidence of helping students succeed academically, professionally, and personally. Office of the Dean of Students and Executive Director of Student Affairs, Old Dominion University.
6. Selected as a lecturer for the Pan American Advanced Studies Institute (PASI) on Transportation Sciences; Toluca and Queretaro, Mexico, July 24th- August 7th, 2005 (funded by the National Science Foundation).
7. Received the best student paper prize at the American Society of Civil Engineers AATT2002 Conference, Cambridge, MA, 2002 (2<sup>nd</sup> place).

### **Graduate Students Advised**

#### **Current Students**

PhD Students:

1. Gulsevi Basar, PhD Student in MSVE (expected graduation 2017)
2. Umama Ahmed, PhD Candidate in MSVE (expected graduation 2017)
3. Murat Bakirci, PhD Student in MSVE (expected graduation 2017)
4. Cem Sazara, PhD Student in MSVE (expected graduation 2018)
5. Olcay Sahin, PhD Student in CEE (expected graduation 2019)
6. Ehsan Beheshtitabar, PhD Student in CEE (expected graduation 2018)
7. Reza Vatani Nezafat, PhD Student in CEE (expected graduation 2019)
8. Behrouz Salahshour, PhD Student in CEE (expected graduation 2019)

MS/ME Students:

### Former Students

With PhD Degrees:

1. Gurcan Comert, PhD, 2008, (Associate Professor at Benedict College, Columbia, SC)
2. Sanghoon Son, PhD in CEE, Dec 2013 – Co-advised with Dr. Khattak (Research Scientist, Jeju Development Institute, South Korea)
3. Samuel Rompis, PhD in CEE, August 2015 (faculty member at Universitas Sam Ratulangi, Indonesia)
4. Ilyas Ustun, 2016, PhD in Modeling, Simulation and Visualization Engineering (MSVE) Dept. (Data Scientist, Climate Corporation, Saint Louis, Missouri)
5. Khairul “Afi” Anuar, PhD in CEE, December 2016

With MS/ME degrees:

6. Faisal Mahmud, M.S. in CEE, 2010 (Instructional Technology Specialist at CLT, ODU)
7. Özhan Unal, M.E., 2009 (PhD Student at ODU CEE)
8. Tanweer Rashid, M.S. in MSVE, 2011 (PhD Student at ODU MSVE)
9. Khairul “Afi” Anuar, M.S. in CEE, May 2012
10. Craig Jordan, M.S. in MSVE, August 2012 (Project scientist at VMASC)
11. Andrew Hayes, M.E. Student in CEE, August 2012 (At STV Engineering)
12. Rahul Mukund Rajbhara, M.S. in CEE, August 2012 (At A&F Engineering Co, LLC)
13. Peter Foytik, M.S. in MSVE, May 2013 (Project Scientist at VMASC)
14. Seth Schipinski, ME in CEE, August 2014 (at HRTPO)
15. Gregory Moyer, ME in CEE, August 2014
16. Ivan Yordanov, ME in CEE, May 2015 (Parsons Brinckerhoff Inc)
17. Robert Mercogliano, ME in CEE, May 2015 (JMT Engineering)
18. Michelle Allen, MS in CEE, May 2015
19. Mike Poblete, ME in CEE, December 2015
20. Bridjette Parker, ME in CEE, May 2016
21. Chetan Jain, ME in CEE, December 2016

### Dissertation/Thesis Committee Member

- Paul Johnson, PhD in CEE, 2016
- Ivan Makohon, MS in MSVE, 2016
- Bulent Soykan, PhD in Eng Mngmt., 2016
- Kenneth Wynne, MS in CEE, 2016
- Birva Shah, ME in CEE, 2015
- Shelley Bogue, MS in CEE, 2015
- Juan Carlos Morgado, ME in CEE, 2014
- Jeff Flora, MS in ECE, 2014
- Yichi Zhang, MS in CEE, 2013
- Gulsah Hancerliogullari, PhD in Eng Management, 2013

- Robert A. "Bud" Morgan, PhD in CEE, 2013
- Robert Case, PhD in CEE, 2013
- Brandon Natteal, ME in CEE, 2012
- Hongbing Zhang, PhD in CEE, 2012
- Xin Wang, PhD in CEE, 2012
- Mustafa Canan, PhD in Physics, 2011
- Georges M. Arnaout, PhD in Eng Management, 2011
- Mahmoud Abuelela, PhD in Computer Science, 2010
- Salim Balik, PhD in Physics, 2010
- Libin Zheng, MS in CEE, 2009

## Service

### CEE Department

- Chair, CEE Department Tenure and Promotion Committee (Fall 2014-)
- Faculty advisor for Transportation Engineering Students Organization (2015-)
- Represented ODU CEE department at the VDOT Hampton Roads Transportation Career Expo on October 21, 2015 at the Hampton Roads Convention Center
- Chair, search committee for a faculty position in transportation (2013-14)
- FE Review session on transportation engineering, Spring 2014, Fall 2014.
- Department secretary (8/2008-8/2010)
- Member of the ad hoc committee on determining the TA/RA needs (Spring 2010)
- Member of the committee selecting ASHE scholarship recipients
- Director of the Transportation Research Institute (TRI)

### Engineering College

- Member, MSVE faculty search committee (Spring 2015)
- Member, BCET Tenure and Promotion Committee (Fall 2014-)
- Chair of the ad-hoc committee course assessment and quantifying teaching (Fall 2012)
- Member of the BCET's Design Projects Committee (2008-2014)

### University/VMASC

- Associate Director, Center for Innovative Transportation Solutions (CITS)
- Gave presentation about ODU's transportation research program at the Peninsula Chamber Leadership Class Technology Day, November 7, 2013.
- Co-chair for Transportation Track at VMASC's Capstone Conference (April 2013)
- Member of the search committee for a post-doc position at VMASC (2010)
- Search committee member for a faculty position in MSVE Department (2010)
- Gave guest lectures for MSIM 612 (Spring 2010) and MSIM 611 (Spring 2009)
- Faculty advisor for the Turkish Students Association at ODU (2013)

## Professional Services

### Leadership

- Paper review coordinator for the TRB Committee on Urban Transportation Data and Information Systems, managed the review process for ~45 papers/year, (2015-present)



- TRB Workshop co-organizer, Big Data Analytics in Transportation, TRB Annual Meeting January 8-12, 2017.
- TRB Workshop organizer and chair, Big Data Analytics and Applications: Role of Artificial Intelligence and Machine Learning (+200 in audience), TRB Annual Meeting January 10-14, 2016.
- Session Moderator, Session 749: New Approaches for Urban Data, TRB Annual Meeting, January 10-14, 2016.
- Session Chair, TRB North American Travel Monitoring Exposition and Conference (NATMEC): Improving Traffic Data Collection, Analysis, and Use, Miami FL, May 1-4, 2016.
- Guest co-editor, Special Issue of the Journal of Intelligent Transportation Systems on Cyber Transportation Systems and Connected Vehicle Research (2013)

### **Paper Reviews**

- Transportation Research Record and Annual Meeting of the TRB (2003-present)
- Transportation Research -Part C (2011-2017)
- IEEE Transactions on ITS (2010,2011,2013, 2014, 2016)
- Journal of Intelligent Transportation Systems (2009-2014)
- ASCE's Journal of Transportation Engineering (2008,2009, 2013)
- International Journal of Information Technology and Decision Making (2008)
- IEEE Intelligent Transportation Systems Society Conference (2010)
- VMASC's Capstone Conference (2009, 2010,2011)
- Simulation: Transactions of the Society for Modeling and Simulation International (2010)
- XIII PANAM Conference (2004)

### **Research Proposal Reviews**

- NSF CRISP, 2016
- ARPA-e, US Department of Energy, 2015
- NTC@Maryland, National University Transportation Center (2014, 2015)
- UCONNECT University Transportation Center for federal region 9, UC Berkeley (2014, 2015)
- NCITEC (National Center for Intermodal Transportation and Economic Competitiveness), Mississippi State University (2012, 2013)
- UMass Transportation Center (2011)
- Research Council for Natural Sciences and Engineering of the Academy of Finland (2010)
- James E. Clyburn University Transportation Center at South Carolina State University (2007)

### **Other**

- Book Review: Reviewed a textbook on Transportation and Traffic Engineering for Oxford University Press, Inc (2011)
- Radio Interview: Featured on a WHRO program about the impacts of the proposed bridge/tunnel tolls on the Hampton Roads traffic (Jan 26, 2011).

### **Professional Memberships**

1. Member of Transportation Research Board (TRB)
2. TRB-Appointed University Representative for ODU (2008-)

3. Member of the TRB Committee on Urban Transportation Data and Information Systems (ABJ30) and paper review coordinator for ABJ30
4. Member of the TRB Committee on Artificial Intelligence and Advanced Computing Applications (ABJ70)
5. Friend of these TRB committees: Traffic Flow Theory and Characteristics (AHB45), Traffic Signal Systems (AHB25), and Simulation Sub-Committee (AHB45-1).
6. Past member of the Institute for Operations Research and the Management Sciences (INFORMS), and Institute of Transportation Engineers (ITE).
7. Member of the American Society of Civil Engineers (ASCE)

### **Programs Attended for Professional Development /Service**

- (Invited) ITS Professional Capacity Building University Workshop, USDOT, ITS JPO, Washington DC, September 26-27, 2013
- Dynamic route guidance and coordinated traffic control workshop, Rutgers University, June 7-8, 2010
- ExCEED Teaching Seminar, Old Dominion University, August 20-21, 2009
- Transportation Education Conference, University Place Hotel, Portland, OR, June 22-24, 2009.