

Christopher M. Day, PE, PhD

Department of Civil, Construction, and Environmental Engineering
813 Bissell Road
Ames, IA 50010
cmday@iastate.edu

Professional Registration

- Professional Engineer, Indiana License No. 11400781.

Education

- Ph.D., Civil Engineering, Purdue University, West Lafayette, IN, May 2010.
- M.S., Civil Engineering, Purdue University, West Lafayette, IN, December 2007.
- M.S., Physics, Ball State University, Muncie, IN, July 2006.
- B.S., Physics, Ball State University, Muncie, IN, May 2004.

Positions

- Assistant Professor, Iowa State University, Ames, IA, 8/2017 – present.
- Senior Research Scientist. Purdue University, West Lafayette, IN, 11/2010 – 8/2017.
- Postdoctoral Researcher. Purdue University, West Lafayette, IN, 5/2010 – 11/2010.
- Graduate Research Assistant. Purdue University, West Lafayette, IN, 8/2006 – 5/2010.
- Graduate Research Assistant. Ball State University, Muncie, IN, 5/2004 – 7/2006.

Honors

- **Exceptional Paper Award**, Transportation Research Board Traffic Signal Systems Committee – Awarded eight times (2019, 2018, 2017, 2016, 2014, 2013, 2011, and 2010)
- **Pioneering Innovation Award** from Utah Department of Transportation, for development of Signal Performance Measures. Shared with colleagues at Purdue University. January 2016.
- **College of Engineering Faculty Award of Excellence**, Purdue University. Shared with colleagues in the Joint Transportation Research Program and the Indiana Local Technical Assistance Program. April 2015.
- **Corps of Engagement Award**, Purdue University Office of Engagement. Shared with colleagues in the Joint Transportation Research Program. May 2015.
- **Travel Grant**, Research Opportunities Week, Technical University of Munich. March 2013.
- **Federal Highway Administration Dwight D. Eisenhower Transportation Fellowship**. 2008-2009.
- **Honors Society**, Sigma Pi Sigma, Ball State University. May 2003.

Professional Memberships

- Institute of Transportation Engineers, Member
- Transportation Research Board Standing Committee on Traffic Signal Systems
 - Member, 2011-present
 - Research Coordinator, 2019-present
- American Society of Civil Engineers, Member
- Institute of Electrical and Electronics Engineers, Member

Editorial Activities

- Associate Editor, ASCE Journal of Transportation Engineering
- Associate Editor, Journal of Modern Mobility Systems
- Associate Editor, Transportation Research Record
- Past Associate Editor, IEEE ITS Conference

Paper Review

- ASCE Journal of Transportation Engineering
- Transportation Research Board Annual Meeting and Transportation Research Record
- IEEE Transactions on Intelligent Transportation Systems
- Transportation Research Part B
- Transportation Research Part C
- Journal of Advanced Transportation
- ITE Journal
- ASCE Journal of Pipeline Systems
- Simulation: Transactions of the Society for Modeling and Simulation
- Computer Standards and Interfaces

Grant Review

- European Research Council
- Portland State University
- Qatar National Research Fund

Funded Research Projects

Iowa State University

Funding Institution	Project Name	Role	Project Dates
Iowa DOT	Automated Traffic Signal Performance Measures Pilot Implementation	PI	2018-2020
Iowa DOT	Iowa Signal Phasing and Timing (SPAT) and MAP Demonstration project – Phase 1 (PI: Anuj Sharma, Iowa State University)	Co-PI	2018-2020
Iowa DOT	Office of Traffic Operations Support (PI: Neal Hawkins, Iowa State University)	Co-PI	2018-2020
Iowa DOT	Evaluation of Speed Limit Policy Impacts on Iowa Highways	PI	2017-2019
Iowa DOT	In-Service Evaluation of Railroad Signal and Stop Arm Pole Protection	PI	2017-2019
Iowa DOT	In-Service Evaluation of Culvert Extensions	PI	2017-2019

Funding Institution	Project Name	Role	Project Dates
FHWA IDIQ	DTFH61-16-D-00063: Objectives and Performance Based Management of Traffic Signal Operations (with Leidos, Inc.)	PI	2018-2020
Smart Work Zone Deployment Initiative	Portable Road User Safety Lighting for Work Zones (PI: John Shaw, Iowa State University)	Co-PI	2019-2020
Nebraska DOT	Evaluating ATSC Operations for Dodge Street Corridor (PI: Anuj Sharma, Iowa State University)	Co-PI	2019-2021
Department of Energy	Identifying the Performance Potential for Intersection Control Using Advanced Infrastructure Sensing (In cooperation with National Renewable Energy Laboratory)	PI	2019-2020
NCHRP	NCHRP 3-136: Evaluating the Performance of Right-Turn-On-Red Operation at Signalized Intersections	PI	2019-2021
Iowa DOT	Data-Driven Identification of Candidates for Operational Improvement	PI	2019-2020

Purdue University

Funding Institution	Project Name	Role	Project Dates
NCHRP	NCHRP 03-122: Performance Based Management of Traffic Signals (with Kittelson & Associates, Inc.)	Research Scientist	2016–2019
Pennsylvania DOT	Implementation of Probe Data Performance Measures	Research Scientist	2016–2017
FHWA	SBIR 3 – Sensor Fusion for Off-Line and Real-Time Traffic Analysis (with Traffax, Inc.)	Research Scientist	2014–2016
Indiana DOT	SPR-3821 / SPR-3949: Real Time Traffic Operation Mobility Measures	Research Scientist	2014–2017
USDOT Pooled Fund Study	TRP-5258: Traffic Signal Operations and Management Transportation Pooled Fund Study	Research Scientist	2013–2015
Indiana DOT	SPR-3615: Active Corridor Management	Research Scientist	2012–2015
Indiana DOT	SPR-3531: Best Practices for Roundabouts on State Highways	Research Scientist	2011–2012
Indiana DOT	SPR-3530: Traffic Operation Mobility Measures	Research Scientist	2011–2012
USDOT	Morgantown, West Virginia ACS-Lite Evaluation (with Marshall University)	Research Scientist	2010–2012
Indiana DOT	SPR-3409: Procurement Procedures and Specifications for Performance Measure Capable Traffic Infrastructure Data Collection Systems	Research Scientist	2009–2011

Publication Record

- [ORCID](#): 0000-0002-3536-7211

Citation Metrics

- [Google Scholar](#): 1448 citations; h-index of 21; i10-index of 45
- [Scopus](#) (Elsevier): 569 citations; h-index of 13
- [Publons](#) (Thomson Reuters): 511 citations; h-index of 12

Peer-Reviewed Journal Articles

Iowa State University (2017-present)

57. Emtenan AMT and CM Day. "Impacts of Detector Configuration on Performance Measurement and Signal Operations." *Transportation Research Record*, 2674(4), 300-313 (2020).
56. Day CM and AMT Emtenan. "Trajektorienbasierte Leistungskennzahlen für Anlagen mit gestörtem Verkehrsfluss." ("Trajectory-Based Performance Measures for Interrupted-Flow Facilities"). *Straßenverkehrstechnik* 63 (2019).
55. Day CM and DM Bullock. "Optimization of traffic signal offsets with high-resolution event data." *ASCE Journal of Transportation Engineering*, 146, 04019076 (2019).
54. Day CM and AMT Emtenan. "Impact of phase sequence on cycle length resonance." *Transportation Research Record*, 2673(11), 398-408 (2019). **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 14, 2019.**
53. Brennan TM, CM Day, and M Volovski. "Ranking statistically similar highway travel corridors using speed data sets." *Infrastructure Asset Management*, 5(3), 96-104 (2018). <https://doi.org/10.1680/jinam.17.00016>
52. Day CM, H Li, JR Sturdevant, and DM Bullock. "Data-driven ranking of coordinated traffic signal systems for maintenance and retiming." *Transportation Research Record*, 2672(18), 167-178. <https://doi.org/10.1177/0361198118794042> (2018). **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 8, 2018.**
51. Remias SM, CM Day, J Waddell, J Kirsch, and T Trepanier. "Evaluating the performance of coordinated signal timing: a comparison of common data types with connected vehicle data." *Transportation Research Record*, 2672(18), 128-142 (2018). <https://doi.org/10.1177/0361198118794546>

Purdue University (2006-2017)

50. Day CM, H Li, L Richardson, J Howard, T Platte, and DM Bullock. "Detector-free optimization of traffic signal offset with connected vehicle data." *Transportation Research Record No. 2620*, 54-68 (2017). <https://doi.org/10.3141/2620-06> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 9, 2017.**
49. Day CM and DM Bullock. "Investigation of self-organizing traffic signal control with graphical signal performance measures." *Transportation Research Record No. 2620*, 69-82 (2017). <https://doi.org/10.3141/2620-07>
48. Li H, LM Richardson, CM Day, J Howard, and DM Bullock. "Scalable dashboard for identifying split failures and heuristic for reallocating split times." *Transportation Research Record No. 2620*, 83-95 (2017). <https://doi.org/10.3141/2620-08>
47. Richardson LM, MD Luker, CM Day, M Taylor, and DM Bullock. "Outcome assessment of peer-to-peer adaptive control adjacent to a national park." *Transportation Research Record No. 2620*, 43-53 (2017). <https://doi.org/10.3141/2620-05>
46. Young SE, E Sharifi, CM Day, and DM Bullock. "Visualizations of Travel Time Performance based on Vehicle Re-Identification Data." *Transportation Research Record No. 2646*, 84-92 (2017). <https://doi.org/10.3141/2646-10>
45. Day CM and DM Bullock. "Cycle length strategies for a diverging diamond interchange in a signalized arterial." *Journal of Transportation Engineering*, Vol. 142, 04016067 (2016). [https://doi.org/10.1061/\(ASCE\)TE.1943-5436.0000897](https://doi.org/10.1061/(ASCE)TE.1943-5436.0000897)
44. Day CM and DM Bullock. "Opportunities for detector-free signal optimization with limited connected vehicle market penetration: a proof-of-concept study." *Transportation Research Record No. 2558*, 54-65 (2016). <https://doi.org/10.3141/2558-06>
43. Lavrenz SM, C Day, J Grossman, R Freije, and DM Bullock. "Use of high-resolution signal controller data to identify red light running." *Transportation Research Record No. 2558*, 41-53 (2016). <https://doi.org/10.3141/2558-05> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 11, 2016.**

42. Lavrenz SM, CM Day, WB Smith, JR Sturdevant, and DM Bullock. "Assessing longitudinal arterial performance traffic signal retiming outcomes." *Transportation Research Record No. 2558*, 66-77 (2016). <https://doi.org/10.3141/2558-07>
41. Li H, SM Remias, CM Day, MM Mekker, JR Sturdevant, and DM Bullock. "Shock wave boundary detection using cloud-based probe data." *Transportation Research Record No. 2526*, 51-60 (2015). <https://doi.org/10.3141/2526-06>
40. Day CM, SM Remias, H Li, MM Mekker, ML McNamara, ED Cox, and DM Bullock. "Performance ranking of arterial corridors using travel time and travel time reliability metrics." *Transportation Research Record No. 2487*, 44-54 (2015). <https://doi.org/10.3141/2487-04>
39. Hainen AM, H Li, AL Stevens, CM Day, JR Sturdevant, and DM Bullock. "Sequence optimization at signalized diamond interchanges using high-resolution event-based data." *Transportation Research Record No. 2487*, 5-30 (2015). <https://doi.org/10.3141/2487-02>
38. Hainen AM, AL Stevens, CM Day, H Li, J Mackey, M Luker, M Taylor, JR Sturdevant, and DM Bullock. "Performance measures for optimizing diverging diamond interchanges and outcome assessment with drone video." *Transportation Research Record No. 2487*, 31-43 (2015). <https://doi.org/10.3141/2487-03>
37. Li H, SM Lavrenz, CM Day, A Stevens, JR Sturdevant, and DM Bullock. "Use of both travel time and travel time reliability measures to quantify benefits of signal timing maintenance and optimization." *Transportation Research Record No. 2487*, 55-68 (2015). <https://doi.org/10.3141/2487-05>
36. Lavrenz SM, CM Day, AM Hainen, WB Smith, AL Stevens, H Li, and DM Bullock. "Use of maximum vehicle delay to characterize signalized intersection performance." *Transportation Research Record No. 2488*, 41-52 (2015). <https://doi.org/10.3141/2488-05>
35. Day, CM and DM Bullock. "Design guidelines and conditions that warrant deploying fully actuated coordination." *Transportation Research Record No. 2439*, 1-11 (2014). <https://doi.org/10.3141/2439-01> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 13, 2014.**
34. Hainen AM, A Stevens, CM Day, JR Sturdevant, and DM Bullock. "High-resolution event-based data at diamond interchanges: performance measures and optimization of ring displacement." *Transportation Research Record No. 2439*, 12-26, (2014). <https://doi.org/10.3141/2439-02>
33. Freije R, AM Hainen, A Stevens, H Li, WB Smith, CM Day, JR Sturdevant, and DM Bullock. "Graphical performance measures for practitioners to triage split failure trouble calls." *Transportation Research Record No. 2439*, 27-40, (2014). <https://doi.org/10.3141/2439-03>
32. Lavrenz S, AM Hainen, A Stevens, CM Day, H Li, R Freije, WB Smith, H Summers, JR Sturdevant, and DM Bullock. "Improving intersection behavior through delay-based left turn phase initiation." *Transportation Research Record No. 2439*, 41-52 (2014). <https://doi.org/10.3141/2439-04>
31. Remias SM, TM Brennan, CM Day, H Summers, DK Horton, ED Cox, and DM Bullock. "Spatially referenced probe data performance measures for infrastructure investment decision makers." *Transportation Research Record No. 2420*, 33-44, (2014). <https://doi.org/10.3141/2420-04>
30. Day CM, JR Sturdevant, H Li, AM Hainen, SM Remias, and DM Bullock. "Revisiting the cycle length-lost time question with critical lane analysis." *Transportation Research Record No. 2355*, 1-9 (2013). <https://doi.org/10.3141/2355-01> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 14, 2013.**
29. Li H, AM Hainen, CM Day, G Grimmer, JR Sturdevant, and DM Bullock. "Longitudinal performance measures for assessing agency-wide signal management objectives." *Transportation Research Record No. 2355*, 20-30 (2013). <https://doi.org/10.3141/2355-03>
28. Remias SM, AM Hainen, CM Day, TM Brennan, H Li, EM Rivera-Hernandez, JR Sturdevant, SE Young, and DM Bullock. "Performance characterization of arterial traffic flow with probe vehicle data." *Transportation Research Record No. 2380*, 10-21 (2013). <https://doi.org/10.3141/2380-02>
27. Hainen AM, EM Rivera, CM Day, M McBride, G Grimmer, A Loehr, and DM Bullock. "Roundabout critical headway measurement based on hi-resolution event-based data from wireless magnetometers." *Transportation Research Record No. 2389*, 51-64 (2013). <https://doi.org/10.3141/2389-06>
26. Day CM, JM Ernst, TM Brennan, CS Chou, AM Hainen, SM Remias, AP Nichols, BD Griggs, and DM Bullock. "Performance measures for adaptive signal control: Case study of system-in-the-loop simulation." *Transportation Research Record No. 2311*, 1-15, (2012). <https://doi.org/10.3141/2311-01>
25. Day CM, and DM Bullock. "Characterization of platoon dispersion model with high-resolution signal event data." *Transportation Research Record No. 2311*, 16-28 (2012). <https://doi.org/10.3141/2311-02>

24. Brennan TM, BD Griggs, G Grimmer, AM Hainen, CM Day, JR Sturdevant, and DM Bullock. "Defining design space for parameters of traffic signal timing: Empirical approach." *Transportation Research Record No. 2311*, 85-98, (2012). <https://doi.org/10.3141/2311-08>
23. Ernst JM, CM Day, JV Krogmeier, and DM Bullock. "Probe data sampling guidelines for characterizing arterial travel time." *Transportation Research Record No. 2315*, 173-181 (2012). <https://doi.org/10.3141/2315-18>
22. Day CM, TM Brennan, AM Hainen, SM Remias, H Premachandra, JR Sturdevant, G Richards, JS Wasson, and DM Bullock. "Reliability, flexibility, and environmental impact of alternative objective functions for arterial offset optimization." *Transportation Research Record No. 2259*, 8-22 (2011). <https://doi.org/10.3141/2259-02>
21. Day CM, TM Brennan, H Premachandra, JR Sturdevant, and DM Bullock. "Analysis of peer data on intersections for decisions about coordination of arterial traffic signal." *Transportation Research Record No. 2259*, 23-36, (2011). <https://doi.org/10.3141/2259-03>
20. Day CM and DM Bullock. "Computational efficiency of alternative algorithms for arterial offset optimization." *Transportation Research Record No. 2259*, 37-47 (2011). <https://doi.org/10.3141/2259-04>
19. Brennan TM, CM Day, JR Sturdevant, and DM Bullock. "Visual education tools to illustrate coordinated system operation." *Transportation Research Record No. 2259*, 59-72, (2011). <https://doi.org/10.3141/2259-06> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 24, 2011.**
18. Smaglik EJ, D Gettman, DM Bullock, CM Day, and H Premachandra. "Comparison of alternative real-time performance measures for measuring signal phase utilization and identifying oversaturation." *Transportation Research Record No. 2259*, 123-131, (2011). <https://doi.org/10.3141/2259-11>
17. Brennan TM, CM Day, JS Wasson, JR Sturdevant, and D.M. Bullock. "Assessing signal timing plans for winter conditions." *Journal of Transportation of the Institute of Transportation Engineers*, Vol. 1, 59-76 (2011). <https://trid.trb.org/view/1105658>
16. Brennan TM, JM Ernst, CM Day, DM Bullock, JV Krogmeier, and M Martchouk. "Influence of vertical sensor placement on data collection efficiency from Bluetooth MAC address collection devices." *Journal of Transportation Engineering*, Vol. 136, 1104-1109 (2010). [https://doi.org/10.1061/\(ASCE\)TE.1943-5436.0000178](https://doi.org/10.1061/(ASCE)TE.1943-5436.0000178)
15. Day CM, H Premachandra, TM Brennan, JR Sturdevant, and DM Bullock. "Operational evaluation of wireless magnetometer vehicle detectors at a signalized intersection." *Transportation Research Record No. 2192*, 11-23 (2010). <https://doi.org/10.3141/2192-02>
14. Day CM, JR Sturdevant, and DM Bullock. "Outcome oriented performance measures for management of signalized arterial capacity." *Transportation Research Record No. 2192*, 24-36 (2010). <https://doi.org/10.3141/2192-03>
13. Day CM, R Haseman, H Premachandra, TM Brennan, JS Wasson, JR Sturdevant, and DM Bullock. "Evaluation of arterial signal coordination: methodologies for visualizing high-resolution event data and measuring travel time." *Transportation Research Record No. 2192*, 37-49 (2010). <https://doi.org/10.3141/2192-04>
12. Brennan TM, CM Day, JR Sturdevant, E Raamot, and DM Bullock. "Track clearance performance measures for railroad preempted intersections." *Transportation Research Record No. 2192*, 64-76 (2010). <https://doi.org/10.3141/2192-06> **Received Exceptional Paper Award, Traffic Signal Systems Committee, Transportation Research Board, January 12, 2010.**
11. Brennan TM, EA Hulme, CM Day, JR Sturdevant, T Overman, J Kruger, and DM Bullock. "Decision-tree model to prioritize signalized intersections near highway-railroad crossings for railroad interconnect." *Transportation Research Record No. 2192*, 116-126 (2010). <https://doi.org/10.3141/2192-11>
10. Day CM, DM Bullock, and JR Sturdevant. "Cycle-length performance measures: revisiting and extending fundamentals." *Transportation Research Record No. 2128*, 48-57 (2009). <https://doi.org/10.3141/2128-05>
9. Day CM, TM Brennan, ML Harding, H Premachandra, A Jacobs, DM Bullock, JV Krogmeier, and JR Sturdevant. "Three dimensional mapping of inductive loop detector sensitivity using field measurement." *Transportation Research Record No. 2128*, 35-47, (2009). <https://doi.org/10.3141/2128-04>
8. Brennan TM, CM Day, DM Bullock, and JR Sturdevant. "Performance measures for railroad preempted intersections." *Transportation Research Record No. 2128*, 20-34 (2009). <https://doi.org/10.3141/2128-03>
7. Hubbard SML, DM Bullock, and CM Day. "Integration of real-time pedestrian performance measures into existing traffic signal system infrastructure." *Transportation Research Record No. 2080*, 37-47 (2008). <https://doi.org/10.3141/2080-05>
6. Day CM, EJ Smaglik, DM Bullock, and JR Sturdevant. "Quantitative evaluation of fully actuated versus non-actuated coordinated phases." *Transportation Research Record No. 2080*, 8-21 (2008). <https://doi.org/10.3141/2080-02>

Ball State University (2004-2006)

5. Jin F, Y Liu, CM Day, and SA Little. "Enhanced electron emission from functionalized carbon nanotubes with a barium strontium oxide coating produced by magnetron sputtering." *Carbon*, 45(3), 587-593 (2007). <https://doi.org/10.1016/j.carbon.2006.10.014>
4. Jin F, Y Liu, CM Day, and SA Little. "Enhanced field emission from carbon nanotubes with a thin layer of low work function barium strontium oxide surface coating." *Journal of Vacuum Science and Technology Part B*, 25(6), 1785-1788 (2007). <https://doi.org/10.1116/1.2790914>
3. Jin F, Y Liu, and CM Day. "Barium strontium oxide coated carbon nanotubes as field emitters." *Applied Physics Letters*, 90, 143114 (2007). <https://doi.org/10.1063/1.2719645>
2. Liu Y, CM Day, SA Little, and F Jin. "Thin film deposition of barium strontium oxide by RF magnetron sputtering." *Journal of Vacuum Science and Technology Part A*, 24, 2187-2191 (2006). <https://doi.org/10.1116/1.2363400>
1. Jin F, Y Liu, and CM Day. "Thermionic emission from carbon nanotubes with a thin layer of low work function barium strontium oxide surface coating." *Applied Physics Letters*, 88, 163116 (2006). <https://doi.org/10.1063/1.2198093>

Peer-Reviewed Conference Proceedings*Iowa State University (2017-present)*

36. Chawla H, M Megat-Johari, PT Savolainen, and CM Day. "In-Service Evaluation of Culvert Extension in Iowa." Transportation Research Board Annual Meeting (2020).
35. Thompson KR, S Mahmud, MTA Niloy, and CM Day. "Probe Vehicle Performance Measures for Assessing Travel Time Reliability." Transportation Research Board Annual Meeting (2020).
34. Day CM, R Helt, D Sines and AMT Emtenan. "Leveraging Sensor-Based Vehicle Trajectory Construction in Existing Traffic Signal Infrastructure." IEEE Intelligent Transportation Systems Conference (2019).
33. Zhu L, SE Young, and CM Day. "Exploring First-Order Approximation of Energy Equivalence of Safety at Intersections." ASCE TD&I Annual Meeting (2019).
32. Day, CM. "Sensitivity of Automated Intersection Control to Frequency of Pedestrian Calls." [Automated Vehicle Symposium](#), San Francisco, CA (2018).
31. Day, CM. "Platoon dispersion and saturation flow rates in cellular automata models of signal-controlled roadway traffic." IEEE Intelligent Transportation Systems Conference, Lahaina, HI (2018).
30. Day, CM, H Li, SM Lavrenz, SM Remias, and DM Bullock. "Enhanced dynamic travel time estimation from probe vehicle segment speeds." Transportation Research Board Annual Meeting, Paper No. 18-00114 (2018).
29. Mathew JK, CM Day, H Li, and DM Bullock. "Curating automatic vehicle location data to compare the performance of outlier filtering methods." Transportation Research Board Annual Meeting, Paper No. 18-01536 (2018).
28. Mathew J, D Krohn, H Li, CM Day, A Patel, D Farley, and DM Bullock. "Outcome assessment using connected vehicle data to justify signal investments to decision makers." ITS World Congress, Montreal, Canada (2017).

Purdue University (2006-2017)

27. Day CM, H Li, SML Hubbard, and DM Bullock. "Observations of trip generation, route choice, and trip chaining with private-sector probe vehicle GPS data." Mobil.TUM, Munich, Germany (2017).
26. Day CM and DM Bullock. "Visualization of the potential performance of coordinated systems to support management of signal timing." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 17-00090 (2017).
25. Day CM, H Li, ED Cox, DK Horton, and DM Bullock. "A case study on the implementation of National Highway System performance measures proposed in new federal rule making." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 17-00091 (2017).
24. D Krohn, L Rymarczuk, JK Mathew, CM Day, H Li, and DM Bullock. "Outcome assessment using connected vehicle data to justify signal investments to decision makers." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 17-00314 (2017).
23. Brennan TM, CM Day, and M Volovski. "Ranking statistically similar highway travel corridors using state speed datasets." Transportation Research Board Annual Meeting, Paper No. 17-00652 (2017).
22. Li H, CM Day, and DM. Bullock. "Virtual detection at intersections using connected vehicle trajectory data." IEEE Conference on Intelligent Transportation Systems, Rio de Janeiro, Brazil (2016).

21. Day CM, SM Lavrenz, AL Stevens, RE Miller, and DM Bullock. "Extending link pivot offset optimization to arterials with single controller diverging diamond interchange." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 16-0111 (2016).
20. Li H, CM Day, JR Sturdevant, and DM Bullock. "Scaling detailed high-resolution data split performance measures to statewide system level management." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 16-4149 (2016).
19. Sajjadi S., CM Day, and K Bright. "Evaluating transit signal priority and offset optimization strategies in microsimulation using the Purdue coordination diagram." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 16-6760 (2016).
18. Day CM and DM Bullock. "Integrating outcome oriented performance measures into traffic signal operations business processes." Proceedings, IEEE Conference on Intelligent Transportation Systems, Las Palmas de Gran Canaria, Spain, 131-136 (2015).
17. Day CM, SM Remias, H Li, DK Horton, and DM Bullock. "Comparative performance ranking of arterial sections to prioritize agency resource investments." Mobil.TUM International Scientific Conference on Mobility and Transport, Munich, Germany (2015).
16. Day CM, H Li, AM Hainen, AL Stevens, JR Sturdevant, and DM Bullock. "Congestion ranking of protected and permitted movements across agency inventory." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 15-0062 (2015).
15. Brennan TM, CM Day, SM Remias, DK Horton, ED Cox, and DM Bullock. "Alternative performance measures and weighting for quantifying spatial and- temporal congestion using probe data." ITS World Congress, Detroit, Michigan (2014).
14. Remias S, T Brennan, A Hainen, C Day, and D Bullock. "Characterizing urban mobility and travel time reliability along signalized corridors using probe data." Mobil.TUM International Scientific Conference on Mobility and Transport, Munich, Germany (2013).
13. Hainen AM, SM Remias, TM Brennan, CM Day, and DM Bullock, "Probe vehicle data for characterizing road conditions associated with inclement weather to improve road maintenance decisions." 2012 IEEE Intelligent Vehicles Symposium, Madrid, Spain (2012).
12. Remias SM, AM Hainen, GM Grimmer, AD Davis, CM Day, TM Brennan, and Bullock, DM Leveraging high resolution signalized intersection data to characterize discharge headway distributions and saturation flow rate reliability. Transportation Research Board Annual Meeting, Washington, DC, Paper No. 12-2122 (2012).
11. Day CM, DM Bullock, AP Nichols, TM Brennan, and CS Chou. "Integrating adaptive and traffic responsive algorithms." Transportation Research Arena 2012, Athens, Greece. In Procedia - Social and Behavioral Sciences 48, 3451-3460 (2012).
10. Day CM, H Premachandra, and DM Bullock. "Rate of Pedestrian Signal Phase Actuation as a Proxy Measurement of Pedestrian Demand." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 11-0220 (2011).
9. Brennan TM, CM Day, JS Wasson, JR Sturdevant, and DM Bullock. "Assessing opportunities and benefits of alternative winter operation timing plans for signalized arterials." Transportation Research Board Annual Meeting, Washington, DC, Paper No. 11-0010 (2011).
8. Bullock DM and CM Day. "Performance measures for managing urban traffic signal systems." In WIT Transactions on the Built Environment, Vol. 107, 167-175, (2009). Southampton, UK: Wessex Institute of Technology Press, 2009.
7. Day CM and D Bullock. "Application of high resolution traffic signal controller data for platoon visualization and optimization of signal offsets." Mobil.TUM International Scientific Conference on Mobility and Transport, Munich, Germany (2009).

Ball State University (2004-2006)

6. Jin F, Y Liu, C Day, and S Little. "Degradation of vertically aligned carbon nanotubes at growth interface joints at high temperatures and its impact on electron emission properties." Materials Research Society Symposium Proceedings, Paper No. 1137-EE05-09 (2008).
5. Jin F, Y Liu, C Day, and S Little. "A new thermionic cathode based on carbon nanotubes with a thin layer of low work function barium strontium oxide surface coating." Materials Research Society Symposium Proceedings, Paper No. 1142-JJ15-41 (2008).
4. Jin F, Y Liu, CM Day, and SA Little. "Enhanced thermionic emission from barium strontium oxide coated carbon nanotubes." Proceedings of the Eighth IEEE International Vacuum Electronics Conference (2007).

3. Liu Y, F Jin, CM Day, and SA Little. "Thermal and electrical degradation of carbon nanotubes." Materials Research Society Symposium Proceedings, 963E, Q20.40 (2006).
2. Jin F and C Day. "Strong field enhanced thermionic electron emission from a new oxide coated carbon nanotube cathode." IEEE International Conference on Plasma Science (2005).
1. Jin F and CM Day. "A new carbon nanotube based field enhanced thermionic cathode." Materials Research Society Symposium Proceedings 858E, HH13.33.1 (2004).

Invited Periodical Articles

4. Day CM, S Langdon, A Stevanovic, A Tanaka, K Lee, EJ Smaglik, L Overn, N Agarwal, L Richardson, and S Phillips. "Past, Present, and Future Trends in Traffic Signal Systems Research." Traffic Signal Systems Committee Centennial Paper. [Published online](#) by Transportation Research Board (2019).
3. Day CM, M Taylor, J Mackey, R Clayton, S Patel, G Xie, H Li, JR Sturdevant, and DM Bullock. "Implementation of automated traffic signal performance measures." *ITE Journal*, 86(8), 26-34 (2016).
2. Bullock DM, CM Day, TM Brennan, JR Sturdevant, and JS Wasson. "Architecture for active management of geographically distributed signal systems." *ITE Journal*, 81(5), 20-24 (2011).
1. Bullock DM, JR Sturdevant, and CM Day. "Signalized intersection performance measures for operations decision making." *ITE Journal*, 78(8), 20-23, (2008).

Monographs

3. Day CM, DM Bullock, H Li, SM Lavrenz, WB Smith, and JR Sturdevant. *Integrating Traffic Signal Performance Measures into Agency Business Processes*. West Lafayette, Indiana: Purdue University (2016). <http://dx.doi.org/10.5703/1288284316063>
2. Day CM, DM Bullock, H Li, SM Remias, AM Hainen, RS Freije, AL Stevens, JR Sturdevant, and TM Brennan. *Performance Measures for Traffic Signal Systems: An Outcome-Oriented Approach*. West Lafayette, Indiana: Purdue University (2014). <http://dx.doi.org/10.5703/1288284315333>
1. Day CM, TM Brennan, AM Hainen, SM Remias, and DM Bullock. *Roadway System Assessment Using Bluetooth-Based Automatic Vehicle Identification Travel Time Data*. West Lafayette, Indiana: Purdue University, (2012). <http://dx.doi.org/10.5703/1288284314988>

Technical Reports

17. Savolainen PT, JD Cyr, JW Shaw, and CM Day. *In-Service Evaluation of Railroad Signal and Stop Arm Pole Protection*. Final report, Project 17-621. Institute for Transportation, Iowa State University, Ames, Iowa (2019).
16. Savolainen PT, CM Day, A Sharma, J Warner, and C Zhou. *Evaluation of Speed Limit Policy Impacts on Iowa Highways*. Final report, Project 17-622. Institute for Transportation, Iowa State University, Ames, Iowa (2019).
15. Savolainen PT, H Chawla, J Warner, JW Shaw, CM Day, and MU Megat-Johari. *In-Service Evaluation of Culvert Extensions*. Final report, Project 17-623. Institute for Transportation, Iowa State University, Ames, Iowa (2019).
- 14a. Day CM, SE Young, DM Bullock, and DST Fong. *Sensor Fusion and MOE Development for Off-Line Traffic Analysis of Real Time Data*. FHWA SBIR DTFH61-14-C-00035. Purdue University, West Lafayette, Indiana (2017). <https://doi.org/10.5703/1288284316556>
- 14b. Day CM, H Li, SM Lavrenz, and DM Bullock. *Traffic Performance of Arterial Highways and Driver Routing Characteristics During a Freeway Detour*. FHWA SBIR DTFH61-14-C-00035, Purdue University, West Lafayette, Indiana (2017). <https://doi.org/10.5703/1288284316564>
- 14c. Young S, D Bullock, C Day, and DST Fong. *Network Performance Measures for Arterials: A Systematic Level Perspective*. FHWA SBIR DTFH61-14-C-00035, Purdue University, West Lafayette, Indiana (2017). <https://doi.org/10.5703/1288284316561>
- 14d. Young SE, CM Day, DM Bullock, and DST Fong. *Visualizations of Arterial Traffic Performance Measures: A Picture Book Approach*. FHWA SBIR DTFH61-14-C-00035, Purdue University, West Lafayette, Indiana (2017). <https://doi.org/10.5703/1288284316562>
- 14e. Day CM and DM Bullock. *Performance Measures of Interrupted-Flow Roadways using Re-Identification and Signal Controller Data*. FHWA SBIR DTFH61-14-C-00035, Purdue University, West Lafayette, Indiana (2017). <https://doi.org/10.5703/1288284316557>

13. Mathew J, D Krohn, H Li, C Day, and D Bullock. *Implementation of Probe Data Performance Measures*. Report PA-2017-001-PU-WO 001, Pennsylvania Department of Transportation (2017).
12. Day CM, M McNamara, H Li, R Sakhare, M Mekker, E Cox, D Horton, and D Bullock. *2015 Indiana Mobility Report and Performance Measure Dashboards*. Indiana Mobility Reports series. West Lafayette, Indiana: Purdue University (2016). <http://dx.doi.org/10.5703/1288284316352>
11. Day CM, AM Stevens, JR Sturdevant, and DM Bullock. *Alternative Intersections and Interchanges: Volume 2—Diverging Diamond Interchange Signal Timing*. Publication FHWA/IN/JTRP-2015/27. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana, (2015). <http://dx.doi.org/10.5703/1288284316012>
10. Day CM, SM Remias, H Li, M Mekker, M McNamara, E Cox, D Horton, and D Bullock. *2013-2014 Indiana Mobility Report: Full Version*. Indiana Mobility Reports series. West Lafayette, Indiana: Purdue University (2014). <http://dx.doi.org/10.5703/1288284315508>
9. Remias S, T Brennan, C Day, H Summers, E Cox, D Horton, and D Bullock. *2012 Indiana Mobility Report: Full Version*. Indiana Mobility Reports series. West Lafayette, Indiana: Purdue University (2013). <http://dx.doi.org/10.5703/1288284315190>
8. Day CM, AM Hainen, and DM Bullock. *Best Practices for Roundabouts on State Highways*. Publication FHWA/IN/JTRP-2013/14. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2013). <https://doi.org/10.5703/1288284315216>
7. Day CM, TM Brennan, AM Hainen, E Rivera-Hernandez, H Li, SM Remias, and DM Bullock. *Best Practices for Characterizing Signalized Arterial Performance*. FHWA SBIR DTRT57-11-C-10009, Traffax, Inc. and Purdue University, (2012). <http://dx.doi.org/10.5703/1288284314988>
6. Day CM, JS Wasson, TM Brennan, and DM Bullock. *Application of Travel Time and Travel Time Reliability Information for Traffic Management*. Publication FHWA/IN/JTRP-2012/06. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2012). <https://doi.org/10.5703/1288284314666>
5. Day, CM, TM Brennan, JM Ernst, TW Overman, JR Sturdevant, AM Hainen, SM Remias, and DM Bullock. *Procurement Procedures and Specifications for Performance Measure Capable Traffic Infrastructure Data Collection Systems*. Publication FHWA/IN/JTRP-2011/18. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2011). <https://doi.org/10.5703/1288284314642>
4. Day CM, TM Brennan, JR Sturdevant, and DM Bullock. *Performance Evaluation of Traffic Sensing and Control Devices*. Publication FHWA/IN/JTRP-2011/17. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2011). <https://doi.org/10.5703/1288284314641>
3. Day CM and DM Bullock. *Arterial Performance Measures, Volume 1: Performance Based Management of Arterial Traffic Signal Systems*. NCHRP 3-79A, National Cooperative Highway Research Program, Transportation Research Board of the National Academies (2010).
2. Day CM, TM Brennan, H Premachandra, AM Hainen, SM Remias, JR Sturdevant, G Richards, JS Wasson, and DM Bullock. *Quantifying Benefits of Traffic Signal Retiming*. Publication FHWA/IN/JTRP-2010/22. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2010). <https://doi.org/10.5703/1288284314250>
1. Day CM, EJ Smaglik, DM Bullock, and JR Sturdevant, J.R. *Real-Time Arterial Traffic Signal Performance Measures*. Publication FHWA/IN/JTRP-2008/09. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana (2008). <https://doi.org/10.5703/1288284313439>