Charles Anum Adams

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RESEARCH

Interests	Civil Engineering · Transport Planning and engineering
Areas	Transportation · Automotive Engineering · Building and Construction · Safety, Risk, Reliability and Quality · Health, Toxicology and Mutagenesis · Civil and Structural Engineering

RESEARCH SUMMARY

69	610	14	22	1.92	23%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 69 publications listed below, 2004–2026. Field-weighted impact is the mean over the 48 works scored for it; 1.00 is the world average for works of the same field, type and year. 11 of the 48 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Associate Porfessor 2004–present
Surgery, Brown University Warren Alpert Medical School, Providence, United States

Rhode Island Hospital 2004–present
Surgery, Providence, United States

EDUCATION AND QUALIFICATIONS

Surgical intern and resident 1996–2003
Surgery, Rutgers New Jersey Medical School, Newark, United States

MD 1992–1996
Rutgers New Jersey Medical School, Newark, United States

PUBLICATIONS

Journal articles 63

1. Simeon Stevenson Turay, Abdul Ahmed Koroma, Chernor Abdul Jalloh, Umaru Katta, **Charles Anum Adams**, Augustus Ababio-Donkor, Fidelma Ibili, Kwame Kwakwa Osei (2026). Analysing pedestrian walking speed on overhead footbridges: the role of demographic and temporal factors in an emerging urban context. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2026.2726775
2. Simon Ahumah Ocansey, **Charles Anum Adams** (2026). Discrepancies in Public Transport Fare Proposals in Ghana: A PRISMA Systematic Literature Review of Methods, Governance, and Stakeholder Dynamics. *OALib*. https://doi.org/10.4236/oalib.1115354
3. Sunday Owonibi, **Charles Adams**, Williams Ackaah, Augustus Ababio-Donkor (2026). Geospatial identification and ranking of speed-related road traffic crash blackspots on Lagos-Ibadan expressway, Nigeria. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2026.100094
4. Odunayo Oladunjoye, Augustus Ababio-Donkor, **Charles Adams** (2026). Integrating Bus Rapid Transit with Paratransit or Feeder Services: A Systematic Review of Approaches and Outcomes. *OALib*. https://doi.org/10.4236/oalib.1115036

5. Simeon Stevenson Turay, **Charles Anum Adams**, Augustus Ababio-Donkor (2026). Modelling public transportation mode choice in a paratransit-dominated urban context: A hybrid statistical-AI approach. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2026.100105

6. **CA Adams** (2026). Smart Transportation: Examining the Factors Influencing the Adoption of Autonomous Vehicles (AVs) in Ghana. *International Journal of Innovation and Development*. https://ijid.kstu.edu.gh/index.php/ijid/article/download/48/43

7. Barbara Owusu-Kumah, Robert Otumuna Ambunda, Emmanuel Kofi Adanu, **Charles Adams**, Steven Jones (2026). Towards safer rural mobility: A systemic safety analysis of pedestrian crash severity in Ghana. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2026.100109

8. Kwame Kwakwa Osei, **Charles Anum Adams**, Williams Ackaah, Atinuke Adebanji (2025). A confirmatory factor analysis of road users' cognitive attitudes towards contributing factors of traffic congestion. *Discover Cities*. https://doi.org/10.1007/s44327-025-00053-7

9. Simeon Stevenson Turay, **Charles Anum Adams**, Augustus Ababio-Donkor (2025). Application of multi-class machine learning algorithms to predicting commuter preference & system benefits of an integrated public transport: The case of a proposed dedicated bus lane system. *Transportation Engineering*. https://doi.org/10.1016/j.treng.2025.100319

10. Miller Garmi, **Charles Anum Adams** (2025). Estimation of PCE Factors for Traffic at Signalized Intersections for Capacity Analysis in Monrovia. *Transportation research procedia*. https://doi.org/10.1016/j.trpro.2025.05.057

11. William Kwaasi Amanor, Emmanuel Kofi Adanu, **Charles Anum Adams**, Eric Awere (2025). Exploring the influence of dispositional factors on travel behaviour in Accra Metropolis, Ghana. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2025.100024

12. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah, Augustus Ababio-Donkor (2025). Gaining insight into the travel time characteristics of paratransit trips: assessing the impact of a limited stops and dwell time policy. *Transportation research procedia*. https://doi.org/10.1016/j.trpro.2025.05.051

13. Jerry Julius Edem Dzivon, Emmanuel Kofi Adanu, **Charles Anum Adams**, Abhay Lidbe, Steven Jones, Thomas Kalawole Ojo (2025). How do Socio-Demographic Factors Affect the Decision to Switch from Low-Occupancy Vehicles to Mass Public Transit? A Snapshot of a Traffic Decongestion Strategy in Ghana. *Transportation in Developing Economies*. https://doi.org/10.1007/s40890-025-00242-4

14. Thomas Kolawole Ojo, Clifford Amoako, Jefferson Abeiku Ikediuba, Augustus Ababio-Donkor, **Charles Anum Adams**, Gifty Adom-Asamoah (2025). Motorcyclists' Red-light Behavior at Signalized Intersections in the Accra Metropolis, Ghana. *Transportation research procedia*. https://doi.org/10.1016/j.trpro.2025.05.043

15. F Ibili, **CA Adams**, SA Andam-Akorful (2025). Noise on wheels: Decoding urban road traffic noise dynamics using a smartphone noise-based application. *African Transport Studies*. https://www.sciencedirect.com/science/article/pii/S2950196225000444

16. Samuel A. Ajayi, **Charles A. Adams**, Gift Dumedah, Obiora A. Nnene, Fidelma Ibili (2025). On-road vehicular traffic emissions inventory and air quality on major roadways in Lagos City. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2025.100034

17. Augustus Ababio-Donkor, Ilyas Hasan-Pisagla, Enock Osei, **Charles Anum Adams** (2025). The impact of COVID-19 on travel patterns and behaviour in Kumasi, Ghana. *Case Studies on Transport Policy*. https://doi.org/10.1016/j.cstp.2025.101482

18. **CA Adams**, A Ababio-Donkor (2025). Who rides the feeder? A multi-group SEM analysis of commuters' intention to use paratransit as a feeder to a dedicated bus lane public transport system. *Transportation Engineering*. https://www.sciencedirect.com/science/article/pii/S2666691X25001095

19. Simeon Stevenson Turay, **Charles Anum Adams**, Augustus Ababio-Donkor, R. Sivanandan, Karthik K. Srinivasan (2025). Who rides the feeder? A multi-group SEM analysis of commuters' intention to use paratransit as a feeder to a dedicated bus lane public transportation system. *Transportation Engineering*. https://doi.org/10.1016/j.treng.2025.100410

20. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah (2024). An artificial neural network-based model for predicting paratransit travel time. *Cogent Engineering*. https://doi.org/10.1080/23311916.2024.2386383

21. William Kwaasi Amanor, Emmanuel Kofi Adanu, **Charles Anum Adams**, Solomon Buenor Adi (2024). Assessing Road Users' Preferences for Various Travel Demand Management Strategies for Adoption in Accra, Ghana. *Future Transportation*. https://doi.org/10.3390/futuretransp4030044

22. Simeon Stevenson Turay, **Charles Anum Adams**, Augustus-Ababio Donkor (2024). Assessment of paratransit system performance in mixed traffic using a two-stage bootstrap-DEA and ordinary Least Square approach. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2024.100021

23. Simeon Stevenson Turay, **Charles Anum Adams**, Augustus Ababio-Donkor (2024). Determinants of paratransit feeder service provision using AI-synthesized revealed preference data: a paratransit drivers' perspective on PT reform using machine learning. *Transportation Planning and Technology*. https://doi.org/10.1080/03081060.2024.2408427

24. Gift Dumedah, Seidu Iddrisu, Gabriel Alexander Kpevu, George Dakurah, **Charles Anum Adams** (2024). Do informal urban communities in Ghana qualify as a 15-Minute City based on access to socioeconomic activities? *African Geographical Review*. https://doi.org/10.1080/19376812.2024.2325085

25. Joshua Jacob Vordoagu, **Charles Adams** (2024). Effects Of Locust Bean (Parkia Biglobosa) Pod Extract on The Consistency Limits of Marginal Soils for Road Pavement Layer Construction. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v1i2.2s

26. Samuel Akintomide Ajayi, **Charles Anum Adams**, Gift Dumedah, O. Atinuke Adebanji, Williams Ackaah (2024). Modelling of risk of health burden based on residents' exposure near trafficked intersection. *Journal of Transport & Health*. https://doi.org/10.1016/j.jth.2024.101833

27. Akua Pokuaa Timpabi, Gift Dumedah, **Charles Anum Adams**, Jonathan Quaye-Ballard, Kwame Kwakwa Osei (2024). School accessibility assessment for walking and cycling; the role of street connectivity and land use variables. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2024.2312170

28. Simeon Stevenson Turay, Augustus Ababio-Donkor, **Charles A Adams**, Amara Ballack Massaquoi (2024). Statistical modelling of travel mode choice of public university students in Freetown, Sierra Leone: the case of three campuses. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2024.2304589

29. Samuel Akintomide Ajayi, **Charles Anum Adams**, Gift Dumedah, Atinuke O. Adebanji (2024). The Impact of Vehicle Engine Characteristics on Vehicle Exhaust Emissions for Transport Modes in Lagos City. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2024.2319328

30. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah (2023). Characterizing paratransit travel time variability and the causes of day-to-day variation. *African Transport Studies*. https://doi.org/10.1016/j.aftran.2024.100003

31. Simon Ntramah, Kenneth A. Tutu, Yaw A. Tuffour, **Charles A. Adams**, Emmanuel Kofi Adanu (2023). Evaluation of Selected Empirical Models for Asphalt Pavement Temperature Prediction in a Tropical Climate: The Case of Ghana. *Sustainability*. https://doi.org/10.3390/su152215846

32. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah (2023). Factors affecting paratransit travel time at route and segment levels. *International Journal of Transportation Science and Technology*. https://doi.org/10.1016/j.ijtst.2023.06.001

33. Samuel Akintomide Ajayi, **Charles Anum Adams**, Gift Dumedah, O. Atinuke Adebanji, Augustus Ababio-Donkor, Williams Ackaah, Adekunle Kehinde (2023). Public perceptions of vehicular traffic emissions on health risk in Lagos metropolis Nigeria: A critical survey. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e15712

34. Samuel Akintomide Ajayi, **Charles Anum Adams**, Gift Dumedah, Atinuke O. Adebanji, Williams Ackaah (2023). The impact of traffic mobility measures on vehicle emissions for heterogeneous traffic in Lagos City. *Scientific African*. https://doi.org/10.1016/j.sciaf.2023.e01822

35. Sunday Okafor, Cailis Bullard, Gift Dumedah, Emmanuel Kofi Adanu, **Charles Anum Adams**, Steven Jones (2023). The influence of socio-demographic and neighborhood characteristics on residents' safety perception of active mobility in Accra, Ghana. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2023.2276398

36. Akua Pokuaa Timpabi, **Charles Anum Adams**, Kwame Kwakwa Osei (2023). The role of infrastructure and route type choices for walking and cycling in some cities in Ghana. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2023.2222838

37. Fidelma Ibili, **Charles A Adams**, Atinuke O Adebanji, Samuel A Andam-Akorful (2023). The state-of-the-art of practice of traffic noise regulations in Ghana. *Noise & Vibration Worldwide*. https://doi.org/10.1177/09574565231161645

38. Nnenna Jennifer Nze, **Charles Anum Adams**, Ibeawuchi Chibueze Nze, Samuel Ato Andam-Akorful (2023). Trend of traffic on inland waterways of Port Harcourt urban coastal environment: a comparative safety imperative for a Ghanaian coastal regional province. *International Journal of Frontiers in Engineering and Technology Research*. https://doi.org/10.53294/ijfetr.2023.5.1.0017

39. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah (2023). VARIABILITY OF PARATRANSIT TRAVEL TIMES: THE CASE OF KUMASI, GHANA. *Urban Planning and Transport Research*. https://doi.org/10.1080/21650020.2023.2261519

40. Gift Dumedah, **Charles Anum Adams**, Thomas Kolawole Ojo (2022). Access to paratransit bus terminals in Ghana: characterizing its geographical distribution by settlement density. *African Geographical Review*. https://doi.org/10.1080/19376812.2022.2096651

41. **CA Adams** (2022). Adoption of Electric Vehicles: Analysis of Consumer Perception in Ghana. *Corpus ID*. https://www.codatu.org/wp-content/uploads/2023/08/ackaah-kanton-adams.pdf

42. Daniel Gyaase, Sam Newton, **Charles Anum Adams**, Yeetey Enuameh, Benjamin Noble Adjei, Emmanuel Kweku Nakua (2022). Effect of speed humps on injury consequences on trunk roads traversing towns in Ghana: A quasi-experimental study. *Injury Prevention*. https://doi.org/10.1136/ip-2022-044598

43. Amatullah Abdullah, Augustus Ababio-Donkor, **Charles Anum Adams** (2022). Gender Disparities in the Access and Use of Urban Public Transport in Abuja, Nigeria. *Sustainability*. https://doi.org/10.3390/su14095219

44. Kwame Kwakwa Osei, **Charles Anum Adams**, Ramaswamy Sivanandan, Williams Ackaah (2022). Modelling of segment level travel time on urban roadway arterials using floating vehicle and GPS probe data. *Scientific African*. https://doi.org/10.1016/j.sciaf.2022.e01105

45. Stephen Okyere, Jiaqi Yang, **Charles Anum Adams** (2022). Optimizing the Sustainable Multimodal Freight Transport and Logistics System Based on the Genetic Algorithm. *Sustainability*. https://doi.org/10.3390/su141811577

46. **CA Adams**, G Dumedah (2022). Predictive Modelling of Delay and Assessment Level of Service (LOS) on Unsignalized Intersections in Urban City. *Adeleke University Journal of Engineering and Technology*. https://www.researchgate.net/profile/Samuel-Ajayi-9/publication/337144968_PREDICTIVE_MODELLING_OF_DELAY_AND_ASSESSMENT_LEVEL_OF_SERVICE_ON_UNSIGNALIZED_INTERSECTIONS_IN_URBAN_CITY/links/62e0872e7782323cf17acd6c/PREDICTIVE-MODELLING-OF-DELAY-AND-ASSESSMENT-LEVEL-OF-SERVICE-ON-UNSIGNALIZED-INTERSECTIONS-IN-URBAN-CITY.pdf

47. Akua Pokuaa Timpabi, Kwame Kwakwa Osei, **Charles Anum Adams** (2021). Bicycle ownership and utilization in Tamale Metropolis; influencing factors and impacts to sustainable transport. *Heliyon*. https://doi.org/10.1016/j.heliyon.2021.e07133

48. **CA Adams** (2021). Signalization options to improve capacity and delay at roundabouts through microsimulation approach: A case study on arterial roadways in Ghana. *Journal of Traffic and Transportation Engineering (English Edition)*.

49. Fidelma Ibili, Emmanuel K. Adanu, **Charles A. Adams**, Samuel A. Andam-Akorful, Simeon S. Turay, Samuel A. Ajayi (2021). Traffic noise models and noise guidelines: A review. *Noise & Vibration Worldwide*. https://doi.org/10.1177/09574565211052693

50. Kwame Kwakwa Osei, **Charles Anum Adams**, Williams Ackaah, Yolanda Oliver-Commey (2019). Signalization options to improve capacity and delay at roundabouts through microsimulation approach: A case study on arterial roadways in Ghana. *Journal of Traffic and Transportation Engineering (English Edition)*. https://doi.org/10.1016/j.jtte.2019.06.003

51. Eric Nyame-Baafi, **Charles Anum Adams**, Kwame Kwakwa Osei (2018). Volume warrants for major and minor roads left-turning traffic lanes at unsignalized T-intersections: A case study using VISSIM modelling. *Journal of Traffic and Transportation Engineering (English Edition)*. https://doi.org/10.1016/j.jtte.2018.01.005

52. **CA Adams** (2016). Assessment of turbo and multilane roundabout alternatives to improve capacity and delay at a single lane roundabout using microsimulation model VISSIM: A case study in Ghana. *American Journal of Civil Engineering and Architecture*. https://scholar.google.com/scholar?cluster=7477699293804224552&hl=en&oi=scholarr

53. **CA Adams**, S Kwofie (2016). Effects of soil properties and geogrid placement on CBR enhancement of lateritic soil for road pavement layers. *American Journal of Civil Engineering and Architecture*. https://scholar.google.com/scholar?cluster=9944695165273307743&hl=en&oi=scholarr

54. **CA Adams** (2016). Investigation of Afram Shale for road construction. *American Journal of Civil Engineering and Architecture*. https://www.academia.edu/download/52617487/ajcea-4-3-2.pdf

55. **Charles Anum Adams** (2015). Effect of triaxial geogrid reinforcement on CBR strength of natural gravel soil for road pavements. *Journal of Civil Engineering Research*. https://www.academia.edu/download/75055345/10.5923.j.jce.20150502.05.pdf

56. **CA Adams** (2015). Effects of motorcycles on saturation flow rates of mixed traffic at signalized intersections in Ghana. *International Journal of Traffic and Transportation Engineering*. https://scholar.google.com/scholar?cluster=10331883238404836 22&hl=en&oi=scholarr

57. **CA Adams** (2014). Effect of geogrid reinforced subgrade on layer thickness design of low volume bituminous sealed road pavements. *IRJES*. https://www.academia.edu/download/39937913/Effect_of_Geogrid_on_the_Thickness_Design_of_Road_Pavement.pdf

58. **CA Adams** (2014). Parking management in metropolitan cities in West Africa case study of the Kumasi paid parking scheme, Ghana. *Int. J. Eng. Sci*. https://www.academia.edu/download/88619930/A360108.pdf

59. **CA Adams** (2014). Passenger Car Unit Values for Urban Mixed Traffic Flow at Signalised Intersections on Two Lane Dual Carriageways in the Tamale Metropolis, Ghana. *International Refereed Journal of Engineering and Science*. https://www.academia.edu/download/42695013/Passenger_Car_Unit_Values_for_Urban_Mixed_Traffic_Flow.pdf

60. **CA Adams** (2013). Synchronization of signalised intersections: A case study of three major intersections on the 24th February road, Kumasi, Ghana. *International Journal of Engineering Research and Applications*. https://www.academia.edu/download/31880447/OT3425662590.pdf

61. **CA Adams** (2008). Saturation flows and passenger car equivalent values at signalized intersections on urban arterial roads in the Kumasi metropolis, Ghana. *Proceedings of the International Conference on the best practices to Relieve Congestion on Mixed-Traffic Urban Streets in Developing Countries, IIT Madras, Chennai, India*. https://scholar.google.com/scholar?cluster=11321991968634963925&hl=en&oi=scholarr

62. **CA Adams** (2005). A review of the curriculum and regulation of driver training schools in Kumasi, Ghana. *Journal of the Ghana Institution of Engineering*. https://www.ajol.info/index.php/jgie/article/view/42587/29734

63. KB Nyarko, **CA Adams** (2004). A methodology for assessing conditions of water assets in small towns in Ghana. *Journal of the Ghana Institution of Engineering*. https://www.ajol.info/index.php/jgie/article/view/42584/29731

Book chapters 1

1. Steven Jones, Emmanuel Adanu, **Charles Adams**, Robert Ambunda (2022). Safe, Inclusive Public Transport in Africa—Challenges and Opportunities Identified in Ghana and Namibia. *The urban book series*. https://doi.org/10.1007/978-3-031-17327-1_14

Conference papers 2

1. Samuel A. Ajayi, **Charles A. Adams**, Gift Dumedah, Augustus Ababio-Donkor (2023). Exposure To Traffic-Related Air Pollution: A Public Health Concern? *E3S Web of Conferences*. https://doi.org/10.1051/e3sconf/202341805004
2. George Ukam, **Charles Adams**, Atinuke Adebanji, Williams Ackaah (2023). Investigating factors affecting Paratransit Travel Times: Perspectives from two Paratransit Routes in Kumasi, Ghana. *E3S Web of Conferences*. https://doi.org/10.1051/e3sconf/202341802008

Reports 3

1. Afifah, Fatima, Dixon, James, **Adams, Charles Anum**, Dumedah, Gift, Amoah, Mary, Dzisi, Emmanuel, Pierard, Elena, Orjuela, Juan Pablo, Boateng, Festival (2026). Towards Climate-Compatible Transport Pathways in Ghana: Co-creating Future Scenarios for an Integrated and Electrified Transport System. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.22679839
2. Odunayo Oladunjoye, **Charles Adams**, Augustus Ababio-Donkor (2025). A Systematic Review on Rapid Transit or Fixed Route Capacity Bus Integration with Paratransit or Feeder Services in the Global South. https://doi.org/10.37766/inplasy2025.7.0020
3. **CA Adams**, G Dumedah (2022). Transport related air pollution and its implications on public health along selected road corridors in lagos metropolis, nigeria. *Southern African Transport Conference*. https://repository.up.ac.za/items/89c3d1ef-4ad8-426d-82c8-07a498c46c8f