Appendix A

List of Publications

A.1 Journal Publications

1. Behera, S.K., Kumar, A. and Mudgal, A. "Extreme particulate matter exposure at traffic intersections in a densely populated city." *Transportation Research Part D: Transport and Environment*, vol. 136, p. 104416, 2024.

2. Behera, S.K., Mudgal, A. and Singh, A.K. "Spatiotemporal exposure of motorcyclists to particulate matter in a densely populated urban area: A case study of Varanasi, India." *Atmospheric Pollution Research*, vol. 14, no. 8, p. 101808, 2023.

3. Behera, S.K., and Mudgal, A. "Assessment of particulate matter in a university campus during spring season." *Current Science*, vol. 125, no. 1, pp. 26–33, 2023.

A.2 Conference Publications

1. Behera, S.K. and Mudgal, A. "$PM_{2.5}$ Exposure at a Busy Traffic Intersection in Varanasi, India." *Lecture Notes in Civil Engineering-Urban Mobility Research in India*, vol. 551, pp. 145-156, 2024

2. Behera, S.K., Gaurav A.K. and Mudgal, A. "Effect of Traffic and Vehicular Attributes on On-Road Particulate Exposure." *Lecture Notes in Civil Engineering-Pollution Control for Clean Environment — Volume 1*, vol. 415, pp. 41-49, 2024

Appendix B

Illustration of Raw Data Set

Ref_$PM_{2.5}$	Ref_PM_{10}	$PM_{2.5}$	PM_{10}	Date	Time	lon	lat	RH	AT
163.5	185	287	467	02-02-22	10:15:38	82.999	25.279	54.38	21.8
163.5	185	292	429	02-02-22	10:15:39	82.999	25.279	54.37	21.8
163.5	185	211	328	02-02-22	10:15:40	82.999	25.279	54.36	21.8
163.5	185	206	297	02-02-22	10:15:41	82.999	25.279	54.35	21.8
163.5	185	205	284	02-02-22	10:15:42	82.999	25.279	54.34	21.8
163.5	185	202	270	02-02-22	10:15:43	82.999	25.279	54.33	21.8
163.5	185	206	256	02-02-22	10:15:44	82.999	25.279	54.32	21.8
163.5	185	211	277	02-02-22	10:15:45	82.999	25.279	54.31	21.8
163.5	185	219	307	02-02-22	10:15:46	82.999	25.279	54.3	21.8
163.5	185	216	352	02-02-22	10:15:47	82.999	25.279	54.33	21.8
163.5	185	217	314	02-02-22	10:15:48	82.999	25.279	54.36	21.8
163.5	185	232	326	02-02-22	10:15:49	82.999	25.279	54.39	21.8
163.5	185	262	505	02-02-22	10:15:50	82.999	25.279	54.42	21.8
163.5	185	198	373	02-02-22	10:15:51	82.999	25.279	54.45	21.8
163.5	185	200	302	02-02-22	10:15:52	82.999	25.279	54.48	21.8
163.5	185	203	292	02-02-22	10:15:53	82.999	25.279	54.51	21.8
163.5	185	215	327	02-02-22	10:15:54	82.999	25.279	54.54	21.8
163.5	185	214	380	02-02-22	10:15:55	82.999	25.279	54.57	21.8
163.5	185	187	286	02-02-22	10:15:56	82.999	25.279	54.6	21.8

References

AbdelSattar, A. (2019). Monitoring air pollution using satellite data. In *Proceedings of the International Conference on Industrial Engineering and Operations Management*, pp. 772–780.

Acero, F. J., J. A. García, and M. C. Gallego (2011). Peaks-over-threshold study of trends in extreme rainfall over the iberian peninsula. *Journal of Climate 24*(4), 1089–1105.

Adak, P., R. Sahu, and S. P. Elumalai (2016). Development of emission factors for motorcycles and shared auto-rickshaws using real-world driving cycle for a typical indian city. *Science of the total environment 544*, 299–308.

Adams, H., M. Nieuwenhuijsen, and R. Colvile (2001). Determinants of fine particle (pm2. 5) personal exposure levels in transport microenvironments, london, uk. *Atmospheric Environment 35*(27), 4557–4566.

Adeniran, J. A., R. O. Yusuf, and A. A. Olajire (2017). Exposure to coarse and fine particulate matter at and around major intra-urban traffic intersections of ilorin metropolis, nigeria. *Atmospheric Environment 166*, 383–392.

Amin, N. A. M., M. B. Adam, and A. Z. Aris (2015). Bayesian extreme for modeling high pm10 concentration in johor. *Procedia Environmental Sciences 30*, 309–314.

Amirjamshidi, G., T. S. Mostafa, A. Misra, and M. J. Roorda (2013). Integrated model for microsimulating vehicle emissions, pollutant dispersion and population exposure. *Transportation Research Part D: Transport and Environment 18*(1), 16–24.

Apte, J. S., T. W. Kirchstetter, A. H. Reich, S. J. Deshpande, G. Kaushik, A. Chel, J. D. Marshall, and W. W. Nazaroff (2011). Concentrations of fine, ultrafine, and black carbon particles in auto-rickshaws in new delhi, india. *Atmospheric Environment 45*(26), 4470–4480.

Azhdari, S. S., M. Yunesian, M. S. Hassanvand, R. N. Nodehi, S. Darvishali, S. Faridi, and M. Shamsipour (2022). Associations of combined short-term exposures to ambient pm2.5 air pollution and noise annoyance on mental health disorders: a panel study of healthy college students in tehran. *Air Quality, Atmosphere and Health 15*(8), 1497–1505.

Barakat, H. M., O. M. Khaled, and N. K. Rakha (2020). Modeling of extreme values via exponential normalization compared with linear and power normalization. *Symmetry 12*(11), 1–18.

Behera, S. K., A. Mudgal, and A. K. Singh (2023). Spatiotemporal exposure of motorcyclists to particulate matter in a densely populated urban area: A case study of varanasi, india. *Atmospheric Pollution Research 14*(8), 101808.

Beirlant, J., Y. Goegebeur, J. Segers, and J. L. Teugels (2004). *Statistics of Extremes: Theory and Applications*. John Wiley & Sons.

Bell, M., D. L. Davis, and T. Fletcher (2004). A retrospective assessment of mortality from the london smog episode of 1952: The role of influenza and pollution. *Environmental Health Perspectives 112*(1), 6–8.

Berghmans, P., N. Bleux, L. I. Panis, V. K. Mishra, R. Torfs, and M. Van Poppel (2009). Exposure assessment of a cyclist to pm10 and ultrafine particles. *Science of the Total Environment 407*(4), 1286–1298.

Betancourt, R. M., B. Galvis, S. Balachandran, J. Ramos-Bonilla, O. Sarmiento, S. Gallo-Murcia, and Y. Contreras (2017). Exposure to fine particulate, black carbon, and particle number concentration in transportation microenvironments. *Atmospheric Environment 157*(1), 135–145.

Beyrich, F. (1997). Mixing height estimation from sodar data - a critical discussion. *Atmospheric Environment 31*(23), 3941–3953.

Bigazzi, A. Y. and M. A. Figliozzi (2014). Review of urban bicyclists' intake and uptake of traffic-related air pollution. *Transport Reviews 34*(2), 221–245.

Bigazzi, A. Y. and M. Rouleau (2017). Can traffic management strategies improve urban air quality? a review of the evidence. *Journal of Transport & Health 7*, 111–124.

Brauer, M., G. Freedman, J. Frostad, A. Van Donkelaar, R. V. Martin, F. Dentener, R. V. Dingenen, K. Estep, H. Amini, J. S. Apte, et al. (2016). Ambient air pollution exposure estimation for the global burden of disease 2013. *Environmental Science & Technology 50*(1), 79–88.

Bureau, E. T. (2019). Indians spend 7% of their day getting to their office - the economic times. Accessed: 2024-07-26.

Burns, J., H. Boogaard, S. Polus, L. M. Pfadenhauer, A. Rohwer, A. Van Erp, R. Turley, and E. A. Rehfuess (2020). Interventions to reduce ambient air pollution and their effects on health: an abridged cochrane systematic review. *Environment International 135*, 105400.

Chan, L., W. Hung, and Y. Qin (1994). Vehicular emission exposure of bicycle commuters in the urban area of guangzhou, south china (prc). *Environment international 20*(2), 169–177.

Chen, M., F. Dai, B. Yang, and S. Zhu (2019). Effects of neighborhood green space on pm2.5 mitigation: Evidence from five megacities in china. *Building and Environment 156*, 33–45.

Cheriyan, D., K. Y. Hyun, H. Jaegoo, and J.-h. Choi (2020). Assessing the distributional characteristics of pm10, pm2.5, and pm1 exposure profile produced and propagated from a construction activity. *Journal of Cleaner Production 276*, 124335.

Choudhary, A. and S. Gokhale (2019). On-road measurements and modelling of vehicular emissions during traffic interruption and congestion events in an urban traffic corridor. *Atmospheric Pollution Research 10*(2), 480–492.

Chowdhury, Z., M. Zheng, J. J. Schauer, R. J. Sheesley, L. G. Salmon, G. R. Cass, and A. G. Russell (2007). Speciation of ambient fine organic carbon particles and source apportionment of pm2.5 in indian cities. *Journal of Geophysical Research Atmospheres 112*(15).

Christopher Frey, H., D. Gadre, S. Singh, and P. Kumar (2020). Quantification of sources of variability of air pollutant exposure concentrations among selected transportation microenvironments. *Transportation Research Record 2674*(9), 395–411.

Ciencewicki, J. and I. Jaspers (2007). Air pollution and respiratory viral infection. *Inhalation Toxicology 19*(14), 1135–1146.

Coles, S., J. Bawa, L. Trenner, and P. Dorazio (2001). *An Introduction to Statistical Modeling of Extreme Values*. London: Springer.

CPCB (2015). Annual report 2013-14. Available at: https://cpcb.nic.in/annual-report.php.

CPCB (2021). Annual report 2019-20. Available at: https://cpcb.nic.in/annual-report.php.

CPCB (2022). Annual report 2020-21. Available at: https://cpcb.nic.in/annual-report.php.

Das, R., B. Khezri, B. Srivastava, S. Datta, P. K. Sikdar, R. D. Webster, and X. Wang (2015). Trace element composition of pm2.5 and pm10 from kolkata–a heavily polluted indian metropolis. *Atmospheric Pollution Research 6*(5), 742–750.

De Nazelle, A., B. O. and J. P. Orjuela (2017). Comparison of air pollution exposures in active vs. passive travel modes in european cities: A quantitative review. *Environment International 99*, 151–160.

Dons, E., P. Temmerman, M. Van Poppel, T. Bellemans, G. Wets, and L. I. Panis (2013). Street characteristics and traffic factors determining road users' exposure to black carbon. *Science of the Total Environment 447*, 72–79.

Dutta, A. and W. Jinsart (2021). Air pollution in indian cities and comparison of mlr, ann and cart models for predicting pm10 concentrations in guwahati, india. *Asian Journal of Atmospheric Environment 15*(1), 2020131.

Fioravanti, G., S. Martino, M. Cameletti, and G. Cattani (2021). Spatio-temporal modelling of pm10 daily concentrations in italy using the spde approach. *Atmospheric Environment 248*(September 2020), 118192.

Fix, M. J., D. Cooley, A. Hodzic, E. Gilleland, B. T. Russell, W. C. Porter, and G. G. Pfister (2018). Observed and predicted sensitivities of extreme surface ozone to meteorological drivers in three us cities. *Atmospheric Environment 176*(July 2017), 292–300.

Garg, A. and N. C. Gupta (2020). The great smog month and spatial and monthly variation in air quality in ambient air in delhi, india. *Journal of Health and Pollution 10*(27).

Gaur, M., K. Bhandari, and A. Shukla (2018). Monitoring of total volatile organic compounds and particulate matter in an indoor environment. *Current Science 115*(9), 1787.

Gelman, A. and H. Stern (1996). Posterior predictive assessment of model fitness via realized discrepancies. *Statistica Sinica 6*(4), 733–760.

Goel, A. and P. Kumar (2014). A review of fundamental drivers governing the emissions, dispersion and exposure to vehicle-emitted nanoparticles at signalised traffic intersections. *Atmospheric Environment*, 316–331.

Goel, A. and P. Kumar (2015). Characterisation of nanoparticle emissions and exposure at traffic intersections through fast-response mobile and sequential measurements. *Atmospheric Environment 107*, 374–390.

Goel, R., S. Gani, S. K. Guttikunda, D. Wilson, and G. Tiwari (2015). On-road pm2.5 pollution exposure in multiple transport microenvironments in delhi. *Atmospheric Environment 123*, 129–138.

GoI (2015). Varanasi population in 2011. *Government of India*.

Gokhale, S. and M. Khare (2004). A review of deterministic, stochastic and hybrid vehicular exhaust emission models. *International Journal of Transport Management 2*(2), 59–74.

Gokhale, S. and N. Raokhande (2008). Performance evaluation of air quality models for predicting pm10 and pm2.5 concentrations at urban traffic intersection during winter period. *Science of the Total Environment 394*(1), 9–24.

Gokhale, S. B. and R. S. Patil (2004). Size distribution of aerosols (pm10) and lead (pb) near traffic intersections in mumbai (india). *Environmental Monitoring and Assessment 95*(1–3), 311–324.

Gopalaswami, R. (2016). A study on effects of weather, vehicular traffic and other sources of particulate air pollution on the city of delhi for the year 2015. *Journal of Environment Pollution and Human Health 4*(2), 24–41.

Gulia, S., S. M. S. Nagendra, and M. Khare (2017). A system based approach to develop hybrid model predicting extreme urban NOx and PM2.5 concentrations. *Transportation Research Part D: Transport and Environment 56*(220), 141–154.

Gulia, S., S. S. Nagendra, M. Khare, et al. (2017). Extreme events of reactive ambient air pollutants and their distribution pattern at urban hotspots. *Aerosol and Air Quality Research 17*(2), 394–405.

Gurjar, B. R., A. Jain, A. Sharma, A. Agarwal, P. Gupta, A. S. Nagpure, and J. Lelieveld (2010). Human health risks in megacities due to air pollution. *Atmospheric Environment 44*(36), 4606–4613.

Guttikunda, S. K. and B. R. Gurjar (2012). Role of meteorology in seasonality of air pollution in megacity delhi, india. *Environmental Monitoring and Assessment 184*(5), 3199–3211.

Guttikunda, S. K., R. V. Kopakka, P. Dasari, and A. W. Gertler (2013). Receptor model-based source apportionment of particulate pollution in hyderabad, india. *Environmental Monitoring and Assessment 185*(7), 5585–5593.

Han, J., X. Liu, D. Chen, and M. Jiang (2020). Influence of relative humidity on real-time measurements of particulate matter concentration via light scattering. *Journal of Aerosol Science 139*(October 2019), 105462.

Han, K., Y. Liu, and W. Zhong (2024). Modal shift, environmental benefits and population exposure assessment on contingent transport policies. *Transportation Research Part D: Transport and Environment 133*(April), 104296.

Hankey, S. and J. D. Marshall (2015). On-bicycle exposure to particulate air pollution: Particle number, black carbon, pm2. 5, and particle size. *Atmospheric Environment 122*, 65–73.

Harrison, R. M., A. R. Deacon, M. R. Jones, and R. S. Appleby (1997). Sources and processes affecting concentrations of PM10 and PM2.5 particulate matter in birmingham (U.K.). *Atmospheric Environment 31*(24), 4103–4117.

Hatzopoulou, M., S. Weichenthal, H. Dugum, G. Pickett, L. Miranda-Moreno, R. Kulka, R. Andersen, and M. Goldberg (2013). The impact of traffic volume, composition, and road geometry on personal air pollution exposures among cyclists in montreal, canada. *Journal of Exposure Science and Environmental Epidemiology 23*(1), 46–51.

Henschel, S., R. Atkinson, A. Zeka, A. Le Tertre, A. Analitis, K. Katsouyanni, O. Chanel, M. Pascal, B. Forsberg, S. Medina, et al. (2012). Air pollution interventions and their impact on public health. *International journal of public health 57*, 757–768.

Huy, D. H., N. D. T. Chi, N. X. T. Nam, and T. T. Hien (2022). Commuter exposures to in-transit pm in an urban city dominated by motorcycle: A case study in vietnam. *Atmospheric Pollution Research 13*(3), 101351.

Huy, D. H., T. T. Hien, and N. X. T. Nam (2022). On-road particulate matter exposure in urban sprawl scenarios in ho chi minh city, vietnam. *International Journal of Environmental Science and Technology*.

Jin, L., T. Zhou, S. Fang, X. Zhou, B. Han, and Y. Bai (2022). The short-term effects of air pollutants on pneumonia hospital admissions in lanzhou, china, 2014–2019: evidence of ecological time-series study. *Air Quality, Atmosphere and Health 15*(12), 2199–2213.

Kalaiarasan, G., R. M. Balakrishnan, N. A. Sethunath, and S. Manoharan (2018). Source apportionment studies on particulate matter (PM10 and PM2.5) in ambient air of urban mangalore, india. *Journal of Environmental Management 217*, 815–824.

Kanawade, V., A. Srivastava, K. Ram, E. Asmi, V. Vakkari, V. Soni, V. Varaprasad, and C. Sarangi (2020). What caused severe air pollution episode of november 2016 in new delhi? *Atmospheric Environment 222*(November 2019).

Karar, K. and A. K. Gupta (2007). Source apportionment of PM10 at residential and industrial sites of an urban region of kolkata, india. *Atmospheric Research 84*(1), 30–41.

Kaur, S. and M. Nieuwenhuijsen (2009). Determinants of personal exposure to pm2. 5, ultrafine particle counts, and co in a transport microenvironment. *Environmental Science & Technology 43*(13), 4737–4743.

Kaur, S., M. J. Nieuwenhuijsen, and R. N. Colvile (2007). Fine particulate matter and carbon monoxide exposure concentrations in urban street transport microenvironments. *Atmospheric Environment 41*(23), 4781–4810.

Kgabi, N. A. and T. Mokgwetsi (2009). Dilution and dispersion of inhalable particulate matter. *WIT Transactions on Ecology and the Environment 127*, 229–238.

Khamraev, K., D. Cheriyan, and J. h. Choi (2021). A review on health risk assessment of pm in the construction industry – current situation and future directions. *Science of the Total Environment 758*, 143716.

Kingham, S., I. Longley, J. Salmond, W. Pattinson, and K. Shrestha (2013). Variations in exposure to traffic pollution while traveling by different modes in a low density, less congested city. *Environmental Pollution 181*, 211–218.

Knibbs, L. D., T. Cole-Hunter, and L. Morawska (2011). A review of commuter exposure to ultrafine particles and its health effects. *Atmospheric Environment 45*(16), 2611–2622.

Kolluru, S. S. R., A. K. Patra, and P. Kumar (2019). Determinants of commuter exposure to PM2.5 and CO during long-haul journeys on national highways in india. *Atmospheric Pollution Research 10*(4), 1031–1041.

Krasnov, H., I. Katra, V. Novack, A. Vodonos, and M. D. Friger (2015). Increased indoor pm concentrations controlled by atmospheric dust events and urban factors. *Building and Environment 87*, 169–176.

Kumar, A. V., R. S. Patil, and K. Nambi (2001). Source apportionment of suspended particulate matter at two traffic junctions in mumbai, india. *Atmospheric Environment 35*(25), 4245–4251.

Kumar, P. and A. Goel (2016). Concentration dynamics of coarse and fine particulate matter at and around signalised traffic intersections. *Environmental Science: Processes and Impacts 18*(9), 1220–1235.

Kumar, P., S. Gulia, R. M. Harrison, and M. Khare (2017). The influence of odd–even car trial on fine and coarse particles in delhi. *Environmental Pollution 225*, 20–30.

Kumar, P., B. R. Gurjar, A. Nagpure, and R. M. Harrison (2011). Preliminary estimates of nanoparticle number emissions from road vehicles in megacity delhi and associated health impacts. *Environmental Science and Technology 45*(13), 5514–5521.

Kumar, P., A. P. Patton, J. L. Durant, and H. C. Frey (2018). A review of factors impacting exposure to pm2. 5, ultrafine particles and black carbon in asian transport microenvironments. *Atmospheric environment 187*, 301–316.

Kuo, C.-Y., C.-Y. Hsieh, C.-W. Hu, S.-C. Chen, and H.-J. Yang (2018). Pm10 concentration in relation to clinic visits for anxiety disorders: a population-based study of a high river-dust episode region in taiwan. *Air Quality, Atmosphere and Health 11*(2), 221–227.

Lalitaporn, P. and T. Mekaumnuaychai (2020). Satellite measurements of aerosol optical depth and carbon monoxide and comparison with ground data. *Environmental Monitoring and Assessment 192*(6), 1–14.

Laulainen, N. S. (1993). Summary of conclusions and recommendations from a visibility science workshop; technical basis and issues for a national assessment for visibility impairment. Available at: http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=10149541.

Lawrence, S., R. Sokhi, K. Ravindra, H. Mao, H. D. Prain, and I. D. Bull (2013). Source apportionment of traffic emissions of particulate matter using tunnel measurements. *Atmospheric Environment 77*, 548–557.

Lazoglou, G., C. Anagnostopoulou, K. Tolika, and F. Kolyva-Machera (2019). A review of statistical methods to analyze extreme precipitation and temperature events in the mediterranean region. *Theoretical and Applied Climatology 136*(1–2), 99–117.

Lee, H. J. (2019). Benefits of high resolution pm2.5 prediction using satellite maiac aod and land use regression for exposure assessment: California examples. *Environmental Science and Technology 53*(21), 12774–12783.

Lee, H. J., Y. Liu, B. A. Coull, J. Schwartz, and P. Koutrakis (2011). A novel calibration approach of modis aod data to predict pm2.5 concentrations. *Atmospheric Chemistry and Physics 11*(15), 7991–8002.

Lee, T. Y. K. and S. H. (2013). Combustion and emission characteristics of wood pyrolysis oil-butanol blended fuels in a di diesel engine. *International Journal of . . . 13*(2), 293–300.

Lesar, T. T. and A. Filipčić (2021). The hourly simulation of pm2.5 particle concentrations using the multiple linear regression (mlr) model for sea breeze in split, croatia. *Water, Air, and Soil Pollution 232*(7).

Li, H., J. Cai, R. Chen, Z. Zhao, Z. Ying, L. Wang, J. Chen, K. Hao, P. L. Kinney, H. Chen, et al. (2017). Particulate matter exposure and stress hormone levels: A randomized, double-blind, crossover trial of air purification. *Circulation 136*(7), 618–627.

Li, X., L. Jin, and H. Kan (2019). Global problem, local fixes. *570*, 437–439.

Liu, J., Y. Man, and Y. Liu (2014). Temporal variability of pm 10 and pm 2.5 inside and outside a residential home during 2014 chinese spring festival in zhengzhou, china. *Natural Hazards 73*, 2149–2154.

Logan, W. P. D. (1953). Mortality in the london fog incident, 1952. *The Lancet 261*(6755), 336–338.

Lonati, G., M. Giugliano, and S. Cernuschi (2006). The role of traffic emissions from weekends' and weekdays' fine pm data in milan. *Atmospheric Environment 40*(31), 5998–6011.

Lu, H. C. (2004). Estimating the emission source reduction of pm10 in central taiwan. *Chemosphere 54*(7), 805–814.

Manojkumar, N., M. Monishraj, and B. Srimuruganandam (2021). Commuter exposure concentrations and inhalation doses in traffic and residential routes of vellore city, india. *Atmospheric Pollution Research 12*(1), 219–230.

Meena, K., V. Singh, and A. Agarwal (2023). Perception of commuters towards air quality in delhi. *Journal of Transport & Health 31*, 101643.

Modak, P. M. and B. N. Lohani (1985). Optimization of ambient air quality networks (part i). *Environmental Monitoring and Assessment 5*, 1–19.

Mohanraj, R. and P. A. Azeez (2004). Health effects of airborne particulate matter and the indian scenario. *Current Science*, 741–748.

Nagpure, A. S., B. R. Gurjar, V. Kumar, and P. Kumar (2016). Estimation of exhaust and non-exhaust gaseous, particulate matter and air toxics emissions from on-road vehicles in delhi. *Atmospheric environment 127*, 118–124.

Nandi, I., P. K. Srivastava, and K. Shah (2017). Floodplain mapping through support vector machine and optical/infrared images from landsat 8 oli/tirs sensors: Case study from varanasi. *Water Resources Management 31*(4), 1157–1171.

Nemery, B., P. H. M. Hoet, and A. Nemmar (2001). The meuse valley fog of 1930: an air pollution disaster. *The Lancet 357*, 704–708.

Pandey, A. and C. Venkataraman (2014). Estimating emissions from the indian transport sector with on-road fleet composition and traffic volume. *Atmospheric Environment 98*, 123–133.

Pandey, J., M. Agrawal, N. Khanam, D. Narayan, and D. Rao (1992). Air pollutant concentrations in varanasi, india. *Atmospheric Environment. Part B, Urban Atmosphere 26*(1), 91–98.

Pandian, S., S. Gokhale, and A. K. Ghoshal (2009). Evaluating effects of traffic and vehicle characteristics on vehicular emissions near traffic intersections. *Transportation Research Part D: Transport and Environment 14*(3), 180–196.

Panis, L. I., B. De Geus, G. Vandenbulcke, H. Willems, B. Degraeuwe, N. Bleux, V. Mishra, I. Thomas, and R. Meeusen (2010). Exposure to particulate matter in traffic: a comparison of cyclists and car passengers. *Atmospheric Environment 44*(19), 2263–2270.

Panko, J. M., K. M. Hitchcock, G. W. Fuller, and D. Green (2019). Evaluation of tire wear contribution to pm2.5 in urban environments. *Atmosphere 10*(2), 1–14.

Pant, P., G. Habib, J. D. Marshall, and R. E. Peltier (2017). Pm2.5 exposure in highly polluted cities: A case study from new delhi, india. *Environmental Research 156*, 167–174.

Pant, P., A. Shukla, S. D. Kohl, J. C. Chow, J. G. Watson, and R. M. Harrison (2015). Characterization of ambient pm2.5 at a pollution hotspot in new delhi, india and inference of sources. *Atmospheric Environment 109*, 178–189.

Patel, D., T. Shibata, J. Wilson, and A. Maidin (2016). Challenges in evaluating pm concentration levels, commuting exposure, and mask efficacy in reducing pm exposure in growing, urban communities in a developing country. *Science of the Total Environment 543*, 416–424.

Pekey, B., Z. Bozkurt, H. Pekey, G. Doğan, A. Zararsız, N. Efe, and G. Tuncel (2010). Indoor/outdoor concentrations and elemental composition of pm10/pm2.5 in urban/industrial areas of kocaeli city, turkey. *Indoor Air 20*(2), 112–125.

Pickands, I. J. (1975). Statistical inference using extreme order statistics. *The Annals of Statistics*, 119–131.

Piotrowicz, A. and B. Polednik (2019). Exposure to aerosols particles on an urban road. *Journal of Ecological Engineering 20*(5), 27–34.

Pirani, M., J. Gulliver, G. W. Fuller, and M. Blangiardo (2014). Bayesian spatiotemporal modelling for the assessment of short-term exposure to particle pollution in urban areas. *Journal of Exposure Science and Environmental Epidemiology 24*(3), 319–327.

Polednik, B. and A. Piotrowicz (2020). Pedestrian exposure to traffic-related particles along a city road in lublin, poland. *Atmospheric Pollution Research 11*(4), 686–692.

Raj, M. G. and S. Karthikeyan (2020). Effect of modes of transportation on commuters' exposure to fine particulate matter (pm2.5) and nitrogen dioxide (no2) in chennai, india. *Environmental Engineering Research 25*(6), 898–907.

Ramachandran, G., J. L. Adgate, G. C. Pratt, and K. Sexton (2003). Characterizing indoor and outdoor 15 minute average pm2.5 concentrations in urban neighborhoods. *Aerosol Science and Technology 37*(1), 33–45.

Ramli, N., H. Abdul Hamid, A. S. Yahaya, A. Z. Ul-Saufie, N. Mohamed Noor, N. A. Abu Seman, A. N. Kamarudzaman, and G. Deák (2023). Performance of bayesian model averaging (bma) for short-term prediction of pm10 concentration in the peninsular malaysia. *Atmosphere 14*(2).

Ramos, C. A., H. T. Wolterbeek, and S. M. Almeida (2016). Air pollutant exposure and inhaled dose during urban commuting: a comparison between cycling and motorized modes. *Air Quality, Atmosphere and Health 9*(8), 867–879.

Raz-Maman, C., R. S. Carel, N. Borochov-Greenberg, O. Zack, and B. A. Portnov (2022). The exposure assessment period to air pollutants which affects lung function: analysis of recent studies and an explanatory model. *Air Quality, Atmosphere and Health 15*(3), 393–402.

Roth, M., T. Buishand, G. Jongbloed, A. K. Tank, and J. Van Zanten (2014). Projections of precipitation extremes based on a regional, non-stationary peaks-over-threshold approach: A case study for the netherlands and north-western germany. *Weather and Climate Extremes 4*, 1–10.

Roy, S., P. Gupta, and T. Nath Singh (2012). Studies on meteorological parameters and mixing height in gold mining area. *Resources and Environment 2*(5), 228–239.

Saez, M. and M. A. Barceló (2022). Spatial prediction of air pollution levels using a hierarchical bayesian spatiotemporal model in catalonia, spain. *Environmental Modelling and Software 151*, March.

Sahu, V. and B. R. Gurjar (2020). Spatial and seasonal variation of air quality in different microenvironments of a technical university in india. *Building and Environment 185*, 107310.

Saksena, S., T. N. Quang, T. Nguyen, P. N. Dang, and P. Flachsbart (2008). Commuters' exposure to particulate matter and carbon monoxide in hanoi, vietnam. *Transportation Research Part D: Transport and Environment 13*(3), 206–211.

Sanchez, K. A., M. Foster, M. J. Nieuwenhuijsen, A. D. May, T. Ramani, J. Zietsman, and H. Khreis (2020). Urban policy interventions to reduce traffic emissions and traffic-related air pollution: Protocol for a systematic evidence map. *Environment International 142*, 105826.

Sati, A. P. and M. Mohan (2014). Analysis of air pollution during a severe smog episode of november 2012 and the diwali festival over delhi, india. *International Journal of Remote Sensing 35*(19), 6940–6954.

Sawlani, R., R. Agnihotri, C. Sharma, P. K. Patra, A. Dimri, K. Ram, and R. L. Verma (2019). The severe delhi smog of 2016: A case of delayed crop residue burning, coincident firecracker emissions, and atypical meteorology. *Atmospheric Pollution Research 10*(3), 868–879.

Seibert, P., F. Beyrich, S.-E. Gryning, S. Joffre, A. Rasmussen, and P. Tercier (2000). Review and intercomparison of operational methods for the determination of the mixing height. *Atmospheric Environment 34*(7), 1001–1027.

Sharma, P., P. Sharma, S. Jain, and P. Kumar (2013). An integrated statistical approach for evaluating the exceedence of criteria pollutants in the ambient air of megacity delhi. *Atmospheric Environment 70*, 7–17.

Singh, V., K. K. Meena, and A. Agarwal (2021). Travellers' exposure to air pollution: A systematic review and future directions. *Urban Climate 38*, April.

Sinha, D. and J. Dammani (2018). Seasonal variations in mass concentrations of pm10 and pm2.5 at traffic intersection and residential sites in raipur city. *Research Journal of Chemistry and Environment 22*(1), 25–31.

Sioshansi, R. and P. Denholm (2009). Emissions impacts and benefits of plug-in hybrid electric vehicles and vehicle-to-grid services. *Environmental Science and Technology 43*(4), 1199–1204.

Smit, R., L. Ntziachristos, and P. Boulter (2010). Validation of road vehicle and traffic emission models - a review and meta-analysis. *Atmospheric Environment 44*(25), 2943–2953.

Song, J., Z. Qiu, G. Ren, and X. Li (2020). Prediction of pedestrian exposure to traffic particulate matters (pms) at urban signalized intersection. *Sustainable Cities and Society 60*, November 2019.

Swamy, S., M. Pai, and S. Kulshrestha (2015). Impact of bus rapid transit on urban air pollution: Commuter's exposure to pm2.5 in ahmedabad. *Transport and Communications Bulletin for Asia and the Pacific* (February 2015), 8–22.

TDT (2015). *The Texas Guide to Accepted Mobile Source Emission Reduction Strategies*.

Tiwari, S., R. Rai, and M. Agrawal (2008). Annual and seasonal variations in tropospheric ozone concentrations around varanasi. *International Journal of Remote Sensing 29*(15), 4499–4514.

Tiwari, S., A. K. Srivastava, D. S. Bisht, P. Parmita, M. K. Srivastava, and S. Attri (2013). Diurnal and seasonal variations of black carbon and pm2. 5 over new delhi, india: Influence of meteorology. *Atmospheric Research 125*, 50–62.

Tiwari, S., S. Tiwari, and A. Singh (2015). A study of outdoor and indoor exposure to particulate matters on students of banaras hindu university and city side over varanasi, india. *Earth Sci. India 9*, 79–99.

Tsai, D. H., Y. H. Wu, and C. C. Chan (2008). Comparisons of commuter's exposure to particulate matters while using different transportation modes. *Science of the Total Environment 405*(1–3), 71–77.

UPT (2022). The indian and foreign tourist visit places of uttar pradesh in year 2017 to 2021. *Uttar Pradesh Tourism*.

USEPA (1996). National air quality and emissions trends report. Available at: https://www.epa.gov/sites/default/files/2017-11/documents/trends_report_1996.pdf.

USEPA (2022). Four steps for health risk assessment. Available at: https://www.epa.gov/risk/human-health-risk-assessment.

van Erp, A. M., F. J. Kelly, K. L. Demerjian, C. A. Pope, and A. J. Cohen (2012). Progress in research to assess the effectiveness of air quality interventions towards improving public health. *Air Quality, Atmosphere & Health 5*, 217–230.

Vehtari, A., A. Gelman, D. Simpson, B. Carpenter, and P.-C. Bürkner (2021). Rank-normalization, folding, and localization: An improved (formula presented) for assessing convergence of mcmc (with discussion)*†. *Bayesian Analysis 16*(2), 667–718.

Verma, A. K., M. Kumar, and R. W. Bussmann (2007). Medicinal plants in an urban environment: The medicinal flora of banares hindu university, varanasi, uttar pradesh. *Journal of Ethnobiology and Ethnomedicine 3*, 4–7.

Wang, Y., Y. Zhu, R. Salinas, D. Ramirez, S. Karnae, and K. John (2008). Roadside measurements of ultrafine particles at a busy urban intersection. *Journal of the Air and Waste Management Association 58*(11), 1449–1457.

Wang, Z., F. Lu, Q.-C. Lu, D. Wang, Z.-R. Peng, et al. (2015). Fine-scale estimation of carbon monoxide and fine particulate matter concentrations in proximity to a road intersection by using wavelet neural network with genetic algorithm. *Atmospheric Environment 104*, 264–272.

Wang, Z., Q.-C. Lu, H.-D. He, D. Wang, Y. Gao, and Z.-R. Peng (2017). Investigation of the spatiotemporal variation and influencing factors on fine particulate matter and carbon monoxide concentrations near a road intersection. *Frontiers of Earth Science 11*(1), 63–75.

Westerholm, R. and K.-E. Egeback (1994). Exhaust emissions from light- and heavy-duty vehicles-chemical composition, impact of exhaust after treatment, and fuel parameters. *Environmental Health Perspectives 102*, 13–23.

WHO (2022). Ambient (outdoor) air pollution key facts. https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health.

WPR (2024). Varanasi population in 2022. *World Population Review*.

Wu, D.-L., M. Lin, C.-Y. Chan, W.-Z. Li, J. Tao, Y.-P. Li, X.-F. Sang, C.-W. Bu, et al. (2013). Influences of commuting mode, air conditioning mode and meteorological parameters on fine particle (PM2.5) exposure levels in traffic microenvironments. *Aerosol and Air Quality Research 13*(2), 709–720.

Xu, Z., T. Jiang, and N. Zheng (2022). Developing and analyzing eco-driving strategies for on-road emission reduction in urban transport systems - a VR-enabled digital-twin approach. *Chemosphere 305*, 135372.

Yang, J., L. Shi, J. Lee, and I. Ryu (2024). Spatiotemporal prediction of particulate matter concentration based on traffic and meteorological data. *Transportation Research Part D: Transport and Environment 127*(January), 104070.

Yun, D.-M., M.-B. Kim, J.-B. Lee, B.-K. Kim, D.-J. Lee, S.-Y. Lee, S. Yu, and S.-R. Kim (2015). Correction factors for outdoor concentrations of PM 2.5 measured with portable real-time monitors compared with gravimetric methods: Results from south korea. *Journal of Environmental Science International 24*(12), 1559–1567.

Yuval, Flicstein, B. and D. M. Broday (2008). The impact of a forced reduction in traffic volumes on urban air pollution. *Atmospheric Environment 42*(3), 428–440.

Zhang, C., L. C. L. B. Z. F. and C. Zhao (2022). Spatiotemporal neural network for estimating surface no2 concentrations over north china and their human health impact. *Environmental Pollution 307*, 119510.

Zhang, Y., M. He, S. Wu, Y. Zhu, S. Wang, M. Shima, K. Tamura, and L. Ma (2015). Short-term effects of fine particulate matter and temperature on lung function among healthy college students in wuhan, china. *International Journal of Environmental Research and Public Health 12*(7), 7777–7793.