



SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

GRADUATE EXIT SEMINAR

DAPHNEY BONNER

From Pollution to Renewal: Understanding the Demographic, Environmental, and Health Impacts of Historical Federal Transportation Policy



According to the World Health Organization (2021), ambient air pollution accounts for an estimated 4.2 million deaths globally, largely due to upper respiratory and cardiovascular disease. Studies analyzing the impact of traffic-related particulate matter (PM) on public health have highlighted the social disparities that are embedded within this issue. A large body of research has demonstrated that many racially and economically segregated communities are plagued by high concentrations of air pollution, such as industrial toxics (Ard 2016) and particulate matter (PM_{2.5}) from vehicle emissions (Thompson 2019). Increased concentrations of PM_{2.5} leave these communities more susceptible to respiratory and cardiovascular disparities (Allen et al 2009; Dominici et al 2006; Ostro et al 2001). The consequences of this environmental inequality have been tied to racially-based laws, regulations, and policies. Archer (2020) contends that our racially and economically

segregated cities are the result of several factors, including the implementation of the Federal Aid Highway Act of 1956. Several studies have identified this policy as a large-scale policy of displacement, demolition, and economic disenfranchisement (Archer 2020; DiMento and Ellis 2012). Though this policy has been identified as a contributor to segregation and white flight, little research has been done to link how the implementation of this policy may have contributed to the health and environmental disparities related to increased exposure to traffic-related particulate matter. To address these gaps in knowledge, I use spatial analysis to examine how demographics vary around the US highway network, on a national level, to determine if minority populations are more concentrated near major interstates.

Advisor: Dr. Kerry Ard

WEDNESDAY, JUNE 29, 2022
3:00 P.M.

Join the seminar via Zoom:

<https://osu.zoom.us/j/97896457855?pwd=eHFRdUxySFNNVkhZIFWY1ZHSllvQT09>

Meeting ID: 978 9645 7855 Password: 387585

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