Objective: Motor vehicle crashes are a huge public health problem. Identifying area characteristics (or aspects of the physical and social environment) and how these area characteristics are associated with driving behaviors and driving outcomes may provide insights into possible prevention strategies.

Methods: Quantitative methods were used to analyze survey data collected from Michigan young adults and state driver records. Area-level data were obtained from the Michigan Geographic Data Library road network, Michigan Liquor Control Commission, and U.S. Census Bureau. Area characteristics were conceptualized and operationalized for each study by creating a circular buffer (with a 12.1 mile radius) around each respondent’s geocoded residence to estimate each individual’s area exposure. The first study examined whether roadway characteristics were associated with individual driving behaviors and the likelihood of a crash (casualty or non-casualty). Results: Roadway characteristics were not associated with driving behaviors for either men or women. There was no direct relationship between roadway characteristics and the likelihood of crash. For men, but not for women, the results suggested that the association between the likelihood of casualty crash involvement and high-risk driving was higher with rural roads than urban roads, OR = 1.42, 95% CI [1.08, 1.86]. The second study examined whether area characteristics (alcohol establishment density and proportion of rural population) were associated with drinking behaviors and alcohol-related crashes. Results: There was an inverse relationship between alcohol establishment density and drinking behaviors, which was stronger in women than in men. The results indicated that higher density of alcohol establishments decreased the likelihood of men being involved in an alcohol-related crash OR = 0.014 [95% CI: <0.001, 0.576]. The last study examined the potential role of social influences (i.e., social approval for drink/driving) in explaining the relationship between area characteristics and participant perceptions of drink/driving as dangerous. Results: For both men and women there was a positive relationship between alcohol establishment density and perceptions of drink/driving as dangerous. Social approval for drink/driving was a potential mediator for women, but not for men. Dissertation Conclusion: More research is needed to elucidate the relationship between drink/driving and alcohol establishment density among young adults.