Research Question:
How do road signage and pedestrian crossing conditions affect the prevalence of hit & run police calls in Howard County, Maryland? More specifically, do signs encouraging driver safety and awareness reduce hit & run calls? Do marked pedestrian crossing points and lower speed limits reduce hit & run calls?

Background Research:
Richard Tay, Upal Barua, and Lina Kattan, in their article “Factors Contributing to Hit-and-Run in Fatal Crashes,” found that stop signs are associated with lower rates of hit-and-run incidents but warning signs and signal signs are not. They also found that there is no specific speed limit that is associated with lower rates of hit-and-run incidences (Tay, Barua and Kattan 2009).
Martha Hijar, James Trostle, and Mario Bronfman, in the article “Pedestrian Injuries in Mexico: A Multi-Method Approach,” found that in Mexico City, pedestrian-car collisions are most likely to occur in areas with heavy traffic flows that lack demarcated pedestrian crosswalks or crossing signals (Hijar, Trostle and Bronfman 2003).

Data & Measures
- Independent Variables: Number of Stop Signs, Number of Speed Limit Signs, Number of “Keep Kids Alive, Drive 25” Campaign Signs, Average Speed Limit, Number of Painted Crosswalks
- Dependent Variable: Number of Hit & Run Police Calls
- Unit of Analysis: Police Call Grid Cell
- Methods of Analysis: Density Analysis for Dependent Variable, Hotspot Analysis for Dependent Variable, Cluster/Outlier Analysis for Dependent Variable, Ordinary Least Squares (OLS) Regression for Independent and Dependent Variables

Conclusions:
- All independent variables are statistically significant, but only campaign signs and pedestrian crosswalks have a large impact.
  - “Keep Kids Alive, Drive 25” campaign signs have a negative effect on the number of hit & run police calls
  - Roughly 2.5 unit increase in campaign signs 1 unit decrease in hit & run police calls
  - Causes: increased community awareness and heightened driver caution
  - Recommendations: 1) widen campaign to cover all of Howard County, 2) increase number of signs on the streets, and 3) raise public awareness about the campaign
- Pedestrian crosswalks have a positive effect on hit & run calls
  - 1 unit increase in crosswalks = 1.55 unit increase in hit & run police calls
  - Causes: population density, heavy foot traffic, and pedestrian or driver inattentiveness
  - Recommendations: 1) increase police presence in crosswalk-dense areas, 2) prioritize driver inattentiveness during traffic stops, and 2) create campaign encouraging safe pedestrian street-crossing practices