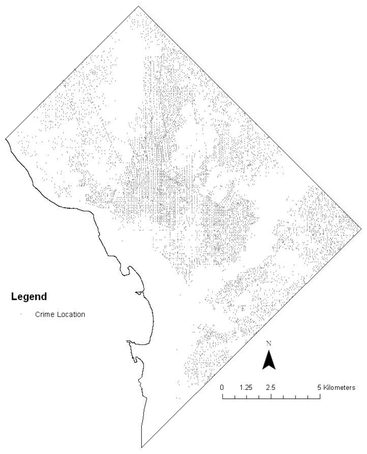
Not In My Backyard! Do Halfway Houses Cause Crime in Washington, D.C.?

Presentation by Andrew Wheeler – contact information apwheele@gmail.com

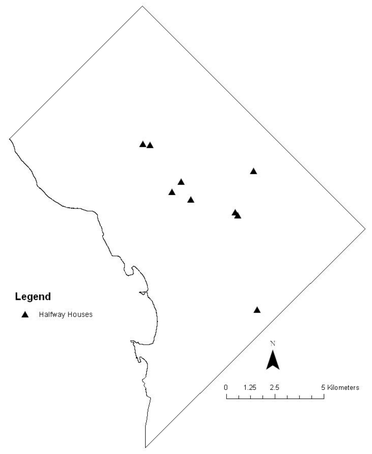
1. Setting the stage

- In 2010, Washington, D.C. had 9 halfway houses, and 31,089 reported UCR index crimes..
- The data for this project are taken from http://data.octo.dc.gov/ and are freely available to the public.

Crime Locations within Washington, D.C. for 2010



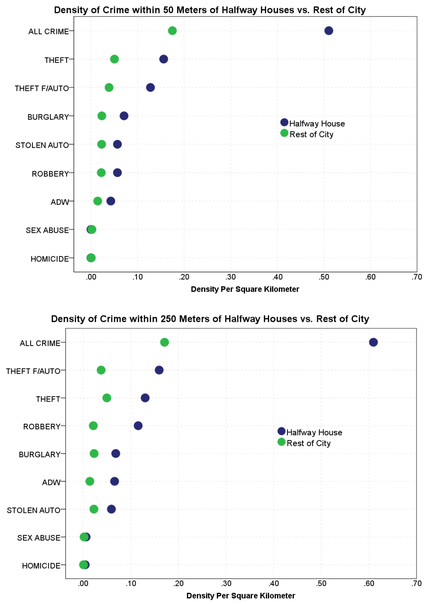
Halfway House Locations within Washington, D.C.

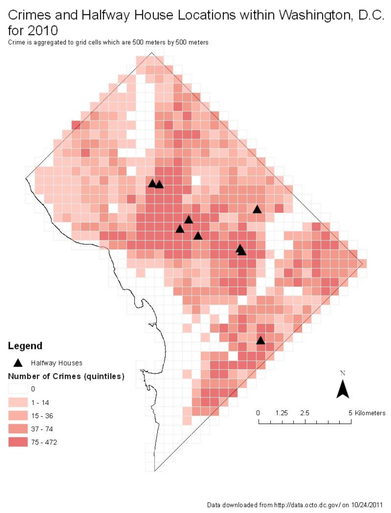


Data downloaded from http://data.octo.dc.gov/ on 10/24/2011

Data downloaded from http://data.octo.dc.gov/ on 10/24/2011

2. At first glance, it appears that crime is elevated around halfway houses.



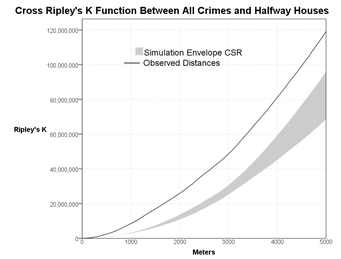


Data downloaded from http://data.octo.dc.gov/ on 10/24/2011

The dot plots display that the density of crime around halfway houses is substantially higher than the rest of the city, regardless of whether 50 or 250 meter buffers are used or type of crime. One could gather the same from the map visualization of crime density and halfway house locations as well.

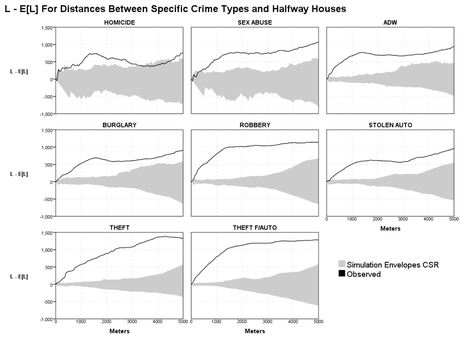
3. Some statistics to back up the intuition

Bivariate (or cross) Ripley's K compares all of the pairwise distances between halfway house locations and crime locations. One can then compare the observed distances to simulated distances if the two processes were independent and randomly distributed in space.



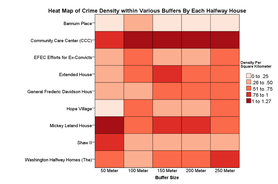
This small multiple panel uses the L transformation to the K function and subtracts that value from the expected L.

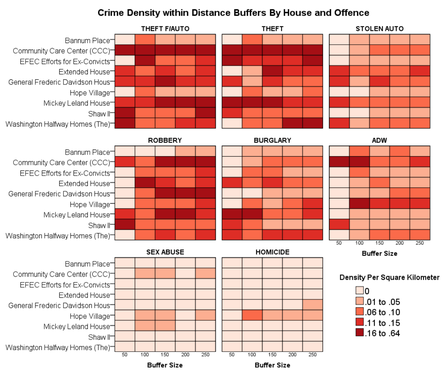
It appears, both for all crimes and for each individual crime type, that crime locations are clustered around halfway houses.



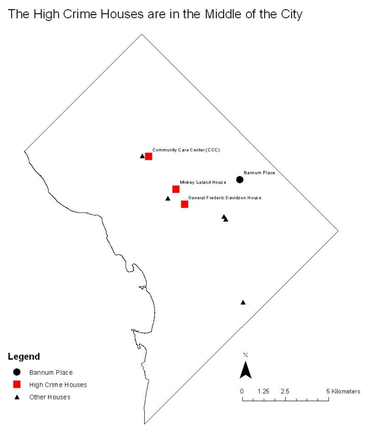
For most crime types, clustering occurs at both short ranges and long ranges. The long range clustering is unlikely due to the halfway houses themselves, suggesting they are located within high crime areas.

4. Are all houses equal?





The High Crime Houses are in the Middle of the City

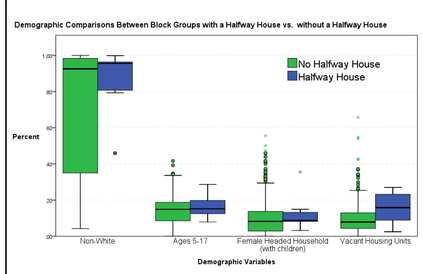


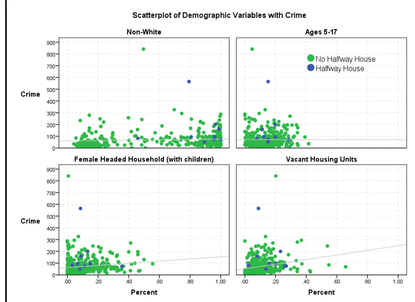
Data downloaded from http://data.octo.dc.gov/ on 10/24/2011

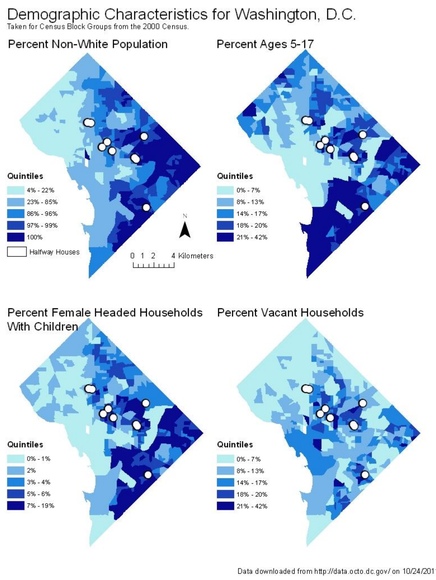
Bannum Place consistently has low crime density compared to other halfway houses. Conversely, *Community Care Center* consistently shows an elevated density of crime around the house. *Mickey Leland* and *Frederic Davison* also show elevated densities of crime. The high crime places identified all tend to be in the center of the city, is it just bad luck that crime occurs around them?

5. Is the relationship explained by other confounders?

- The locations of halfway houses are reasonably uncorrelated with other demographic characteristics to allow identifying a unique effect on crime.
- The high crime outlier for the census block group with a halfway house is the block group that contains *Community Care Center*.







Data downloaded from http://data.octo.dc.gov/ on 10/24/2011

6. The evidence suggests halfway houses are correlated with crime.

Is it causal? The data are limited in being able to make causal connections. It is very possible that halfway houses *self select* into criminogenic places that already have an increased prevalence of crime.

Potentially Improved Research Designs: Several designs may allow for better identification of whether halfway houses cause crime. Examples may be:

- Interrupted time series analysis. Examining crime around a halfway house before and after the house is instituted.
- Examining more specific crimes types (non-equivalent dependent variables design). One would expect that halfway houses only increase crimes that are related to its occupants.
- Identifying the direct causal link. Is it that crimes around the houses are committed by occupants (when they escape)? Or is there some other type of casual link between halfway houses and crime?