

# Shading Out The Gun:

## How Baltimore City Greenspace Relates to 2013 Homicides

*2015 Undergraduate Geospatial Technology Skills Competition*

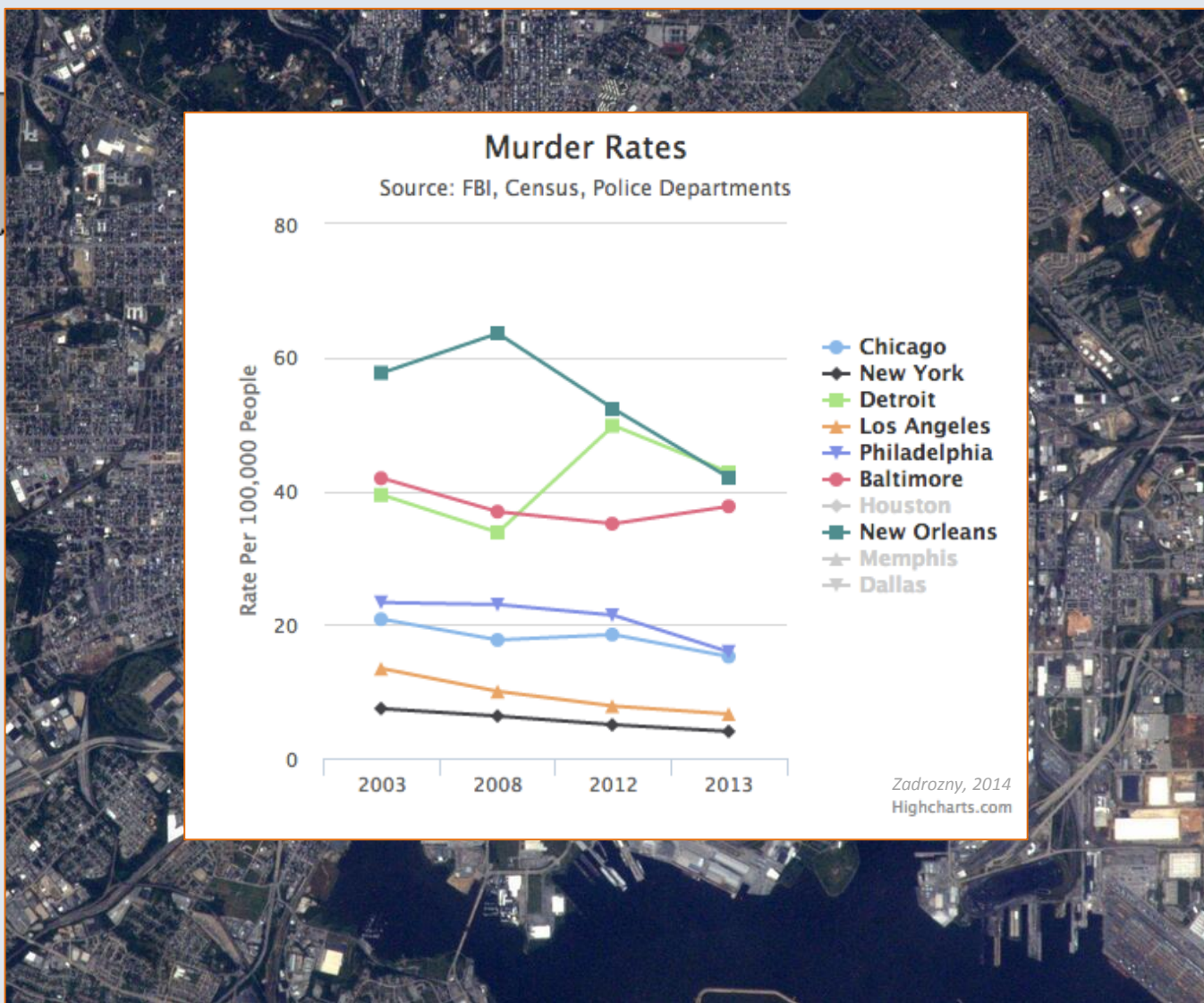
**Presented by Molly Finch**

*Student in the Geospatial Applications Program  
Community College of Baltimore County, Baltimore, Maryland  
Project created for GEOA101 course, Spring 2015*



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# Baltimore City, Maryland



# Shading Out The Gun

## Null Hypothesis:

There is no correlation between the location of homicides and the quantity (trees vs forest) and quality (mature vs. young/stressed) of urban green spaces.

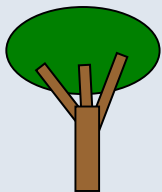


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# Literature Review:

## **Attention Restoration Theory** (Kaplan 1995):

Proposes that exposure to nature can reduce mental fatigue created by the many tasks of modern life that require effortful problem solving and reasoning.



## **Mental Fatigue** (Kaplan 1995):

State of irritability that can result in social behavior that is thoughtless and tactless, which can cause small conflicts to spiral out of control.

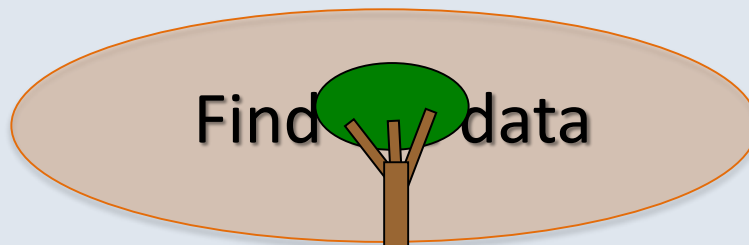
## **Barriers to “crime trips”** (Peters and Efflers 2010):

Barriers to “crime trips”, for example trees as a psychological barrier, do exist but they are most significant when less than 500 meters from the criminal’s origin location.

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# Project Workflow: Methodology



**Locations for all  
2013 Homicides**

**Vegetation Data**

**Baltimore City  
Basemap Features**

**Open Data Baltimore**



BPD Crime Data

**Open Data Baltimore**



Vegetation



Parks

**Open Data Baltimore**



City Limits



City Streets



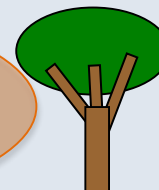
Water Features

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# Project Workflow: Methodology



## Data Preparation

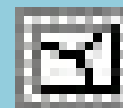


**Sorted Crime  
Data for 2013**

**HOMICIDE**

**Selected by Attribute**  
[Description] = 'Homicide'  
Add to current selection  
[Weapon] = 'Firearm' OR  
'Knife' OR 'Other'

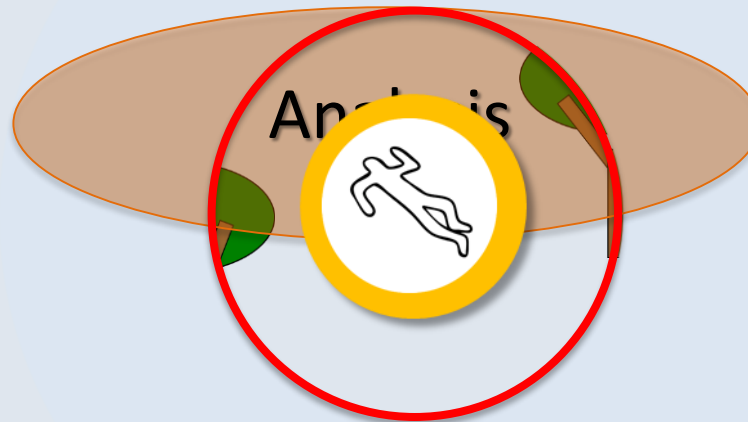
**Geocoded Homicide  
Locations**



**Combined  
Green Space**

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# Project Workflow: Methodology



**500 meter Homicide  
Buffer**



**Greenspace within  
Homicide Buffer**

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# SHADING OUT THE GUN










## How Baltimore City Greenspace Relates to 2013 Homicides

### Results

#### Table Of Contents



#### Homicide and greenspace

- ☒ E:\GEOA101\Lab\_Material\Projects\Project 4\Working\FINAL PROJECT 4\GEOA101\_FinalProject\_Revision.mdb
  - ☒ Homicide Occurances in 2013
    -  FIREARM
    -  KNIFE
    -  OTHER
  - ☒ Greenspace within Homicide Buffer
    - 
  - ☒ City Streets
    - 
  - ☒ City Limits
    - 
  - ☒ 500 meter Homicide Buffer
    - 
  - ☒ Total Greenspace
    - 
  - ☒ Water Features
    - 
  - ☐ Canvas/World\_Light\_Gray\_Reference
  - ☐ Canvas/World\_Light\_Gray\_Base

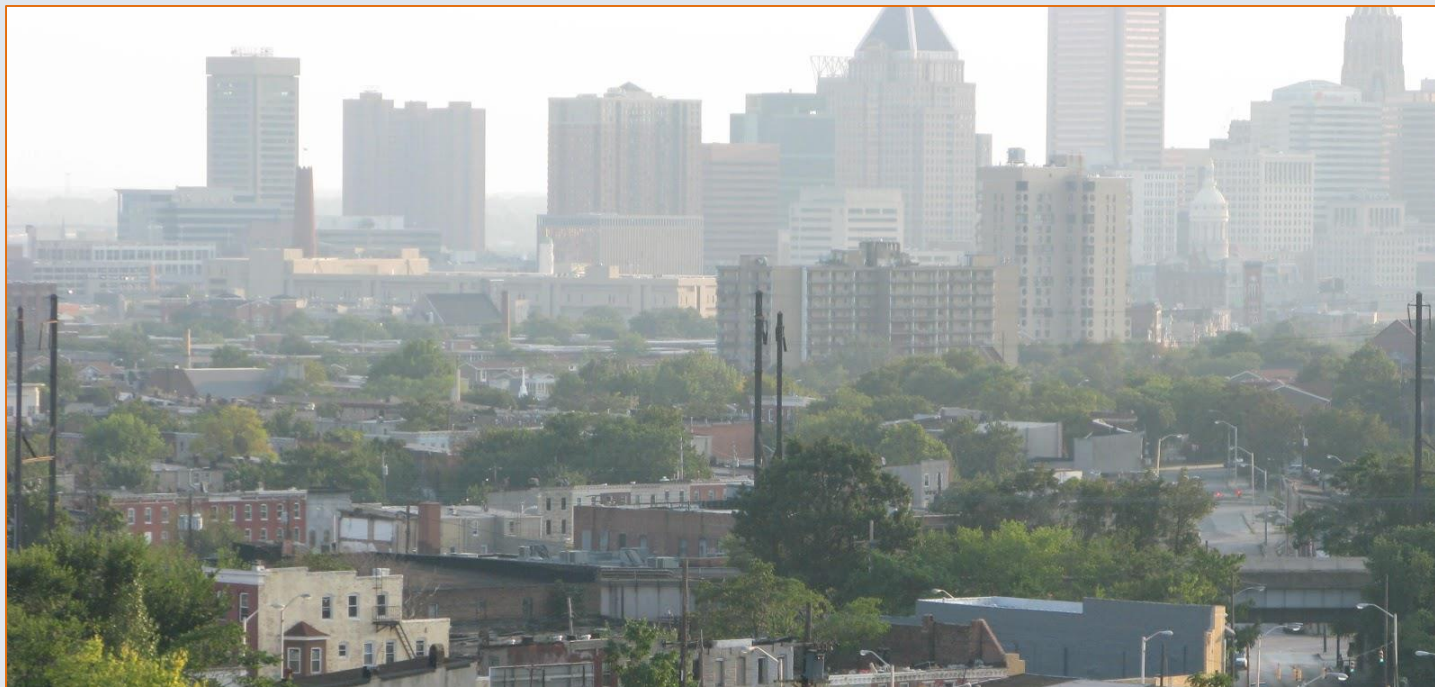
0 0.2750.55 1.1 1.65 2.2 Miles







# Questions?



## Work Cited:

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*Philipsen, 2012*

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