

Crime Specific Analysis of Homicide Hot Spots

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This presentation

- Shows the results of a crime mapping class project conducted at John Jay.
- Shows **Crime Specific Analysis of Homicide Hot Spots** in NYC

NYC and Homicide

According to UCR data (preliminary data

<http://www.fbi.gov/ucr/2005preliminary/05table4.htm>):

- NYC is among the five cities with the highest numbers of homicide in the US

The five US cities with the highest numbers of homicides

Cities	Rate per 100,000	Number
New York	6.4	519
LA	12.7	489
Chicago	15.7	447
Philadelphia	25.7	377
Detroit	40.4	359

Data Sources

- 2005 Homicide Data from New York Times
- 1997 Data Collected by Prof. Andrew Karmen (a sample).

The variables

- **date of homicide**
- **month of homicide**
- **day of homicide**
- **time of homicide precinct**
- **borough**
- **location/ land use**
- **motive**
- **weapon**
- **victims' gender, race, age.**

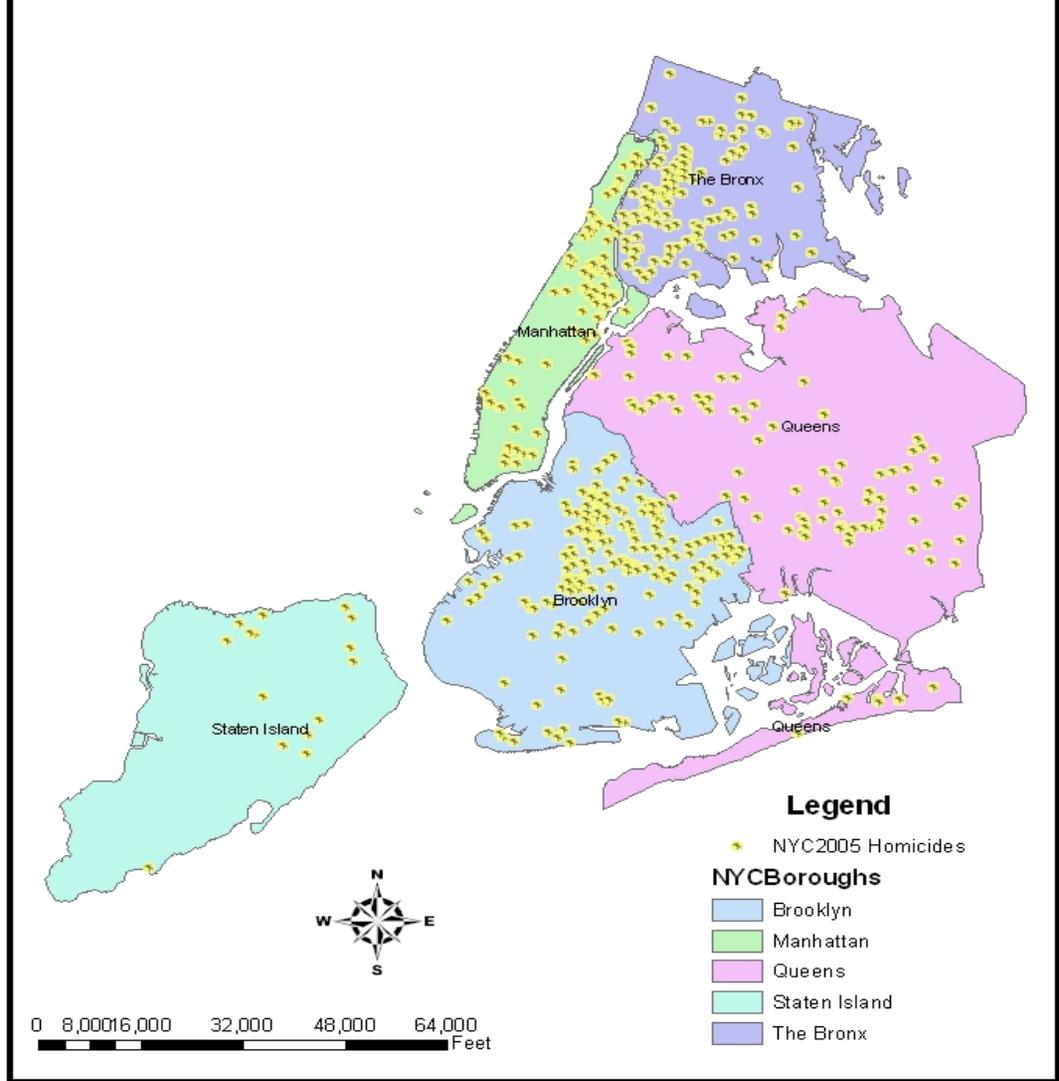
The Five Boroughs of NYC

- Manhattan
- Bronx
- Brooklyn
- Queens
- Staten Island

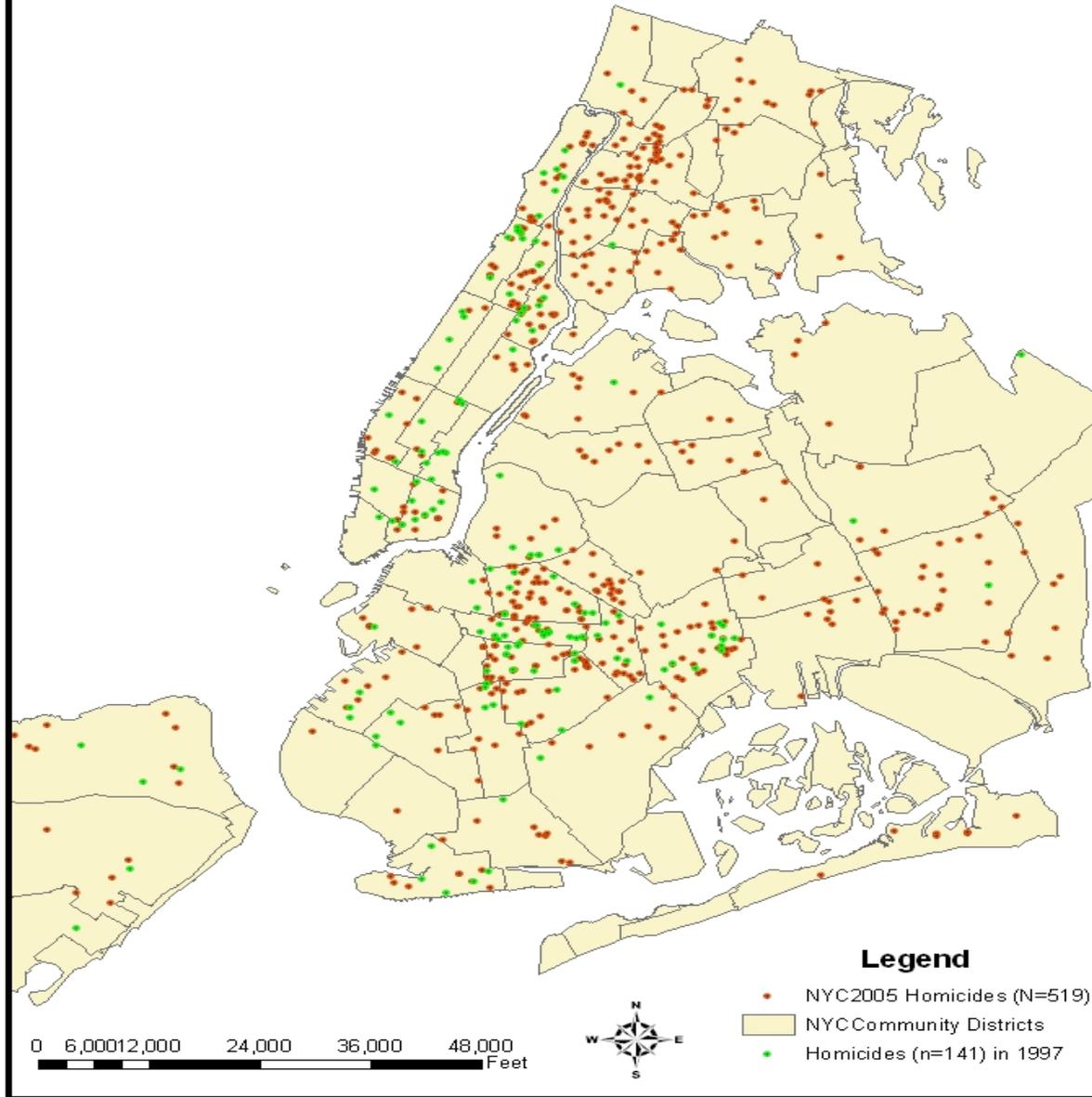
NYC Five Boroughs: Murder Rates in 2005

Boroughs	Population	Total Crime	Murder	Rate of Murder
Bronx	1,332,650	23,209	122	9.2
Brooklyn	2,465,326	41318	205	8.3
Manhattan	1,537,195	36489	84	5.5
Queens	2,229,379	29185	93	4.2
Staten Island	443,728	3,494	15	3.4
NYC	8008278	133695	540	6.4

NYC Homicides in 2005



NYC Homicides in 2005 and in 1997



Gender

- **Most of the 2005 homicide victims were male (81.5%)**
- **Only 18.5% female**

Age of Homicide Victims in NYC

Age group	Numbers	Percentage
Below 20 years	102	19.7
21-30 years	192	37.0
31-40 years	112	21.6
41-50 years	60	11.6
51 and above	53	10.2
Total	519	100.0

Race of Homicide Victims in NYC

Race	Numbers	Percentage
Black	302	58.2
Hispanic	135	26.0
White	42	8.1
Asian	26	5.0
Others	9	1.7
Missing	5	1.0
Total	519	100.0

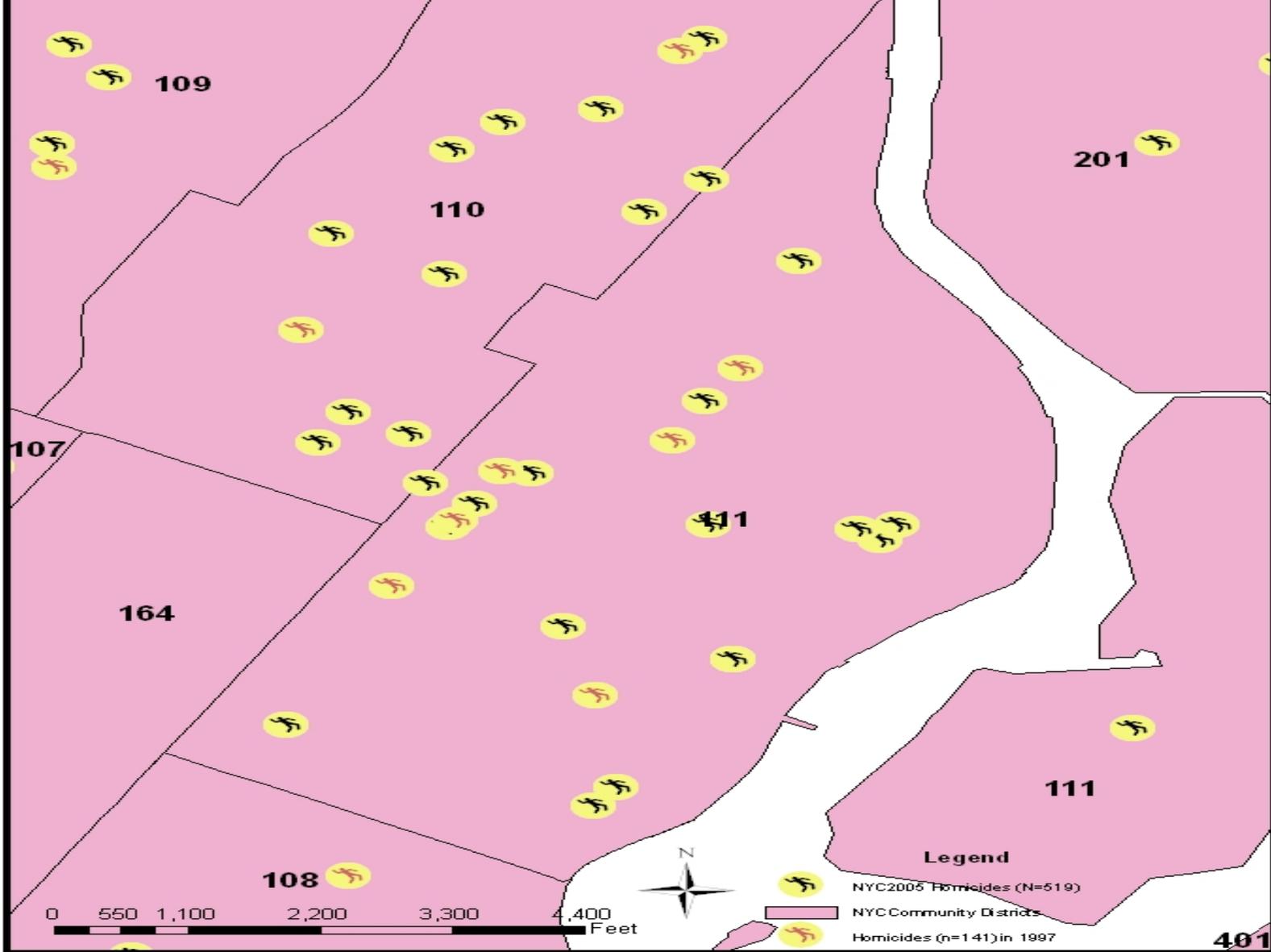
Neighborhood Context

- Homicides are not randomly distributed
- Homicides occur in some neighborhoods more than others.
- Homicide hotspots can be observed

Manhattan Chronic Hotspots

Community Districts	1997 Homicides	2005 Homicides
112	6	14
111	6	14
110	3	14
109	6	7
105	4	3
103	7	8

East Harlem Homicide Hotspots (1997 & 2005)



Community district 111, E. Harlem (NYC Dept Planning , 2001)

- 36.7% Blacks and 52% Hispanics
- One third of the population between 25-44 age group
- 48.6% of the population on income support. Public assistance, supplementary security income, Medicaid etc)
- 15 public housing projects with a total of 15,981 units and an average of 3 people per unit.

Community district 111

- Precincts 23, 25 and 28 have jurisdiction over this district
- According to NYPD data, Murder incidents have increased 22.2% since 2001 in precincts 23 and 25 and declined in precinct 28 (28.5%).
- Grand larceny has gone up in all three precincts (36% in 23, 65% in 25 and 90%in 28).
- Robbery has gone up in precincts 25 and 28.

Class observation

- Found that this is a deprived area in Manhattan (Spanish Harlem).
- During the week young to middle age adults hang out on the streets.
- The low-rise residential area of the district had much more garbage lying around and is an unsafe area to walk around.
- This area is well connected to the city through two subway lines (Red and Green) and many bus lines.







IN MEMORY OF THOSE
WHO'VE PASSED:

BUBBY DEKID · JASON · ERIC
ABRAHAM · MS. HUNT · ANITA
MS. WILLIAMS · MRS. PRICE
LLOYD · MS. HARMEN
THE SWANNS · POORBOY
OPHELIA · MS. HARDY
MARC 148 · THE STEPHENS

THE HATGETT
MR. & MRS.
ROBINSON

EVELYN
HARRY-O
ROBERT

Smiley
152

151
BWAY

MATT

EM
HAKES



NHC
LIC
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5
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In sum

- Homicide hotspots persist over many years
- These hot spots are concentrated in economically deprived neighborhoods (consistent with a large literature)
- Spellman states that if risks at the locations are stable—hot spots stay hot
- In such cases community problem solving techniques may reduce crimes and disorders substantially.

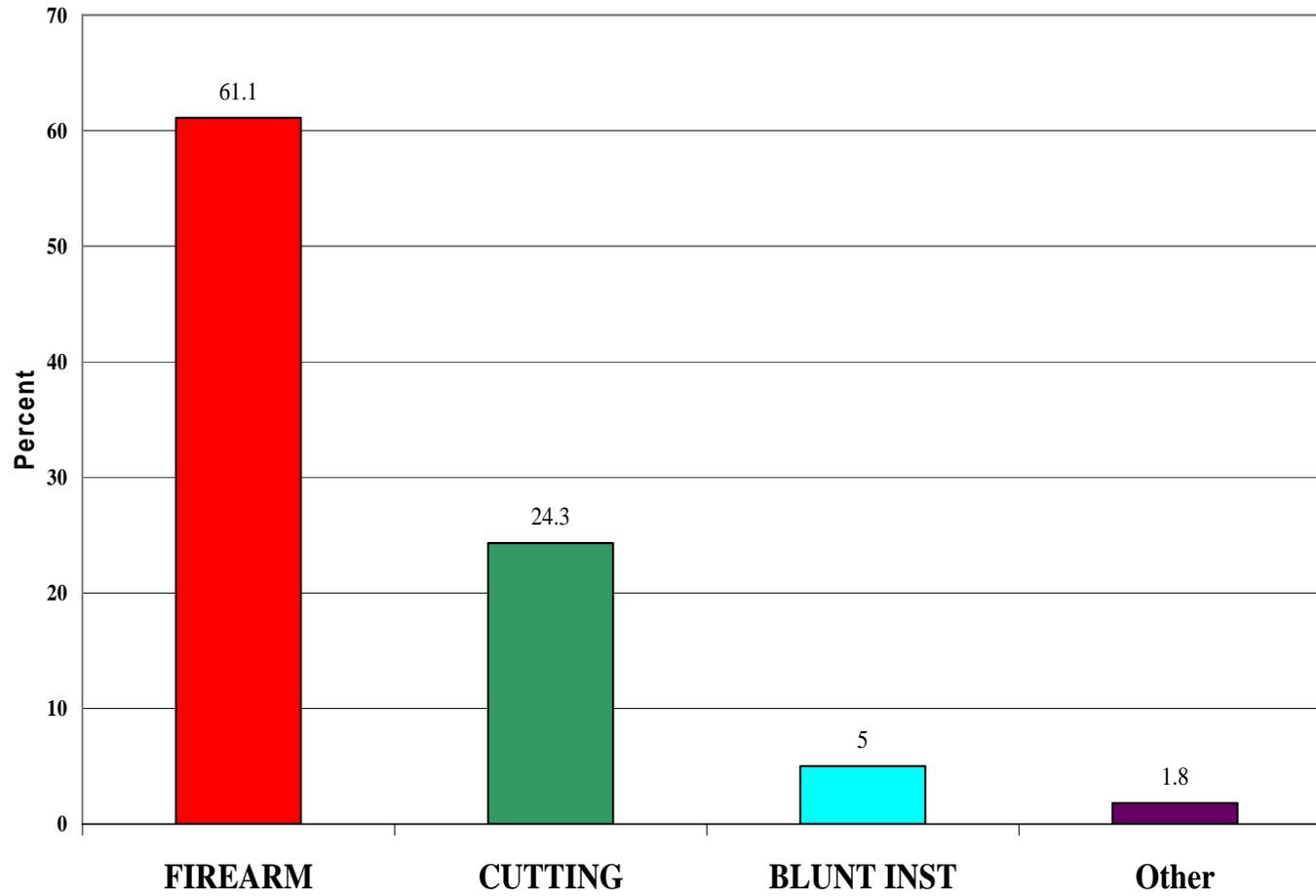
Crime Specific Analysis of Homicide

- Homicide is a collection of different kinds of acts
- Various motives or purposes make homicide different
- Patterns of these different kinds of homicide will differ because the variables or factors cluster differently

Motives for Homicides

Motive	Number of Homicides	Percentage
DISPUTE	141	27.2
DRUGS	122	23.5
DOMESTIC	65	12.5
REVENGE	62	11.9
ROBBERY/BURGLARY	51	9.8
GANG	28	5.4
BOYFRIEND/GIRLFRIEND	11	2.1
Others	39	7.6
Total	519	100.0

Weapons Used in Homicides in NYC



Location of Homicides in 2005

Location	Numbers	Percent
COMMERCIAL	49	9.4
DWELLING	171	32.9
Public HOUSING	71	13.7
OTHER	11	2.1
PARKING LOT	5	1.0
PLAYGROUND	8	1.5
STREET	176	33.9
TRANSIT	6	1.2
VEHICLE	22	4.2
Total	519	100.0

Time of Homicides

Time	Numbers	Percentages
00.00-03.59	120	23.1
04.00-08:59	88	17.0
09:00-12.59	51	9.8
13.00-16.59	63	12.1
17.00-20.59	94	18.1
21.00-23:59	103	19.8
Total	519	100.0

Analysis of specific categories

- Domestic
- Drugs
- Gang
- Robbery/Burglary

Results

- No significant differences:
 - time of day
 - month
 - age

Results (Race)

- Significant difference between race and these categories of homicides:
 - A majority of Blacks and Hispanics were victims of domestic, drug and gang homicides
 - Neither Whites nor Asians were victims of gang homicide.

Results (Gender)

- Significant differences were found between gender and these categories of homicides:
 - women were victims in domestic homicides
 - men were predominantly victims in drug related homicides

Results (Location)

- Significant difference was found between location and these categories of homicides:
 - 41% drug related and 75% of gang related homicides occurred in streets
 - 82% of domestic homicides occurred indoors.

Results (Weapons)

- Significant difference was found between weapons used and these categories of homicides:
 - Firearms were used highly for drug related homicides when compared to other types.
 - Cutting instruments were used for domestic homicides

Routine Activity Theory

- According to routine activity theory, homicides would occur in certain neighborhoods where vulnerable victims and motivated offenders converge in the absence of capable guardians.

Crime Pattern Theory

- Crime Pattern theory suggests that people perform illegal activities in the course of their daily routines. All individuals develop personal activity nodes where they spend most of their time. Crimes cluster around these nodes and along the paths between nodes or the edges that binds the nodes and paths.

Crime Pattern Theory

- Criminal events are bounded to a major extent by awareness spaces and by cues and cue sequences that lead to decisions about target suitability.
- Crimes are more likely where targets cluster within the awareness space of many potential criminals.
- Crime occurrence areas are those parts of a city within the awareness space of many potential criminals and areas that have attractive, low risk targets.
- Hence crime will be highly clustered and localized. We showed such patterns here.

Rational Choice Theory

- **Rational choice theory suggests that an understanding of motives has implications for prevention.**
- **One principle of rational choice is that crimes are specific. As we have shown homicides are committed for different purposes. Though we see chronic hot spots and crime clustering around certain neighborhoods, they differ in many ways.**
- **To identify preventive measures to reduce homicides at specific locations we need to understand the details of each category by conducting in-depth systematic observations of the locations.**

Conclusion - Prevention

- This project demonstrated to the class that larger categories of crime (such as homicide) must be broken down into more specific categories if spatial patterns at the neighborhood level are to be understood and if community preventive measures are to be identified and implemented