A Spatial Analysis of Sexual Homicide

To Live and Die in LA

Twenty-five years of Sexually Motivated Murder
Routine Activities

• Sexual homicide represents a convergence in time and place of the motivated offender and the victim
  – An overlap of routine activity space
• Shifts the focus away from either the offender or victim exclusively
• Allows the emphasis to focus on spatial behavior, location, & choice
Sexual Homicide

- a sexual homicide is one in which there is physical evidence of sexual activity which has occurred in close temporal and physical proximity to the murder or when there is a legally admissible statement by the perpetrator of sexual activity

– Reid Meloy, 2000
Method: Sample

- All sexual homicide cases investigated by the Los Angeles Sheriff’s Department from January 1, 1980 through December 31, 2004
  - 194 cases, 199 victims, 141 offenders
  - 105 Closed by arrest (52.8%)
  - 84 Open/Active (42.2%)
  - Only 2 cases are Open-suspended/inactive
Sexual Homicide Epidemiology

• A low base rate phenomenon
  – Estimates vary from less than 1% to approximately 4% of all homicides

• Current Study
  – **Mean** base rate for 25 years = 4.33%
  – **Median** base rate for 25 years = 3.83%
  – **Range** = 0.59% to 9.15%
Sexual Homicide Epidemiology

- Probability of *any homicide* in Los Angeles of being a sexual homicide:
  \[ P = 0.043 \]
- Probability of *any violent crime* in Los Angeles being a sexual homicide:
  \[ P = 0.0006 \]

Van Patten & Delhauer, Jnl of For Sci, 2007
## Spatial Data

<table>
<thead>
<tr>
<th>Location</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident (body dump)</td>
<td>197</td>
</tr>
<tr>
<td>Victim Residence</td>
<td>192</td>
</tr>
<tr>
<td>Offender Residence</td>
<td>110</td>
</tr>
<tr>
<td>Encounter Site</td>
<td>136</td>
</tr>
<tr>
<td>Post-offense location</td>
<td>98</td>
</tr>
<tr>
<td>Mobility Triangles – Incident</td>
<td>108</td>
</tr>
<tr>
<td>Mobility Triangles - Encounter</td>
<td>98</td>
</tr>
</tbody>
</table>
Comparison Data

• Incident location data for all homicides occurring in Los Angeles County for the period 1 January 2005 through 31 July 2007 were obtained (N=959) and geocoded
SEXUAL HOMICIDES MAPPED
Offender Residences N=110
Victim Residences N=192

OFFENDER & VICTIM RESIDENCES
Offender Residence to Crime $N=110$
Victim Residence to Crime $N=191$
Offender Residence to Encounter $N=101$
Victim Residence to Encounter $N=133$
Offender Residence to Victim Residence $N=108$

JOURNEY TO CRIME
JTC: OR to BD

- N=110
- Mean= 43.86
- Median= 1.28
- SD= 327.97
- Min= 0
- Max= 3410.87
JTC: VR to BD

- N = 191
- Mean = 33.38
- Median = 0.79
- SD = 212.46
- Min = 0
- Max = 2276.29
JTC: OR to VR

- N = 108
- Mean = 57.71
- Median = 0.61
- SD = 342.43
- Min = 0
- Max = 3410.87
Critical Homicide Sites

1) **Encounter Site** – where victim and offender first meet

2) **Attack Site** – where first criminal attack occurs

3) **Murder Site** – where actual murder occurs

4) **Body Dump** – where the body is left

5) **Post-offense** – *journey after crime*

*Rossmo, 2000*
JTC: OR to Encounter

- N = 101
- Mean = 44.83
- Median = 0.61
- SD = 342.43
- Min = 0
- Max = 3410.87
JTC: VR to Encounter

- N = 133
- Mean = 24.69
- Median = 0
- SD = 162.71
- Min = 0
- Max = 1429.38
Offender Residence to Body Dump
Victim Residence to Body Dump
Offender Residence to Encounter
Victim Residence to Encounter

JOURNEY TO CRIME MAPS
Neighborhood
Predatory
Intrusion
Offense Mobility
Total Mobility

MOBILITY TRIANGLES
Tita & Griffiths, *JRCD*, 2005

- Examines the joint mobility of offender, victim, crime location
- Five types based on census tracts
  - Internal
  - Predatory
  - Intrusion
  - Offense Mobility
  - Total Mobility

- Extension of Tita & Griffiths
- Used distance as an analog of neighborhood rather than census tract
- Five types
  - Neighborhood
  - Offender Mobility
  - Victim Mobility
  - Offense Mobility
  - Total Mobility
Current Study

• Uses distance as neighborhood analog
  – Half mile radius (one quarter square mile) defines “neighborhood”

• Five Type Hybrid
  – Neighborhood
  – Predatory
  – Intrusion
  – Offense Mobility
  – Total Mobility
Mobility Triangles

Neighborhood  Predatory  Intrusion

- Vic Residence
- Off Residence
- Incident

Offense Mobility  Total Mobility
Mobility Triangle Comparison

- Pittsburgh (N=420)
- Wash DC (N=2745)
- Los Angeles (N=108)
- Los Angeles (N=98)
CCI = \frac{\text{Crimes per Tract/Area per Tract}}{\text{Total Crimes/Total Area}}

RATES VERSUS CRIME CONCENTRATION INDEX IN A FIRST ORDER HOT SPOT ANALYSIS
Incidents Mapped by Rate (population)
Incidents mapped by CCI (area)
LISA: CCI v. Rate
LISA Comparison Zoomed In
"Th-th-th-th-that's all folks!"

Slides will be posted next week at: http://ivanpatt.asp.radford.edu/