Disrupting Crime-Place Networks: The Role of Surveillance

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Evidence Supporting Crime-Place Networks

- Crime is concentrated across places, offenders, victims – 80-20 Rule
- Offenders, victims, and crime places are networked.
- Persistent crime hotspots result from overlapping networks.
- Most violent crime, across any city, occurs in small, identifiable micro-locations.
Organization of Violent Place Networks

Crime Places
(Madensen & Eck, 2013)

Proprietary Places
(single address)

Crime Sites -- micro-places where crime occurs

Convergent Settings -- routine public meeting places (Felson 2003)

Comfort Spaces -- offender created private staging and lounging locations (Hammer 2011)

Corrupting Spots -- crime places that create crime at other places (Madensen & Eck, 2013)

Proximal Places
(places that influence each other through close spatial proximity)

Meeting
Supplying
Staging

Pooled Places
(large aggregate areas - e.g., neighborhoods)
Crime Places and Copper Theft

Crime Sites

- Copper condensing air-conditioning units
- Light/telephone poles & power stations
- Vacant/foreclosed properties
- Churches

Stolen Catalytic Converter
Crime Places and Copper Theft

**What we see**

**Crime Sites**

- **Comfort Space**
  - Staging location where offenders park & meet close to crime sites

**What we don’t see**

- **Corrupting Spot**
- **Recycling Plant**
- **Convergent Setting**

**Comfort Space**

- Supplying location where metal is stored

**Craigslist**

- Extra cash and removal of your recycle items - $1 (valley wide pick up)
Violence Concentration
(Dayton, Ohio)

1.3% of City’s total land mass (<0.7 sq mi)*:

- 7.1% of shots fired calls-for-service
- 13.9% of robberies
- 17.2% of firearms offenses
- 38.6% of shootings

*Excludes airport land use
Place Network Analysis

Crime Site – Most violent proprietary location in Avondale neighborhood
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- Convergent Settings – Lincoln Statue, Lexington Supermarket
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Convergent Settings – Lincoln Statue, Lexington Supermarket

Comfort Spaces – Specific apt. units, Nearby residences
Place Network Analysis

- **Crime Site** – Most violent proprietary location in Avondale neighborhood
- **Convergent Settings** – Lincoln Statue, Lexington Supermarket
- **Comfort Spaces** – Specific apt. units, Nearby residences
- **Corrupting Spots** – Nearby businesses (some facilitators)
Cincinnati Place-Based Investigations

Violent Place Network

- Crime sites – public street
- Convergent settings – parking lot/park
- Comfort spaces – rentals/vacant property
- Corrupting spots – crumbling structures/store fronts

Violent Place Network
Cincinnati Place-Based Investigations

- Permanent on-street parking restriction
- Land maintenance/owner compliance
- Code enforcement/dumpster-vendors
- Blighted property demolition
- Light tower intervention
- Fencing - territory reinforcement
- Space reactivation – public playground

Results:

<table>
<thead>
<tr>
<th>Year</th>
<th>Shooting Victims</th>
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</thead>
<tbody>
<tr>
<td>2013</td>
<td>5 victims</td>
</tr>
<tr>
<td>2014</td>
<td>8 victims</td>
</tr>
<tr>
<td>2015</td>
<td>18 victims</td>
</tr>
<tr>
<td>2016</td>
<td>3 victims</td>
</tr>
</tbody>
</table>

Evidence of diffusion of benefits (not displacement)
Limitations of Crime-Place Network Investigations

Role of Surveillance Technologies
Geofeedia

Place-Based Social Media Surveillance
1 days avg. per mention
last mention 5 minutes ago
31 unique authors
19 retweets

Top Hashtags
- charlottesville: 4
- maga: 1
- Hannity: 1

Top Users
- CincinnatiKid: 2
- shannonrwatts: 1
- mdwblitz: 1
- kgat90: 1
- kwoodworth: 1
- BrennaDemands: 1
- hilarybama: 1
- CherylHaase: 1
- CincinnatiOHrr: 1
- /u/PhoecesBrow: 1

Top Keywords
- didn't: 50
- time: 41
- good: 38
- violence: 36
- people: 32
- pick: 30
- cincinnati: 29
- players: 28
Afghanistan Gang Territory

Rockdale Ave
Hutchins Ave
Lexington Ave
Forest Ave
Rockdale Ave
VIDEO FORENSICS
Condensed Video Feeds

Filtered Visuals
Emotion/Face API
Video Indexing
Text Analytics
Video/Image/Web Search
Questions

1. How are crime-places networked in Sweden?

2. How have new technologies changed “street” offenders’ activities? What investigation challenges/advantages do these technologies present?
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