

# Hot spots and crime: research and policy implications

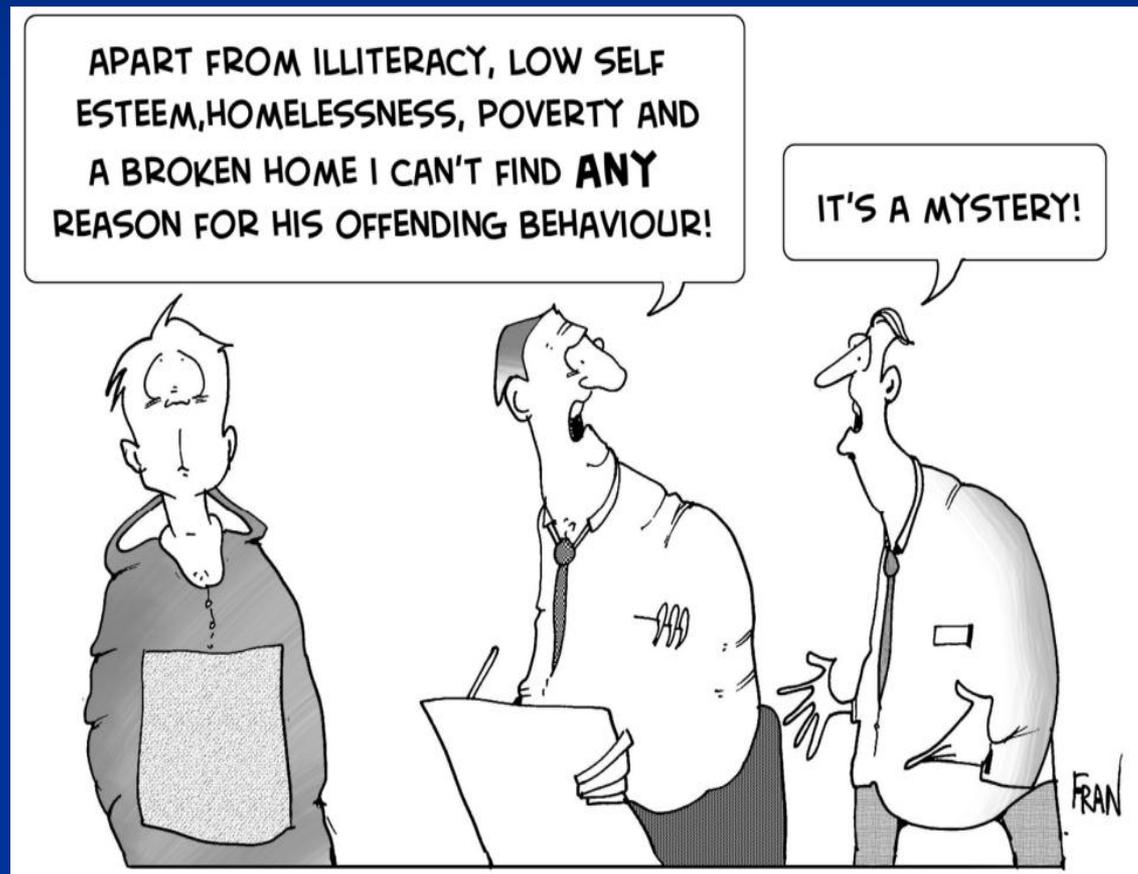
David Weisburd  
George Mason University  
Hebrew University



*"Location, location, location."*



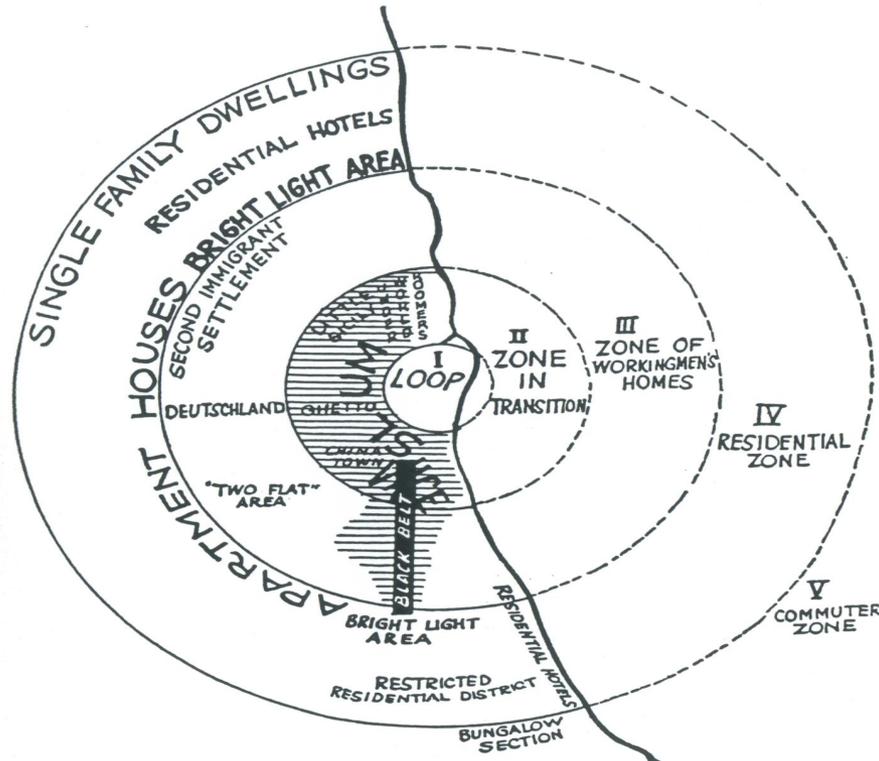
# Conventional Criminology: Who Done It?



# New Area of Criminology that Asks: Where Done It?



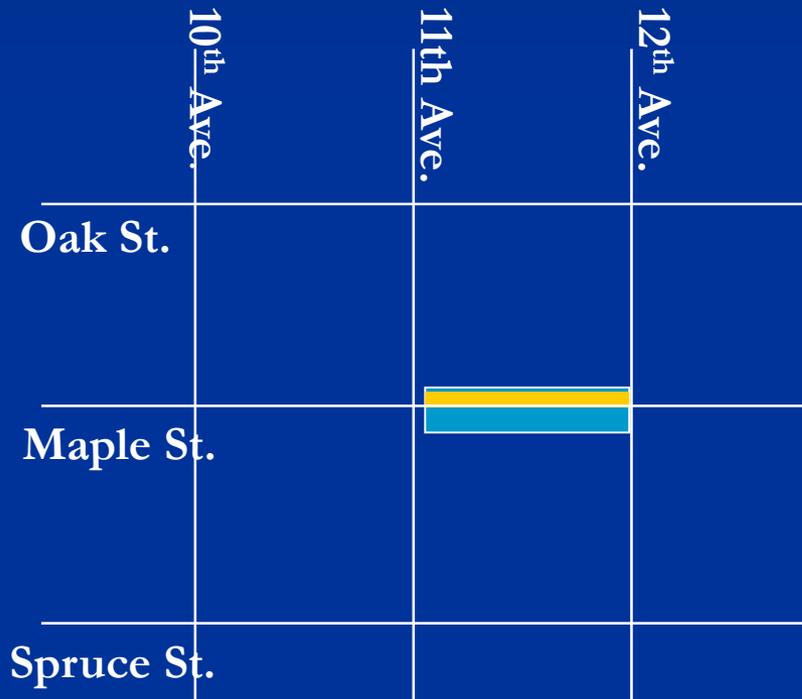
# Different from Community Based Crime Prevention



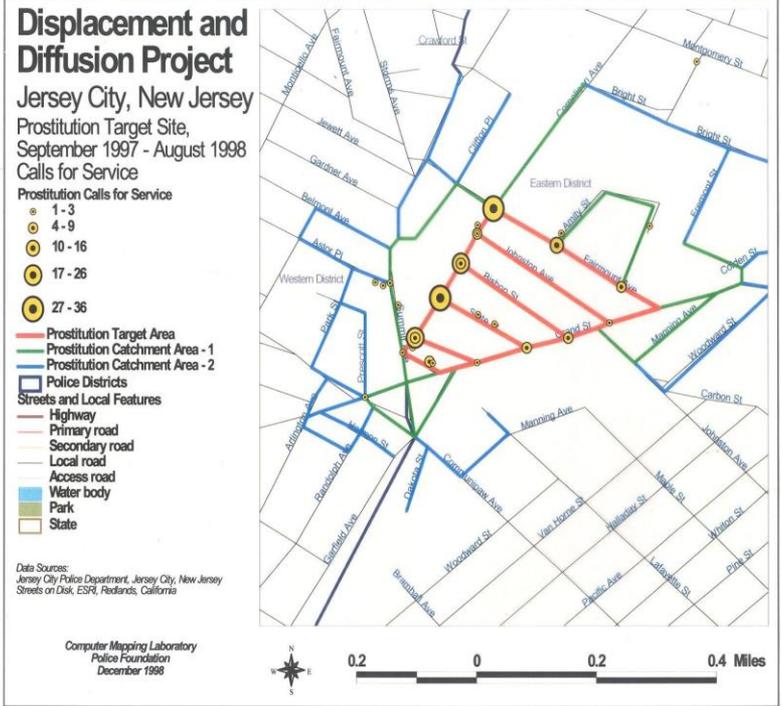
Note: The shaded portion indicates the approximate location of the central empire of gangland.

# The Criminology of Place and Hot Spots of Crime: Micro Geographic Units of Analysis

The Street Segment (Sherman and Weisburd, 1995)



Cluster-- Street Segments (Weisburd et al., 2006)



# Road Map

- There is strong evidence that crime prevention (policing) at places is effective without displacement.
- Why is crime prevention at places effective?
  - The Law of Crime Concentrations at Places and the coupling of crime to place.
  - Specific characteristics of places create the coupling of crime to place.
- The promise of social interventions at places.
- Health outcomes and hot spots of crime.



**THERE IS STRONG  
EVIDENCE THAT HOT SPOTS  
POLICING WORKS**

# Isn't It Obvious that the police prevent crime?

*“The police do not prevent crime. This is one of the best-kept secrets of modern life. Experts know it, the police know it, but the public does not know it. Yet the police pretend that they are society's best defense against crime. This is a myth.”*

—Bayley (1994:3)

*“..no evidence exists that augmentation of police forces or equipment, differential patrol strategies, or differential intensities of surveillance have an effect on crime rates.”*

—Gottfredson and Hirschi (1990:270)

# Crime Concentrations at Addresses and “Small Worlds of Crime and Policing

Sherman et al., Minneapolis

Community Policing in New York

No. of Calls	Observed No. of Places	Expected No. of Places	Cumulative % of Places	Cumulative % of Calls
0	45,561	6,854	100%	—
1	35,858	19,328	60.4	100.0
2	11,318	27,253	29.2	88.9
3	5,683	25,618	19.4	81.9
4	3,508	18,060	14.4	76.7
5	2,299	10,186	11.4	72.4
6	1,678	4,787	9.4	68.8
7	1,250	1,929	7.9	65.7
8	963	680	6.8	63.0
9	814	213	6.0	60.6
10	652	60	5.3	58.4
11	506	15	4.7	56.3
12	415	4	4.3	54.6
13	357	1	3.9	53.1
14	297	0	3.6	51.7
15 >	3,841	0	3.3	50.4

mean = 2.82       $X^2 = 301,376$       df = 14      p < .0001

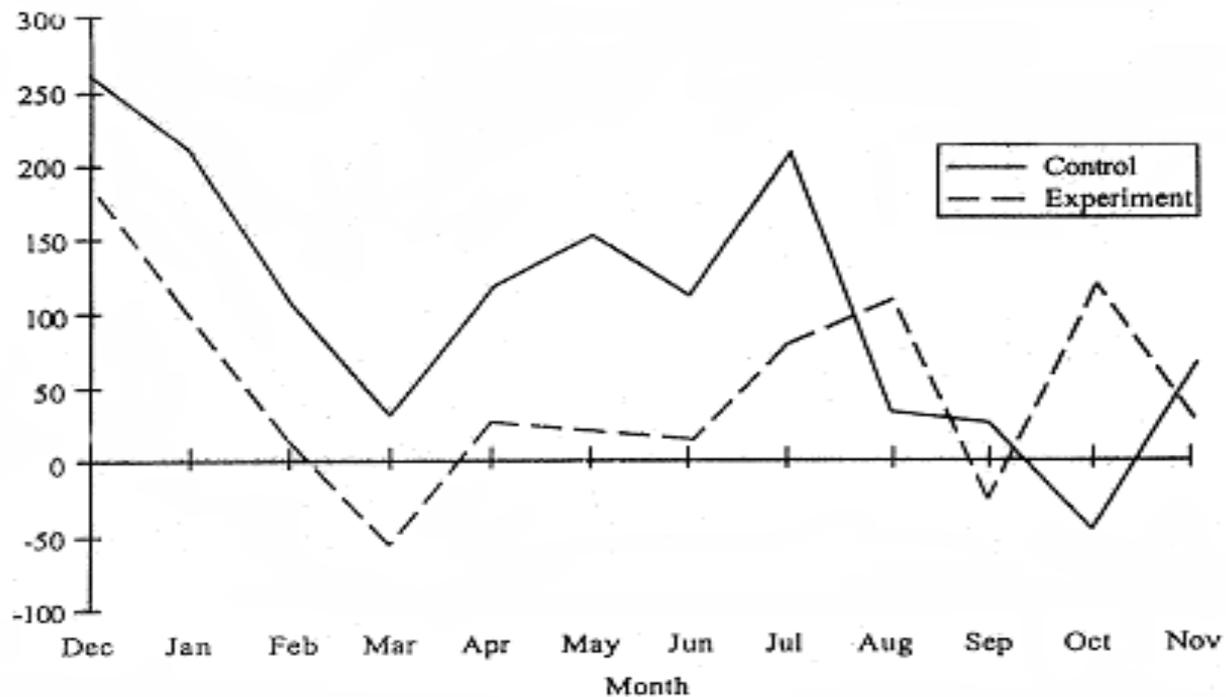
- Officers Assigned to “beats” of 12 to 20 square blocks.
- But the officers spent most of their time at just a few streets where crime was concentrated.

# The Minneapolis Hot Spots Experiment (1990)

- The first major study to show the potential crime prevention benefits of place based policing.
- Large experimental field study:
  - 110 crime hot spots randomly allocated to treatment and control conditions.
  - Treatment sites received between 2-3 times the preventive patrol as control sites.

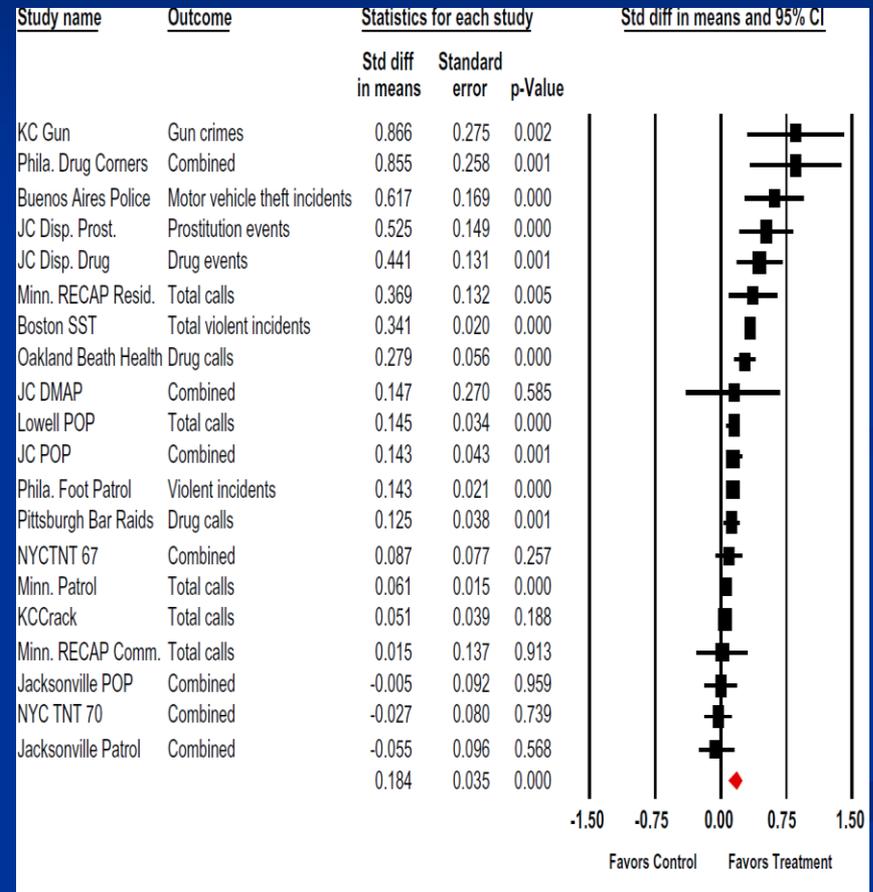
# Crime Calls

## The Minneapolis Hot Spots Experiment (Sherman and Weisburd, 1995)

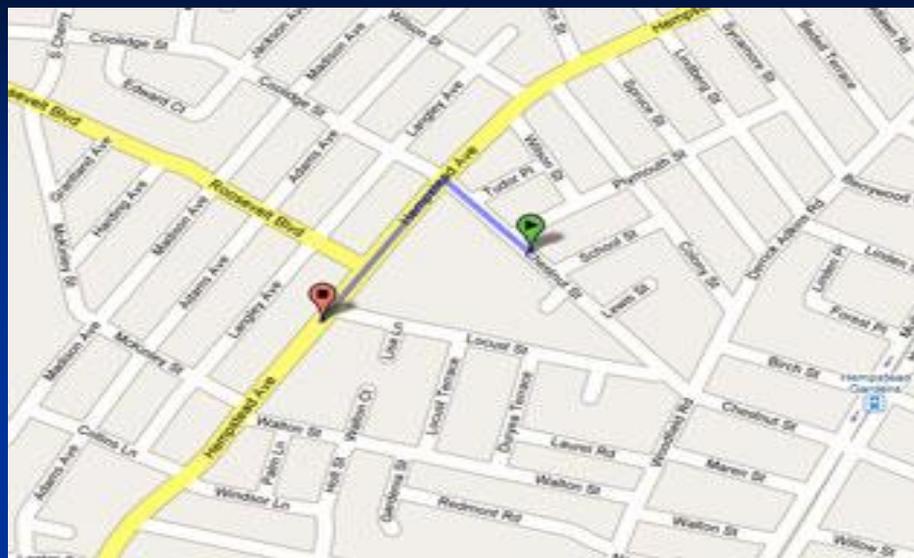


# Hot Spots Policing Trials

- In a Campbell review Braga, Papachristos, and Hureau (2012) identifies 25 experimental and quasi experimental studies.
  - 21 of 25 tests show statistically significant crime prevention benefits.
  - 10 experiments—all showed significant effects
  - There is an overall significant effect size in a meta analysis.

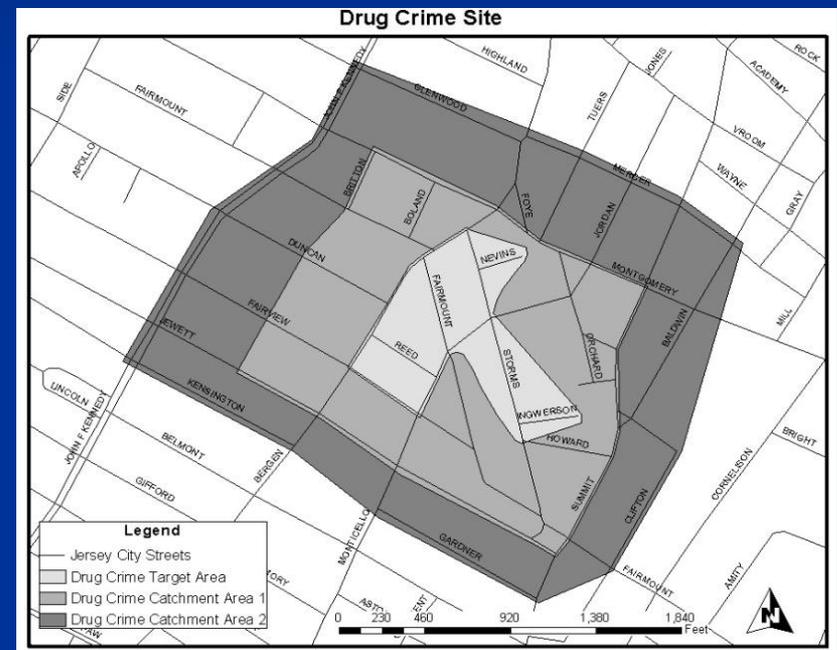
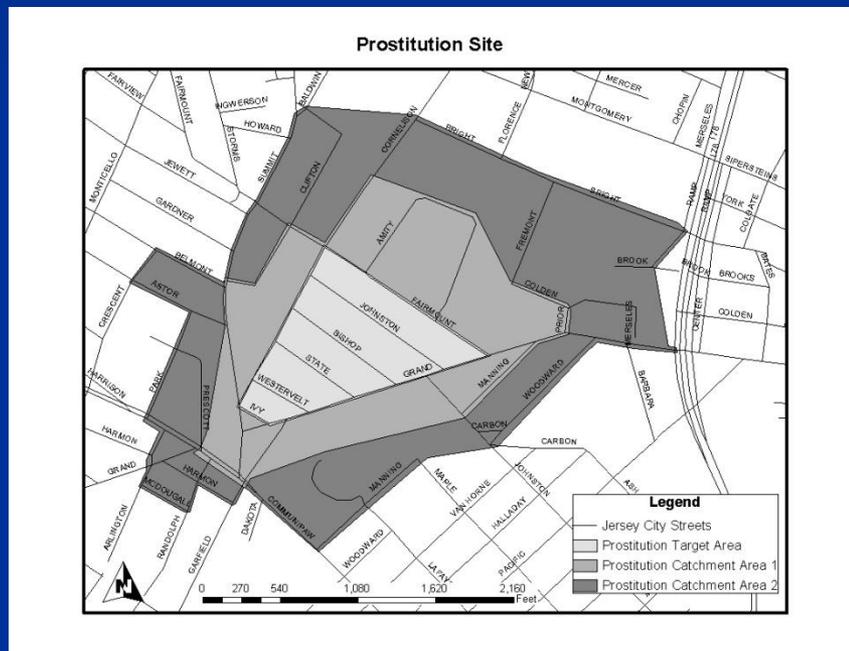


Meta-Analysis Random Effects Model,  $Q = 184.021$ ,  $df = 19$ ,  $p < 0.000$ .



**BUT DOESN'T CRIME  
JUST MOVE AROUND  
THE CORNER?**

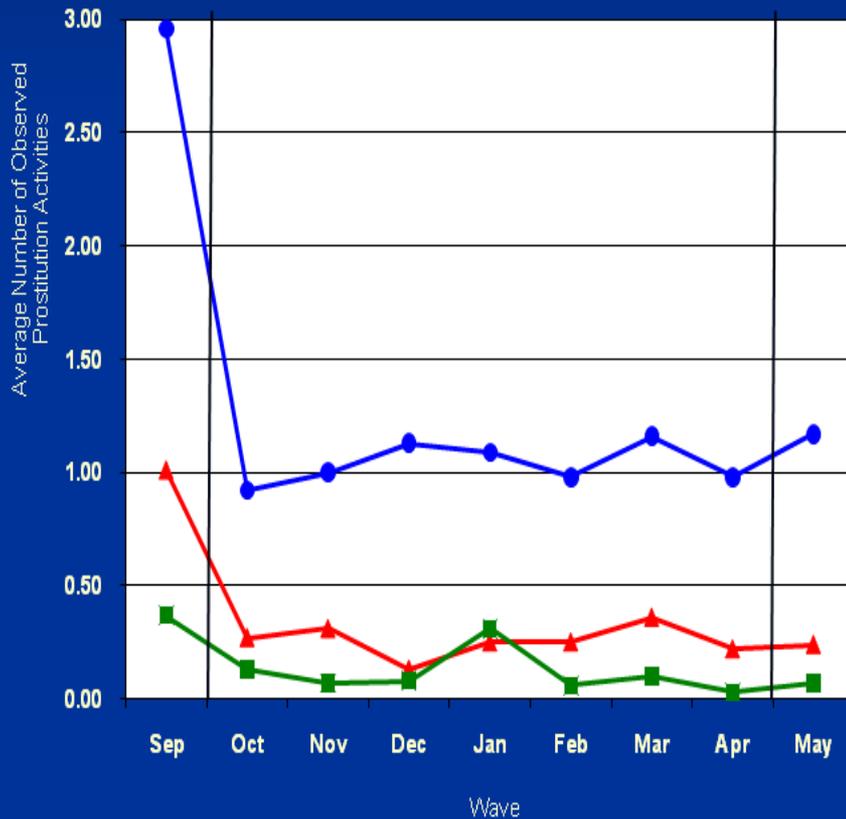
# The Police Foundation Displacement and Diffusion Study



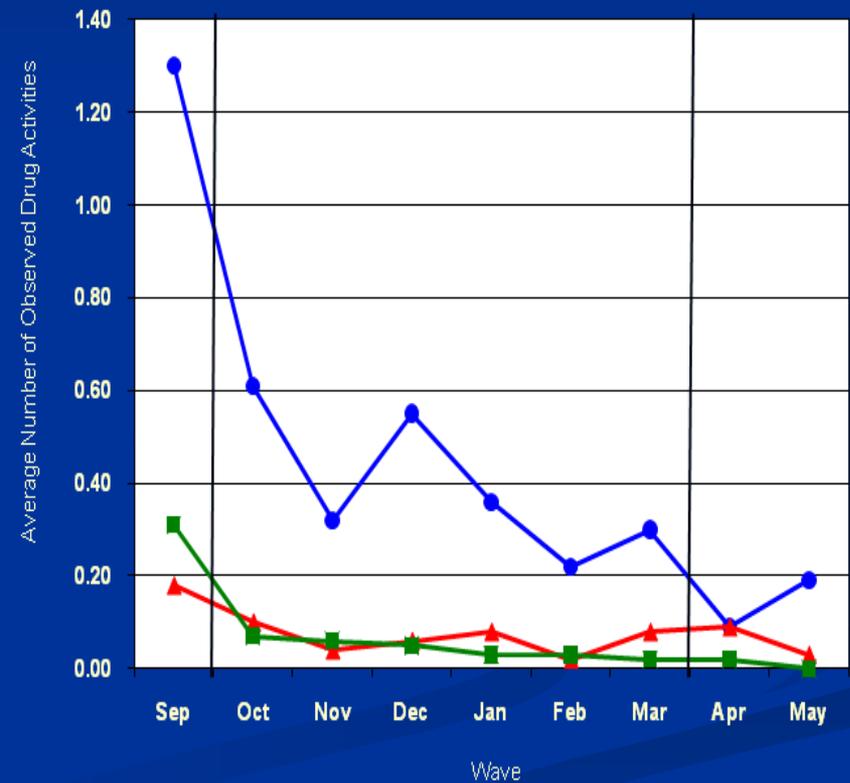
Weisburd, David, Laura Wyckoff, Justin Ready, John E. Eck, Joshua C. Hinkle, and Frank Gajewski. (2006) Does Crime Just Move Around the Corner? A Controlled Study of Spatial Displacement and Diffusion of Crime Control Benefits *Criminology* 44(3), 549-591.

# Results

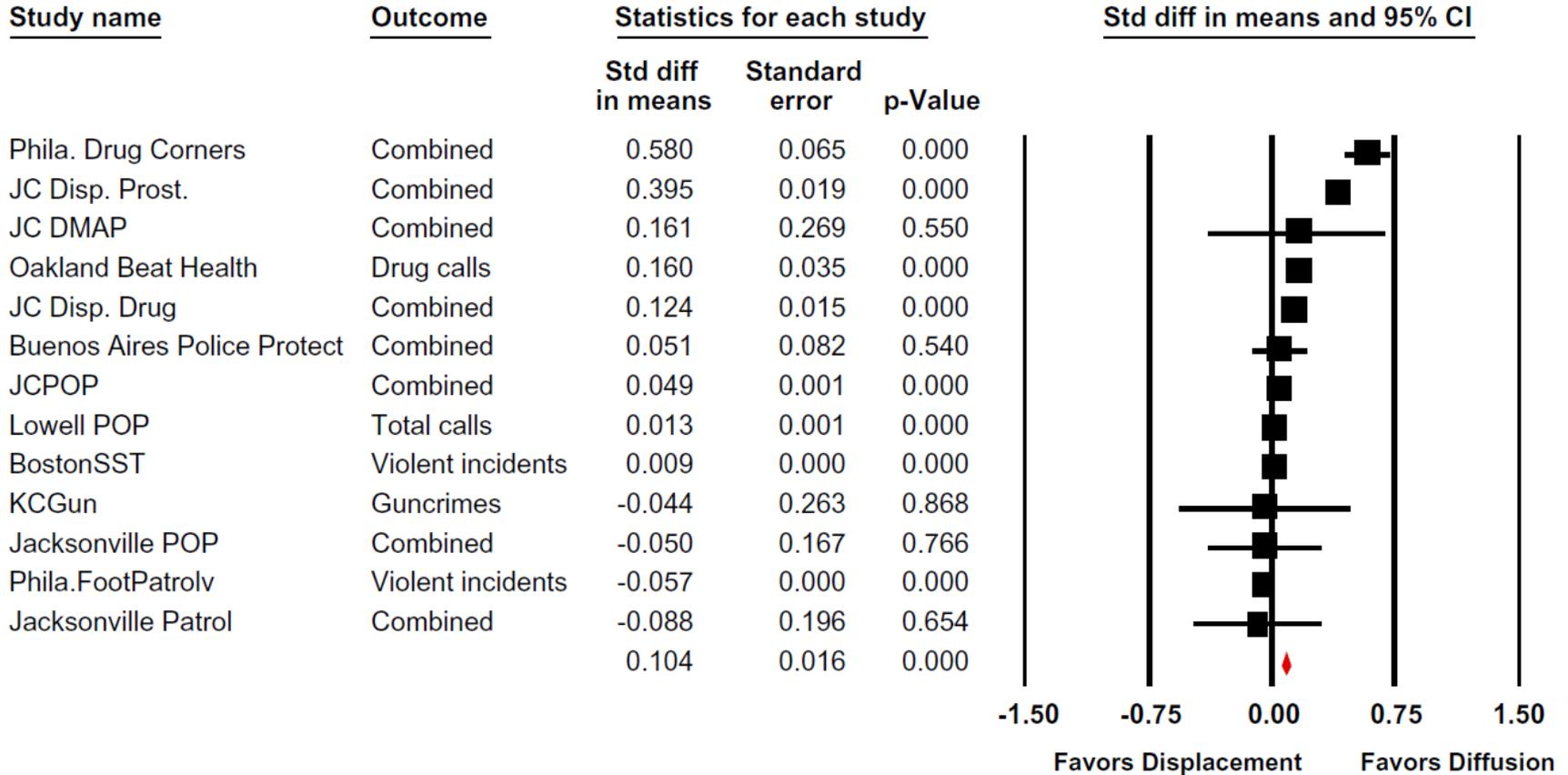
Prostitution Site  
Average Number of Observed Prostitution Activities per Segment per Wave



Drug Crime Site  
Average Number of Observed Drug Activities per Segment per Wave



# Braga et al.



Meta-Analysis Random Effects Model,  $Q = 22699.482$ ,  $df = 12$ ,  $p < 0.000$ .

# National Academy of Sciences

- “...studies that focused police resources on crime hot spots provide the strongest collective evidence of police effectiveness that is now available... we conclude that the practice described as hot-spots policing is effective in reducing crime and disorder and can achieve these reductions without significant displacement of crime control benefits.”
- National Research Council (2004:250)

# Why is Place Based Prevention Effective?



# THE CRIMINOLOGY OF PLACE

STREET SEGMENTS  
AND OUR UNDERSTANDING  
OF THE CRIME PROBLEM

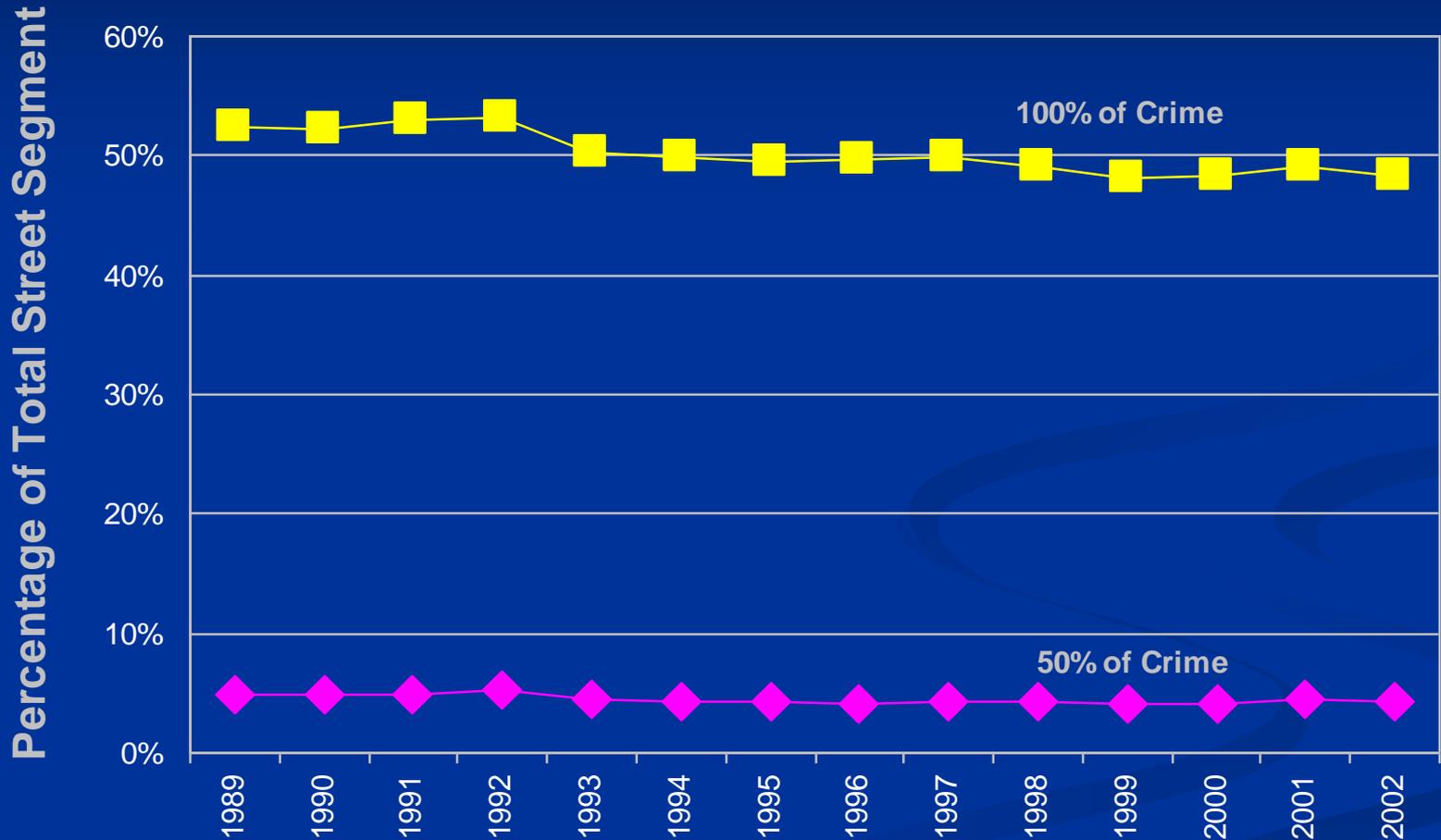
DAVID WEISBURD | ELIZABETH R. GROFF | SUE-MING YANG





**THE LAW OF CRIME  
CONCENTRATIONS AND THE  
COUPLING OF CRIME TO  
PLACE**

# “Law of Crime Concentrations” Over Time



Weisburd, David, Shawn Bushway, Cynthia Lum, and Sue-Ming Yang. (2004). Trajectories of Crime at Places: A Longitudinal Study of Street Segments in the City of Seattle. *Criminology*, 42(2), 283-322.

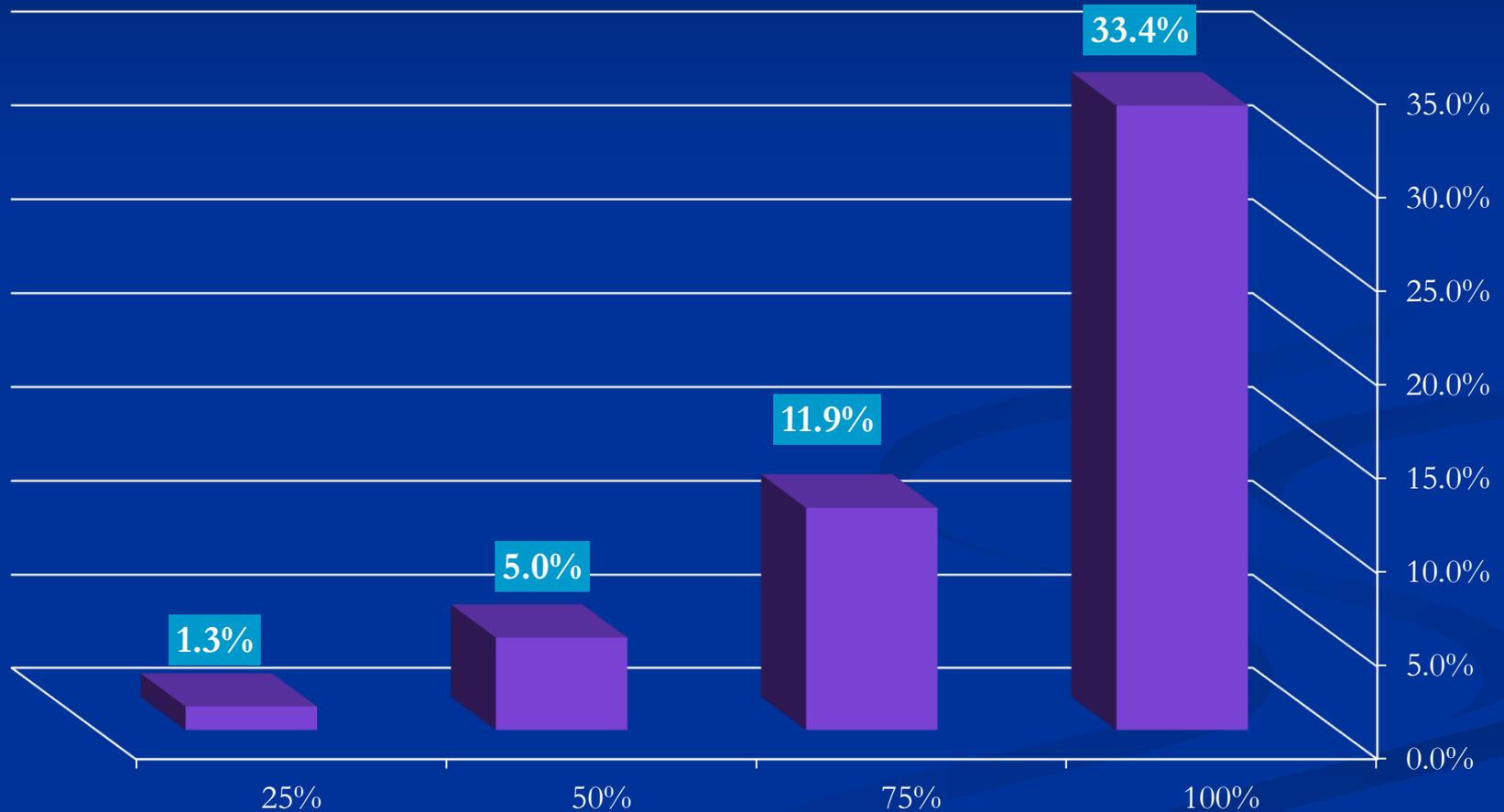
# Law of Crime Concentrations

## Across Cities: New York

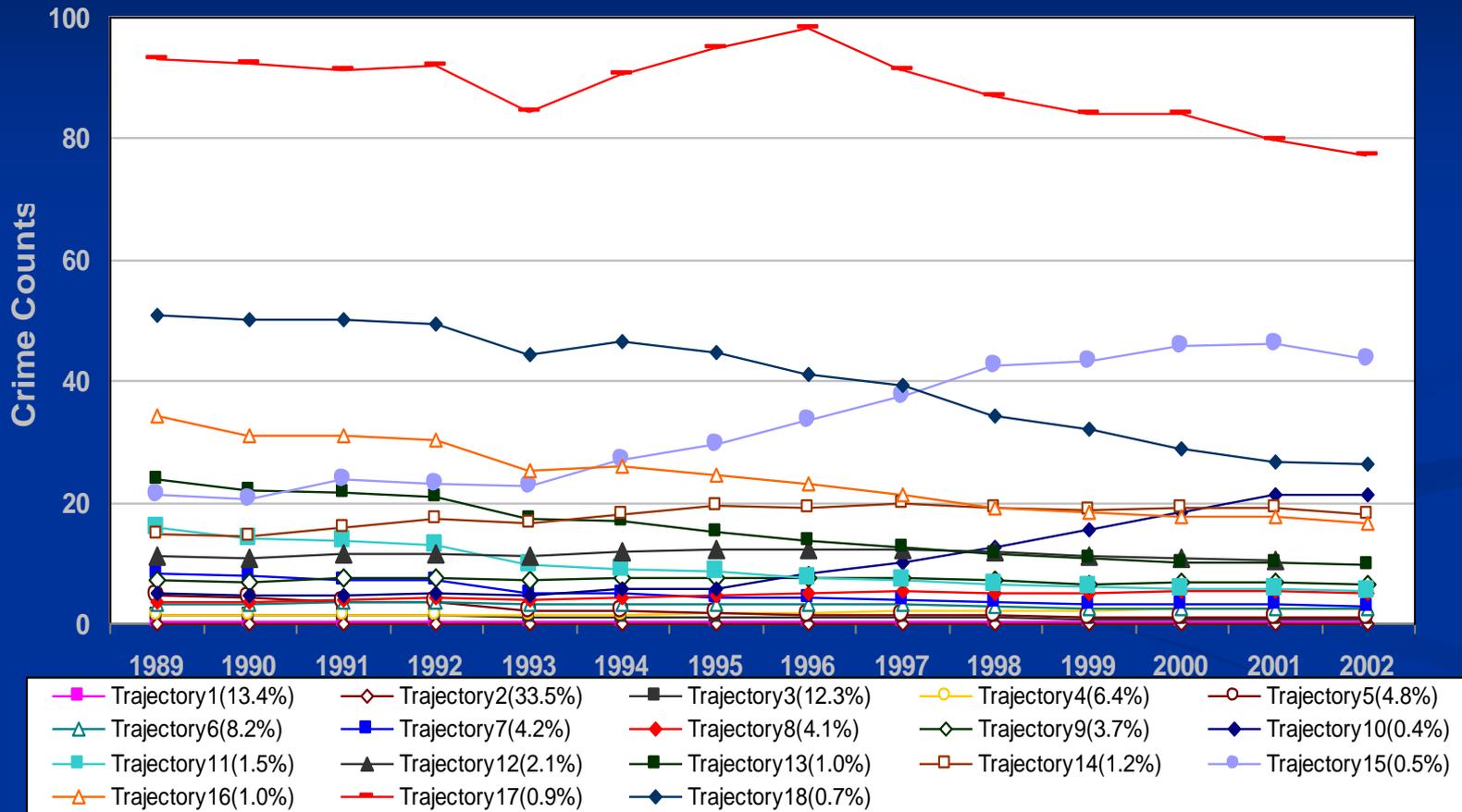
	2009		2010	
	<i>n</i>	%	<i>n</i>	%
Incidents in the Top 10% of the Street Segments	229,236	68.9	232,192	69.6
Incidents in the Top 5% of the Street Segments	173,591	52.2	175,571	52.6
Incidents in the Top 1% of the Street Segments	51,454	24.5	82,005	24.6

# Crime Concentrations in Tel Aviv

(Crime Incidents=31,550; Street Segments=17,160)



# Is it the same places?

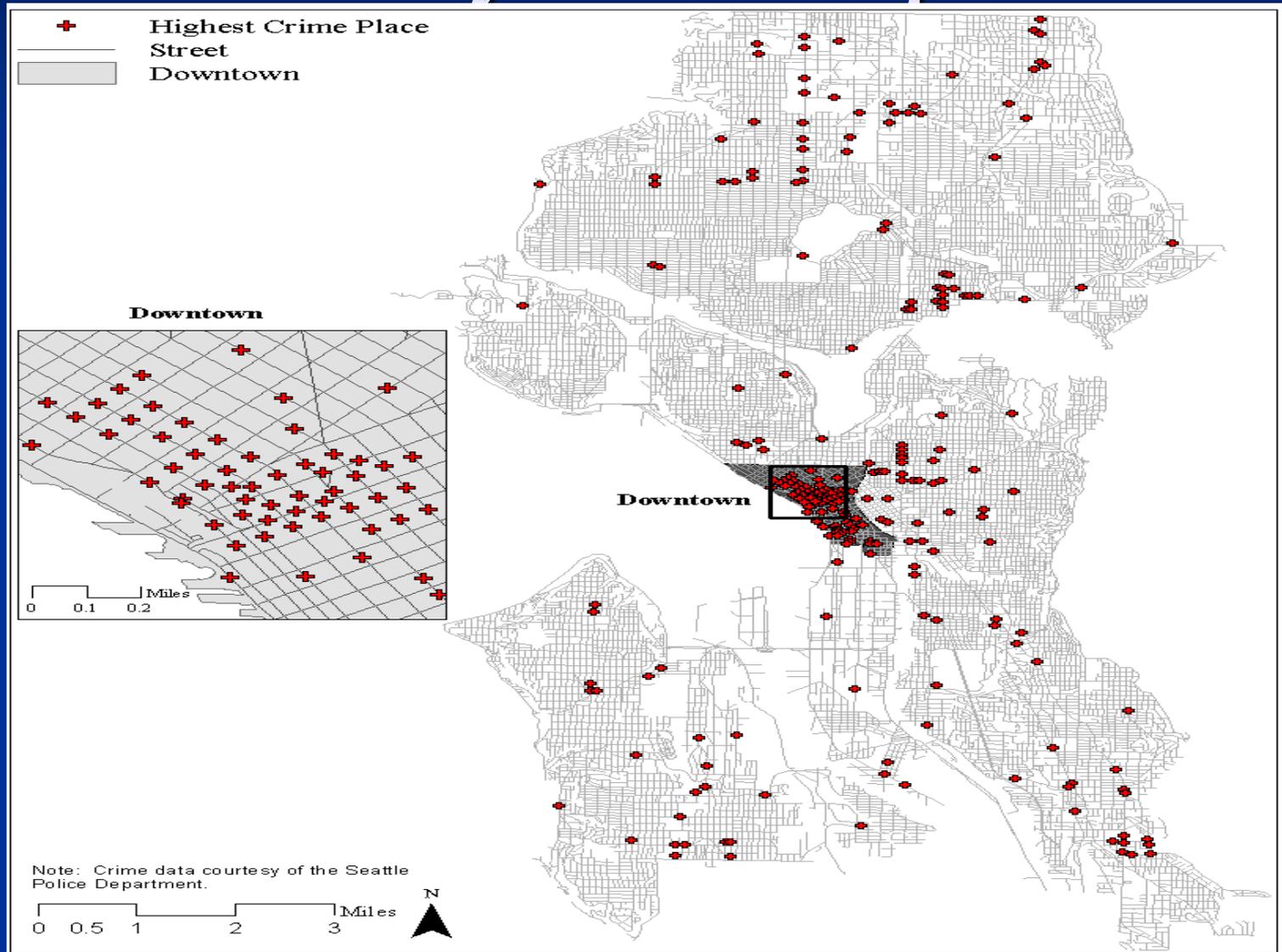


Weisburd, David, Shawn Bushway, Cynthia Lum, and Sue-Ming Yang. (2004). Trajectories of Crime at Places: A Longitudinal Study of Street Segments in the City of Seattle. *Criminology*, 42(2), 283-322.

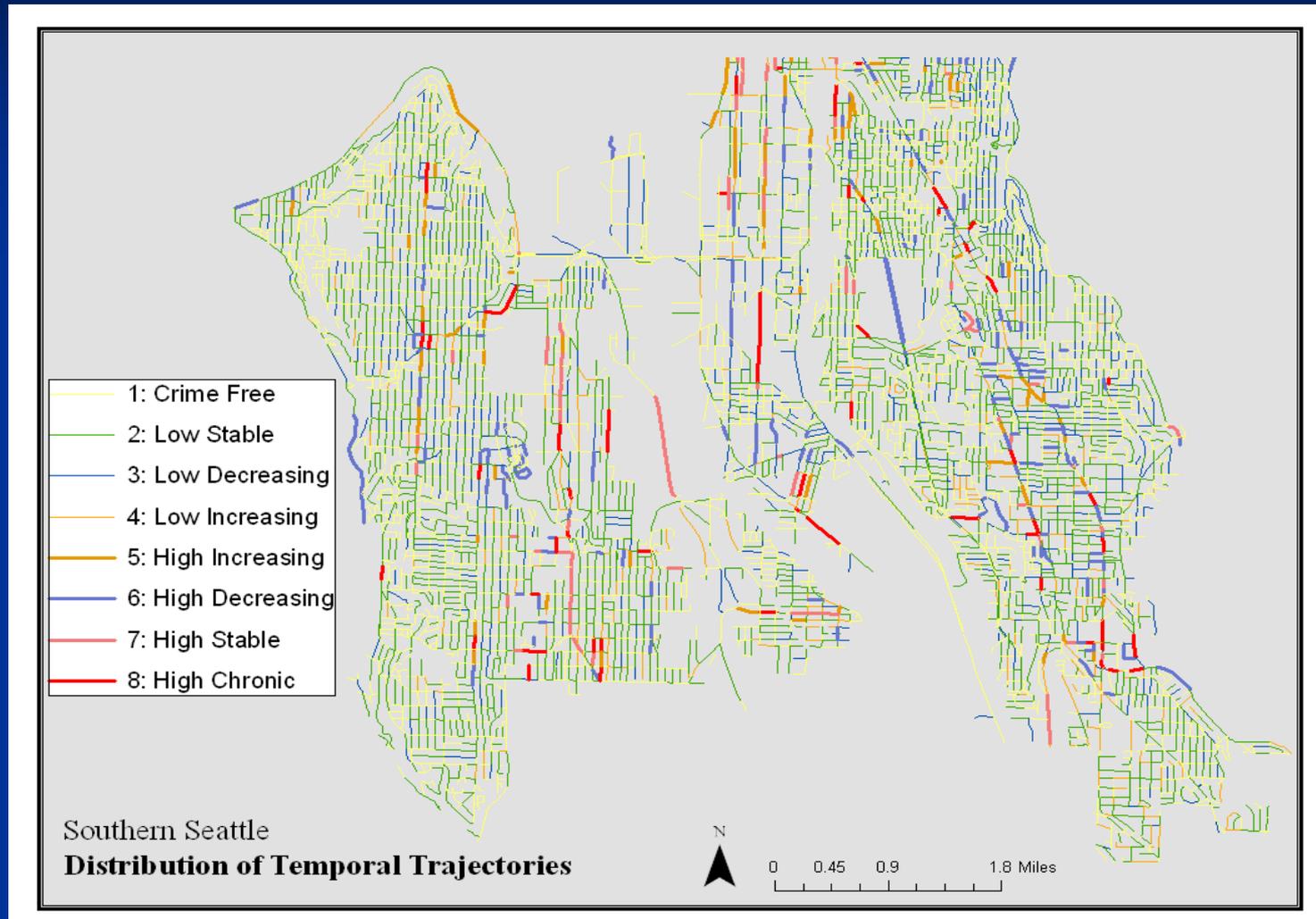


**HOT SPOTS OF CRIME AND  
NOT “BAD COMMUNITIES”**

# Hot spots are Spread Throughout the City Landscape

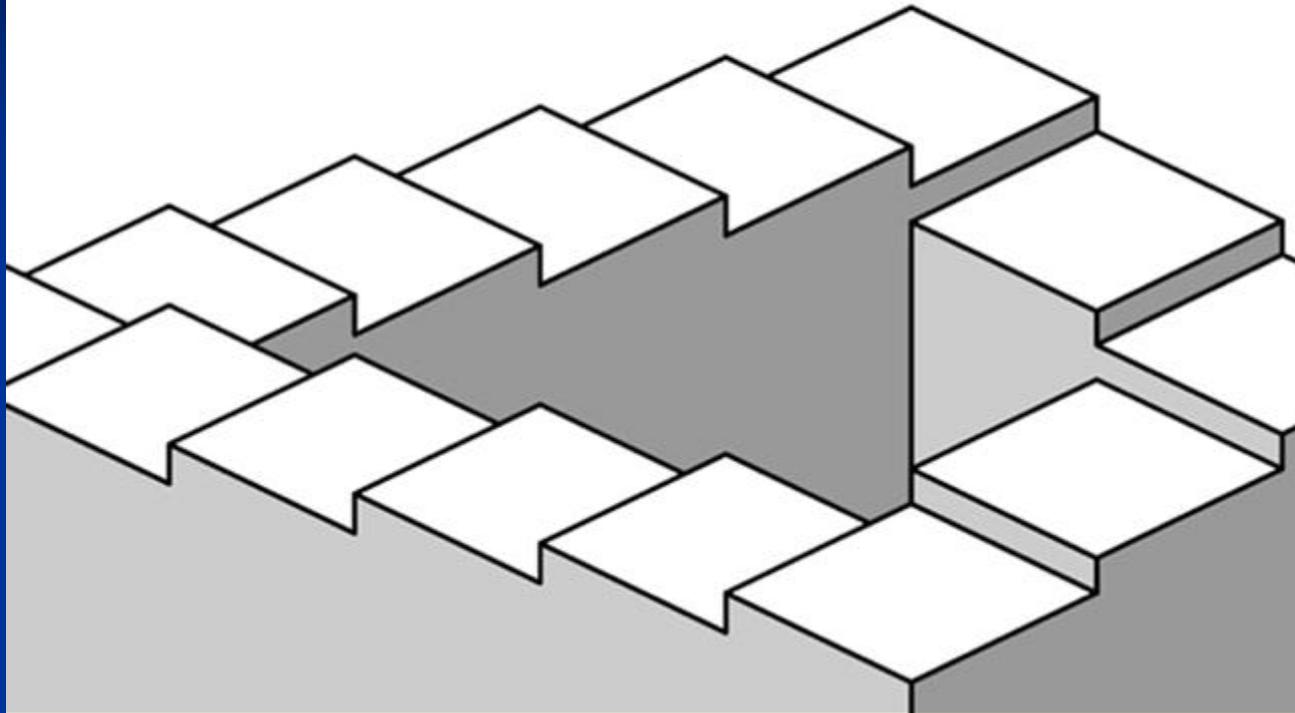


# Street by Street Variability: Much of the Action of the Crime Problem Would be Lost by Studying Communities



Weisburd, Groff and Yang (2012, Oxford University Press). *The Criminology of Place: Street Segments and Our Understanding of the Crime Problem*

# STRANGE COUPLING



**SPECIFIC TRAITS COUPLE  
CRIME TO PLACE**

# Juvenile Activity Spaces, Unsupervised Socializing, and Juvenile Crime Hot Spots

Group	Location of incident						Total (%)
	School, youth center (%)	Shops, malls, restaurants (%)	Street, alley, public spaces (%)	Private dwelling (%)	Bars, clubs, taverns (%)	Other (%)	
1	1.9	10.2	32.1	47.3	.2	8.3	100.0
2	1.8	2.1	53.7	34.3	.1	8.0	100.0
3	2.9	4.8	43.3	40.1	.3	8.6	100.0
4	3.9	14.3	42.5	29.8	.2	9.3	100.0
5	6.5	26.0	40.7	14.3	.4	12.2	100.0
6	17.1	34.3	32.5	5.2	2.5	8.4	100.0
7	12.7	75.4	8.8	.2	.1	2.9	100.0
8	30.7	38.9	21.5	.7	.0	8.0	100.0

Weisburd, David, Nancy Morris and Elizabeth Groff. (2009). Hot Spots of Juvenile Crime. *Journal of Quantitative Criminology* 25:443-467.

# Crime is Coupled to Place: Specific Risk and Protective Factors Explain the Link

Variable*	Odds Ratio	Standardized Coefficient
Employees	1.075***	9.16162
Residents	1.241***	5.87801
High Risk Juveniles	2.218***	1.67532
Property value	0.704***	-1.26272
Physical Disorder	25.634***	1.23021
Arterial Road	10.870***	1.05545
Collective Efficacy	.041***	-1.00986

n = 24,023; B = beginning value; C = change variable \* p < .05, \*\* p < .01, \*\*\* p < .001  
Cox and Snell Pseudo R<sup>2</sup> = .632; Nagelkerke Pseudo R<sup>2</sup> = .684

*\*Other street segment-level variables in the model:*

*Percent of residents on housing assistance, number of truant juveniles, racial heterogeneity, urbanization, mixed land use, street segment length, bus stops, percent vacant land, street lighting, presence of police & fire stations, spatial lag variables, and eight variables related to changes over time.*

# People are Coupled to Place: The Police Foundation Displacement/Diffusion Study

- Our qualitative data suggest that spatial movement from crime sites involves substantial effort and risk by offenders.
  - One respondent arrested at the drug crime site, for example, explained that it is difficult to move because the “money won’t be the same,” that he “would have to start from scratch,” and that it “takes time to build up customers.”
  - Another said: “you really can’t deal in areas you aren’t living in, it ain’t your turf. That’s how people get themselves killed.”
- One important explanation for the resistance to spatial displacement is simply that offenders, like non-offenders, come to feel comfortable with their home turf and the people that they encounter.
  - “I walked over (to the graveyard cemetery) and I didn’t think I’d make money. It was unfamiliar to me. I didn’t know the guys (clients). On Cornelison you recognize the guys. I know from being out there every day (on Cornelison), the cars, the faces. It’s different. In my area, I know the people. Up on 'the hill' -- I don’t really know the people at that end of town” (Brisgone, 2004: 199).

# The Potential for Social Prevention At Crime Hot Spots

# Changing the Scale of Social Interventions for Crime Prevention

- Focus on crime hot spots provides an opportunity to “lower the scale” of social interventions, and accordingly to make such interventions relevant to crime prevention practitioners.
- It is one thing to attempt change in the social conditions of an entire neighborhood or city. It is another to try to ameliorate problems on specific blocks.
  - Perhaps it is time to consider social prevention on street blocks and not to neighborhoods overall.
  - It may be time to think of increasing collective efficacy on specific streets, and not in whole neighborhoods.

# Increasing Collective Efficacy

- Can police be used to increase collective efficacy at street segments?
- The Brooklyn Park Collective Efficacy at Hot Spots Experiment.



# Hot Spots of Collective Efficacy

- A key indicator of informal social controls is collective efficacy
  - “willingness [of residents] to intervene for the common good” (Sampson et al., 1997)
- We measured the proportion of active voters on a street, defined by voting patterns over 2 years.
- Within 800 feet of the hot spots of active voters (the top 10 percent), only 25 percent of neighboring street segments also evidenced such high levels of active voting.
- A percent decrease in active voting increases the likelihood of a street being a crime hot spot by 4%.

# Surveys at the Street Segment Level: Hot Spots (300) and Primarily Cool Spots (150)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Hot Spot	4%	57%	33%	6%
Comparison	10%	71%	16%	3%

chi2 = 57.70 p < .001

In general, people on your block can be trusted

chi2 = 129.98 p < .001

# Community Interventions at Hot Spots

## Seattle Community Crime Prevention Initiative

- The coordinator of the program is a community group.
- Five juvenile crime hot spots have been identified for treatment.
- The community group coordinates the crime prevention with other partners including the police.



# Hot Spots of crime and public Health

# The NIH Crime and Community Health Study at Places (Baltimore, Maryland)

- First prospective study examining crime places
- Data Collection (across 3 waves in 5 years)
  - Physical observations and census of all segments
    - Document such factors as the amount of drug paraphernalia, garbage on the streets, buildings in physical disrepair.
  - Archival data collection from existing data sources (e.g. crime, land use, voting behavior etc.)
  - Survey data collection
    - 3700 surveys per wave on 450 street segments.
  - Systematic social observations
    - Collect information on guardianship, social disorder, etc.
  - Qualitative data collection
    - Detailed ethnographic research on a subsample of 50 street segments.

# Smoking Prevalence and Emotional Health

Have you ever been a cigarette smoker? (19% increase in risk!)

	Yes	No
Hot Spot	63%	37%
Comparison	53%	47%

chi2 = 24.58 p<.01

Have you ever been diagnosed with depression? (27% increase in risk!)

	Yes	No
Hot Spot	22%	78%
Comparison	16%	84%

chi2 = 13.63 p<.01

# Beyond Crime...

- These results suggest that it is time to consider the implications of hot spots of crime for public health concerns.
- Do crime prevention programs also reduce public health concerns?
- How can we develop programs to reduce public health problems at places?



*"Location, location, location."*