

# INTRODUCTION TO PROBLEM ANALYSIS

International Problem-Oriented Policing Conference  
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# MENTAL MAPS

- Take out a blank piece of paper
- Think about your jurisdiction/beat/district
  - Draw the major roads and landmarks
- Think about the 3 most common calls for service and/or crimes in your area
- Use letter symbols to note “hot spots” (aka repeat locations)
  - V = Vehicle Crime (Theft from and Theft of)
  - B = Burglary
  - D = Disturbance
  - Etc.

# WHY IS ANALYSIS IMPORTANT FOR POP?

*To reduce crime...*

*we need to know what causes it.*

# PROBLEM ANALYSIS

An approach/method/process conducted within the police agency in which formal criminal justice theory, research methods, and comprehensive data collection and analysis procedures are used in a systematic way to conduct in-depth examination of, develop informed responses to, and evaluate crime and disorder problems.

# WHY TAKE A PROBLEM SOLVING APPROACH?

- Offenders rarely caught
- High-intensity enforcement not sustainable
- Criminal Justice system overburdened
- Most of what police are expected to address isn't crime
- Residents care most about non-crime issues

# PROBLEM ANALYSIS IN CHULA VISTA: DISORDER AT BUDGET MOTELS

- 1,200 CFS per year (27 motels)
  - Most common CFS: disturbance
- 5 motels accounted for 28% of rooms, but 53% of CFS
- Most motel users local



# ANALYZING A LONG-TERM PROBLEM



- Initial CFS analysis
- Observations
- Motel “user” surveys
- Manager interviews
- Environmental surveys
- Literature review/site visits
- Investigating causes

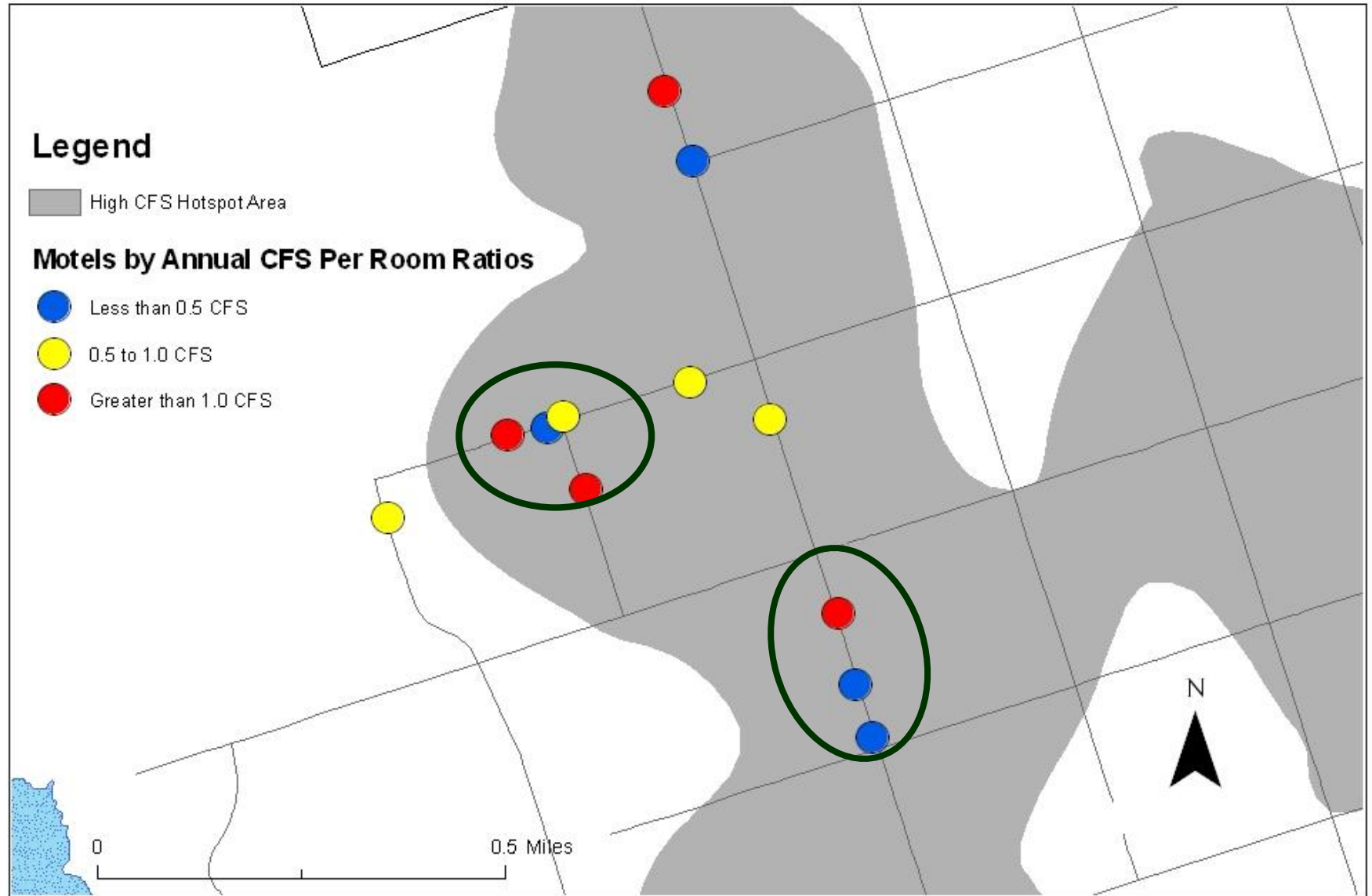
# INVESTIGATING CAUSES

- Bad neighborhood
- Low room price
- Local clientele
- Insufficient police attention
- Poor management practices





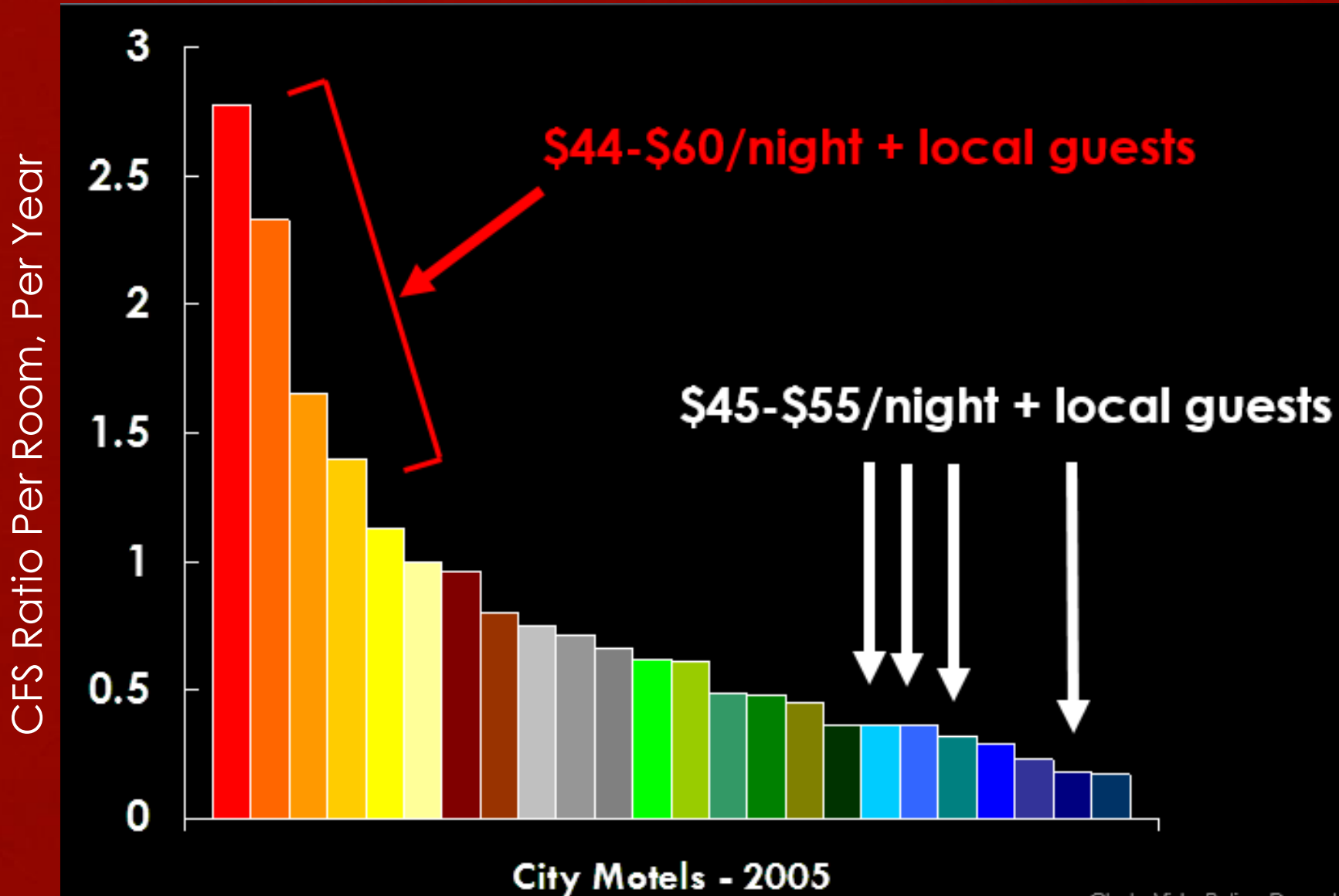
# Northwest Chula Vista Motels and Hotels by Annual CFS Per Room Ratios: 2003



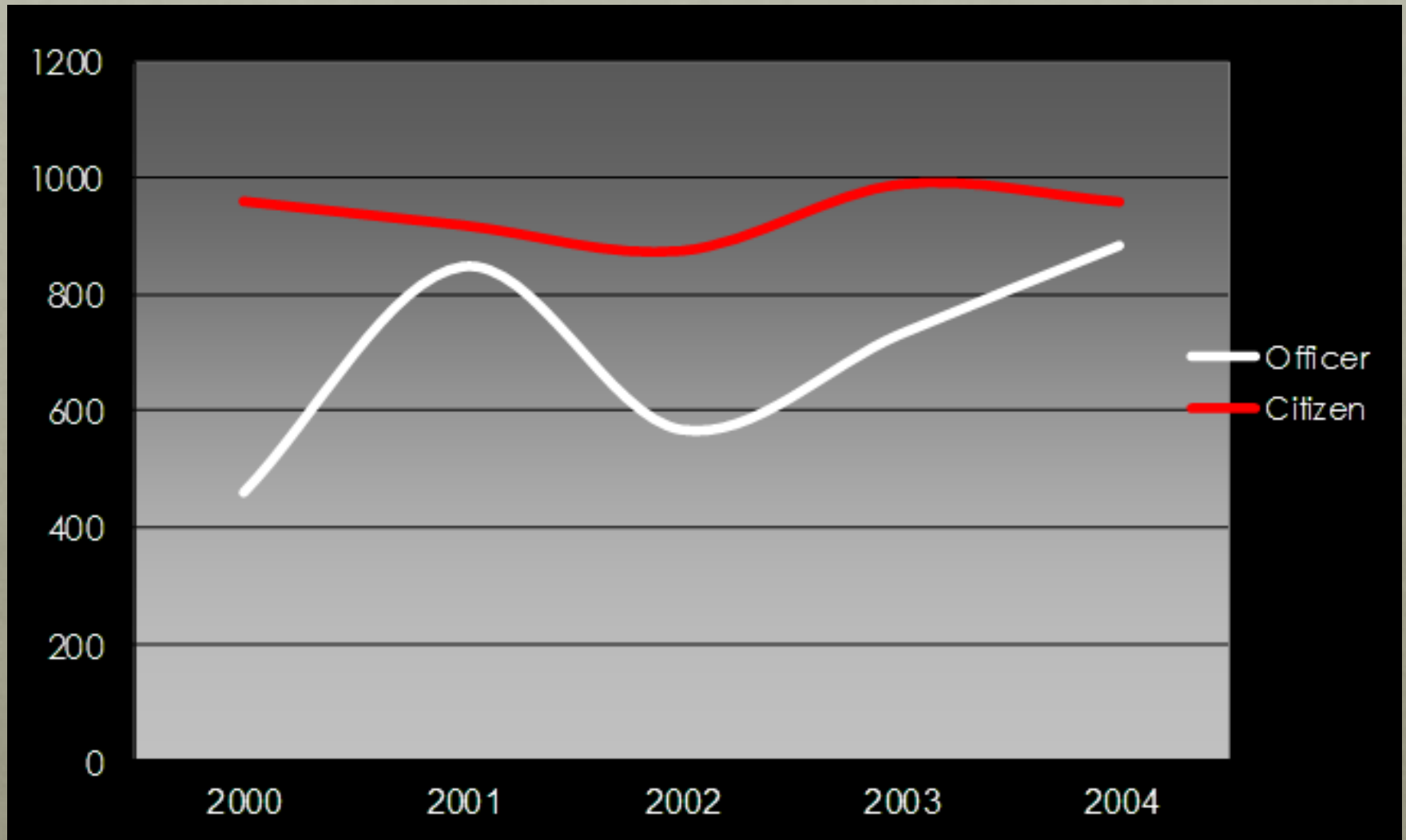
Prepared By:  
CVPD Research & Analysis Unit (K. Schmerler)

Sources:  
Chula Vista Information Technology Services,  
Geographic Information Systems,  
Chula Vista Police Department

# CALLS FOR SERVICE RATE



# CITIZEN-INITIATED CALLS NOT AFFECTED BY ENFORCEMENT



# DEVELOPING RESPONSES: GOLDSTEIN HIERARCHY



**Bringing a civil action**

**Legislation mandating prevention**

**Charging a fee for police service**

**Withdrawing police service**

**Public shaming**

**Creating organization to assume ownership**

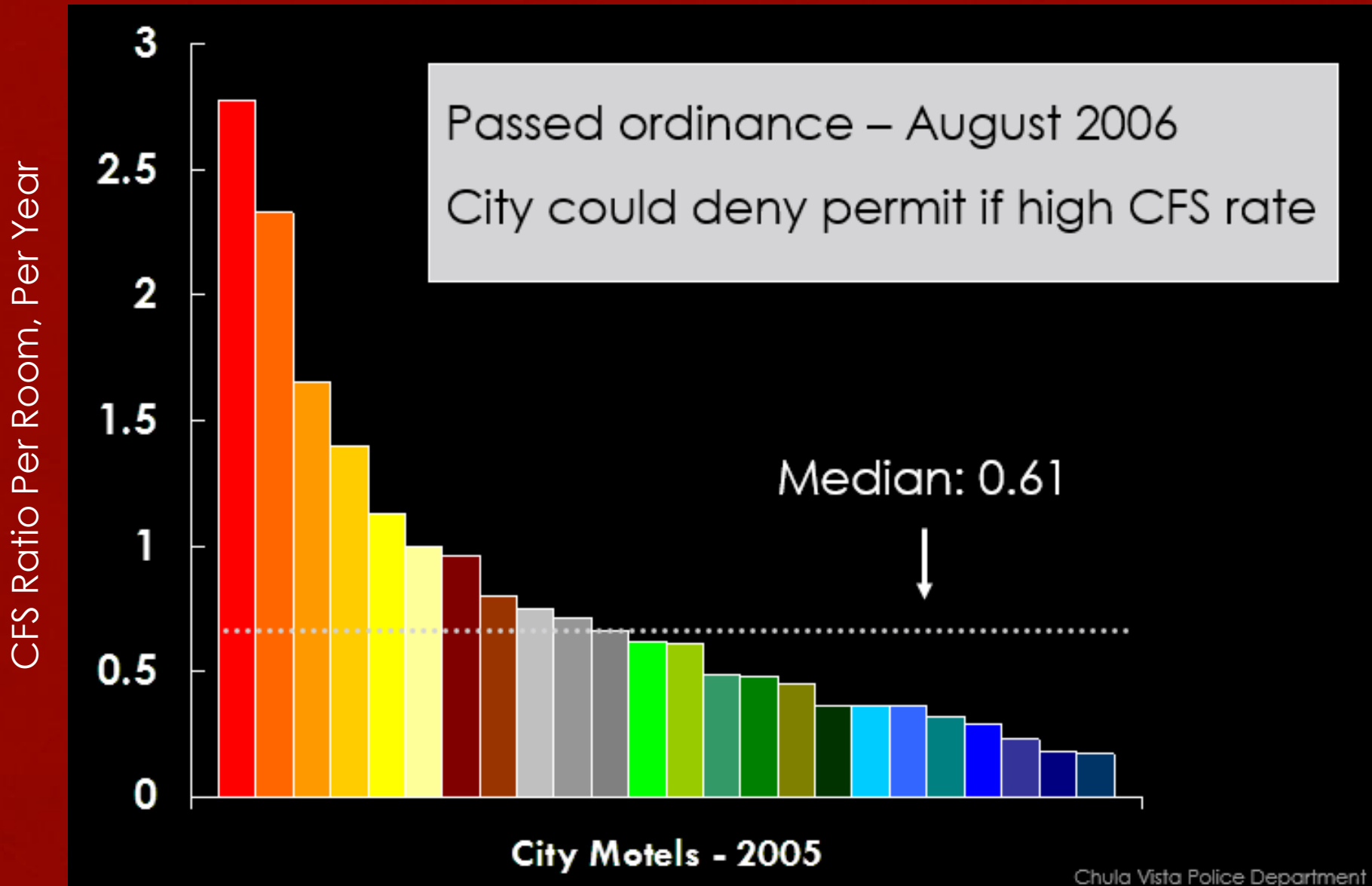
**Engaging another existing organization**

**Targeted confrontational requests**

**Straightforward informal requests**

**Educational programs**

# ESTABLISHED CITY STANDARD

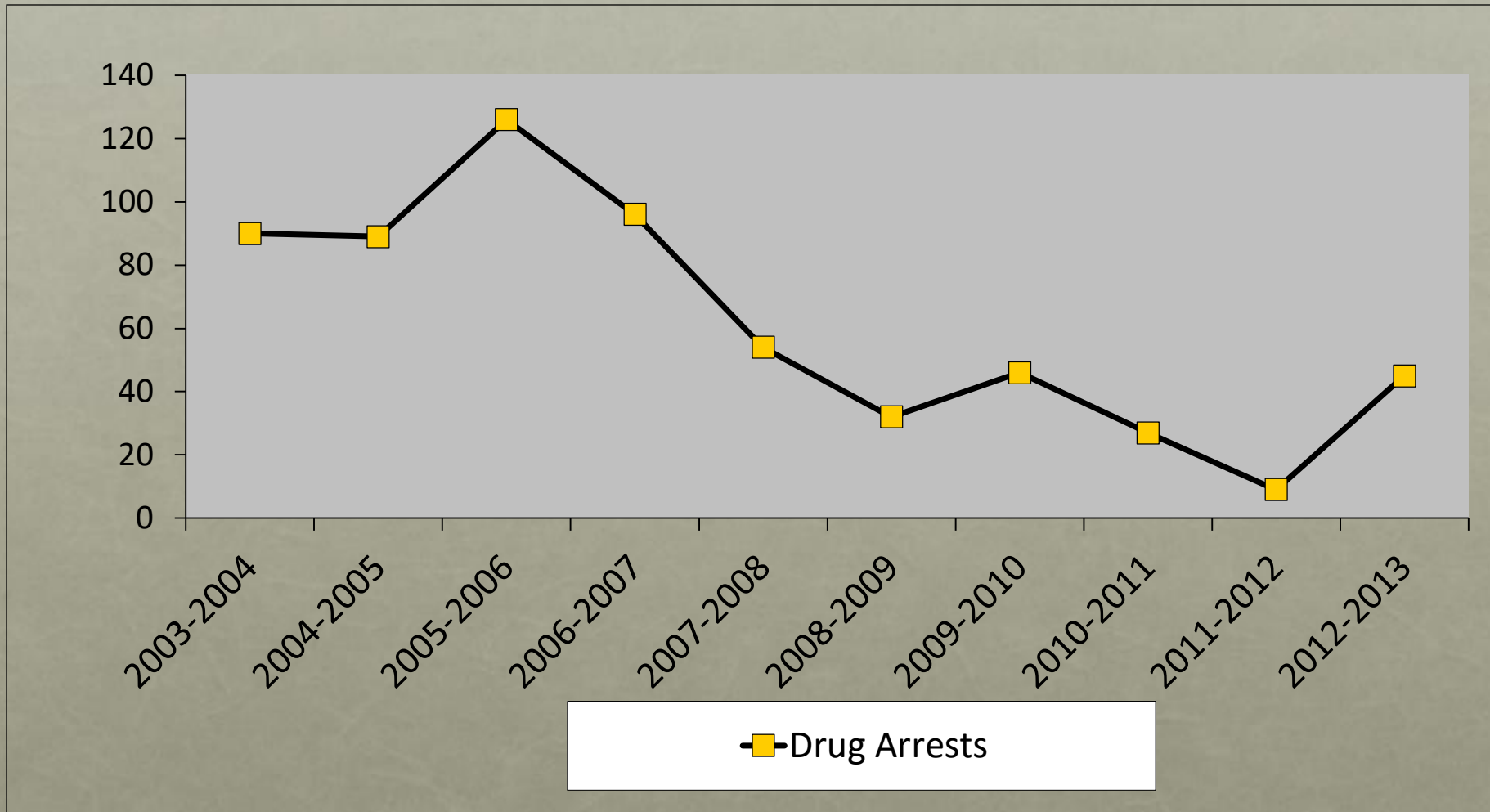


# SHIFTED OWNERSHIP OF PROBLEM

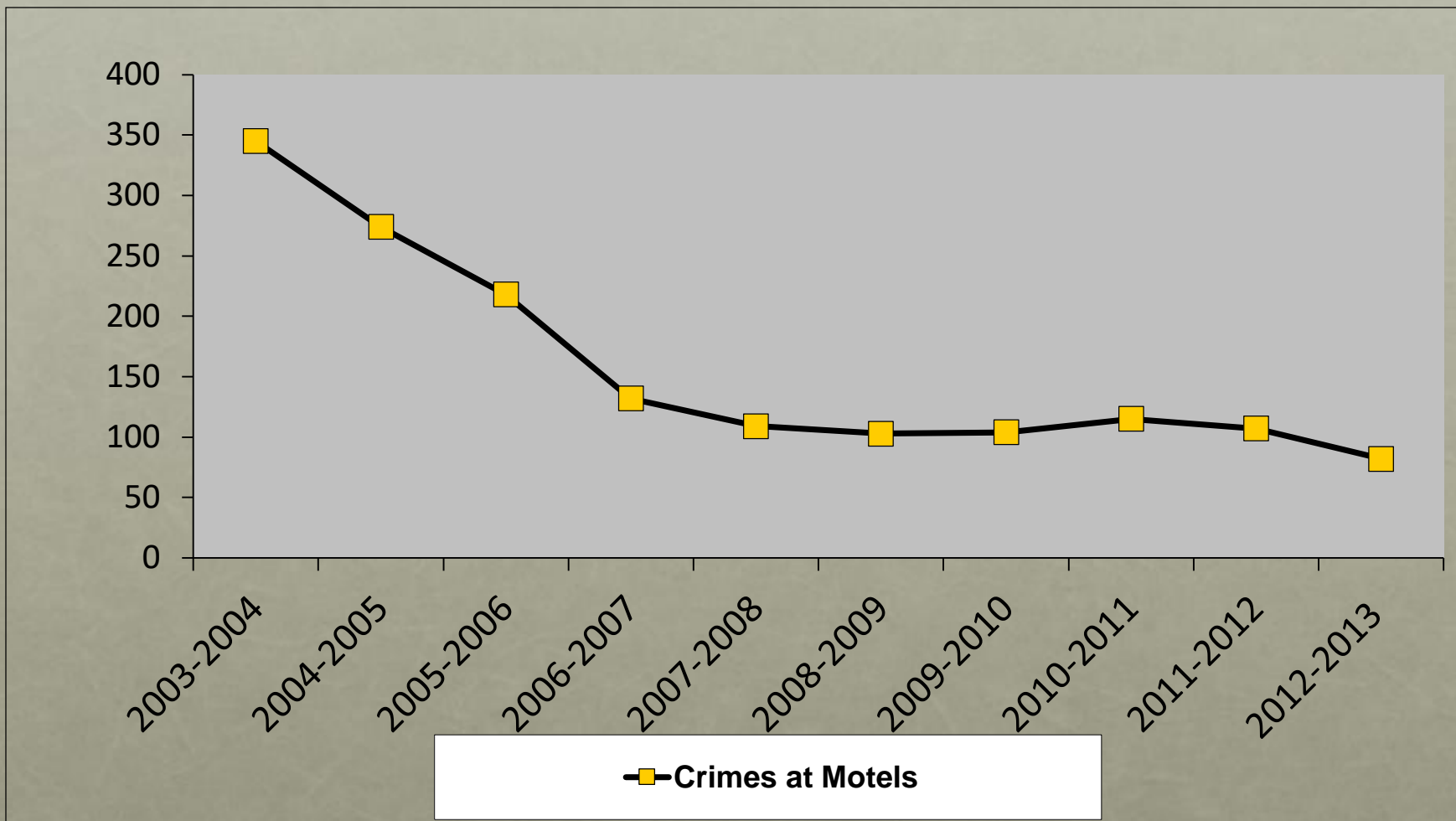
- Motels decided what steps to take
  - Guest/visitor screening
  - Access control
  - Private security
  - Rules



# DRUG ARRESTS AT MOTELS REDUCED 73%



# CRIMES AT MOTELS REDUCED 70%



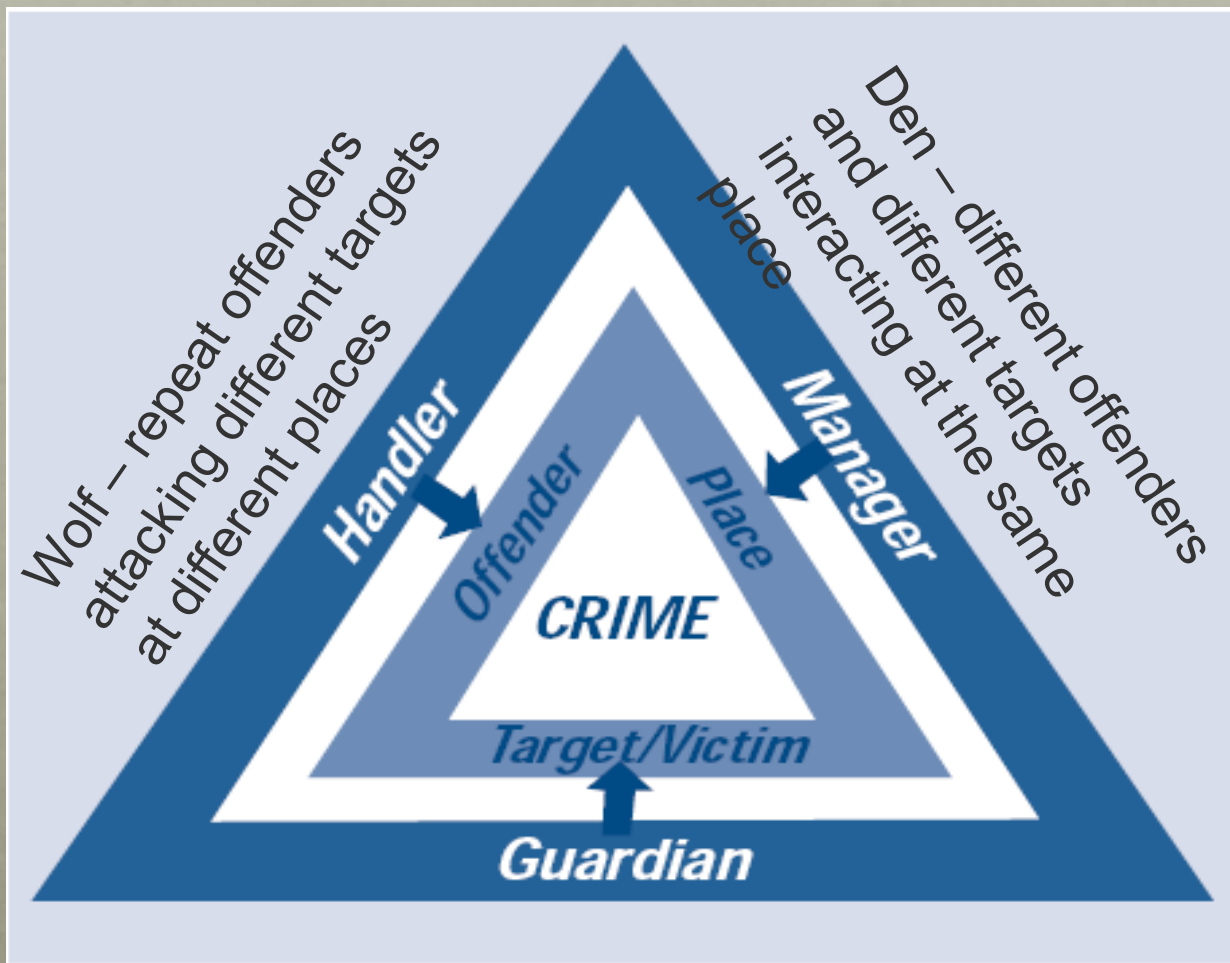
Data includes drug crimes against the state logged as crime cases. If these incidents are excluded, overall reduction is 65%. Crimes in city are by calendar year, beginning in 2003



# LET'S TALK ABOUT CRIME

- Why is it important to be specific?
  - Correctly identifying the underlying problem
  - Asking the right analysis questions
  - Having the most appropriate response strategies
- Don't settle for UCR categories!
  - Rape
  - Robbery
  - Assault

# USE THE CRIME/PROBLEM ANALYSIS $\Delta$



Duck – repeat victims repeatedly attacked by different offenders

# KNOW OPPORTUNITY MAKES THE THIEF

*Suppose all situational controls were to be abandoned: no locks, no custom controls, cash left for parking in an open pot for occasional collection, no library check-outs, no baggage screening at airports, no ticket checks at train stations, no traffic lights, etc. would there be no change in the volume of crime and disorder?*



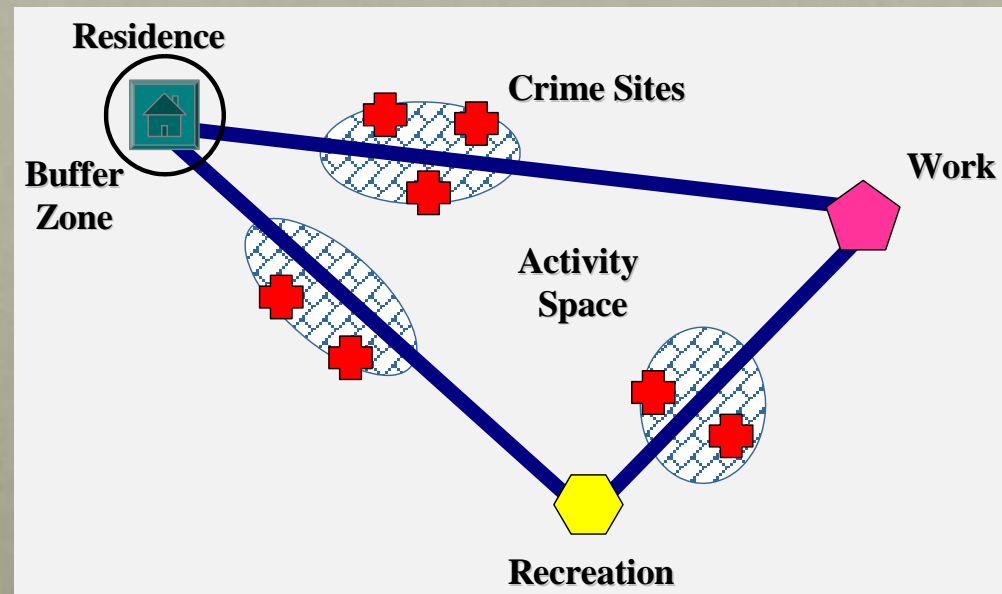
-- Gloria Laycock and Nick Tilley, Jill Dando Institute

# DON'T BE DISCOURAGED BY DISPLACEMENT DOOMSTERS

- Geographical
  - Crime moves to a different place
- Temporal
  - Crime moves to a different time
- Target
  - Changes from 1 target to another
- Tactical
  - A new method of committing the crime occurs
- Crime Type
  - A different crime occurs

# STUDY THE JOURNEY TO CRIME

- Crime Pattern Theory
  - Nodes
  - Paths
  - Edges
- Ways that offenders find suitable targets:
  - Personal knowledge of victim
  - Work
  - Overlapping “activity spaces”
- Offenders – local vs. not local



# KNOW HOW HOT SPOTS DEVELOP

## Crime Generators

- Places where large numbers of people are attracted for reasons unrelated to crime
- CAUSE: Many unprotected targets
- What circumstances are targets vulnerable and how to change that?

## Crime Attractors

- Places affording many criminal opportunities well known to offenders
- CAUSE: Attractive to offenders
- What is attracting the offenders and how to change that?

## Crime Enablers

- Situations when there is little regulation of behavior at places: rules of conduct are absent or not enforced
- CAUSE: Erosion of controls
- Who could control behavior and how can this be encouraged

# LEARN IF THE 80-20 RULE APPLIES

- Small proportion of X are responsible for a large proportion of outcomes
  - Repeat Offenders
  - Repeat Victims
  - Hot Spots
  - Hot Products
  - Risky Facilities

	Address	No. Robberies	% Robberies	Cum. % Robberies	% Addresses (N=106)	Cum. % Addresses
1	134 E Main St	25	9.23%	9.23%	0.94%	0.94%
2	254 S Clover Av	17	6.27%	15.50%	0.94%	1.89%
3	8012 N Grand Blvd	15	5.54%	21.03%	0.94%	2.83%
4	8210 N Grand Blvd	10	3.69%	24.72%	0.94%	3.77%
5	1430 E Main St	9	3.32%	28.04%	0.94%	4.72%
6	365 W Haverty Rd	9	3.32%	31.37%	0.94%	5.66%
7	3401 N Staple Dr	8	2.95%	34.32%	0.94%	6.60%
8	210 S Daisy Rd	7	2.58%	36.90%	0.94%	7.55%
9	4598 N Roan Rd	5	1.85%	38.75%	0.94%	8.49%
10	132 E Main St	5	1.85%	40.59%	0.94%	9.43%
	Addresses with 4 (5)	20	7.38%	47.97%	4.72%	14.15%
	Addresses with 3 (15)	45	16.61%	64.58%	14.15%	28.30%
	Addresses with 2 (20)	40	14.76%	79.34%	18.87%	47.17%
	Addresses with 1 (56)	56	20.66%	100.00%	52.83%	100.00%
	<b>Total</b>	<b>271</b>	<b>100.00%</b>		<b>100.00%</b>	



# COLLECT YOUR OWN DATA

- Crimes
  - Arrests
  - Calls for Service
  - Field Interviews
  - Traffic Data (cites and collisions)
- 
- Don't restrict yourself to the common police data!

# HOW DO WE COLLECT DATA THAT'S NOT IN A SYSTEM?

**Visual assessments**

**Environmental surveys**

**Maps**

**Time graphs**

**Photos/videos**

**Intelligence info**

**Police interviews**

**Police records**

**Stakeholder canvass**

**Neighborhood surveys**

**Business surveys**

**Student surveys**

**School personnel surveys**

**Parent surveys**

**Offender interviews**

**Victim interviews**

# NEIGHBORHOOD AND CRIME/PROBLEM SPECIFIC SURVEYS

1. Where exactly in the Loma Vista Housing Development does the drug use occur? If you know of more than one location, pick the one you think is the biggest problem.

- Basketball court on Jones St.
- Tot lot next to the parking lot.
- In the parking lot.
- In a specific apartment building (please provide address) \_\_\_\_\_
  - In the building entryway.
  - In the hallway of this building.
  - In a specific apartment in the building (please provide apt. number) \_\_\_\_\_
  - In the laundry room of the building
  - On the stoop.

2. What days does the drug use occur at this location? (Circle all that apply.)

Mon. Tues. Wed. Thurs. Fri. Sat. Sun.

3. What times does the drug use occur at this location? (Fill in the blanks.)

From \_\_\_\_\_ a.m or p.m? to \_\_\_\_\_ a.m. or p.m?

4. Who is involved in the drug use at this location? (Check all that apply.)

- Adult residents
- Adult nonresidents
- Children or relatives of residents
- Other (please specify who) \_\_\_\_\_

5. What kind of drugs are being used at this location? (Check all that apply.)

- Marijuana
- Cocaine
- Heroin
- Other (please specify who) \_\_\_\_\_

6. Why do you think they pick this location to use drugs (for example, poor lighting, easy escape routes, away from public view, resident allows it)? Please describe:

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**REWARD:** When you return this survey, you will receive a coupon for a free movie.

# KNOW HOW TO USE RATES AND DENOMINATORS

- Examining rates helps to understand if the number of targets contributes to the problem.
- Rates describe the number of crimes/incidents per target at risk, during a time period.
- Calculating rates
  - Be careful of the denominator!
  - What denominator would you use for...
    - Vehicle break-ins on the street
    - Drug use in parks
- Emphasis on high numbers or rates?

# COMPARING RISK RATES

## ■ Which lot is riskier to park in?

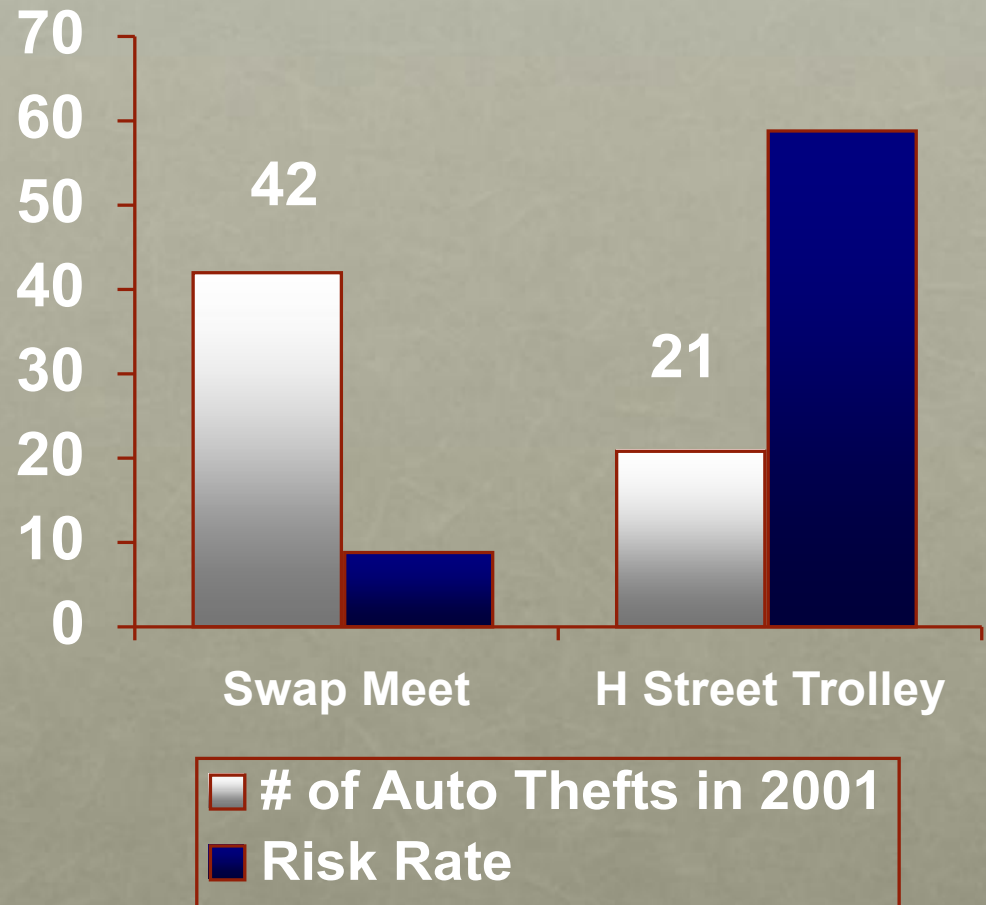
### ■ *Swap meet*

- Huge (2,500 spaces)
- Open only 2 days a week
- Park time: 1.5 hours

*OR*

### ■ *H Street Trolley*

- Tiny (300 spaces)
- Open 7 days a week
- Park time: 8 hours



# IDENTIFY RISKY FACILITIES

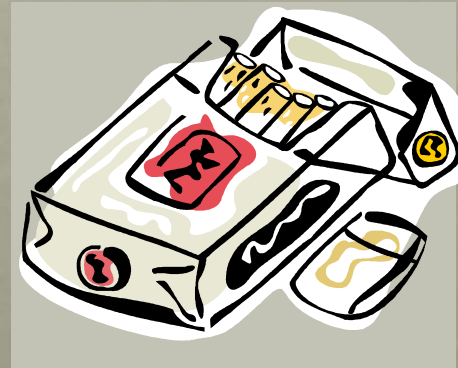
■ What are risky facilities?

■ Why are they risky?

- Random variation
- Reporting practices
- Many targets
- Hot products
- Location
- Repeat victimization
- Crime attractors
- Poor management

# REPEAT VICTIMIZATION

- Hot Dots
- Hot Products
- Hot Spots
- Hot Targets
- Hot People



# LIGHTNING STRIKES TWICE, BUT WHEN?

The risk of a home being re-burglarized is highest:

A) within 24 hours

B) 1 to 3 days

C) 4 to 30 days

D) 1 to 2 months



**D) 1 to 2 months**



# ONE BURGLARY VICTIMIZATION INCREASES RISK OF FUTURE EVENTS

Once a home has been burglarized, the risk of re-victimization increases:

A) By a factor of 2

B) By a factor of 4

C) By a factor of 6

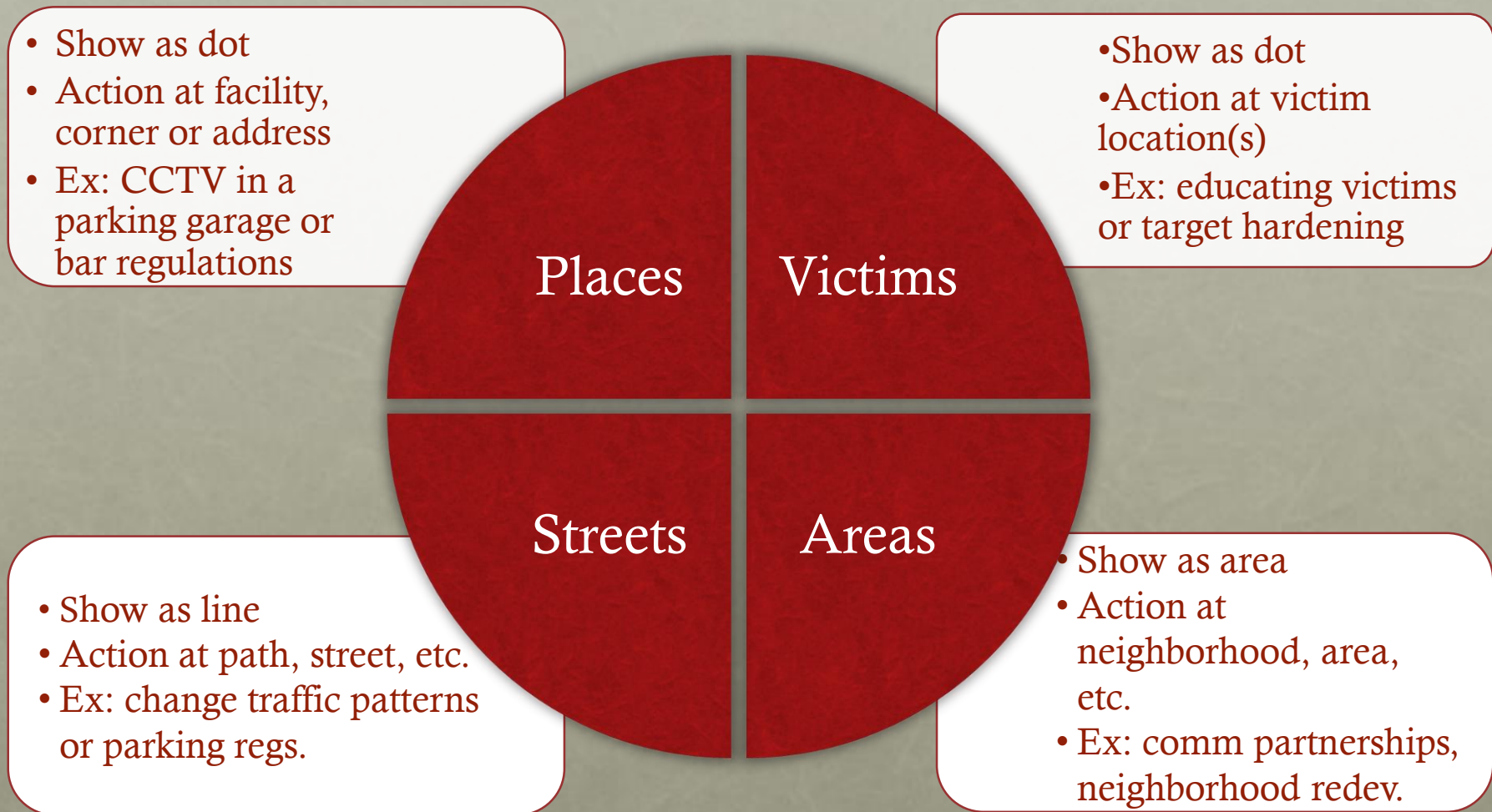
D) By a factor of 8

**B) Once hit, a house is 4 times more likely to be burglarized than those never burglarized.**

# Repeat Offending: Interviews of Auto Thieves

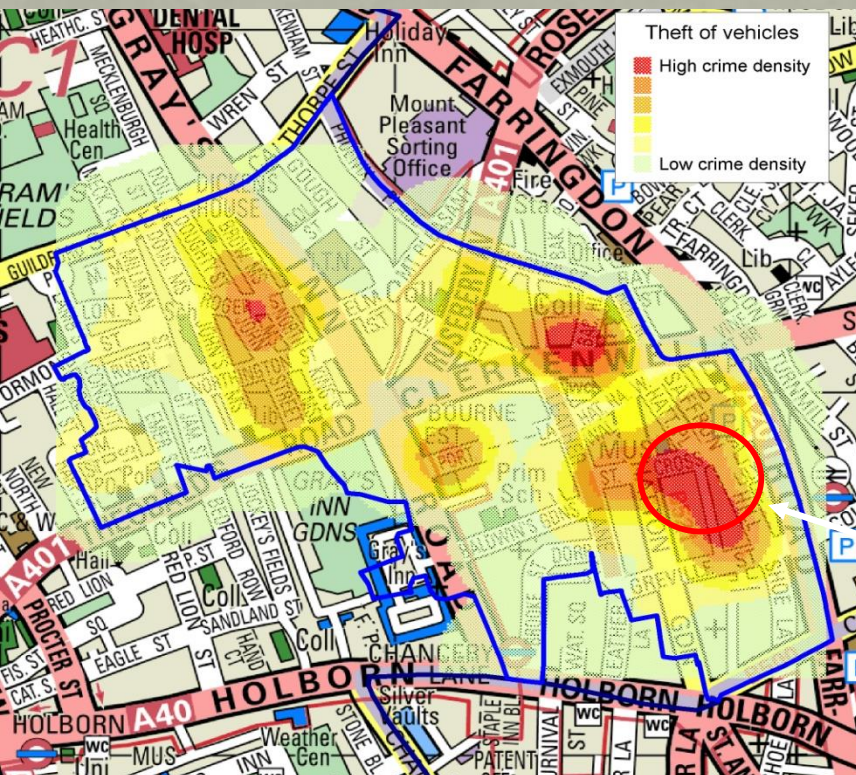
<p><b>A number admitted taking stolen cars into Mexico for sale</b></p>	<p><b>A number mentioned the ease of breaking into older Toyotas (as well as Hondas)</b></p>	<p><b>A number said they can use any old Toyota key to unlock some of the Toyotas (didn't even need to shave the key)</b></p>	<p><b>One felon admitted to stealing approximately 1,000 motorcycles, others admitted to stealing several vehicles a week</b></p>
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# DIAGNOSE YOUR HOT SPOT



Sherman, L., Gartin, P., & Buerger, M. (1989). Hot spots of predatory crime: Routine activities and the criminology of place. *Criminology*, 27:27-55.

# CLERKENWELL HOTSPOT

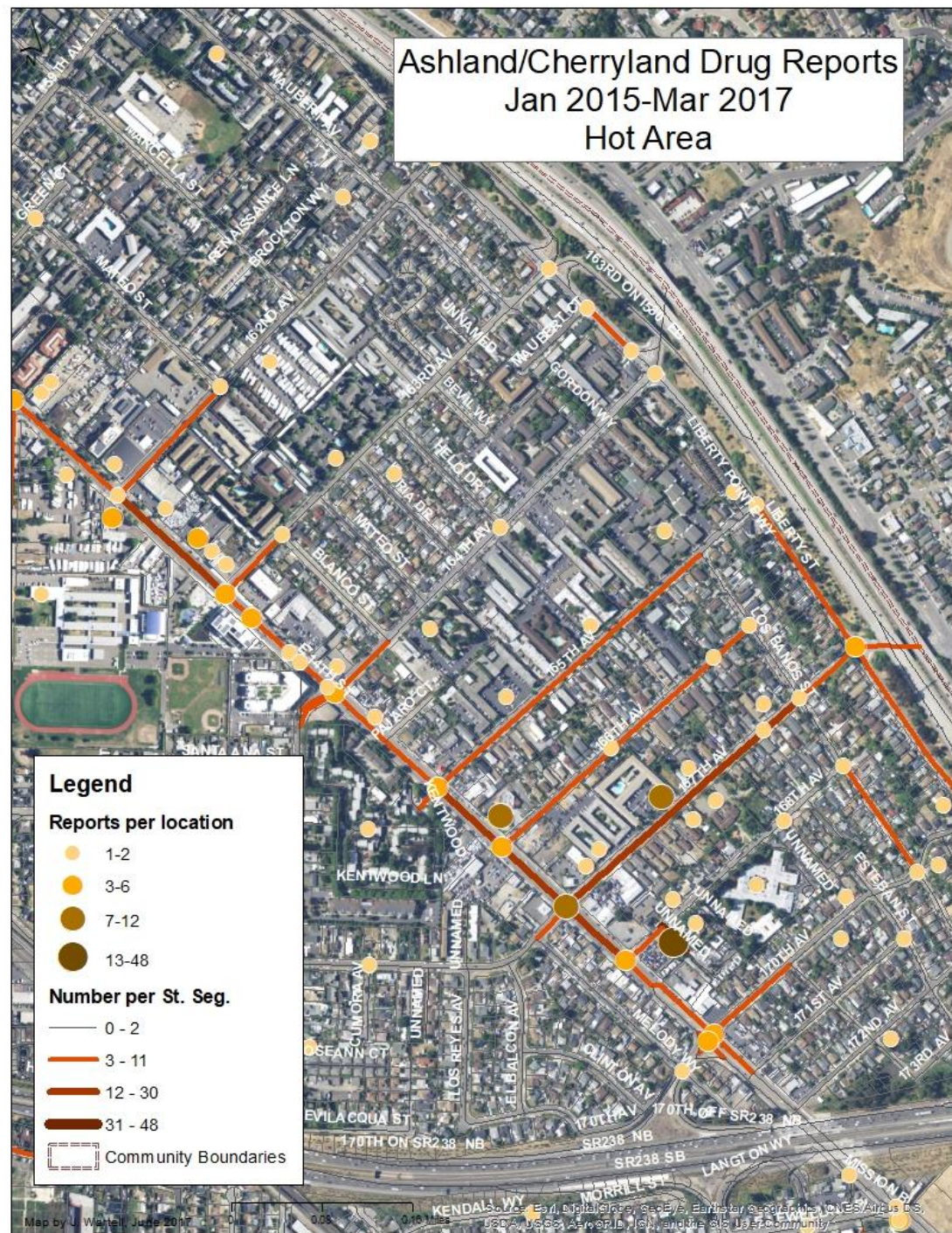


Vehicle type	Camden	Clerkenwell (n)	Clerkenwell(%)
Car	51%	41	18%
Sports or convertible	3%	5	2%
Scooter or moped	26%	95	42%
Motor cycle	13%	70	31%
Van	5%	3	1%
Other	2.0%	10	4%
Not known	0.5%	0	0%



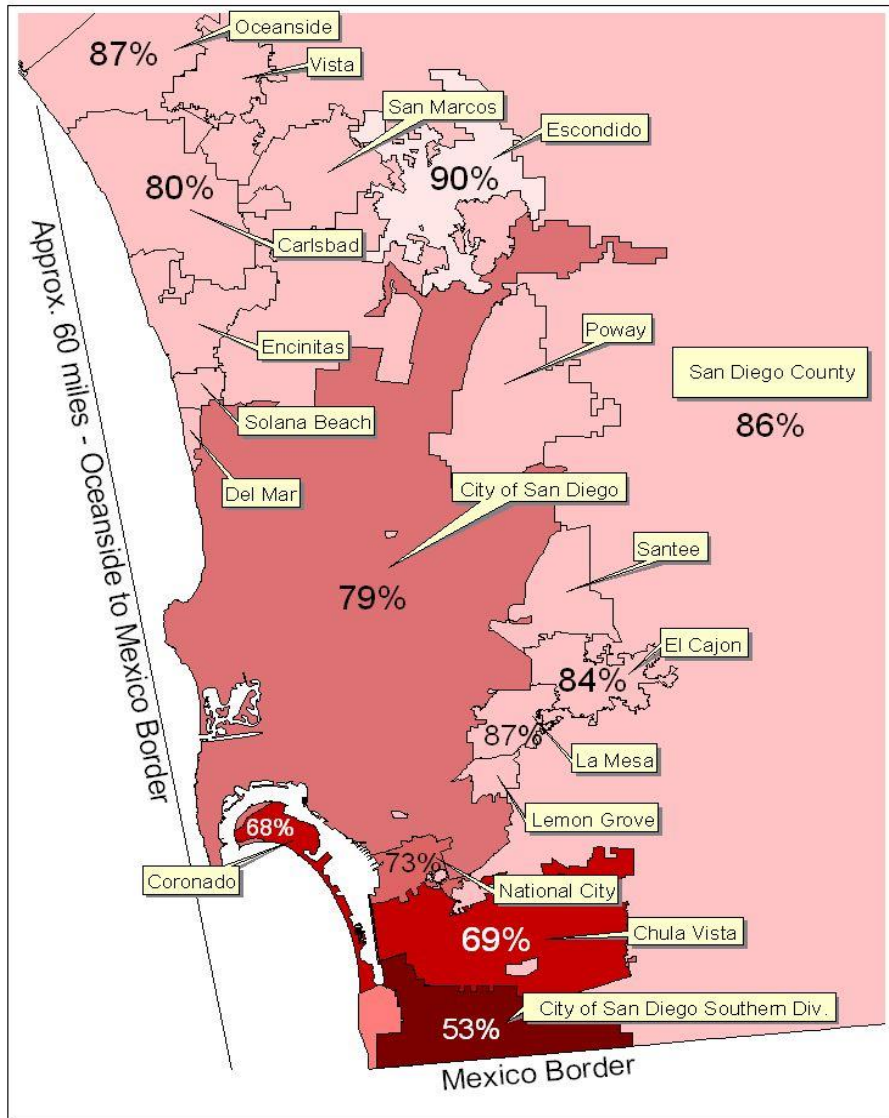
From wheredunit to whodunnit

# ANALYZING "HOT" PLACES

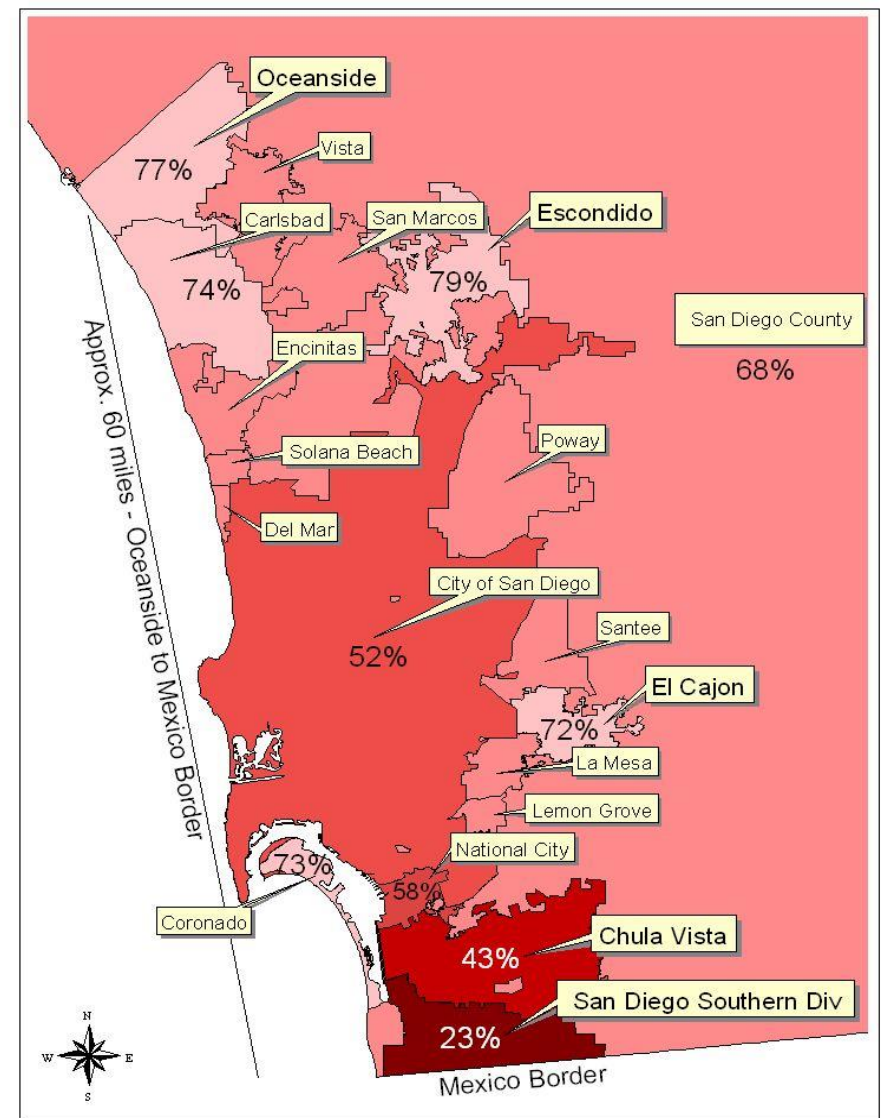


# USING MAPS FOR ANALYSIS

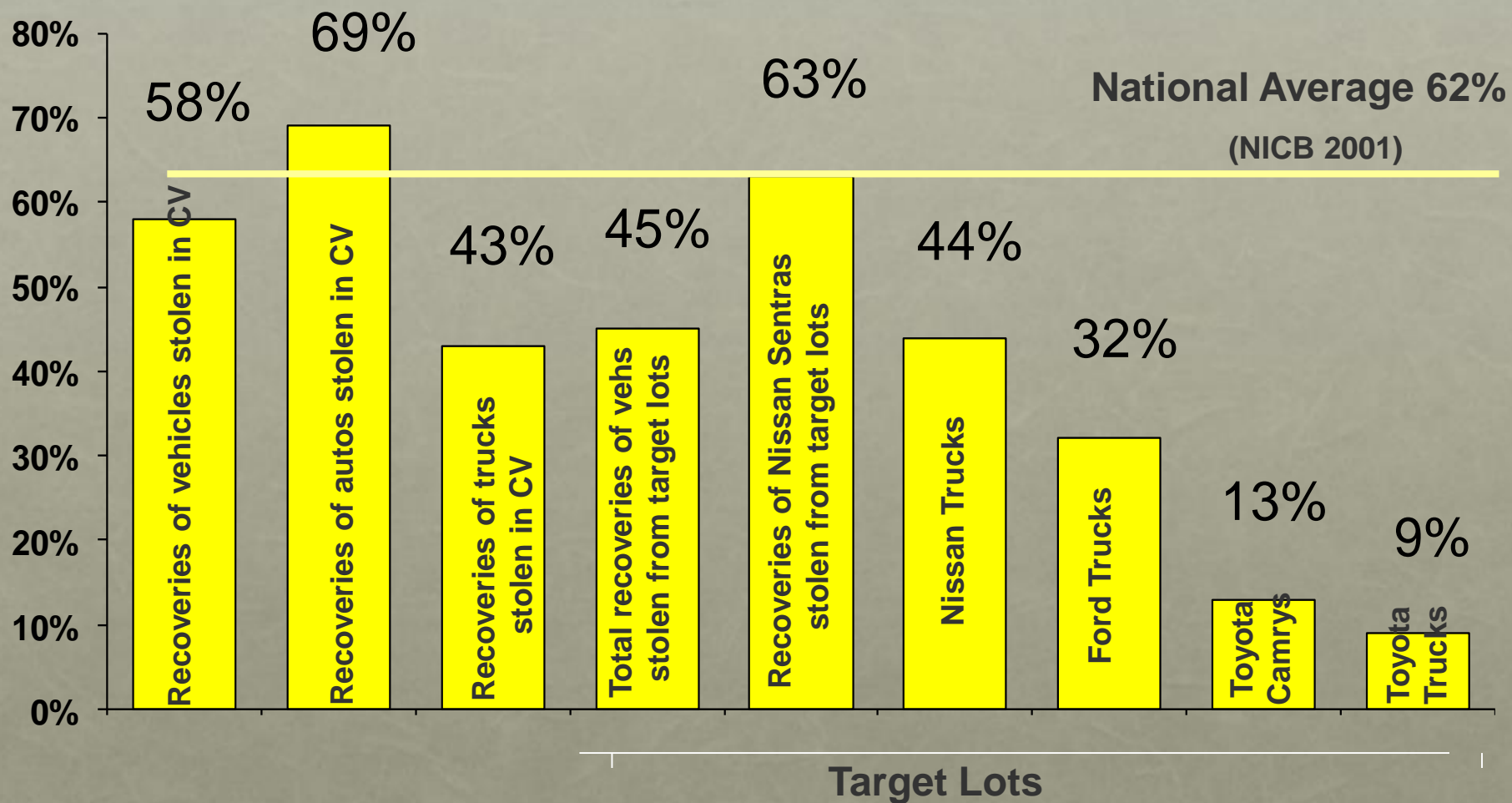
## 2001 Recovery Rates - Cars



## 2001 Recovery Rates - Trucks



# USING CHARTS IN CONJUNCTION W/MAPS



# 2007 Drug Reversal Locations

0.4

Miles

7th and York  
84 arrests  
14% from Camden

8th and Grant  
17 arrests  
56% from Camden

8th and State  
56 arrests  
23% from Camden

8th and Berkley  
15 arrests  
40% from Camden

3rd and Royden  
6 arrests  
None from Camden

4th and Clinton  
6 arrests  
50% from Camden

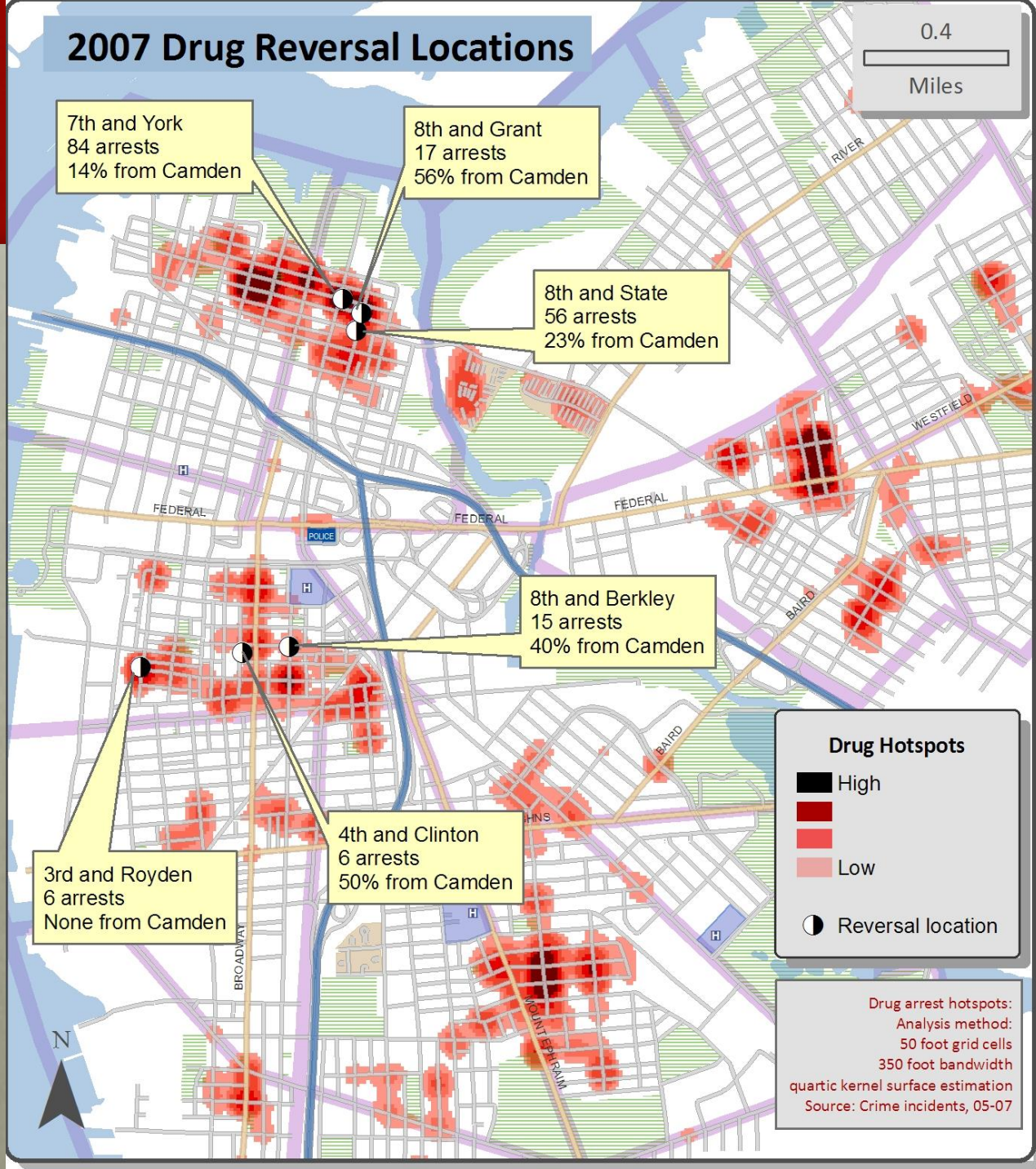
**Drug Hotspots**

- High
- Low

Reversal location

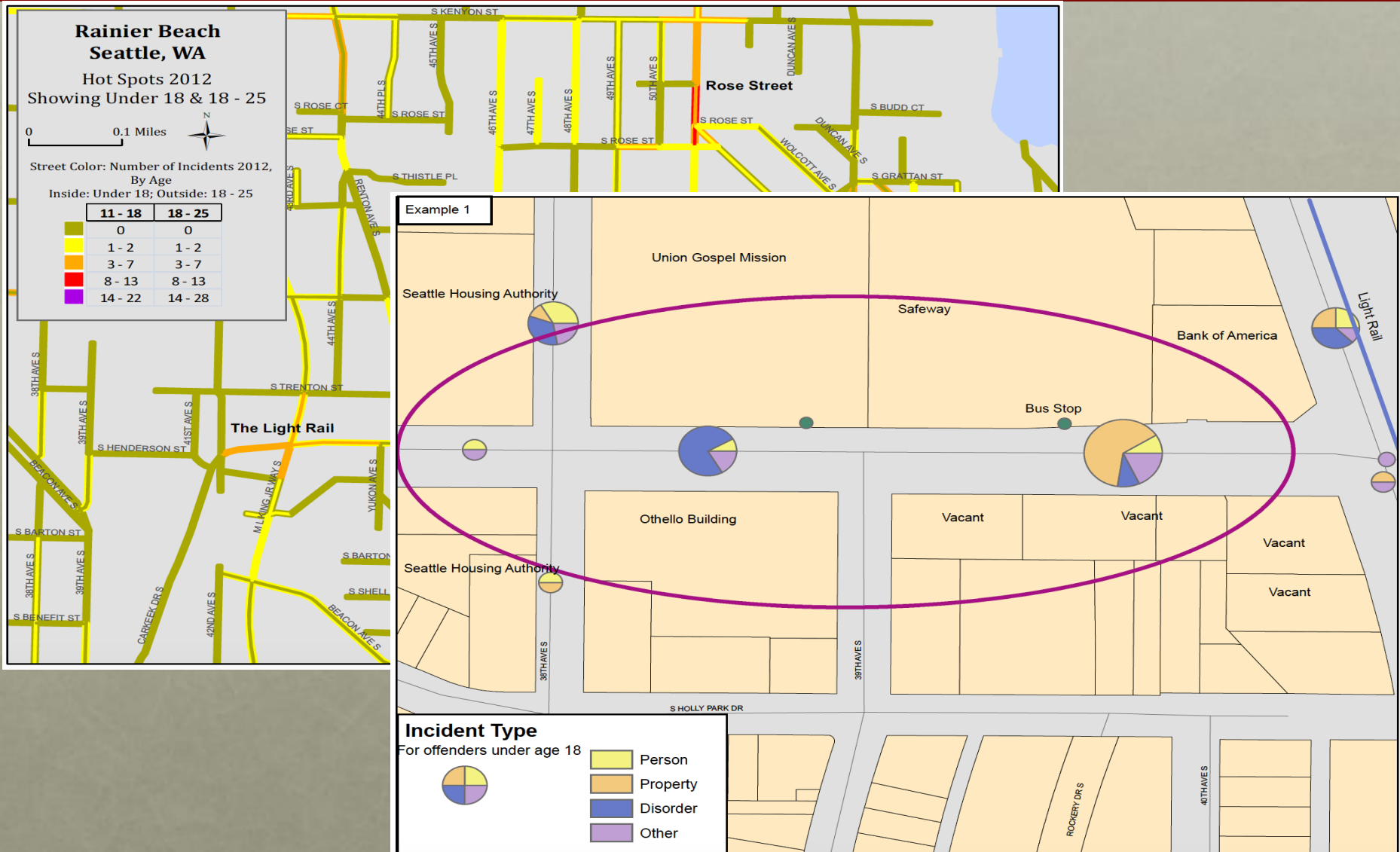
Drug arrest hotspots:  
Analysis method:  
50 foot grid cells  
350 foot bandwidth  
quartic kernel surface estimation  
Source: Crime incidents, 05-07

- Temple University working with Camden Prosecutor's Intelligence Analysis Section
- Using Drug Hotspots to target resources

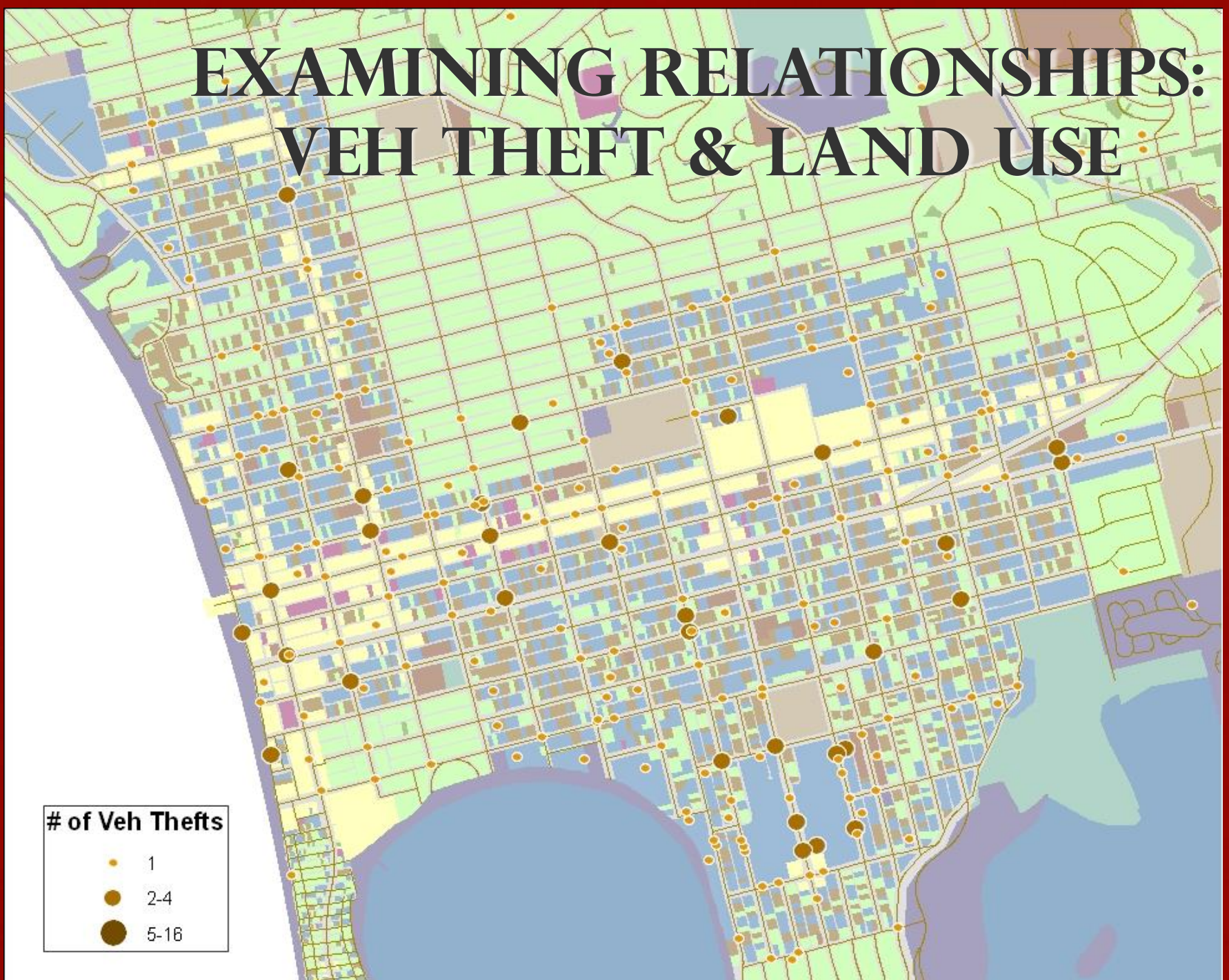
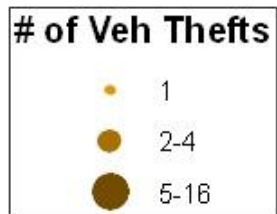




# ANALYZING "HOT" PLACES



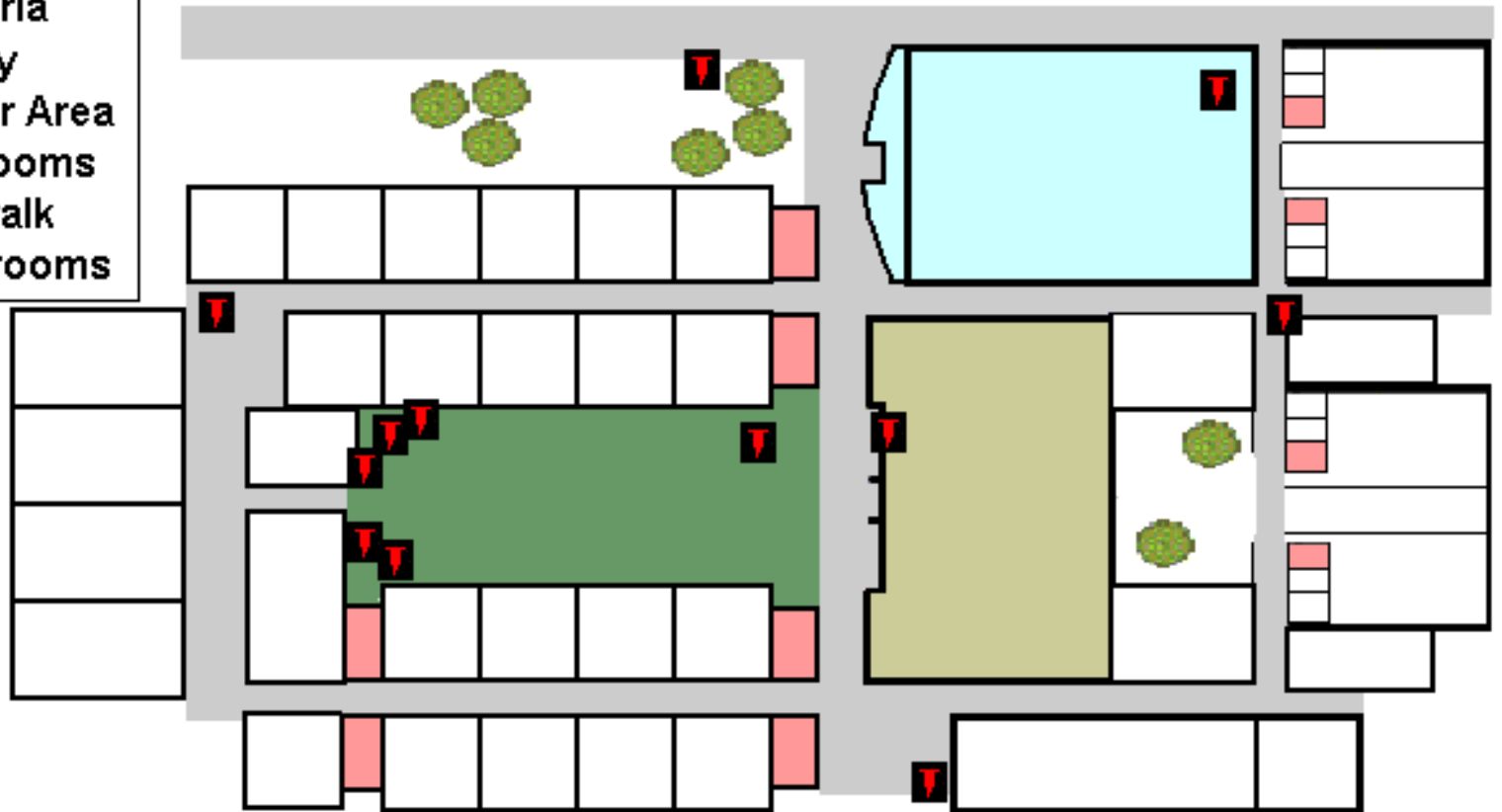
# EXAMINING RELATIONSHIPS: VEH THEFT & LAND USE



# USING HIGH DEF MAPS

## Legend

- ▼ Drug Finds
- Cafeteria
- Library
- Locker Area
- Bathrooms
- Sidewalk
- Classrooms



# SITUATIONAL CRIME PREVENTION: OPPORTUNITY BLOCKING

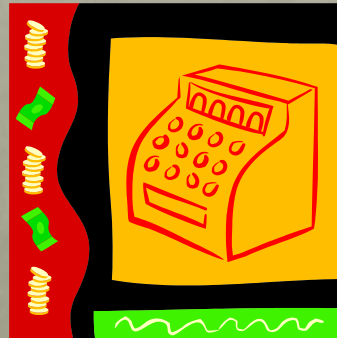
Increasing  
Perceived  
Risk



Increasing  
Perceived  
Effort



Decreasing  
Perceived  
Reward



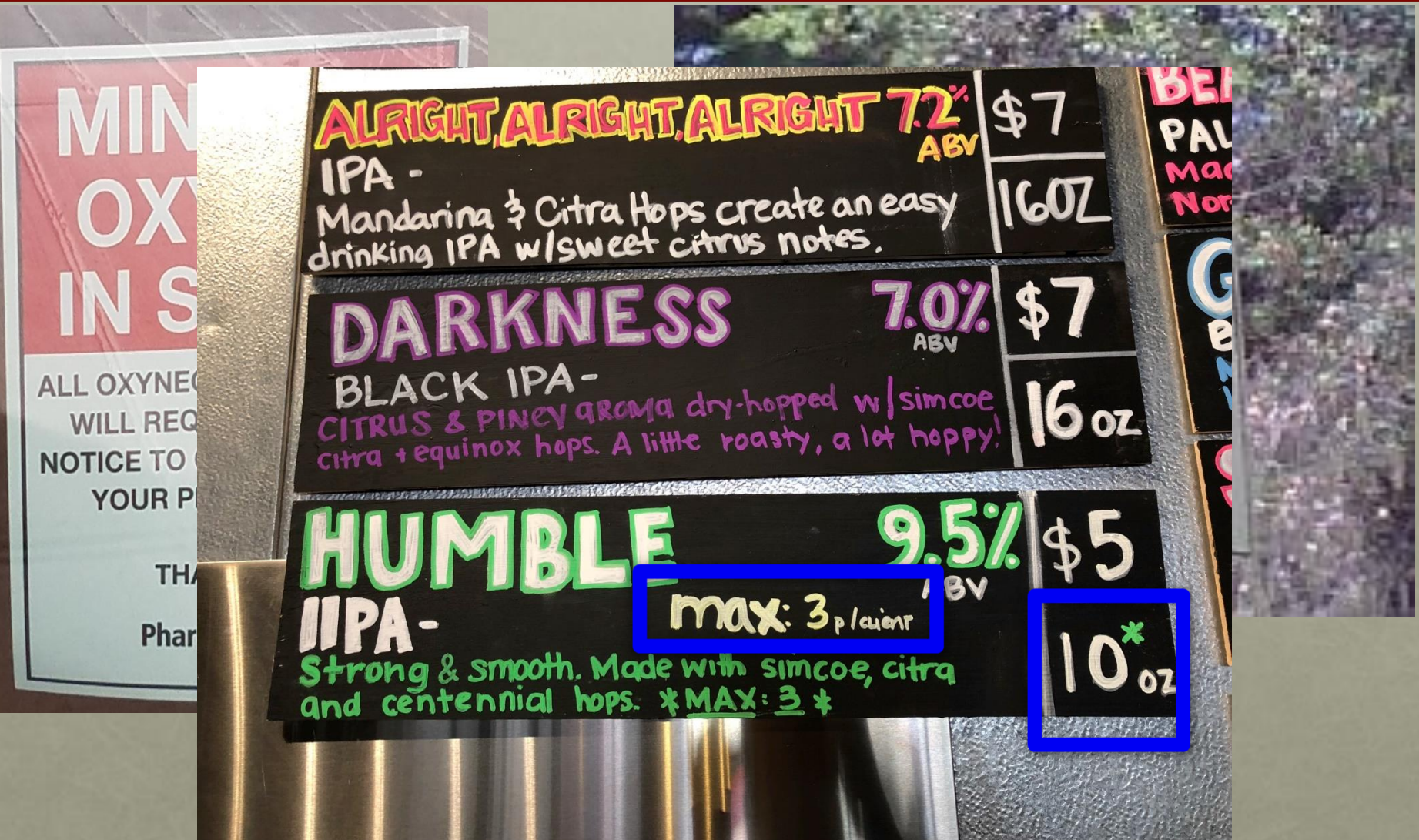
Removing  
Excuses



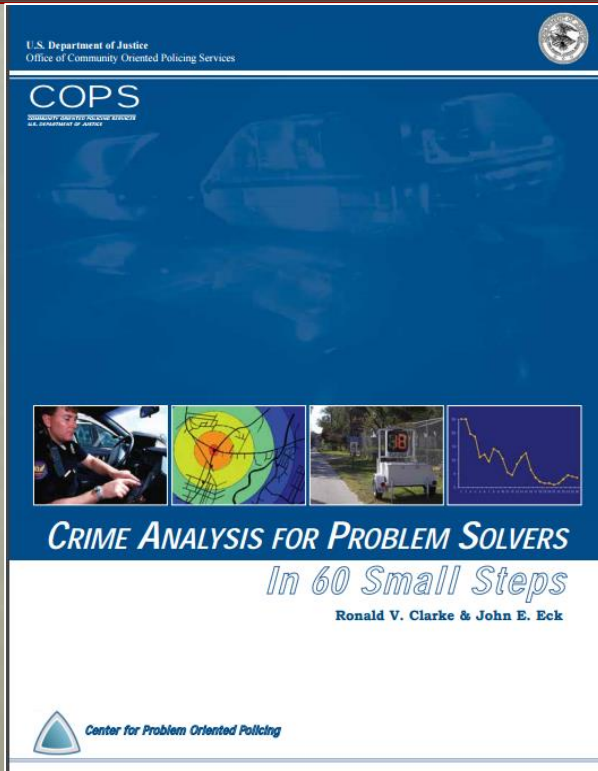
Reducing  
Provo-  
cations



# SITUATIONAL CRIME PREVENTION?

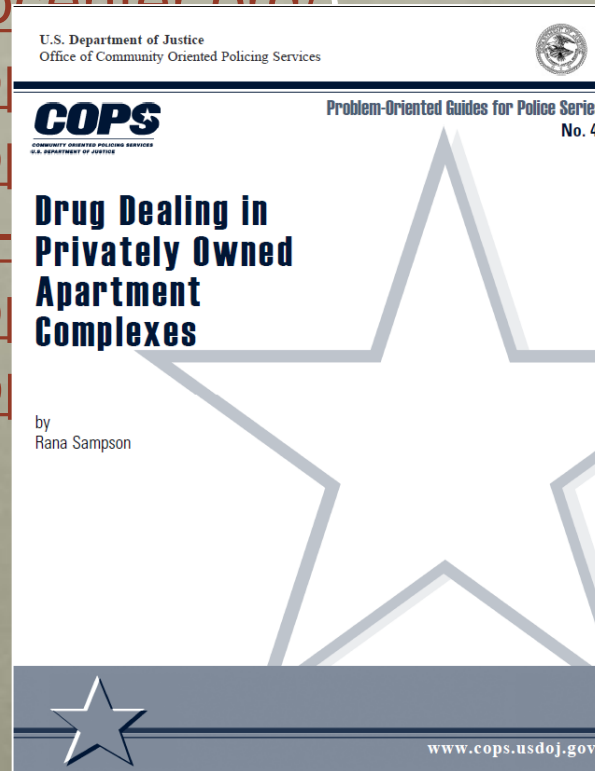


# RESOURCES TO SUPPORT PROBLEM ANALYSIS

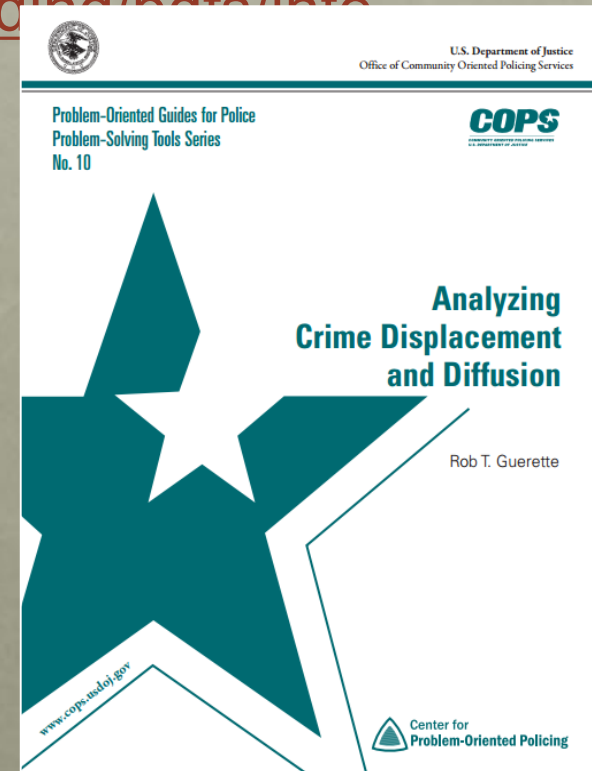


Problem Oriented Policing

[copscenter.org/](http://copscenter.org/)



[60steps/reading/pdf/intro](http://60steps/reading/pdf/intro)



# RESEARCHING YOUR PROBLEM: INTERNET RESOURCES

- National Criminal Justice Reference Service: <https://www.ncjrs.gov/>
- Jill Dando Institute of Crime Science: <https://www.ucl.ac.uk/jill-dando-institute/>
- UK What Works Centre: <https://whatworks.college.police.uk/>
- Australian Institute of Criminology: <https://aic.gov.au/>
- George Mason Center for Evidence Based Crime Policy: <https://cebcp.org/>
- Rutgers Center on Public Security: [www.rutgerscps.org](http://www.rutgerscps.org)
- LISC Safe Neighborhoods: <https://www.lisc.org/our-initiatives/safety-justice>
- Simon Fraser Institute for Canadian Urban Research Studies: <https://www.sfu.ca/icurs.html>

# THANK YOU.

## QUESTIONS? COMMENTS?

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