

INTRODUCTION TO PROBLEM ANALYSIS

Int'l Problem-Oriented Policing Conference
Boulder, Colorado
August 2023

COMPARING ANALYTIC PRODUCTS

GROUP 1

AUSTIN CRIME STATS JANUARY – APRIL 2022

UCR Category	Jan	Feb	Mar	Apr	TOTAL
Murder	8	2	3	1	14
Rape	46	35	35	19	135
Robbery	87	74	74	31	266
Agg. Assault	231	211	253	133	828
Burglary	400	413	371	79	1,263
Theft	2,114	1,769	1,759	374	6,016
Auto Theft	404	388	459	234	1,485
Grand Total	3,290	2,892	2,954	871	10,007

Police District	Jan	Feb	Mar	Apr	TOTAL
1	1,332	1,284	1,408	526	4,550
2	1,341	1,240	1,481	605	4,667
3	867	785	922	342	2,916
4	870	738	810	315	2,733
5	716	685	734	252	2,387
6	727	640	717	240	2,324
7	789	730	716	268	2,503
8	522	456	462	198	1,638
Grand Total	7,164	6,558	7,250	2,746	23,718

SHIFT	Sun	Mon	Tue	Wed	Thu	Fri	Sat	TOTAL
A	765	998	987	972	971	922	891	6506
B	1297	1494	1451	1410	1339	1459	1380	9830
C	1329	1098	897	938	1010	1095	1392	7759
TOTAL	3391	3590	3335	3320	3320	3476	3663	24095

COMPARING ANALYTIC PRODUCTS

GROUP 2

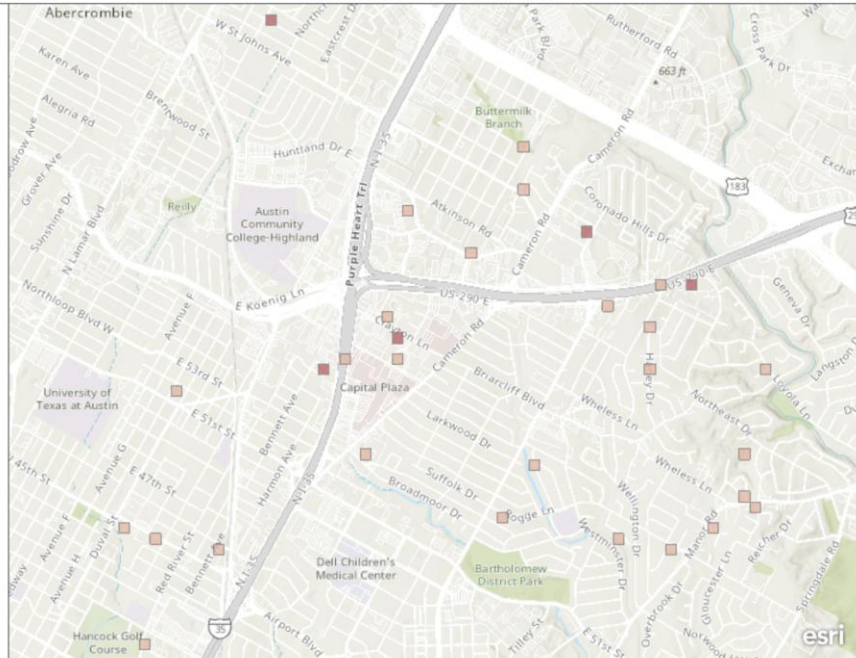
BURGLARY TYPE	Jan	Feb	Mar	Apr	TOTAL
BURGLARY NON-RESIDENCE	204	204	174	48	630
BURGLARY OF COIN-OP MACHINE	5	4	3	2	14
BURGLARY OF RESIDENCE	98	125	137	24	384
BURGLARY OF SHED/GARAGE/STORAGE	97	84	60	7	248
BURGLARY OF VEHICLE	903	770	686	138	2497
TOTAL	1307	1187	1060	219	3773

Austin Res Burgs w/in 250 ft

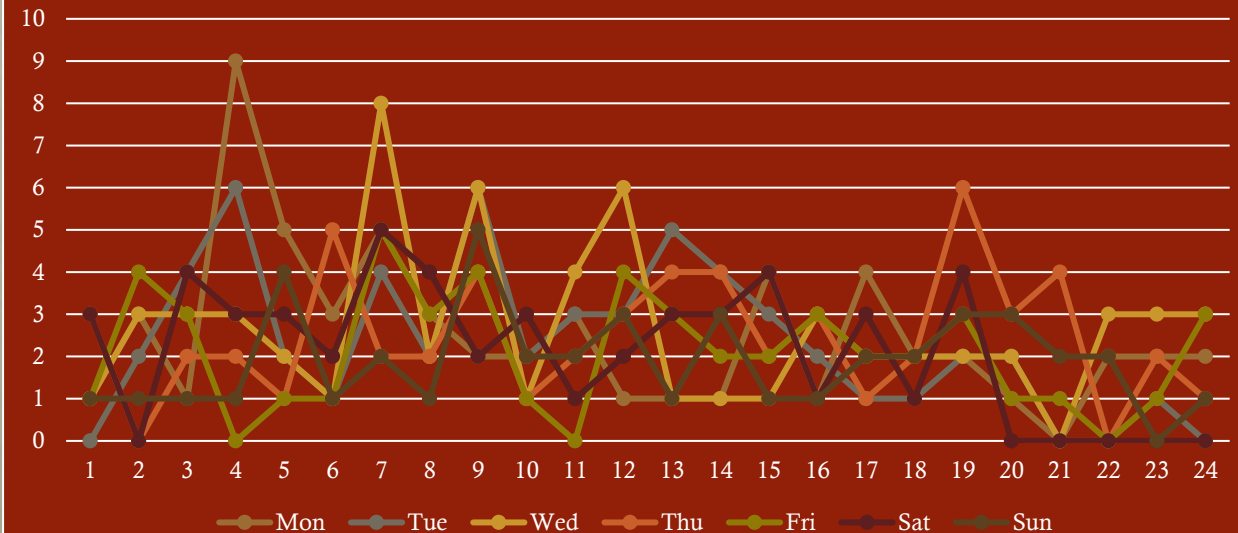
Count of Points

2

1



Residential Burglaries by Day and Hour



Location Type

Count

RESIDENCE / HOME

364

HOTEL / MOTEL / ETC.

13

COMMERCIAL / OFFICE BUILDING

2

PARKING /DROP LOT/ GARAGE

2

CONSTRUCTION SITE

1

HWY / ROAD / ALLEY/ STREET/ SIDEWALK

1

REST AREA

1

WHY IS ANALYSIS IMPORTANT FOR POP?

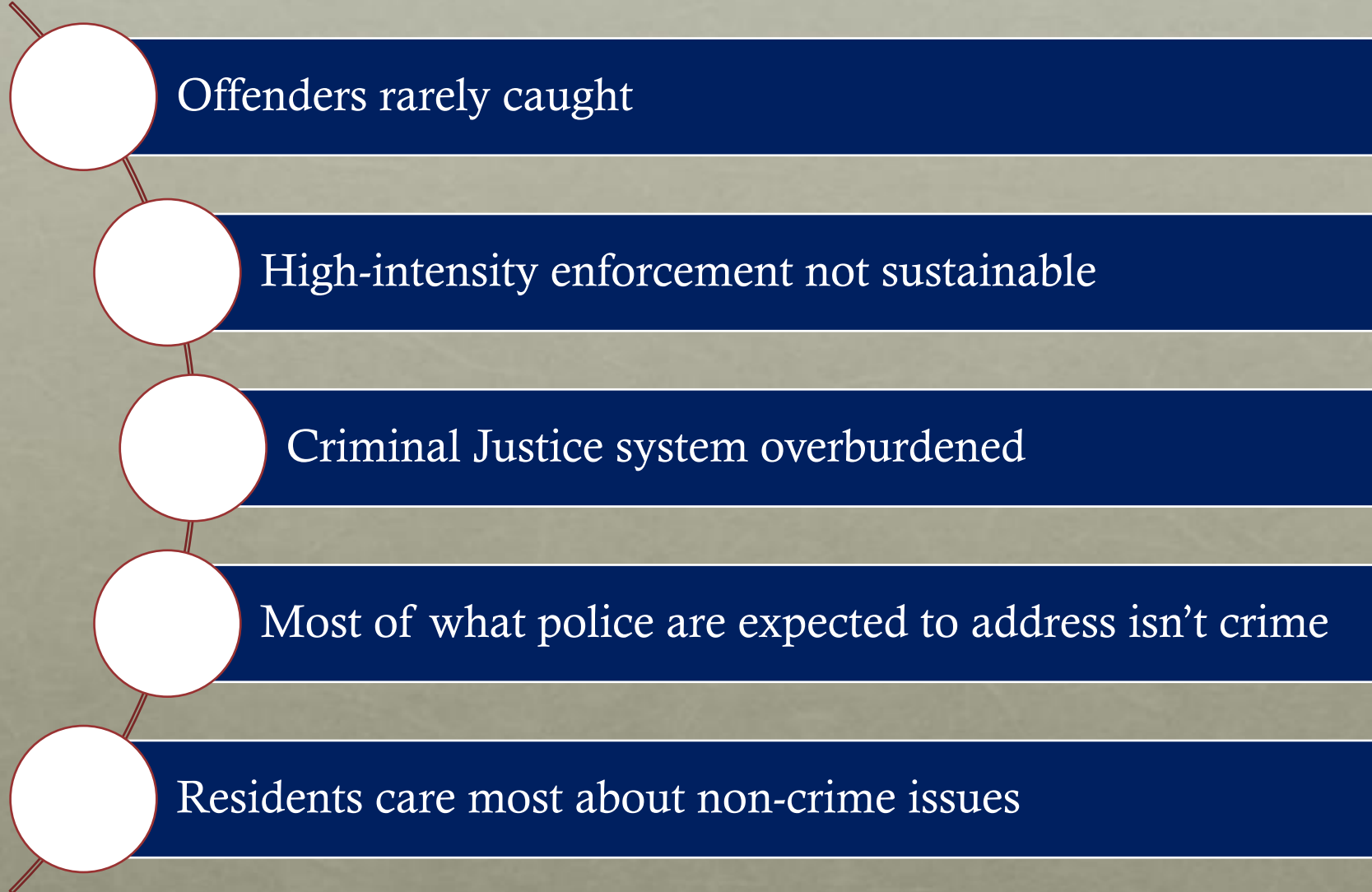
To reduce crime...

we need to know what causes it.

PROBLEM ANALYSIS

- Approach/method/process
- Uses formal criminology theory, research methods, comprehensive data collection and analysis procedures
- Systematic way to:
 1. conduct in-depth examination of,
 2. develop informed responses to, and
 3. evaluate crime and disorder problems.

WHY TAKE A PROBLEM SOLVING APPROACH?



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



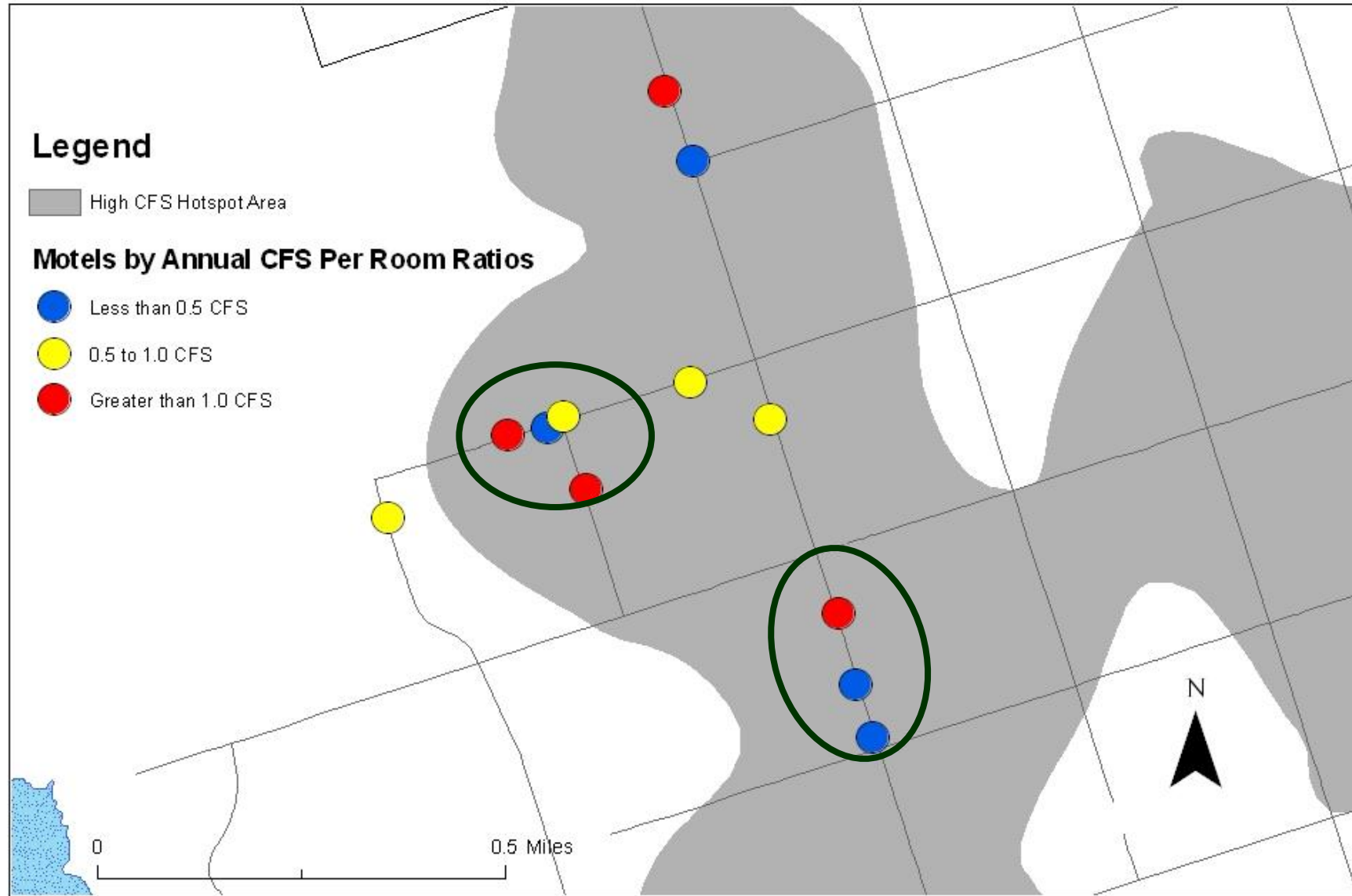
- Initial CFS analysis
- Observations
- Motel “user” surveys
- Manager interviews
- Environmental surveys
- Literature review/site visits
- Investigating causes

INVESTIGATING CAUSES

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



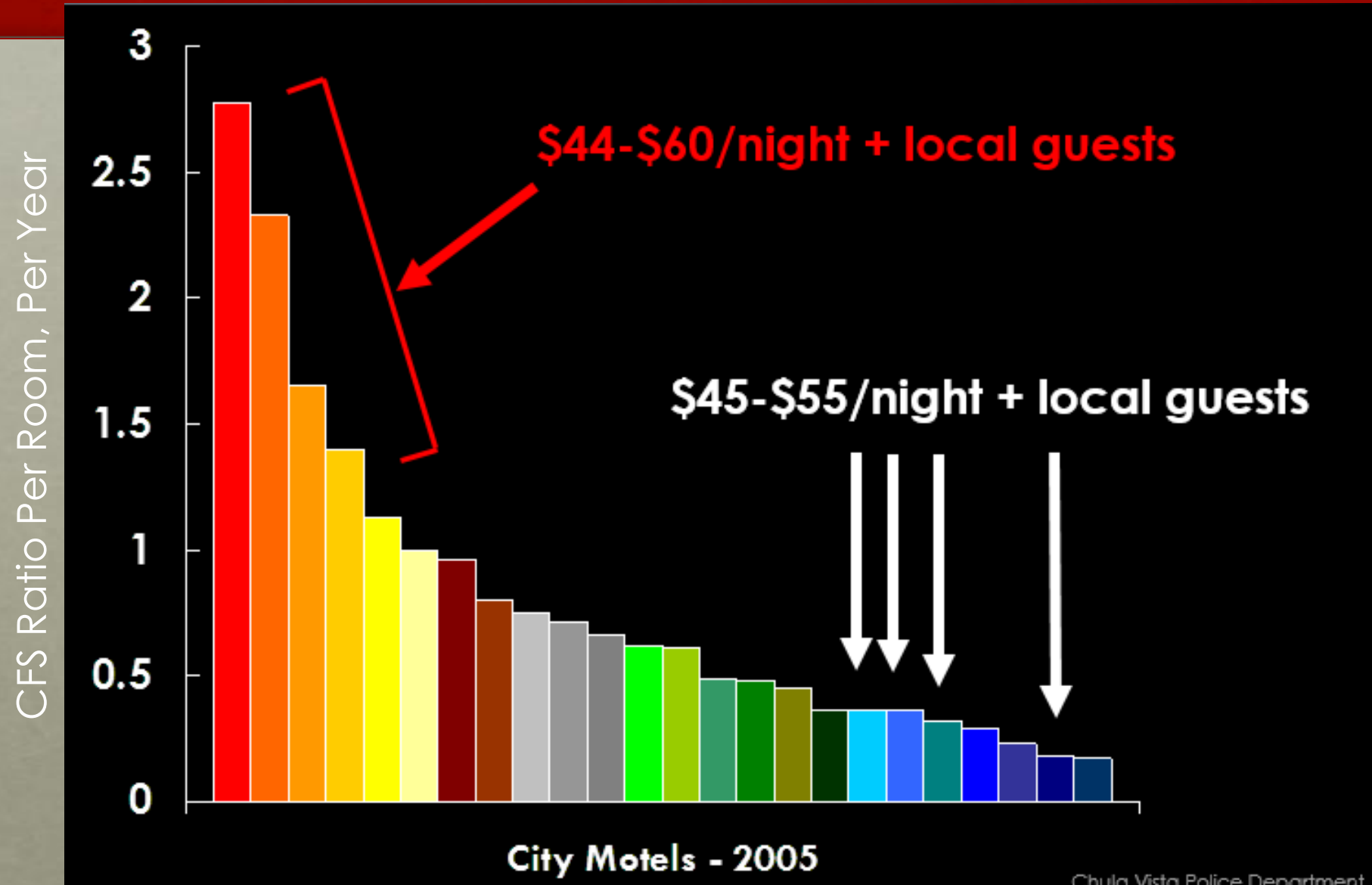
Northwest Chula Vista Motels and Hotels by Annual CFS Per Room Ratios: 2003



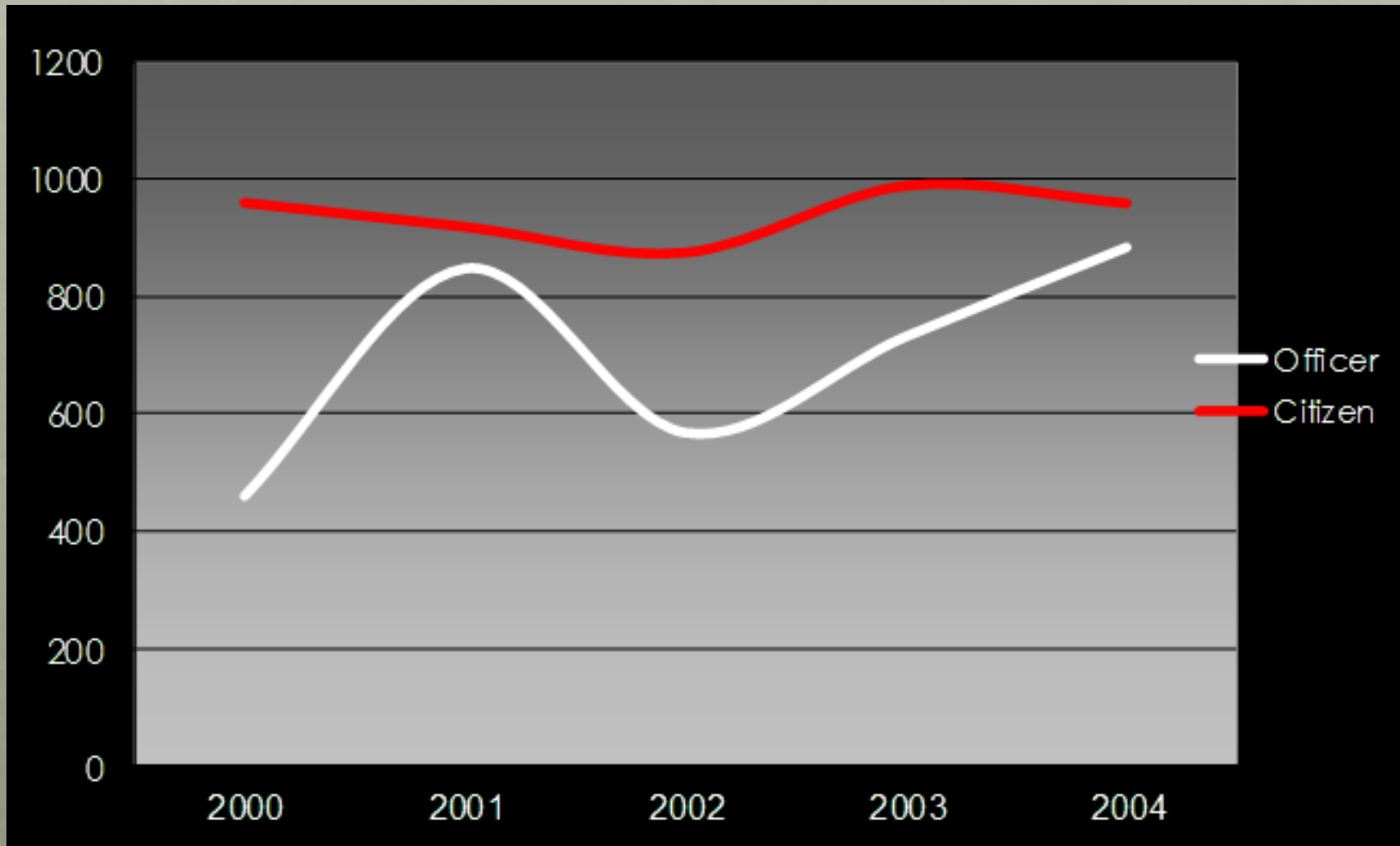
Prepared By:
CVPD Research & Analysis Unit (K. Schmerler)

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

MOTEL ORDINANCE W/CITY STANDARD



- Collaborative effort of 7 city agencies
- Required annual permit to operate
- City could deny permit based on CFS
- City standard was median for 2005

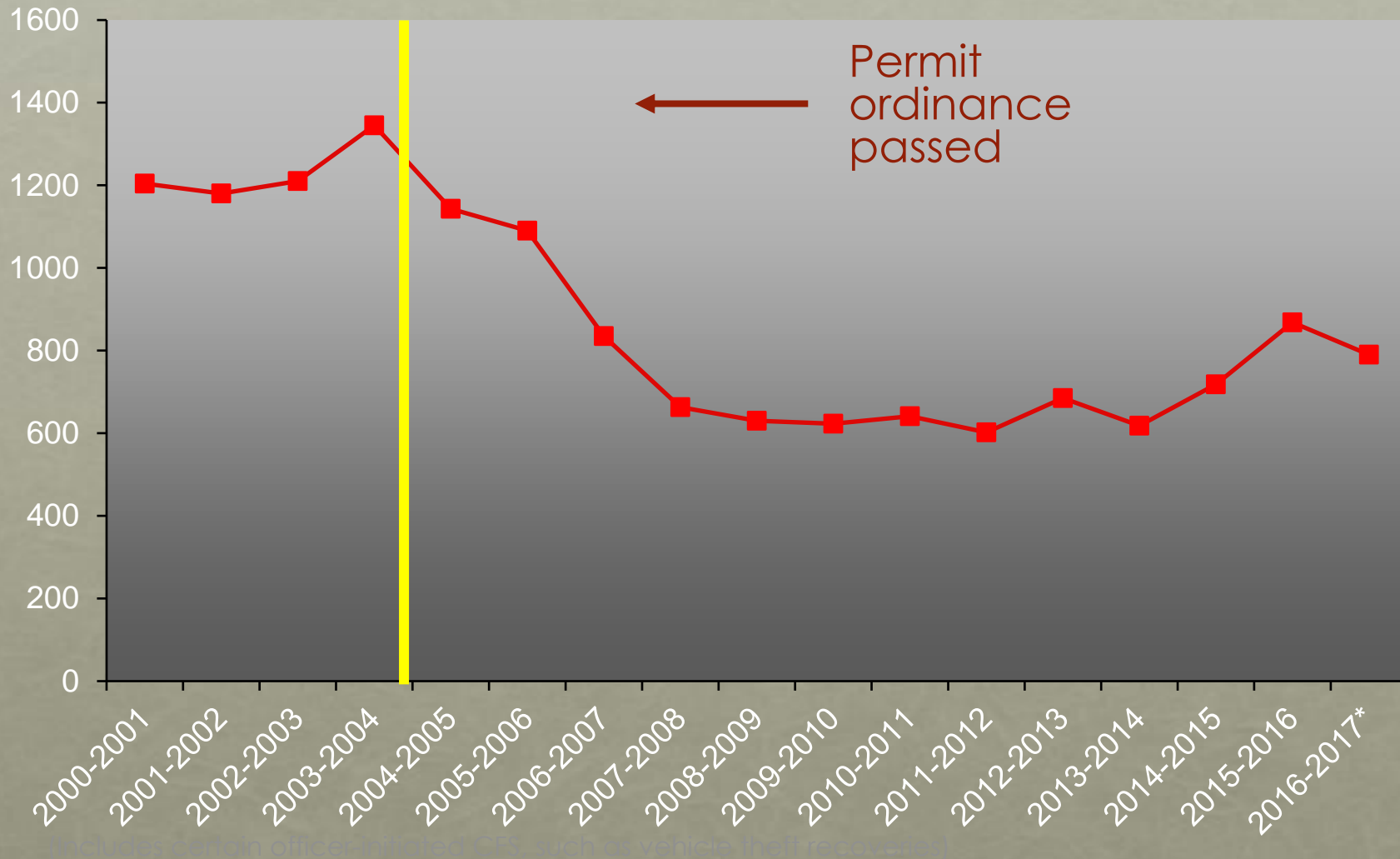


SHIFTED OWNERSHIP OF PROBLEM

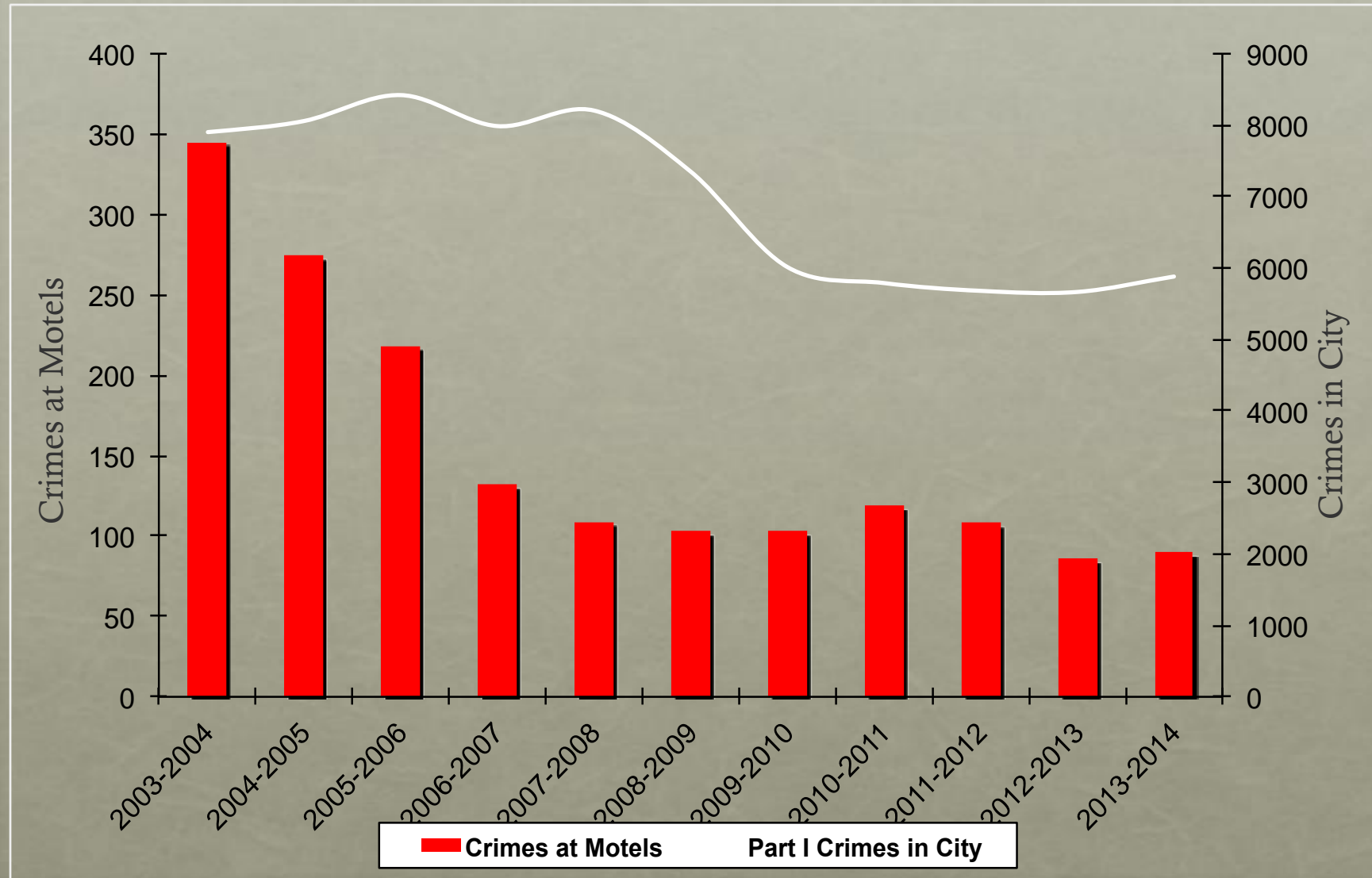
- Motels decided what steps to take
 - Guest/visitor screening
 - Access control
 - Private security
 - Rules




CFS TO MOTELS DOWN 41%



CRIMES AT MOTELS REDUCED 70%



DEFINING PROBLEMS WITH SPECIFICITY AND ACCURACY



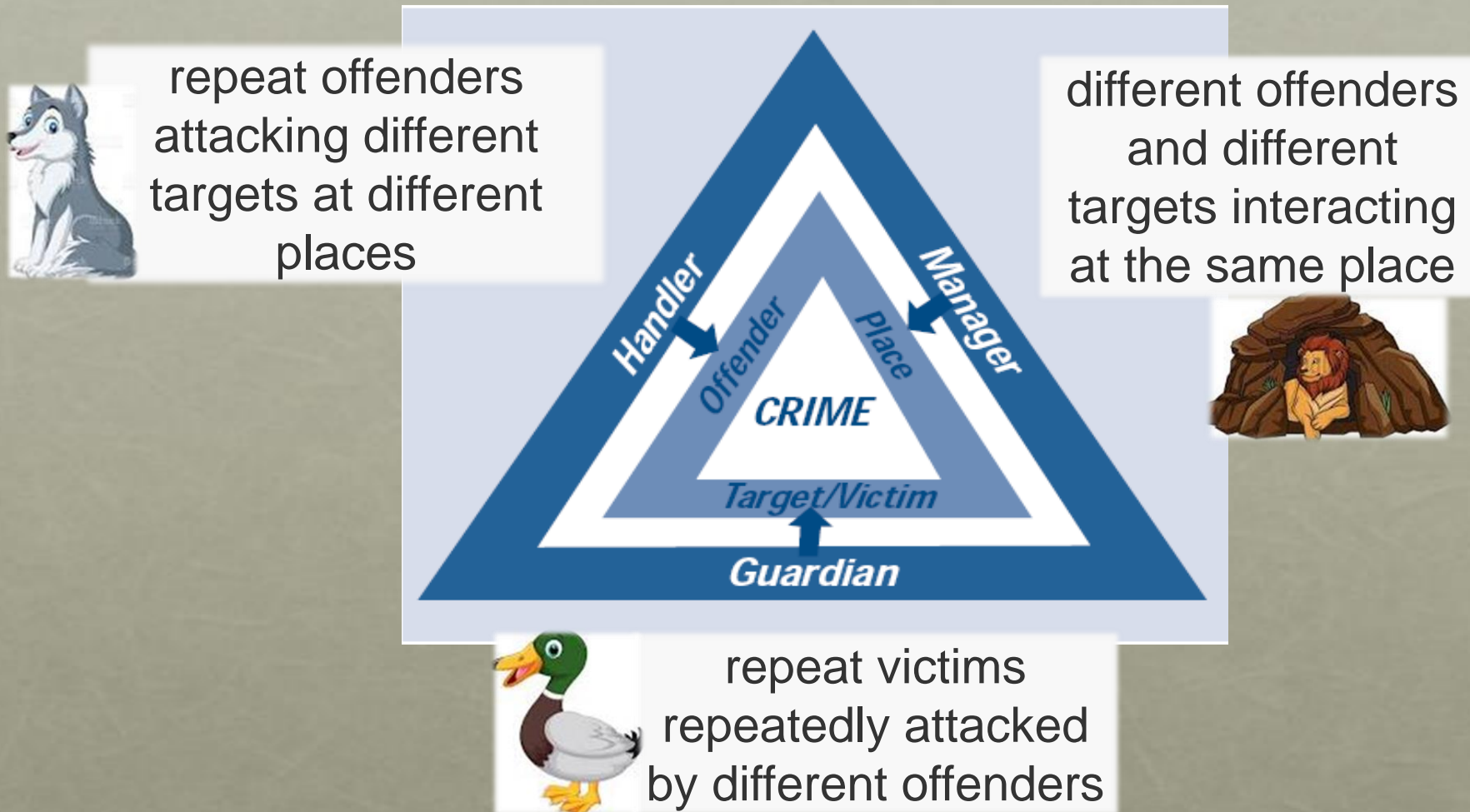
OFFENSE
Murder
Robbery
Aggravated Assault
Sexual Assault
Vehicle Theft
TOTAL CRIMES

Don't settle for broad crime categories!

Why is it important to be specific?

- Correctly identifying the underlying problem
- Asking the right analysis questions
- Having the most appropriate response strategies
- Focus on local problem, not just generic explanations of the crime

CRIME/PROBLEM ANALYSIS Δ



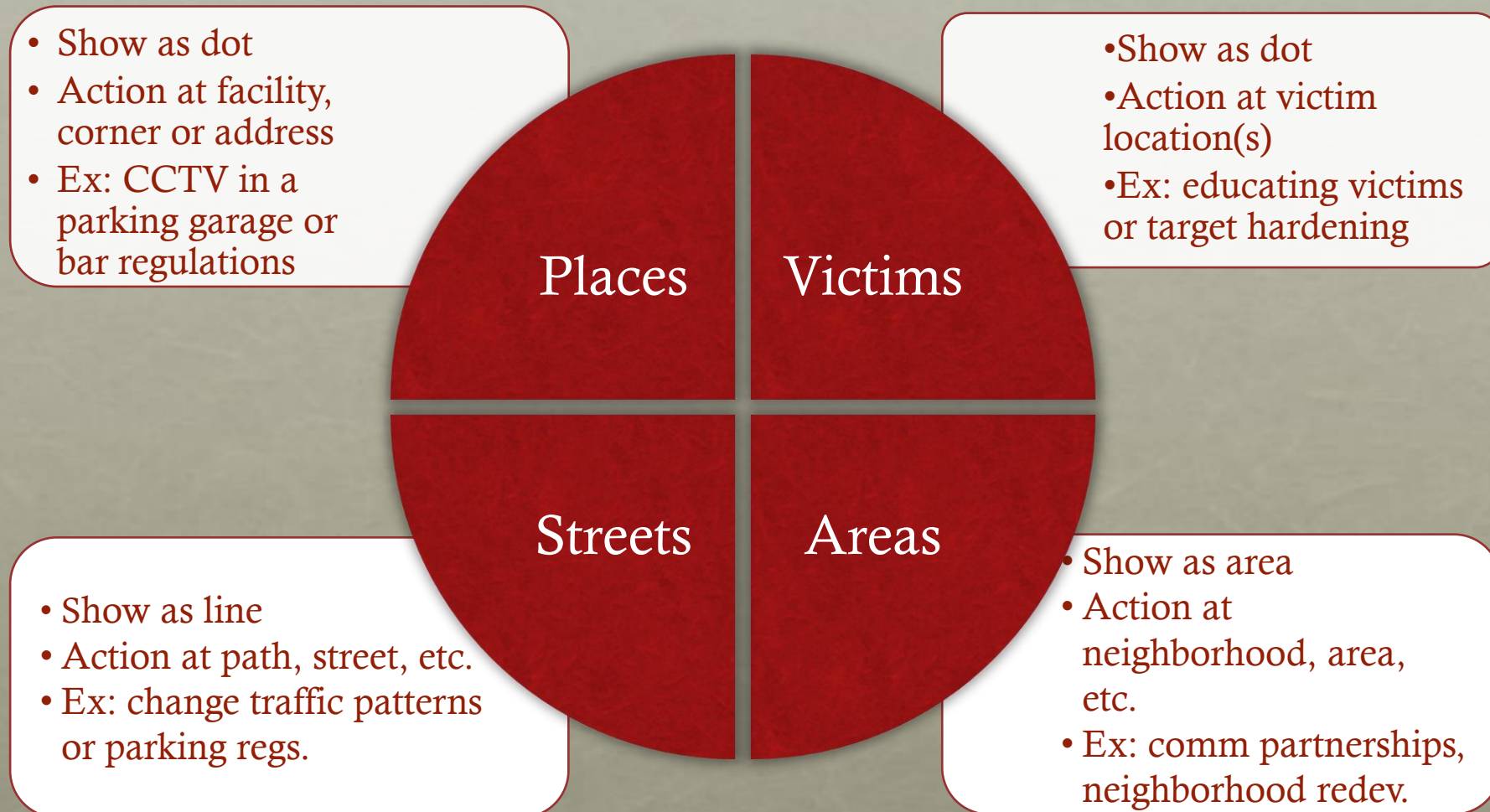
KNOW OPPORTUNITY MAKES THE THIEF

Suppose all situational controls were to be abandoned: no locks, no custom controls, cash left for parking in an open lot 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

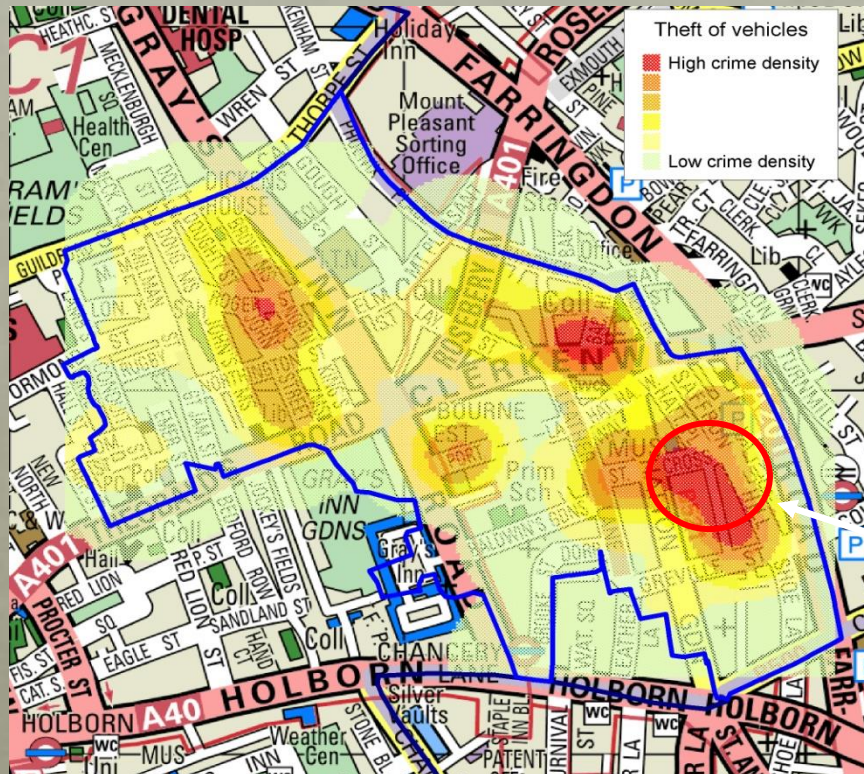


DIAGNOSE YOUR HOT SPOT



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

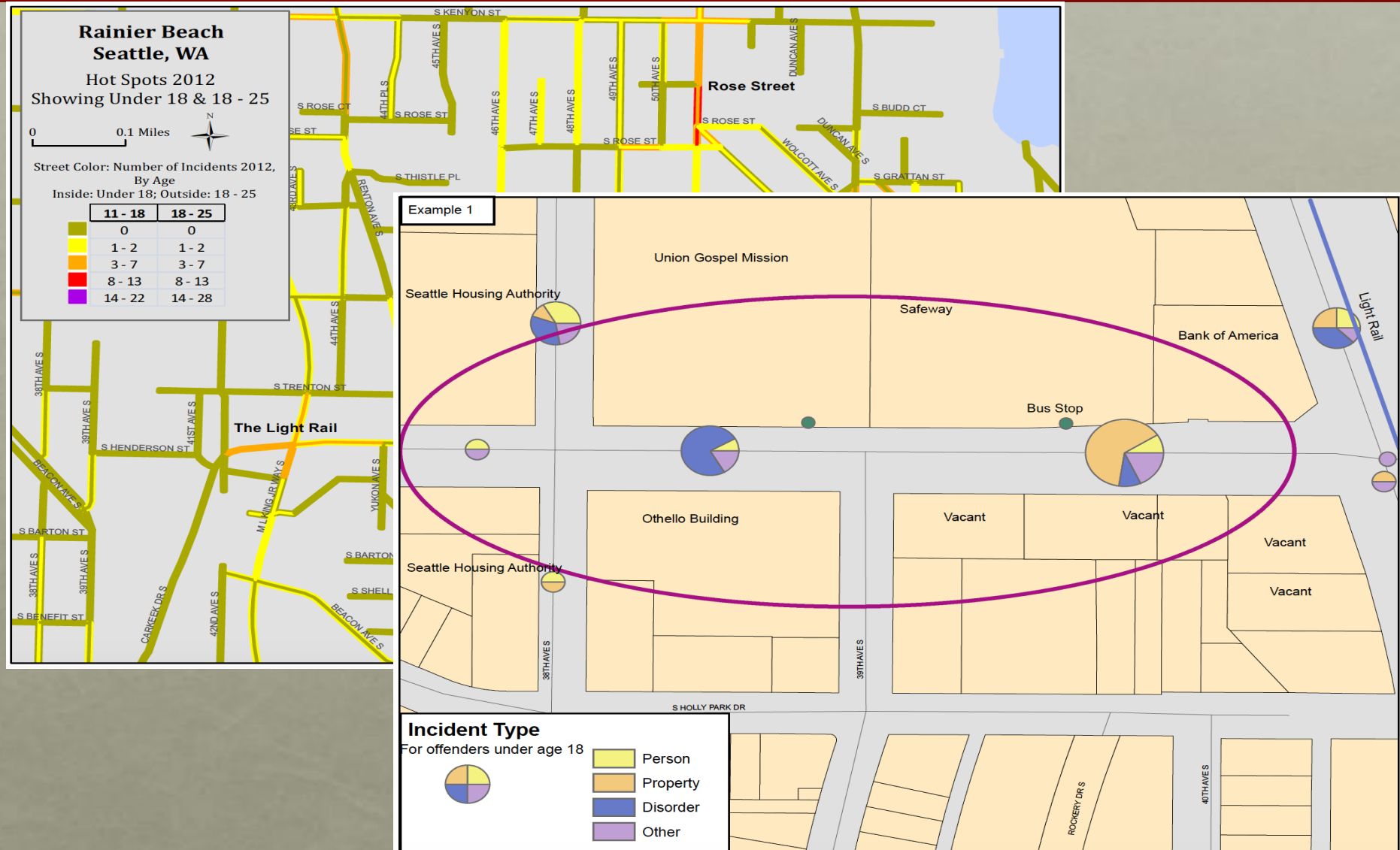
CLERKENWELL HOTSPOT



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%

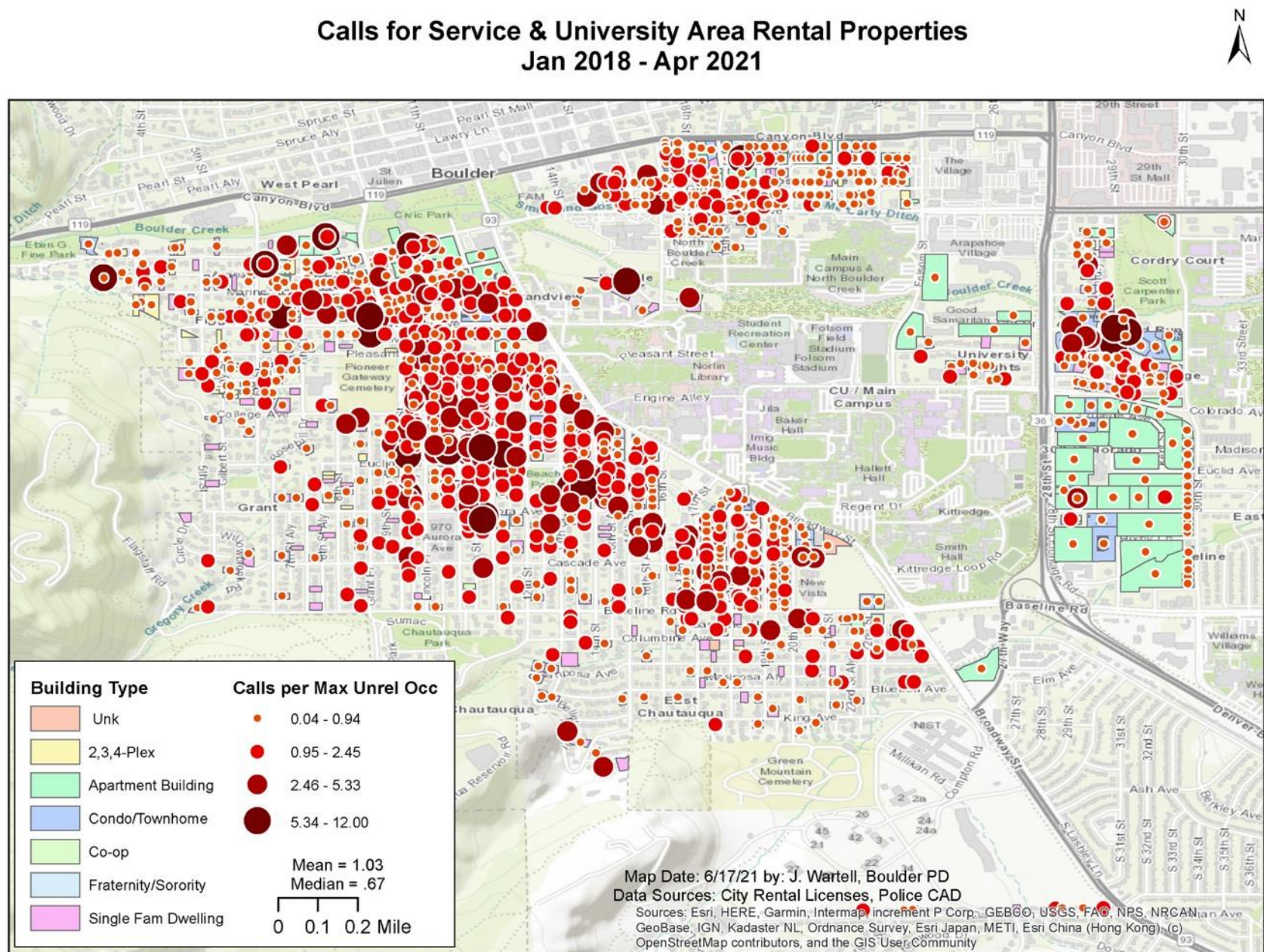


ANALYZING “HOT” PLACES



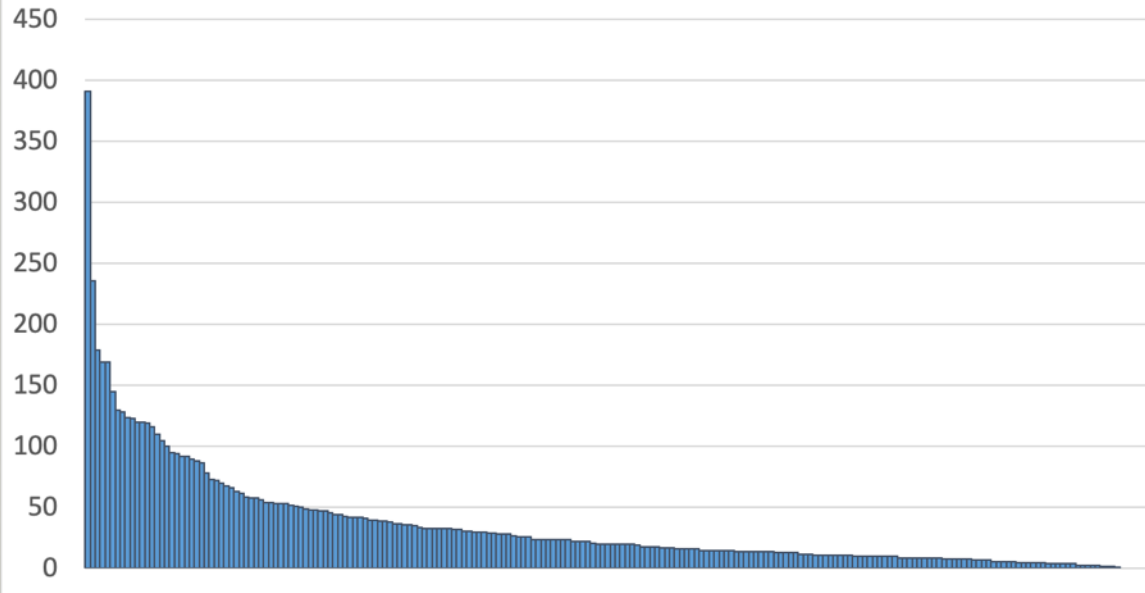
- There are 1,539 rental properties in University Area Housing (UAH).

- BPD received 18,415 calls for service to UAH rental properties between January 2018 and April 2021.



Apartments (n = 215)

Calls for Service
Jan 2018 - Apr 2021

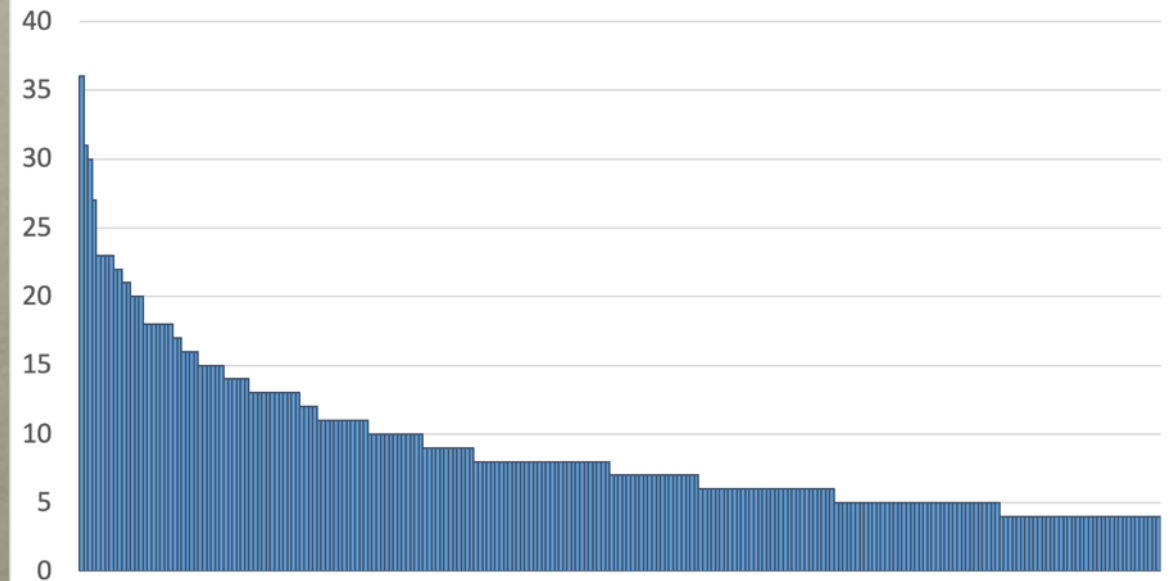


There were 2,811 calls for service to 602 Single Family Dwellings (top 20% = 55.4%).

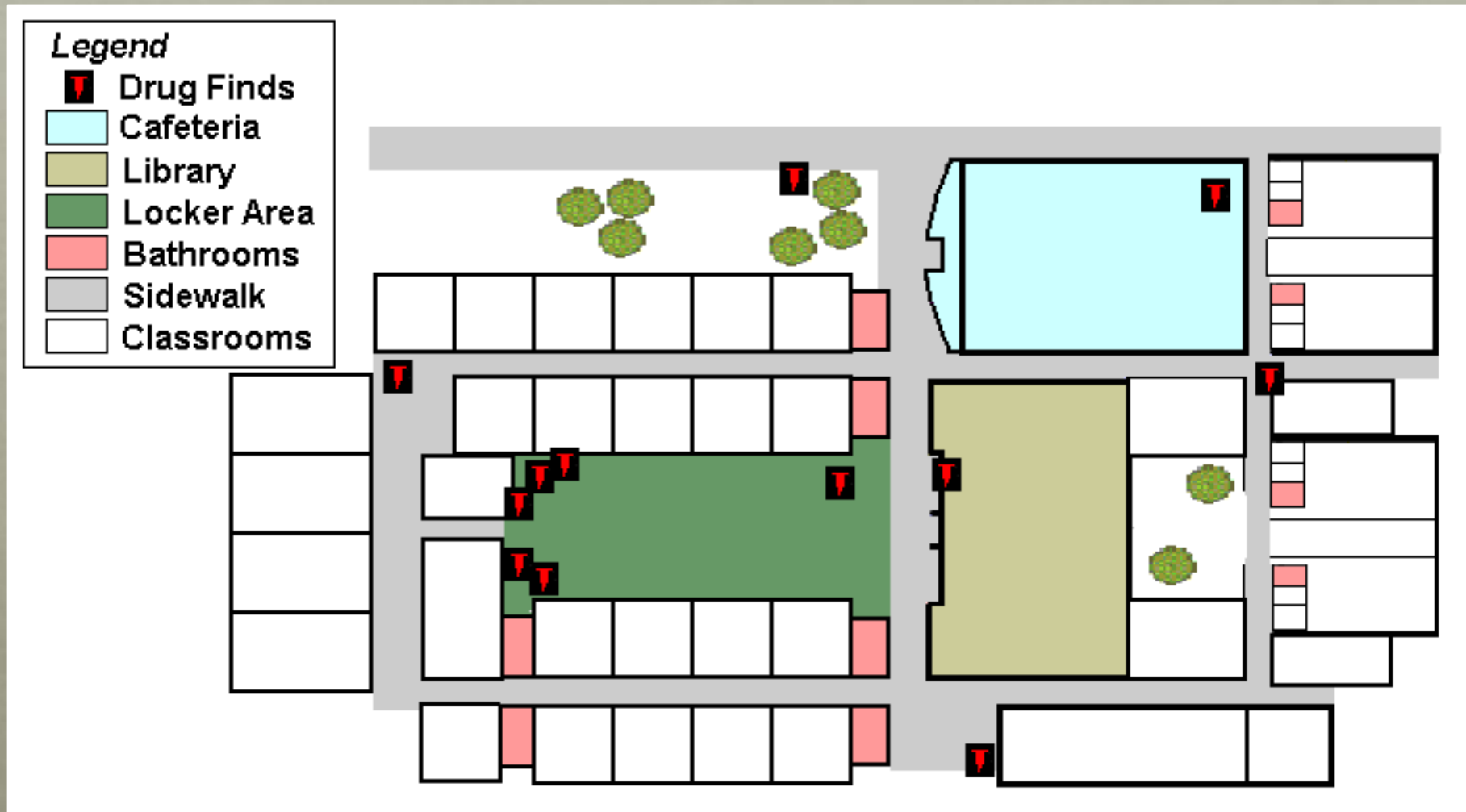
There were 7,522 calls for service to 215 Apartment Complexes (top 20% = 57.5%).

Single Family Dwelling (n = top 255 of 602)

Calls for Service
Jan 2018 - Apr 2021

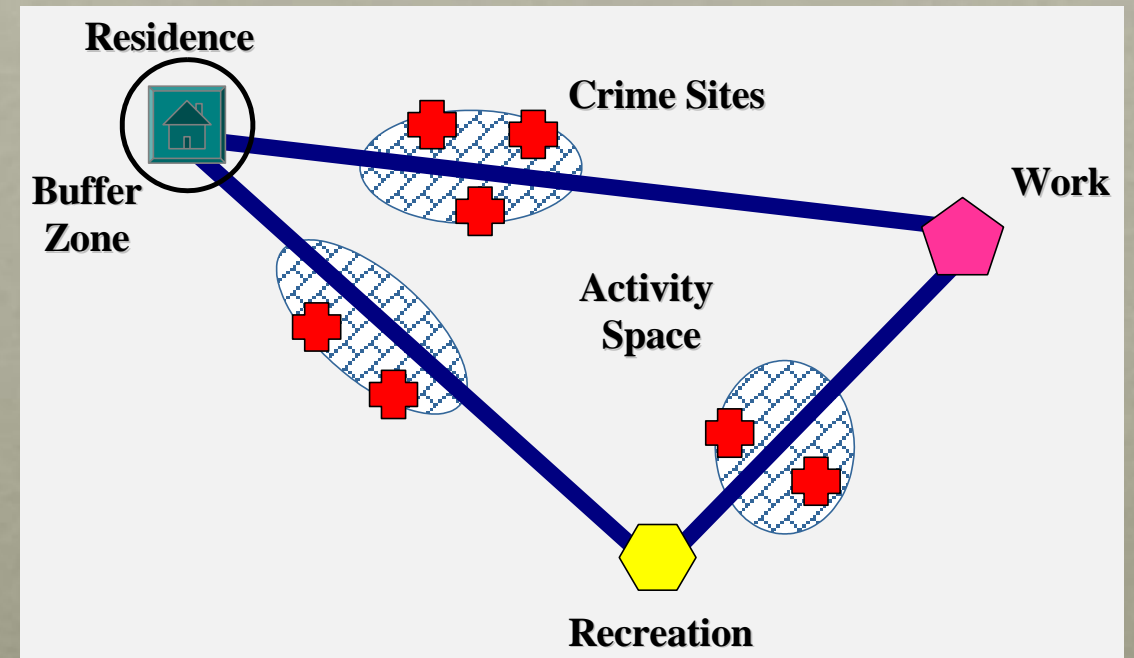


USING HIGH DEF MAPS



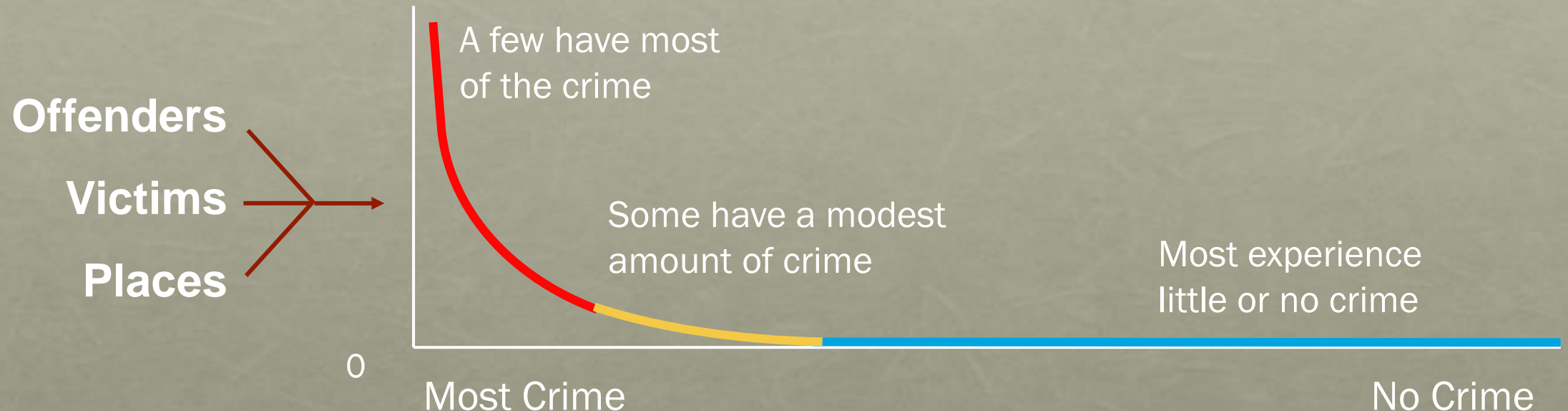
STUDY THE JOURNEY TO CRIME

- 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



LEARN IF THE 80-20 RULE APPLIES

- Pareto Principle – 80% of consequences stem from 20% of causes
- Crime is highly concentrated across people (offenders and victims) and places
- Visualized as a j-curve:



	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%
	Total	271	100.00%		100.00%	

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

Automation of DVRS-r Scoring

New cases
downloaded
each morning

Case Review : Form

DVRU - INCOMING CASE REVIEW

CASE INFO | FAMILY SUPP FORM | DDARA | DAS | ADVOCATE REVIEW NOTES

OFFENDER

Last Name, First: THOMAS Date of Birth: 7/1952 PPDS CRN #: 6419 State ID # (SID): 32749 Gender: M Race: B

Most Recent Address: 4 ROSA PARKS WAY PORT Address Date: 7/29/2008 Prior Address: 7 GLISAN ST PORT Address Date: 6/28/2007

INCIDENT

Case #: 1168 Offenses Involved: AGGR ASLT-KNIFE DOMESTIC VIOLENCE Suspect's Role: CHARGED

Date Reported: 7/28/2008

Child(ren) Present: NO Location of Incident: 1 ROSA PARKS WAY Gender of Suspect: M Male (2) Under 18 (1)

Open DV Cases: 2 Age of 1st PPDS as Suspect: 9 Under 18 (1)

Arrested?: YES Current Offense Violated R/O: NO No (0)

Antisocial Flags: Prior DV Reports - Suspect: 13 Two or More (1)

Prior Arrests (Any Offense): 6 5 or More (2)

Prior Violent Offense - Suspect: 6 3 or More (2)

Prior Alcohol/Drug Offense: 2 Yes (1)

Past Year DV or Family Disturbance Offenses: 0 None (0)

SCORE PPDS: 10

PPDS Priority Level: 1

Risk for Any New Offense: 86%

Risk for New DV Offense: 60%

Case Assignment - Suggested: Assign to Officer Officer Assigned to Case: Advocate Assigned to Case: Assign to PC File? Date Reviewed:

PRINT

Case Review Notes

Officer Case Disposition - Completed by Officers

Advocate Case Disposition - Completed by Advocate

DVRS-r items,
total and
priority level
auto-calculated

Recommended case
decision

Proactive use of prolific offender
analysis in Portland, Or

Established Capacity-Based Cutoff Scores on DVRS-r

Priority Levels	DVRS-r Scale Scores	% Cases	% Any New Criminal Incident	% New DV Incident
Highest - 1	10 to 13	13%	86%	60%
2	7 to 9	24%	77%	43%
3	3 to 6	37%	59%	30%
Lowest - 4	0 to 2	26%	37%	17%

UNDERSTANDING ACTUALS V. RATES

■ Which lot is riskier to park in?

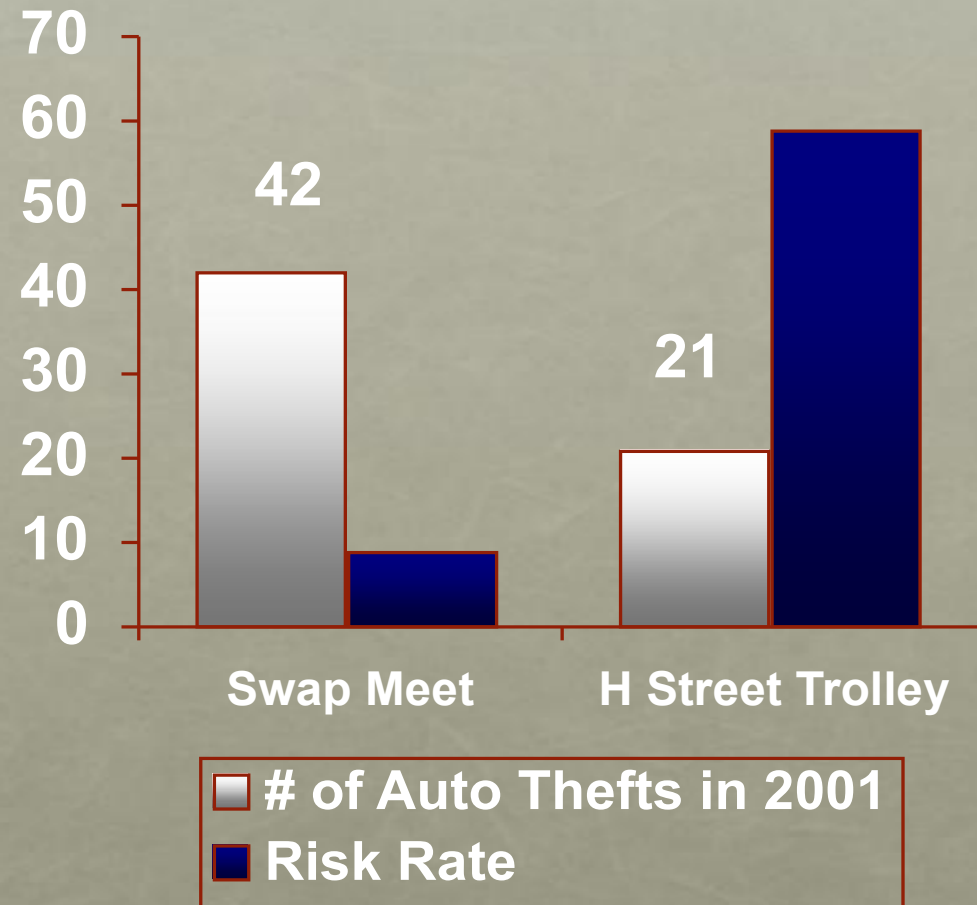
■ *Swap meet*

- 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



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

COLLECT YOUR OWN DATA

**Visual
assessments**

**Environment-
al 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

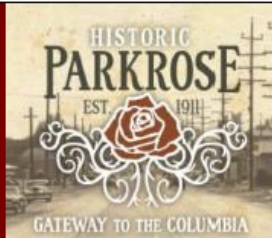
**Offender
interviews**

**Victim
interviews**

DATA COLLECTION FOR PROBLEM ANALYSIS IN PORTLAND, OR

Community Attitudes Regarding Public Safety in Portland's Parkrose Neighborhood

Kris Henning, Portland State University
Jason Jones, Portland Police Bureau
Christian Peterson, Portland Police Bureau



Key Findings

- Social disorder (e.g., noise, squatters, trespassing, panhandling, and prostitution), property crime, and drugs/alcohol were the top public safety concerns identified by Parkrose residents completing the online survey.
- Respondents to the survey demonstrated a high degree of agreement regarding the areas within their neighborhood that have public safety concerns. This includes the corridors running east to west surrounding NE Sandy Blvd and NE Prescott St.
- People from Parkrose who completed the survey feel considerably less safe walking alone in their neighborhood than the average city resident. Moreover, the majority of survey respondents reported that public safety in Parkrose had declined over the past 12 months.
- The majority of respondents expressed confidence with the Portland Police and felt the Portland Police treat people in the neighborhood with respect. People felt this could continue to be strengthened through non-investigatory foot patrols, community meetings, and expanded police participation in community events.

Introduction

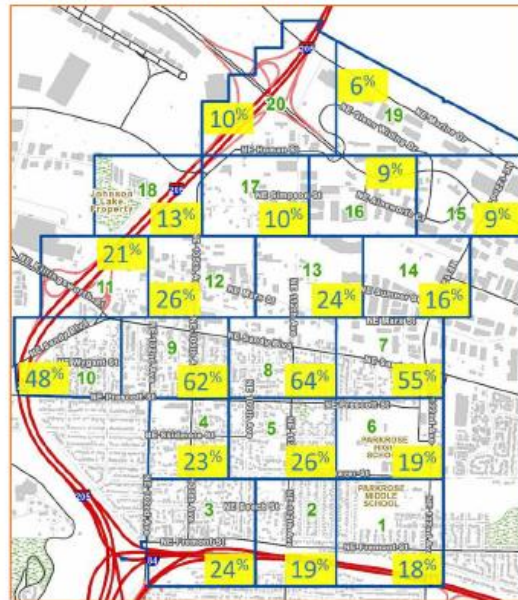
The Portland Police Bureau (PPB) is partnering with Portland State University (PSU) and neighborhood groups to develop new strategies for improving public safety and police-community relations. The current initiative seeks to provide residents with greater voice in where police work in their neighborhood, what problems they address, and how they intervene. We also hope to provide residents, businesses, and community organizations with data they can use to leverage additional resources for improving public safety in their neighborhood.

This report focuses on the Parkrose neighborhood. Parkrose is located in the Northeast section of Portland (i.e. North of Burnside Ave. and East of the Willamette River). PSU's [Population Research Center](#) estimates that there were 6,363 residents living in the neighborhood in 2010, a 5.5% increase from 2000 (see full [neighborhood profile](#) for additional details). For additional information on the neighborhood, contact the [Parkrose Neighborhood Association](#).

In July 2016 all households in the Parkrose neighborhood were mailed a letter inviting the adult occupants to participate in an online survey. Additional invitations were delivered in-person by PPB officers and the link to the online survey was in several newsletters and community-oriented websites. The questionnaire asked residents to identify their primary public safety concerns, whether they supported or opposed various actions the city might take in responding to these problems, and for ideas on improving police-community relationships. Three hundred and forty-nine surveys were submitted and analyzed for this report.



Neighborhood Map & Areas of Concern



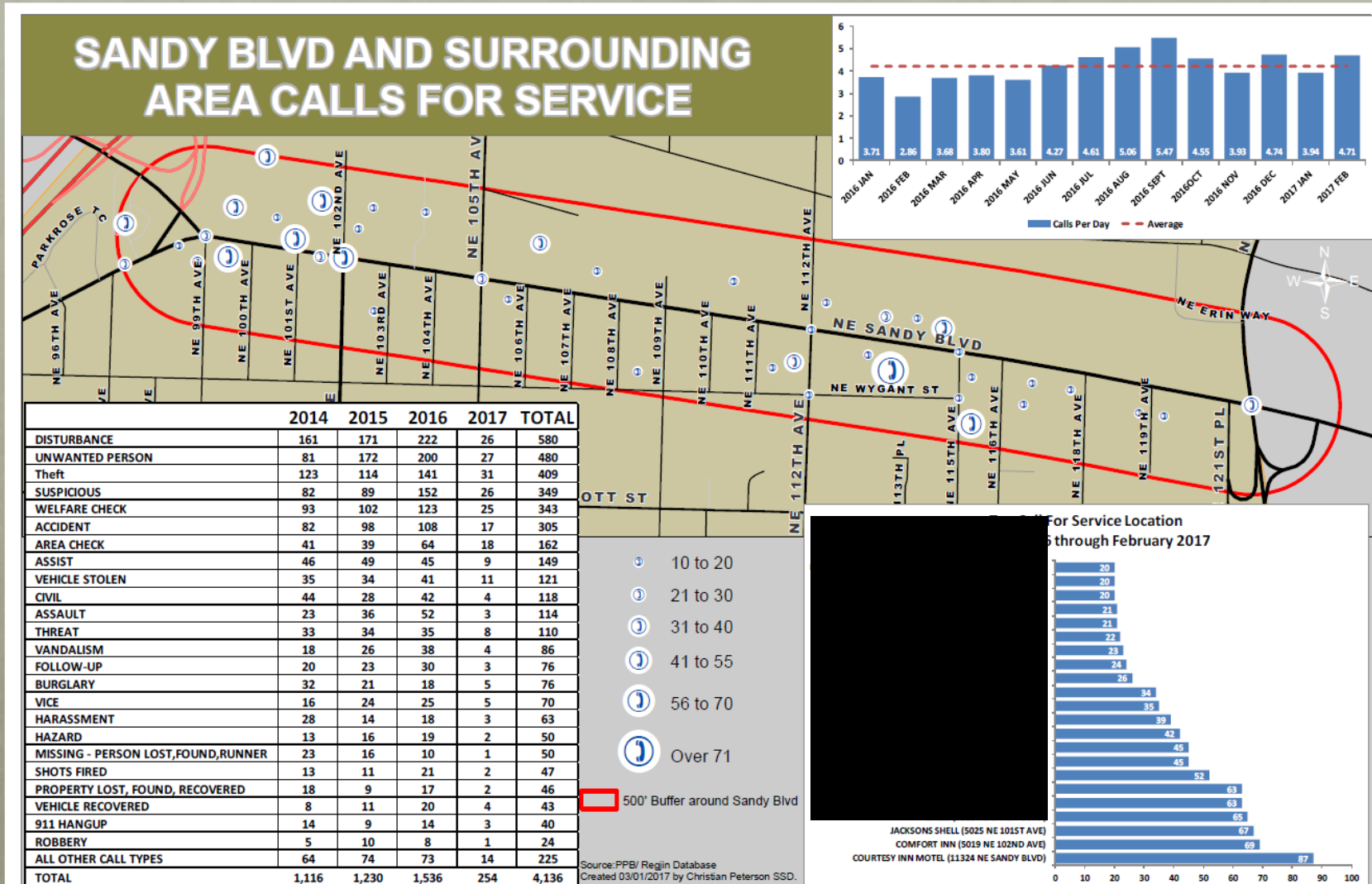
The rough boundaries of the Parkrose neighborhood were mapped for the online survey and divided into 20 distinct areas. These regions are numbered in green text on the map above, from 1 (lower right corner) to 20 (top left). People were asked to 'click' with their computer mouse all of the areas where they had public safety concerns. No limit was placed on the number of problem areas they could select in this first question. **Public safety** was defined as "crime, traffic safety, environmental hazards, etc." After this task was completed people were asked to select one location that represented their area of biggest concern.

The yellow boxes (light blue text) on the map above give the percent of survey respondents 'clicking' each region to designate it as a location of concern. For example, 18% of the respondents reported they had public safety concerns in area #1 on the map.

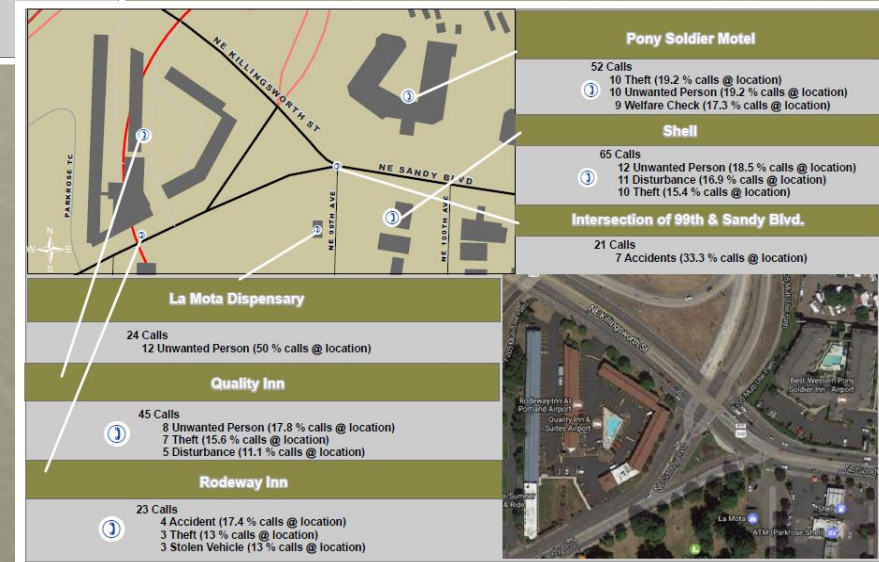
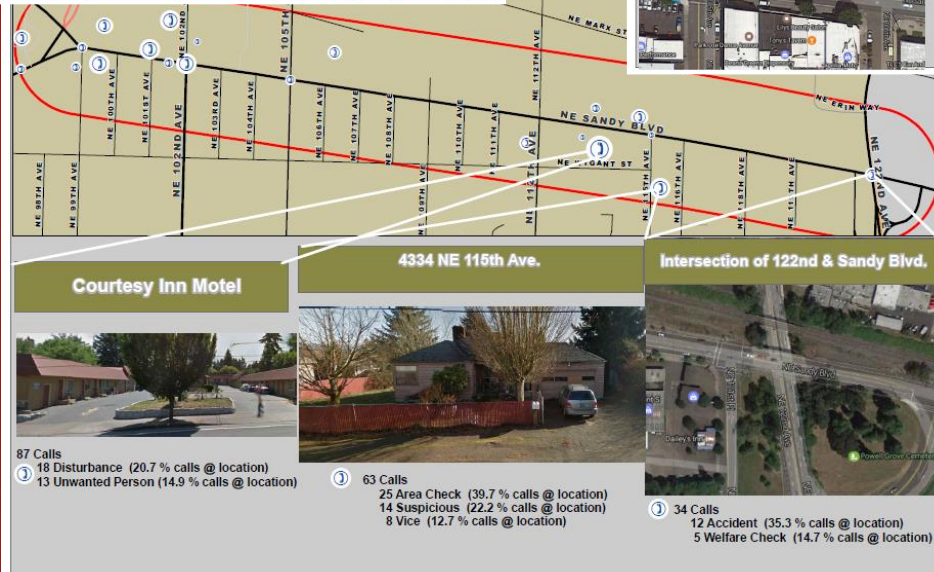
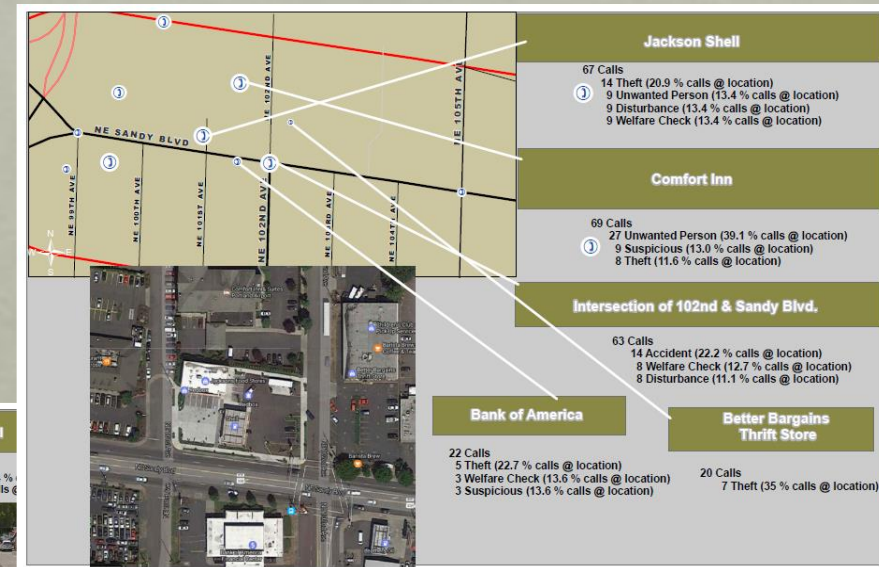
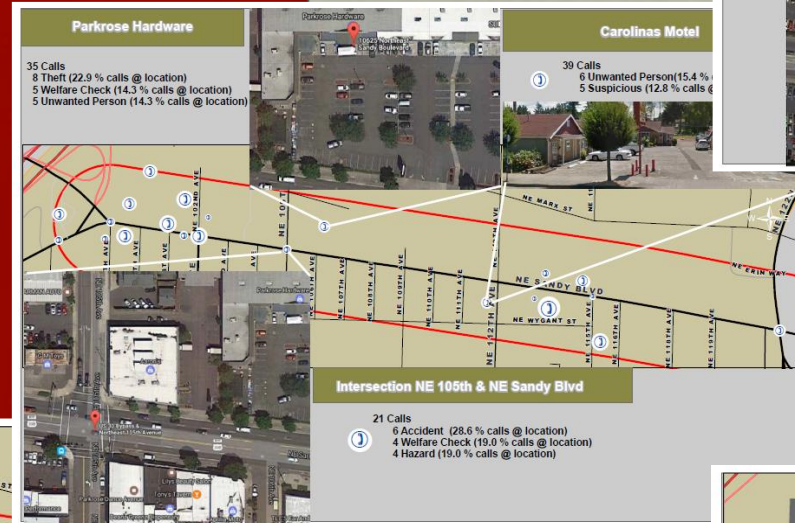
Overall, there was a high degree of consensus among respondents regarding the presence of public safety concerns in the corridor between NE Sandy Blvd. and NE Prescott (areas 7, 8, 9 and 10). Area 8 was identified as the location of "most concern" by 27% of the respondents, followed by area 9 (13%) and area 10 (12%).

# Times Selected	Ranking of Public Safety Concerns
212	Social disorder (e.g., noise, squatters, trespassing, panhandling, prostitution)
206	Property crimes (e.g., theft, burglary, car break-ins)
149	Drugs/alcohol (e.g., people using, selling in public)
105	Property maintenance (e.g., vacant buildings, unkempt yards, abandoned cars, garbage, graffiti)
71	Traffic offenses (e.g., speeding, failure to stop, aggressive driving)
56	Guns (e.g., shots fired/availability of guns)
44	Violent crime (e.g., assaults, robberies)
44	Other concerns (e.g., loose dogs, poor street lighting, lack of sidewalks, limited parking)
41	Gangs (e.g., gang activity, fighting)
15	Unsupervised youth (e.g., loitering, truancy)
11	Environmental hazards (e.g., lead, air quality)

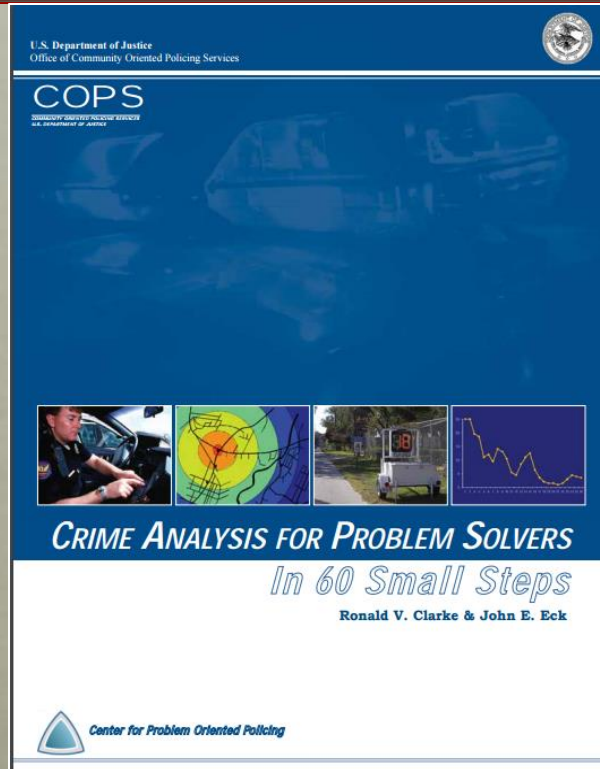
DIVING DEEPER INTO PROBLEM AREAS



AND DEEPER...

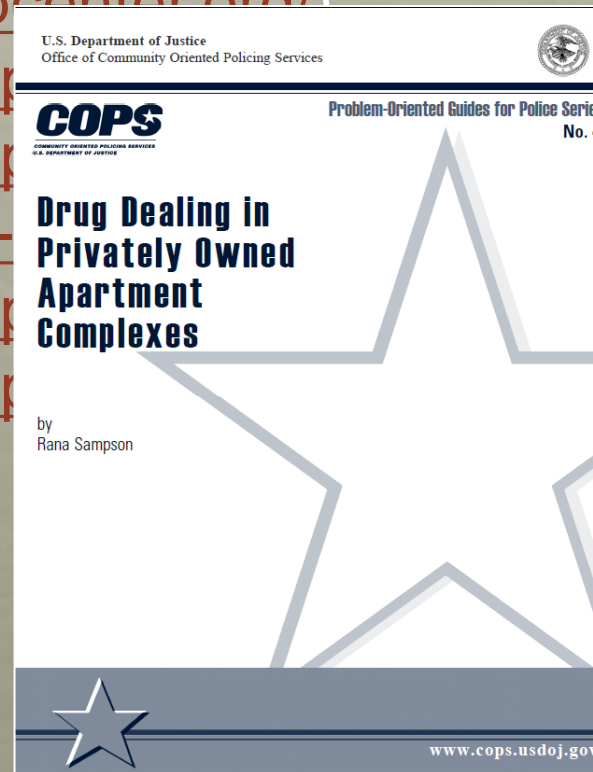


RESOURCES TO SUPPORT PROBLEM ANALYSIS

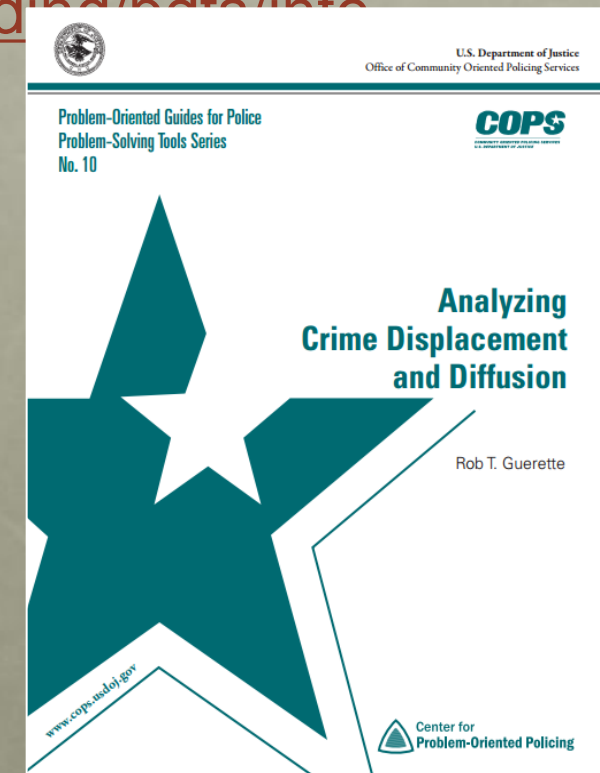


Problem Oriented Policing

copscenter.org/



60steps/reading/pdf/



THANK YOU

QUESTIONS? COMMENTS?

Julie Wartell

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