

INTRODUCTION TO PROBLEM ANALYSIS

Int'l Problem-Oriented Policing Conference

Ann Arbor, MI

April 2022

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

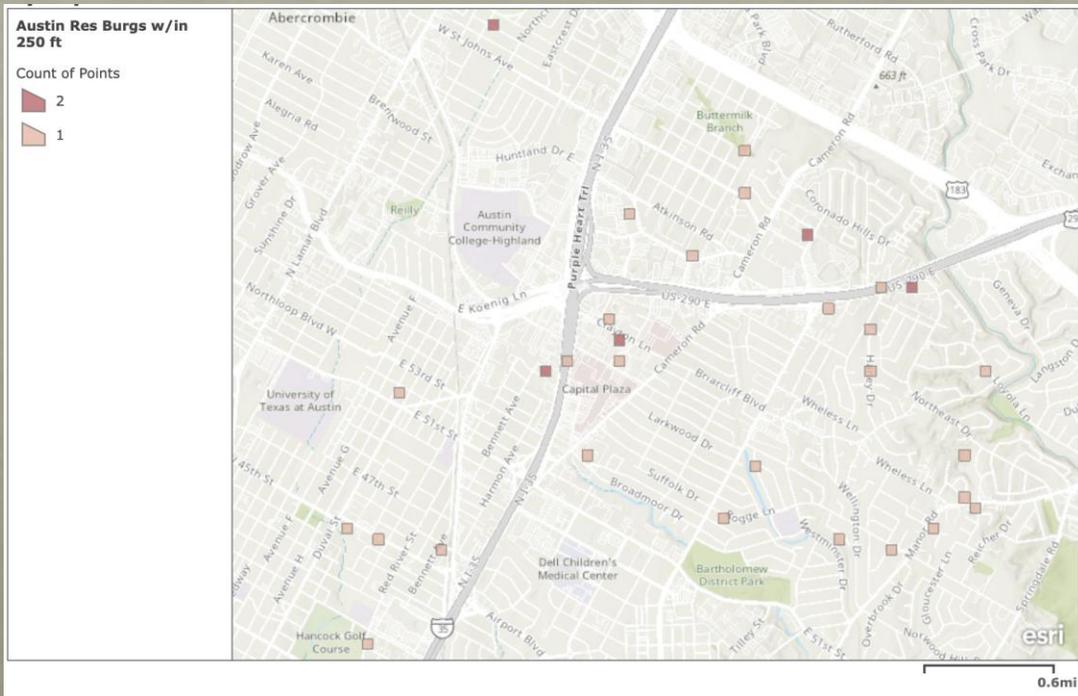
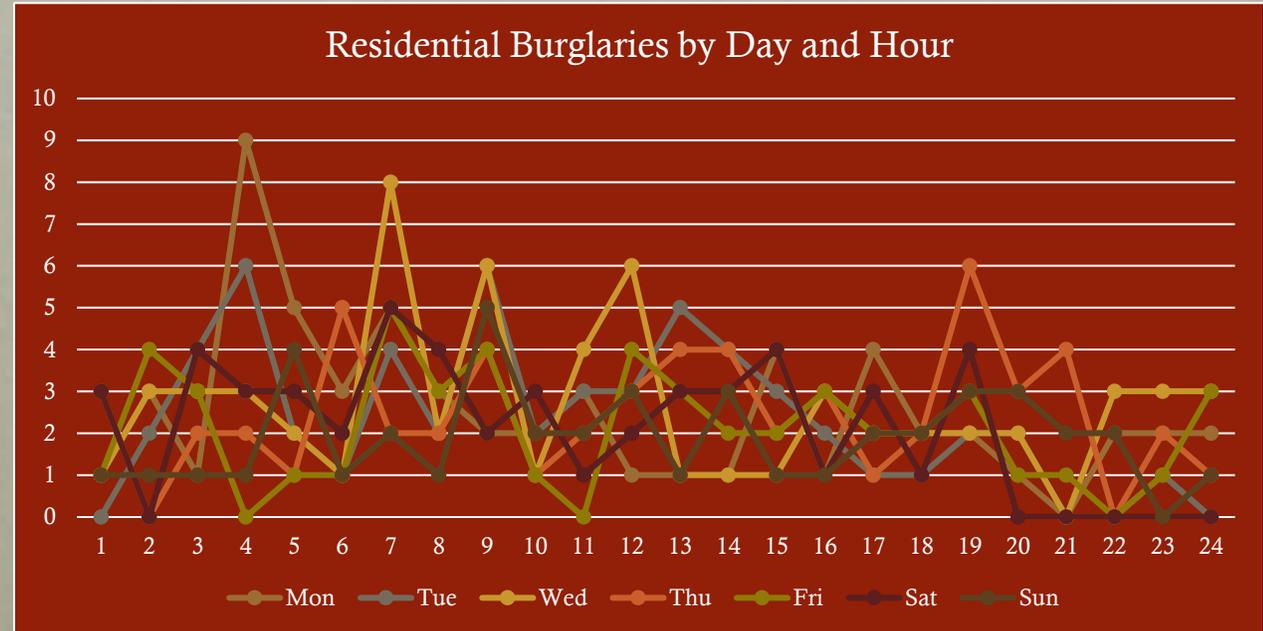
Police District	Jan	Feb	Mar	Apr	TOTAL
1	1,332	1,284	1,408	526	4,550
2	1,341	1,240	1,481	605	4,667
3	867	785	922	342	2,916
4	870	738	810	315	2,733
5	716	685	734	252	2,387
6	727	640	717	240	2,324
7	789	730	716	268	2,503
8	522	456	462	198	1,638
Grand Total	7,164	6,558	7,250	2,746	23,718

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



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?

- 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



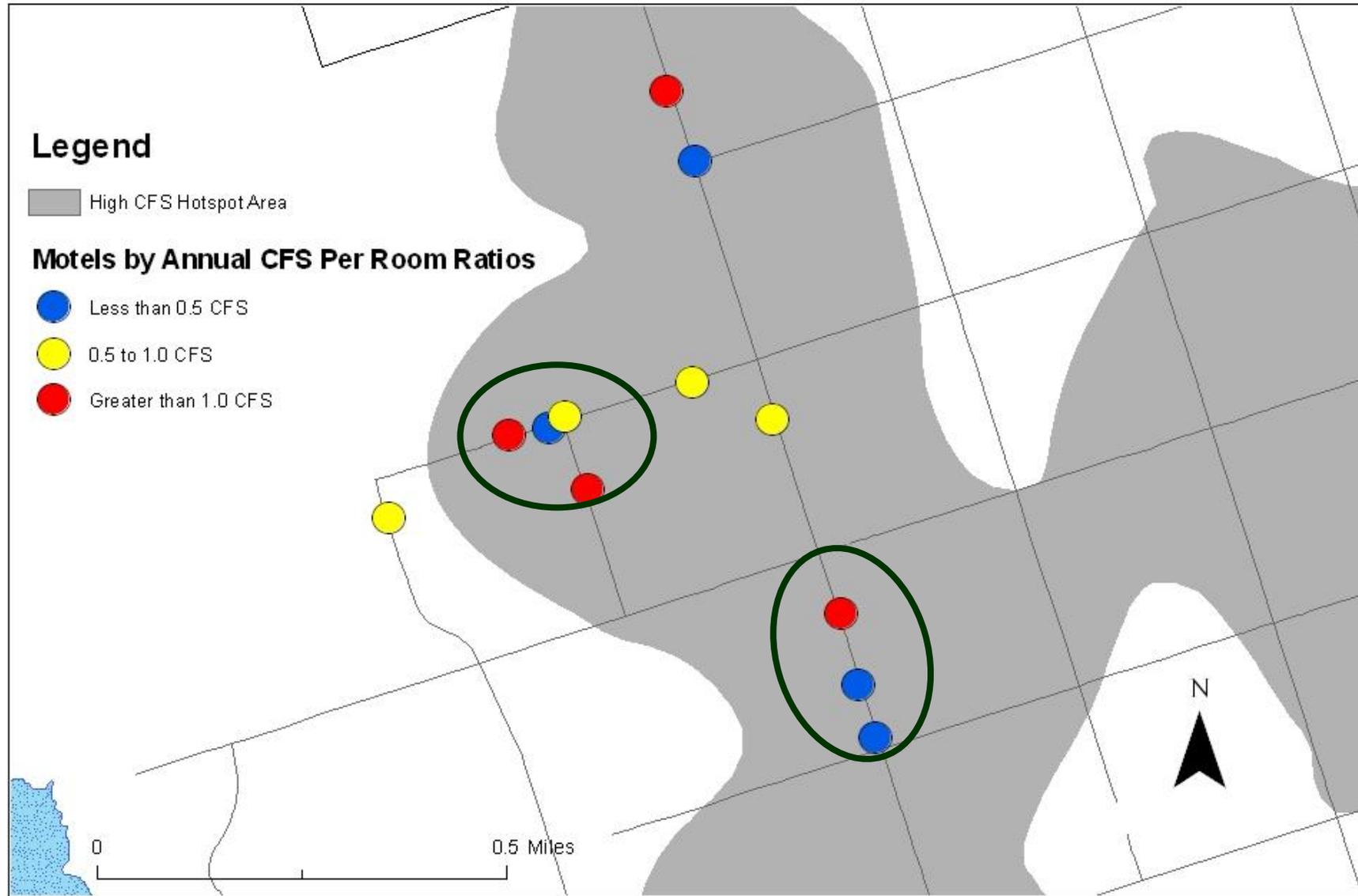
- Initial CFS analysis
- Observations
- Motel “user” surveys
- Manager interviews
- Environmental surveys
- Literature review/site visits
- Investigating causes

INVESTIGATING CAUSES

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



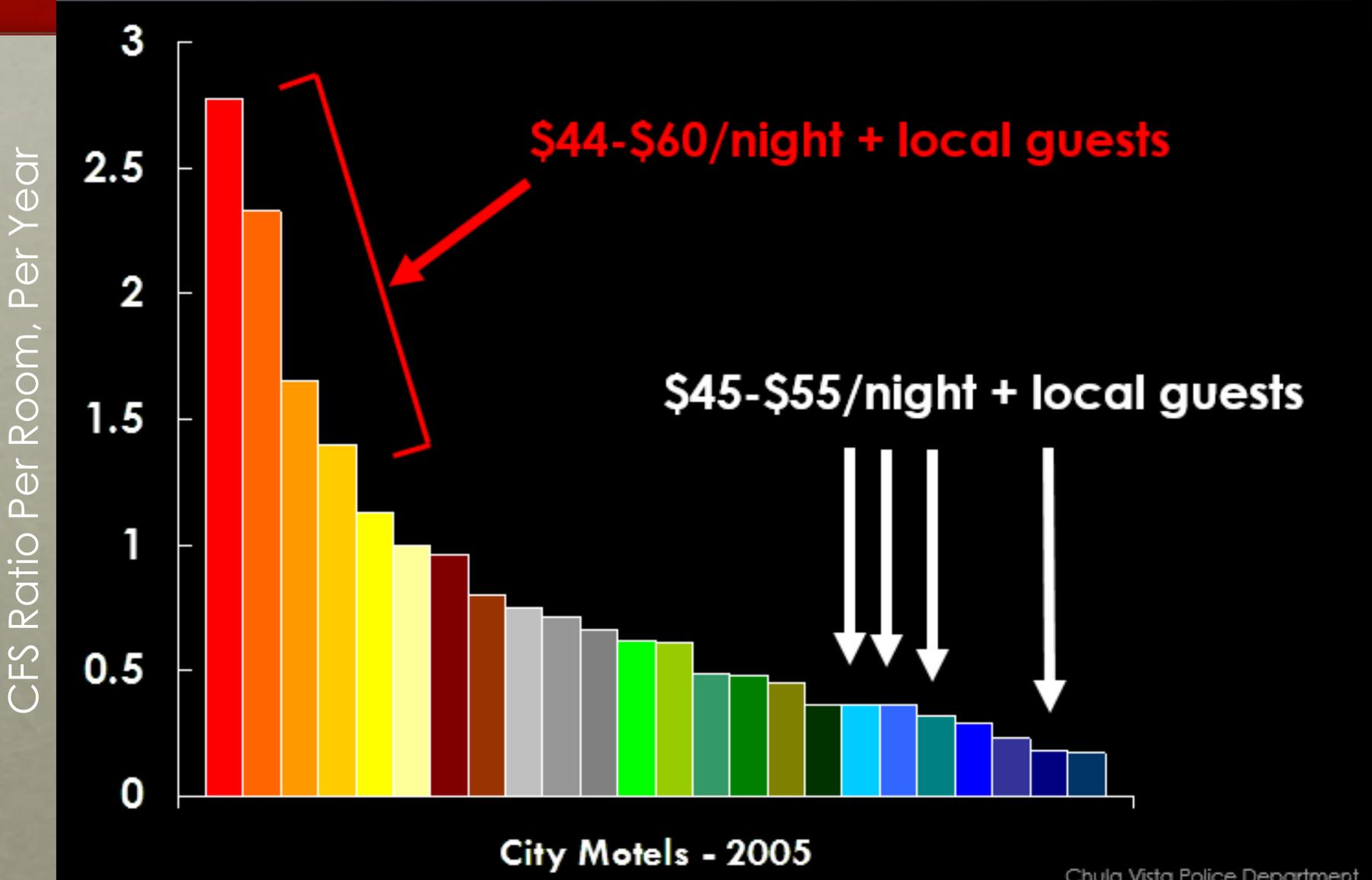
Northwest Chula Vista Motels and Hotels by Annual CFS Per Room Ratios: 2003



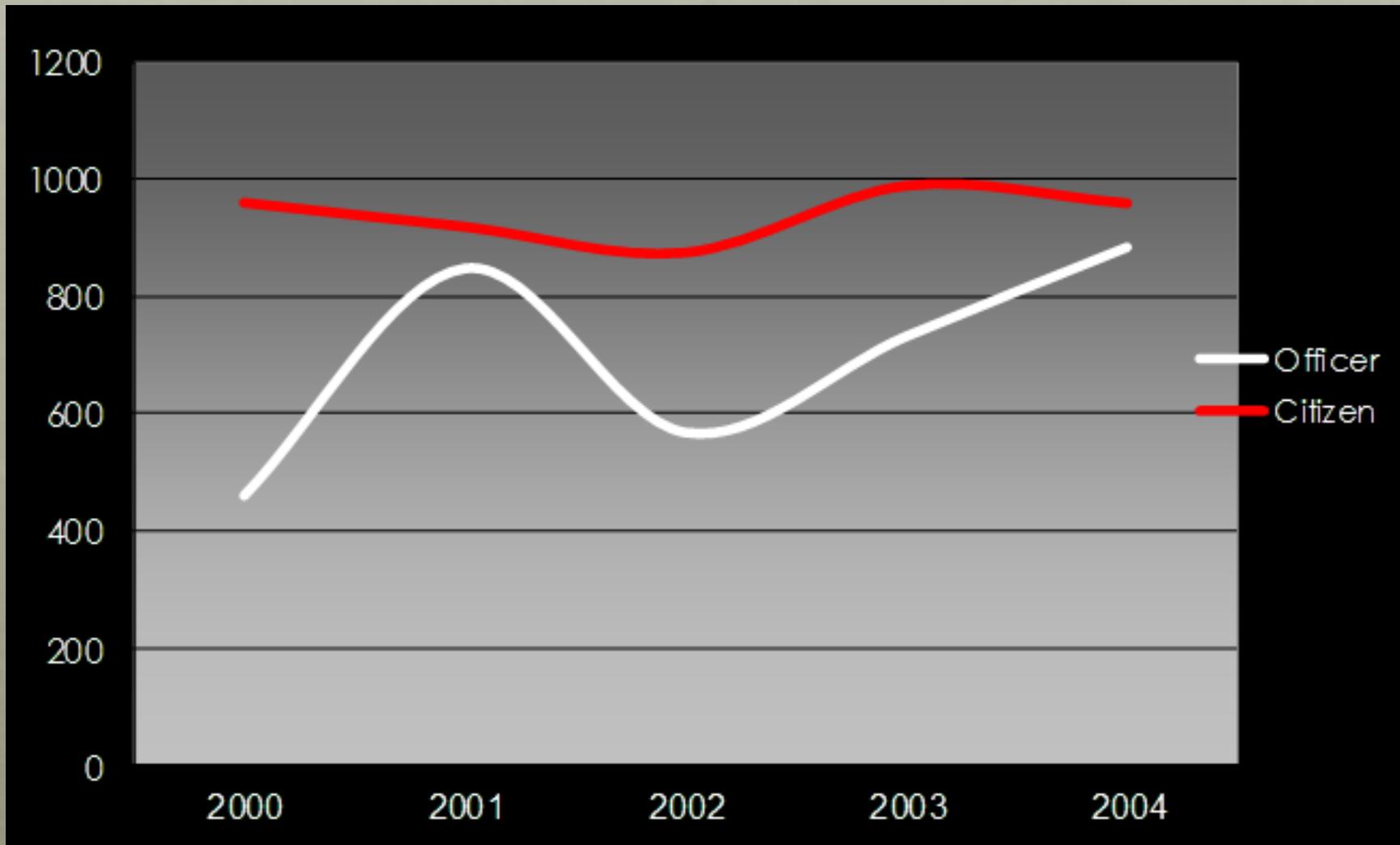
Prepared By:
CVPD Research & Analysis Unit (K. Schmerler)

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



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

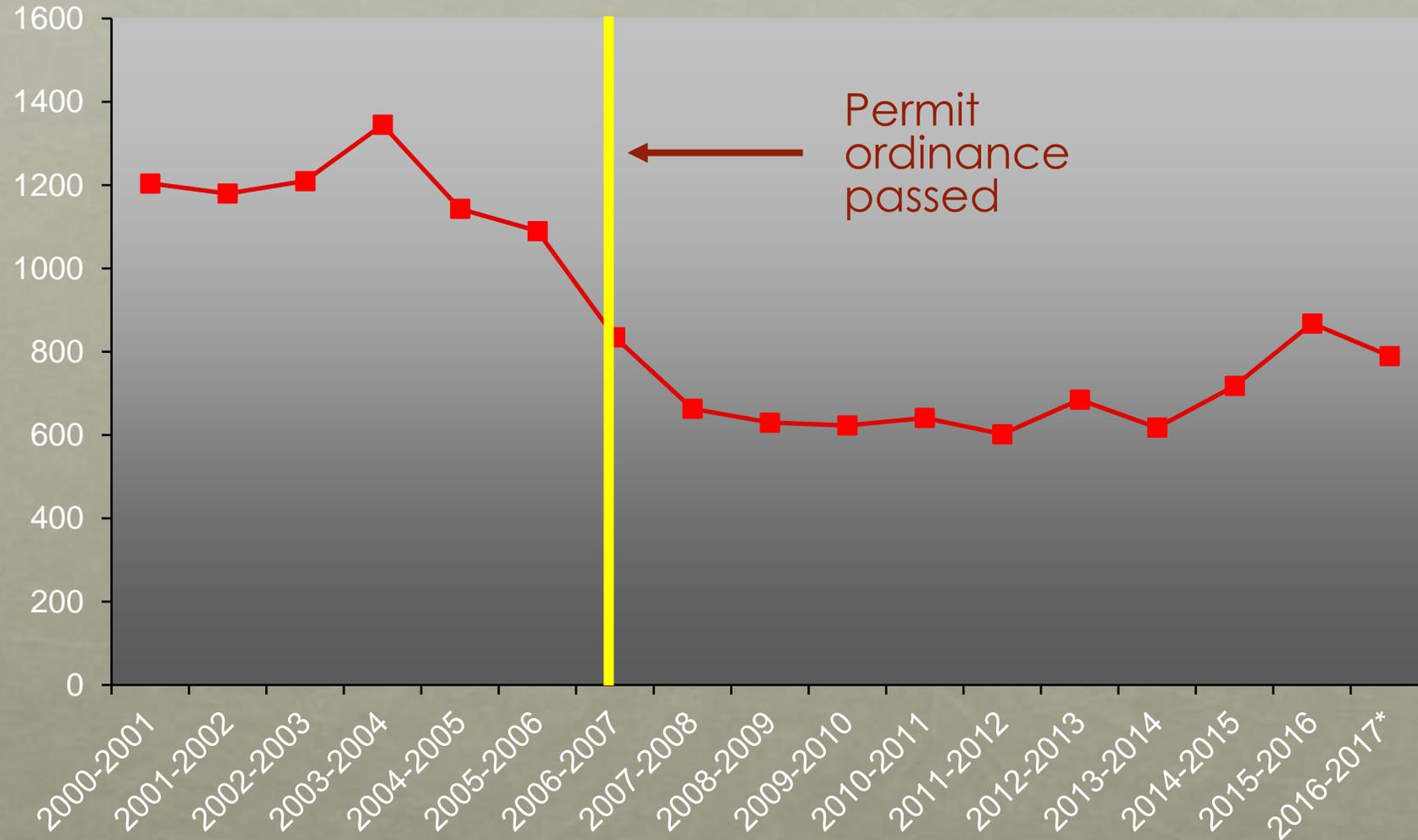


SHIFTED OWNERSHIP OF PROBLEM

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

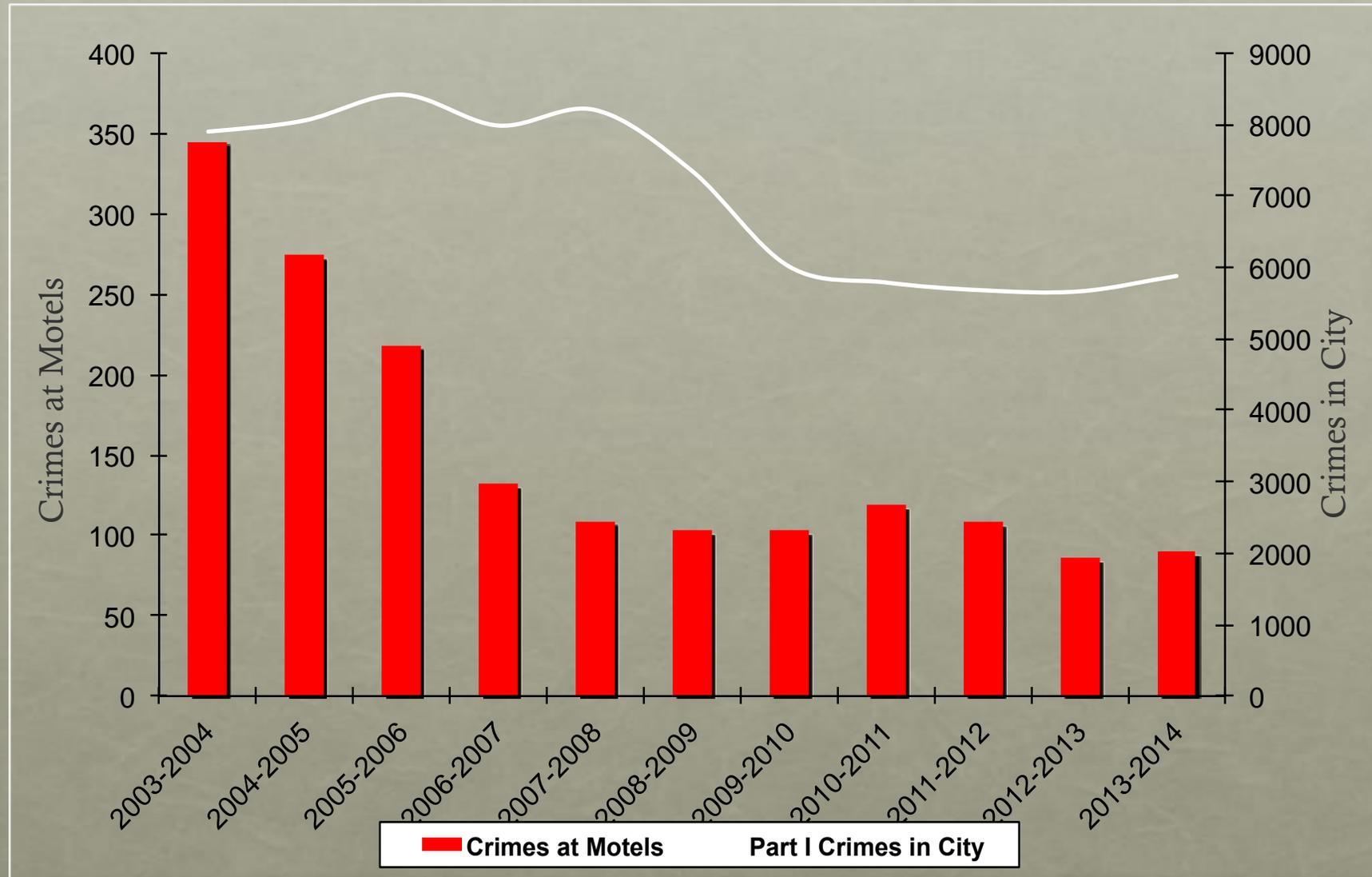


CFS TO MOTELS DOWN 41%



(Includes certain officer-initiated CFS, such as vehicle theft recoveries)

CRIMES AT MOTELS REDUCED 70%



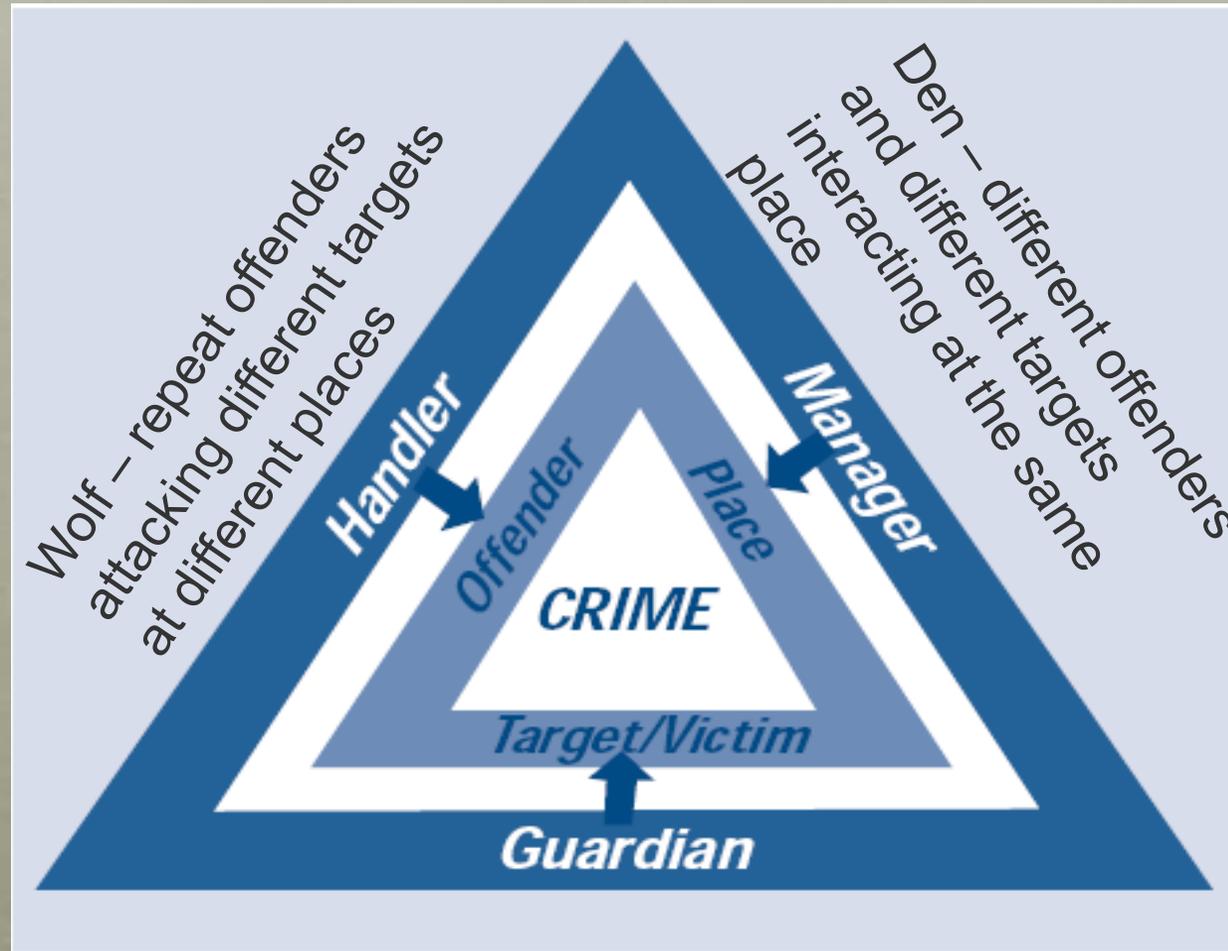
LET'S TALK ABOUT CRIME

- Why is it important to be specific?
 - Correctly identifying the problem
 - Asking the right questions
 - Having the most appropriate response strategies
- Don't settle for UCR categories!
 - ROBBERY: Common v. Street v. Bank
 - ASSAULT: DV v. Bar Fight v. Gang v. Intimidation
 - VEHICLE THEFT: Stealing v. Expanding v. Insurance Fraud



**UCR
Categories**

CRIME/PROBLEM ANALYSIS Δ



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 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

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?

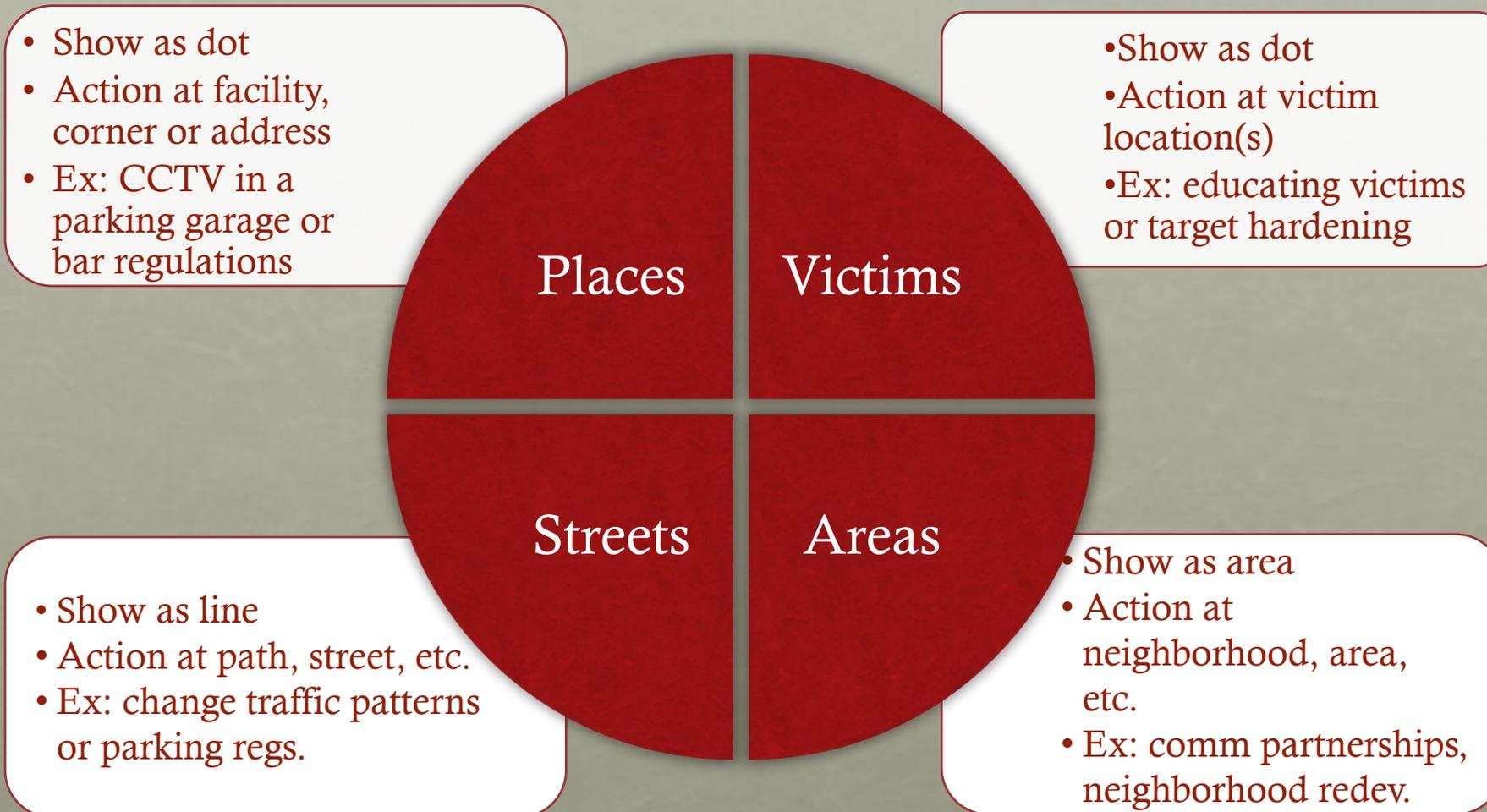
Crime Attractors

- 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

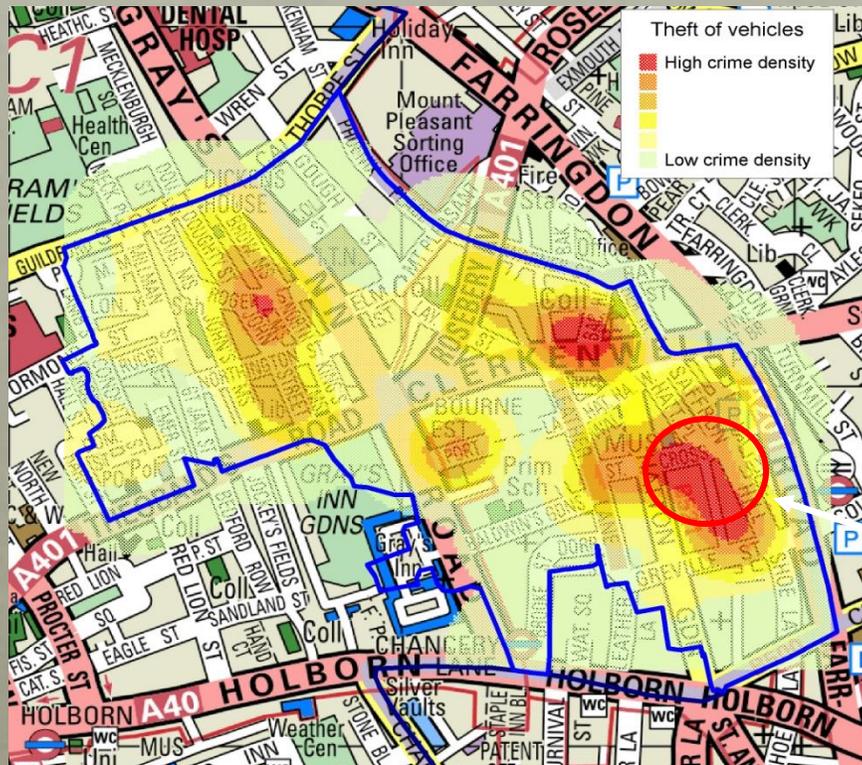
- Situations when there is little regulation of behavior at places: rules of conduct are absent or not enforced
- CAUSE: Erosion of controls
- Who could control behavior and how can this be encouraged

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



From wheredunit to whodunnit

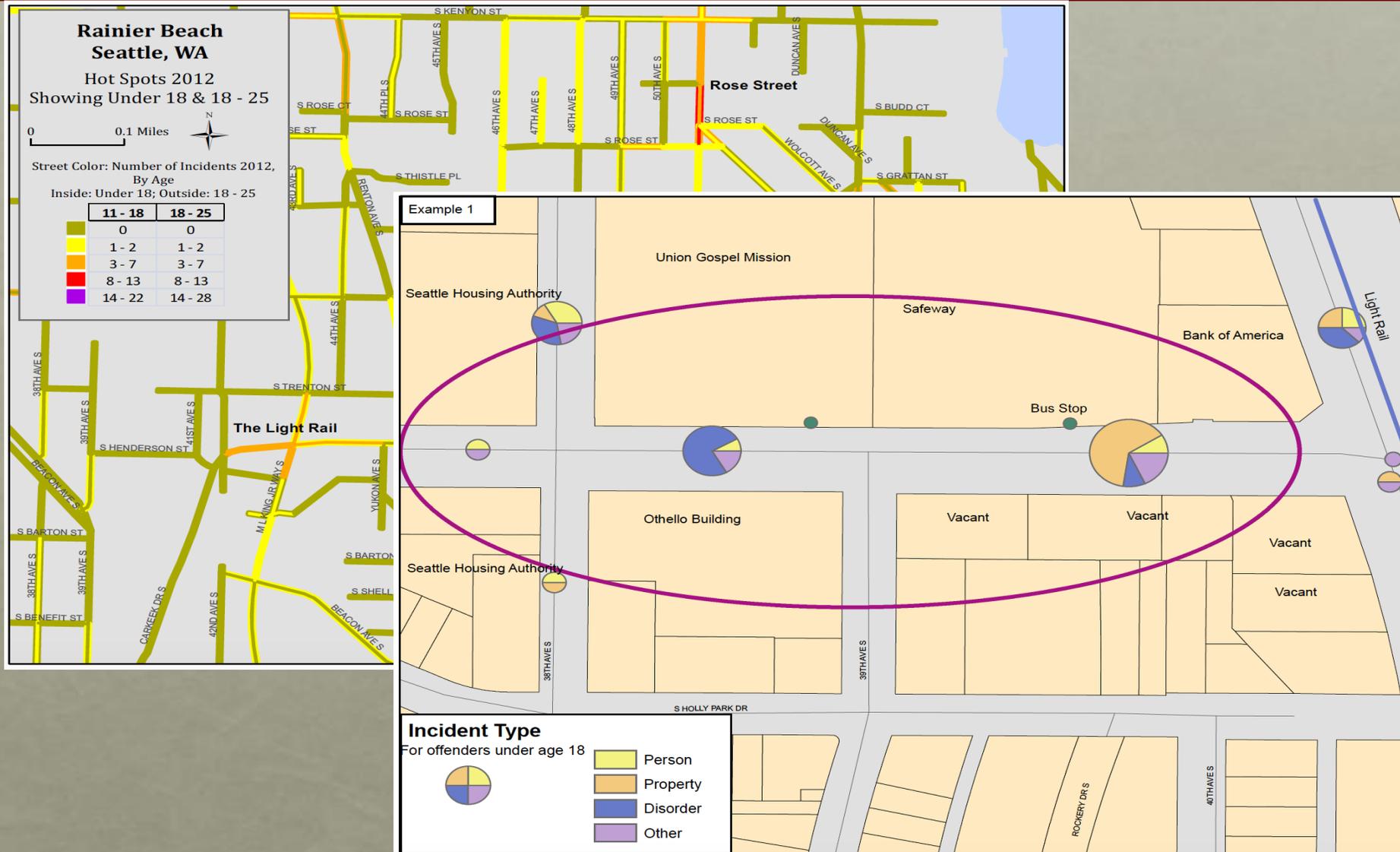
Vehicle type	Camden	Clerkenwell (n)	Clerkenwell(%)
Car	51%	41	18%
Sports or convertible	3%	5	2%
Scooter or moped	26%	95	42%
Motor cycle	13%	70	31%
Van	5%	3	1%
Other	2.0%	10	4%
Not known	0.5%	0	0%



ANALYZING “HOT” PLACES



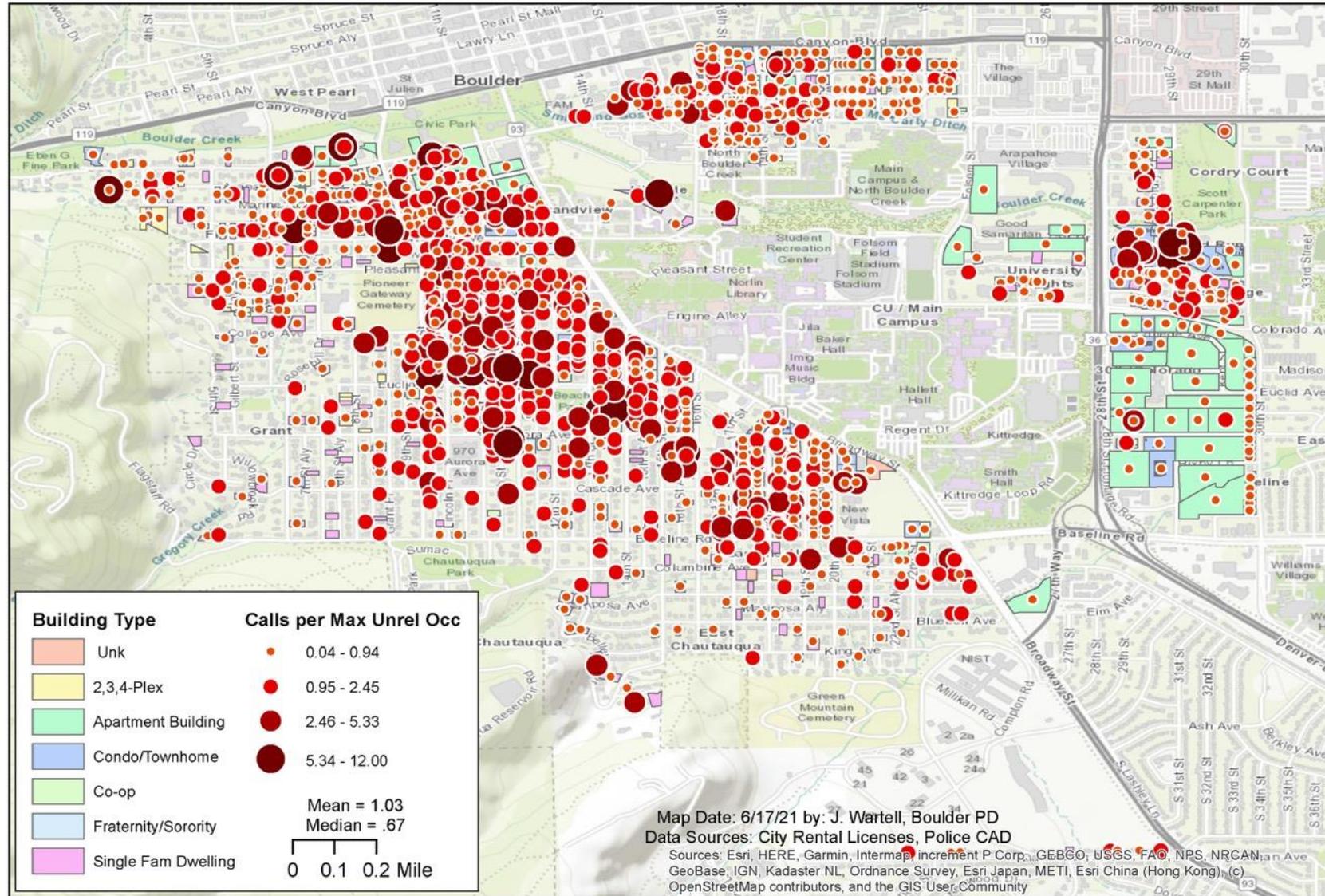
ANALYZING "HOT" PLACES



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

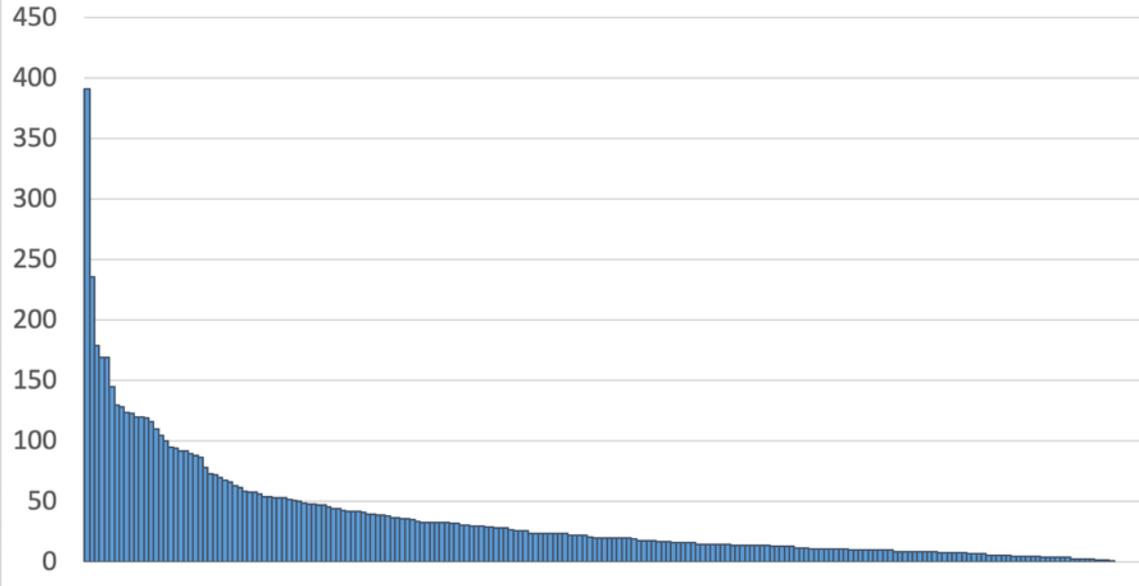
- BPD received **18,415** calls for service to UAH rental properties between January 2018 and April 2021.

Calls for Service & University Area Rental Properties
Jan 2018 - Apr 2021



Apartments (n = 215)

Calls for Service
Jan 2018 - Apr 2021

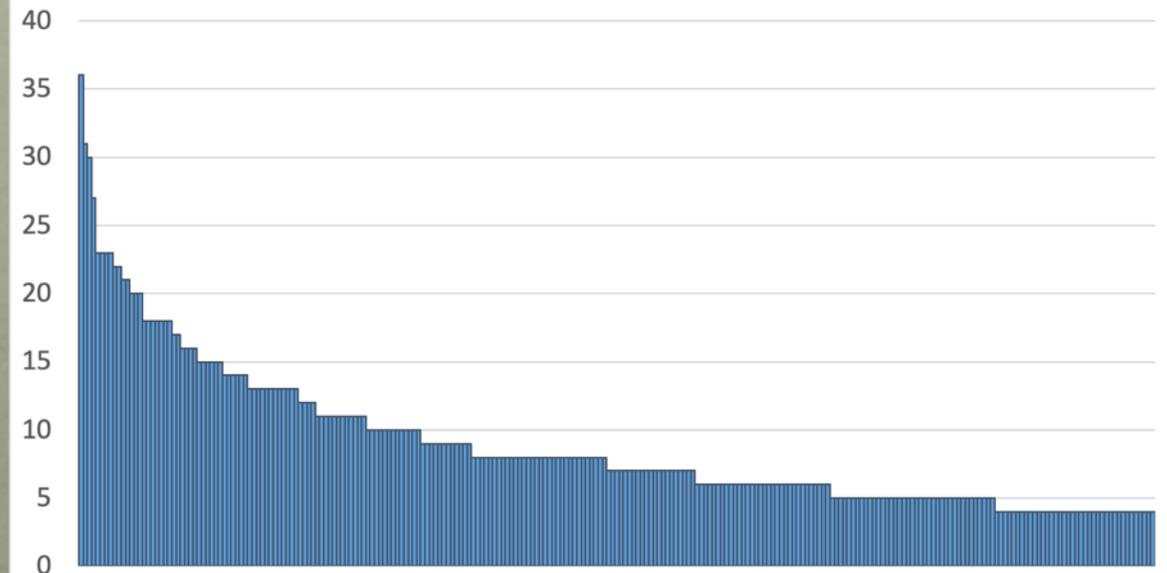


There were 7,522 calls for service to 215 Apartment Complexes (top 20% = 57.5%).

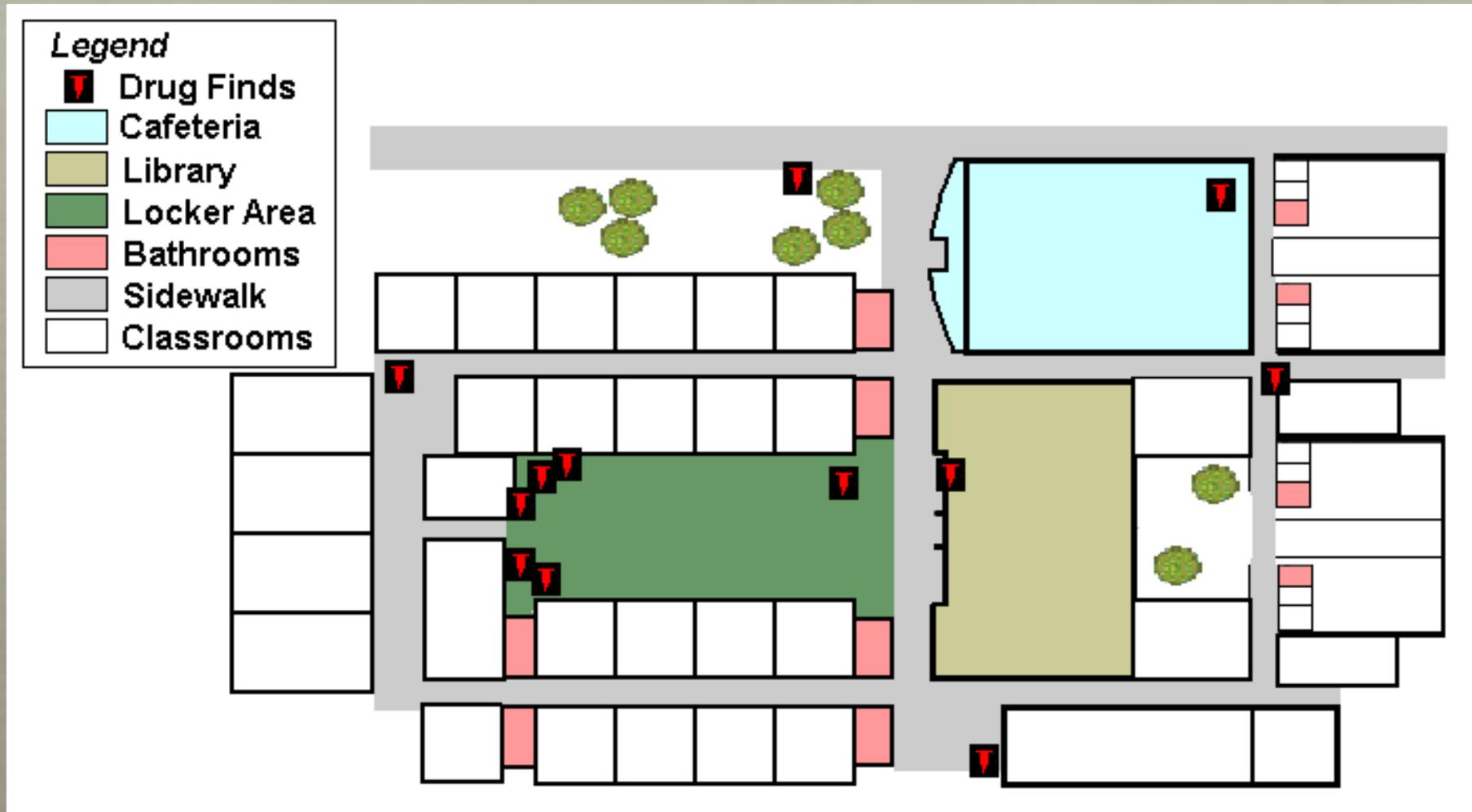
There were 2,811 calls for service to 602 Single Family Dwellings (top 20% = 55.4%).

Single Family Dwelling (n = top 255 of 602)

Calls for Service
Jan 2018 - Apr 2021

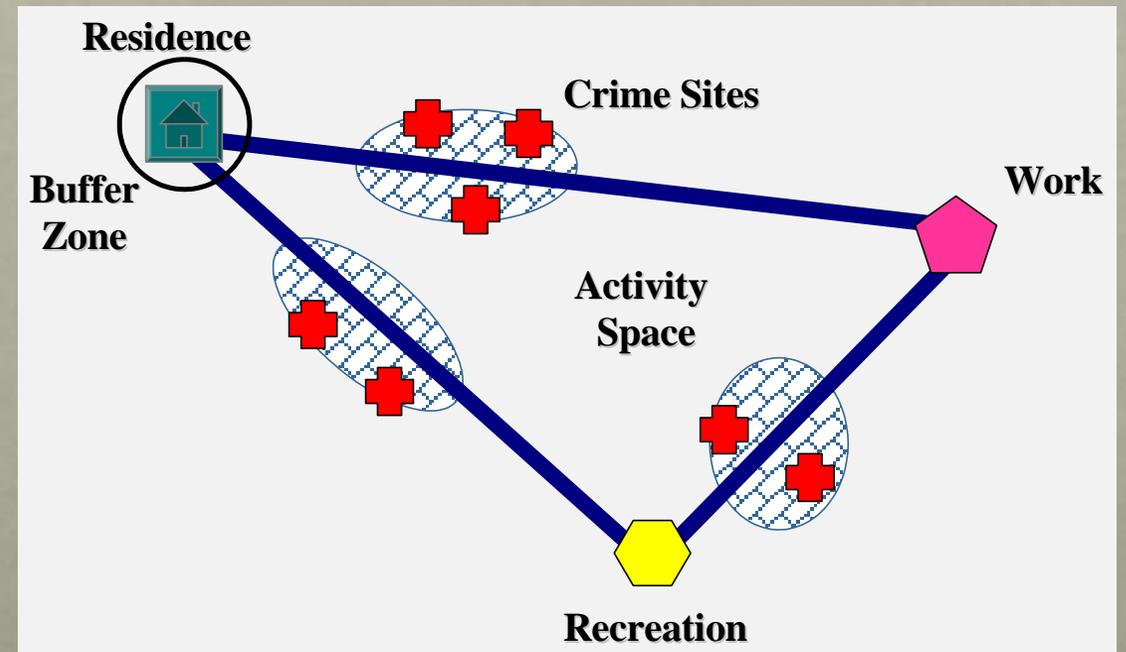


USING HIGH DEF MAPS



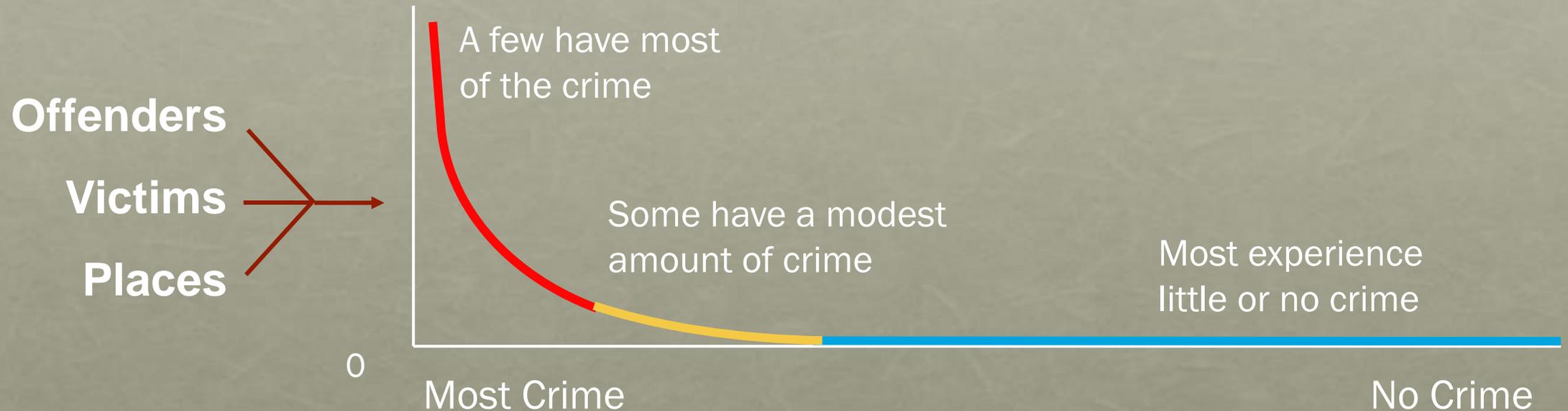
STUDY THE JOURNEY TO CRIME

- 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.

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 correct denominator!
- Emphasis on high numbers or rates?

COMPARING RISK RATES

■ Which lot is riskier to park in?

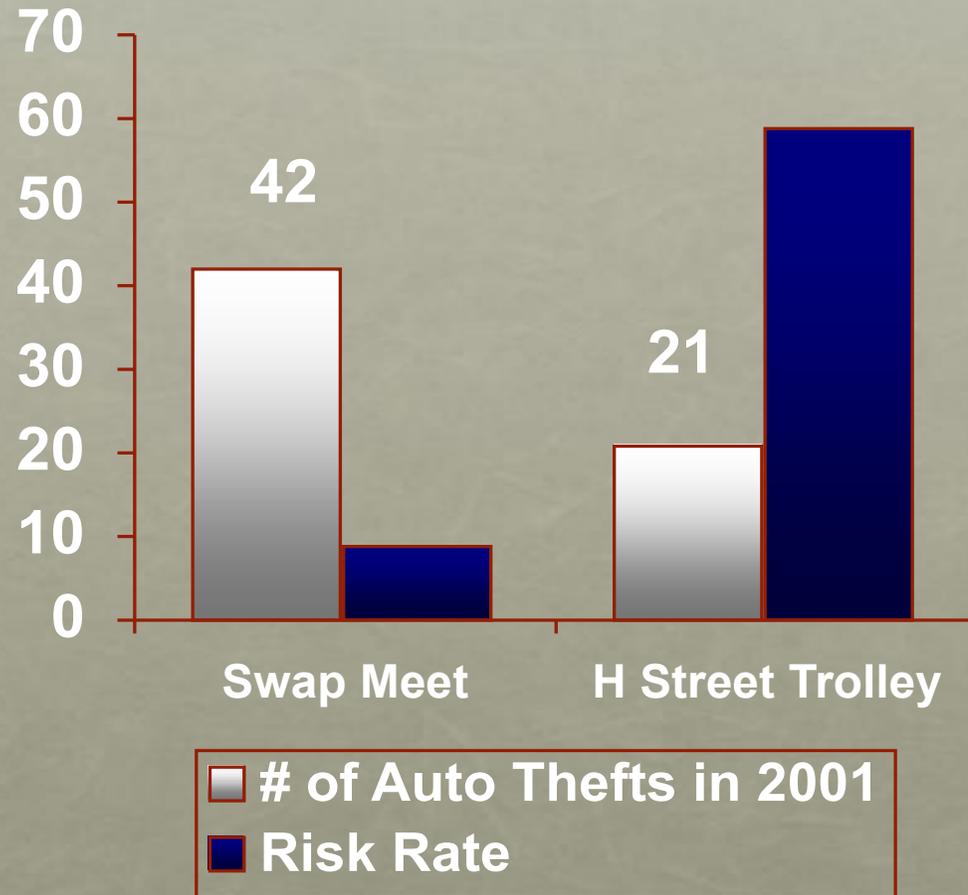
■ *Swap meet*

- 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

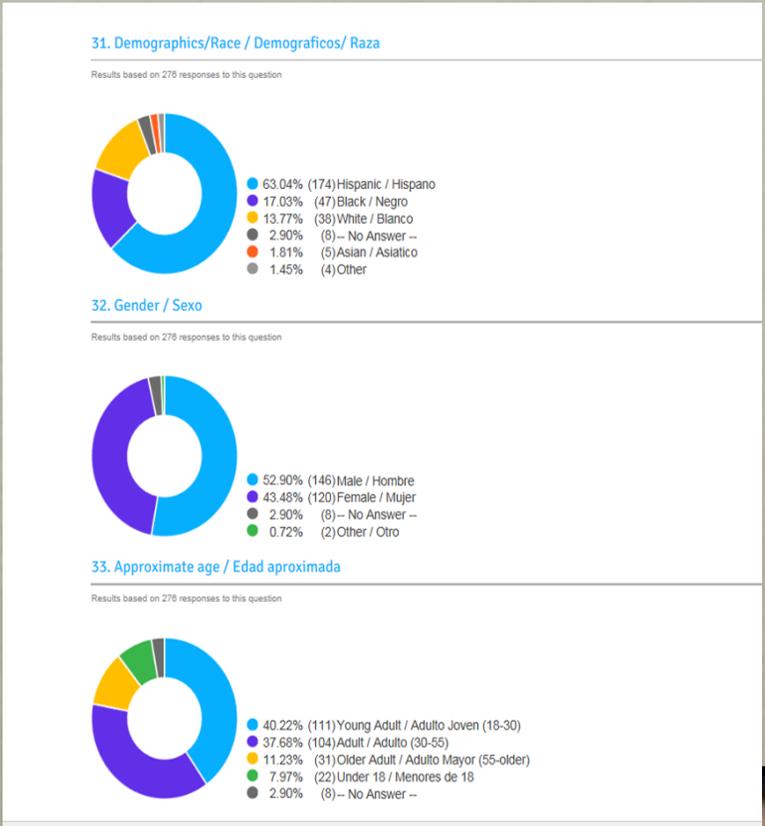
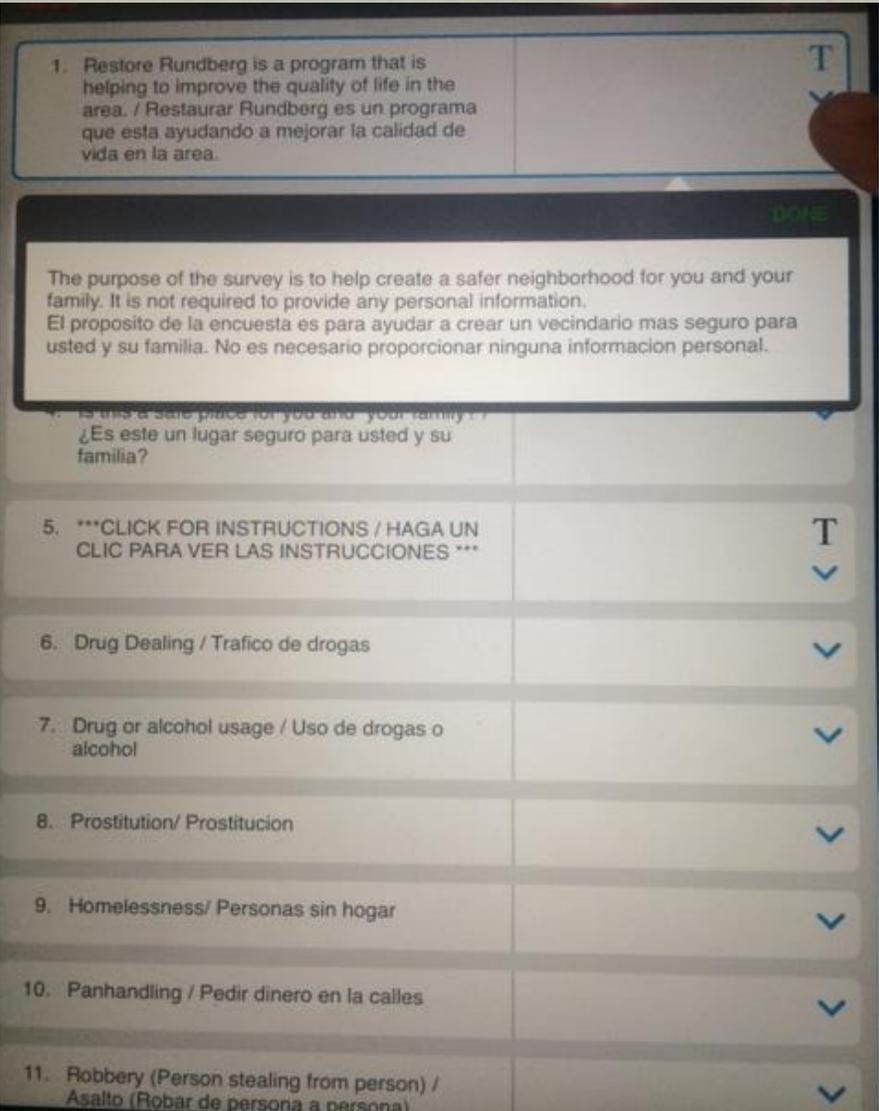


DON'T BE DISCOURAGED BY DISPLACEMENT DOOMSTERS

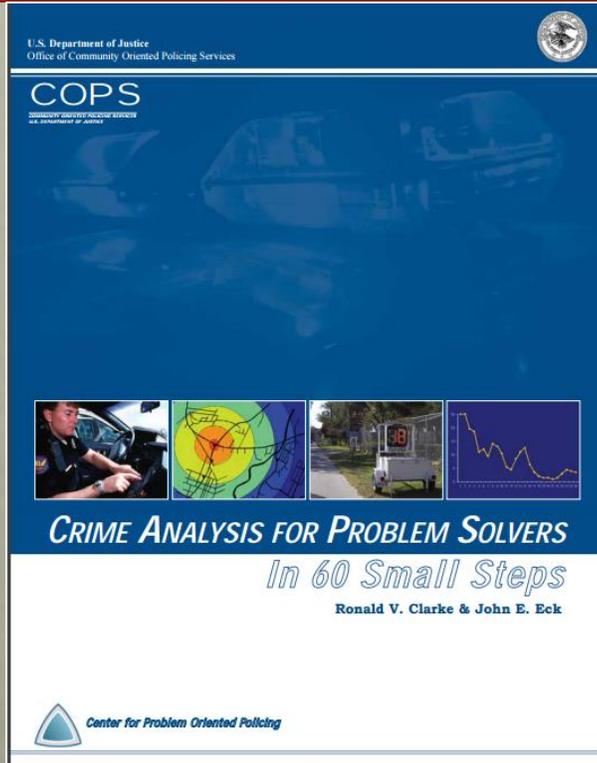
- Geographical
 - Crime moves to a different place
- Temporal
 - Crime moves to a different time
- Target
 - Changes from 1 target to another
- Tactical
 - A new method of committing the crime occurs
- Crime Type
 - A different crime occurs

COLLECT YOUR OWN DATA

Visual assessments	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

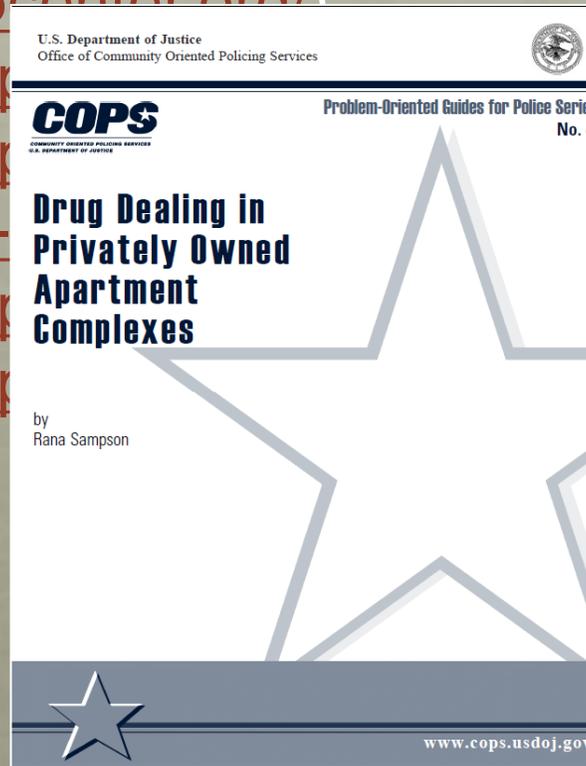


RESOURCES TO SUPPORT PROBLEM ANALYSIS

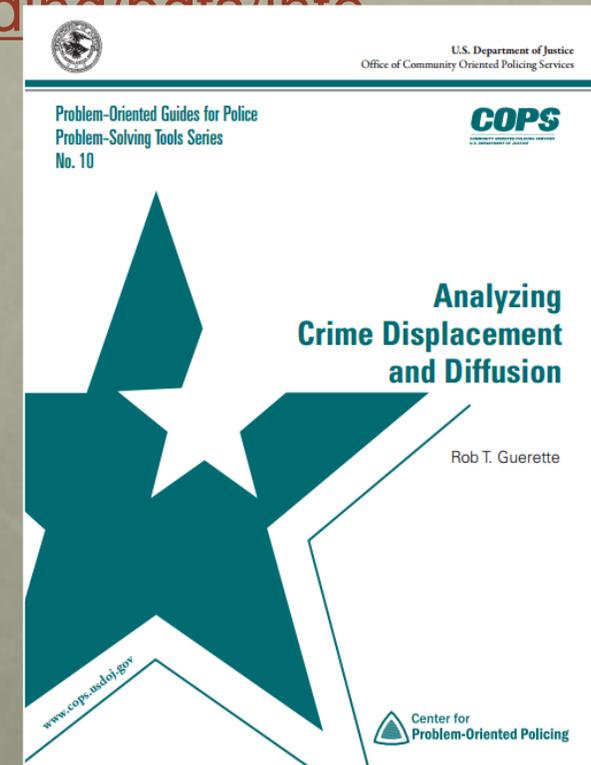


Problem Oriented Policing

center.org/



60steps/adding/pdf/into



THANK YOU.

QUESTIONS? COMMENTS?

- Julie Wartell

- julie.wartell@att.net

- Ray Kianes

- ray.kianes@rayberttechnologies.com