



# Crime Analysis for Smart Policing

Julie Wartell - SPI Subject Matter Expert and Crime Analyst for San Diego

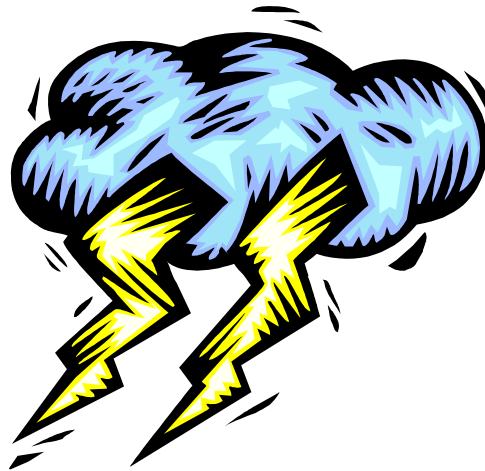
March 29, 2012

This project was supported by Grant No. 2009-DG-BX-K021 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

# Crime Analysis for Smart Policing

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

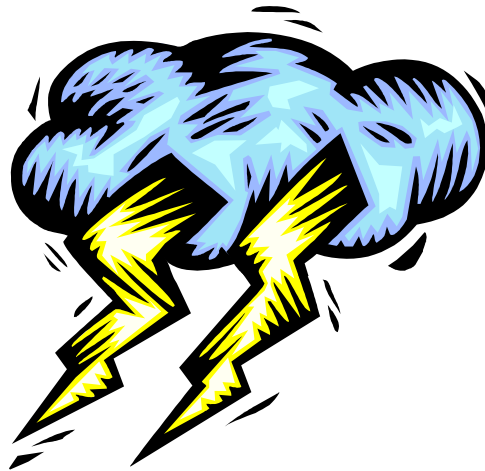
- A) within 24 hours
- B) 2 to 7 days
- C) 1 to 2 months
- D) 4 to 6 months



# Crime Analysis for Smart Policing

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- B) 2 to 7 days
- C) 1 to 2 months
- D) 4 to 6 months



**C) 1 to 2 months**

# One Burglary Victimization Increases the 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

# One Burglary Victimization Increases the Risk of Future Events

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- 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.**

# Learning Objectives

- Understand the various types of crime analysis and where Smart Policing fits
- Know the benefits and ways of partnering between the analyst and the external researcher
- Identify crime analysis resources available through SPI

# Opportunities for Crime Analysis in SPI

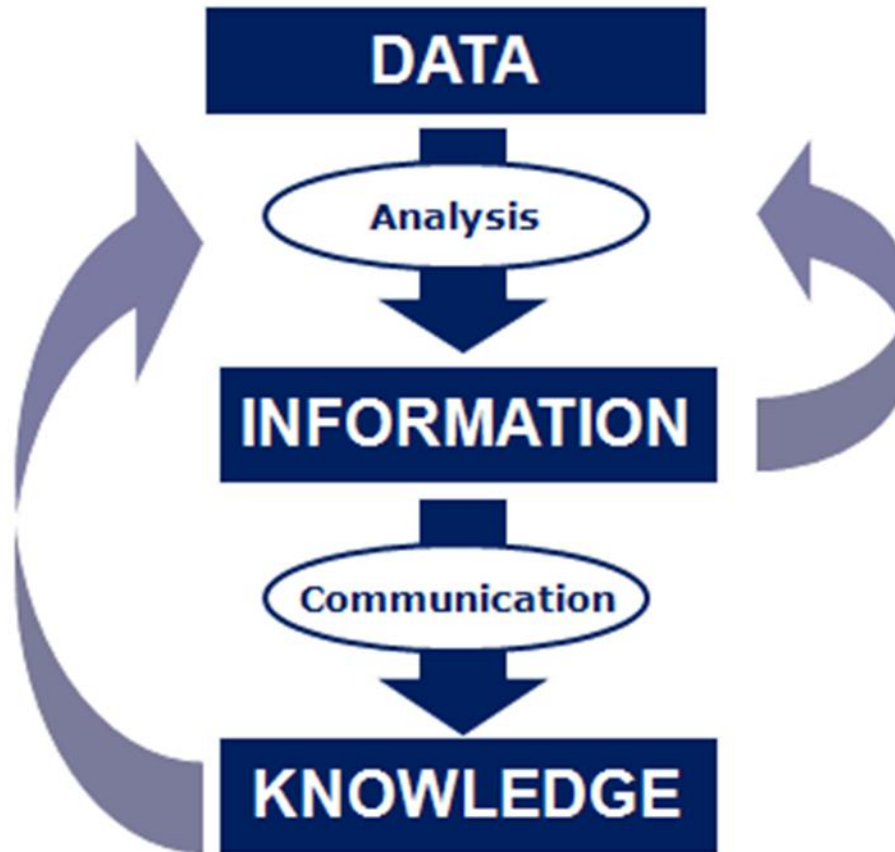
- What is Crime Analysis
- Defining the Problem
- Working with the external researcher

# What is Crime Analysis

- Administrative, Tactical and Strategic/Problem Solving
- Forecasting and predictive analysis
- Real-time crime analysis and intelligence-led policing



# Transition from Data to Knowledge



Source: IACA *Exploring Crime Analysis*, page 8.

# Administrative Analysis

- Statistical reports, research, and other projects not focused on the reduction or elimination of a pattern or trend

# Administrative Analysis



## UCR Crimes by GeoArea

### Required Parameters

Reporting Period: Jan 2012  
Agency: SAN DIEGO

### Optional Parameters

Geographical Area: All Beats  
Group by: Agency Select by: Neighborhood

Prior Report Number: S1STA120

Neighborhood	---ROBBERY---				AGGRVD	VIOLENT	-----BURGLARY-----			---LARCENCY-THEFT---			M.VEH	PROPERTY	CRIME	CAR
	MURDER	RAPE	ARMED	ST/ ARM	ASAULT	CRM TL	RESID	NRESID	TOTAL	\$400+	<\$400	TOTAL	THEFT	CRM TL	IDX TL	PROWL
*****																
Agency = SAN DIEGO																
ADAMS NORTH	0	0	2	4	1	7	5	0	5	3	4	7	2	14	21	3
ALLIED GARDENS	0	0	1	0	2	3	0	1	1	3	2	5	0	6	9	4
ALTA VISTA	0	0	0	0	0	0	2	0	2	1	0	1	0	3	3	0
AZALEA/HOLLYWOOD PARK	0	0	0	1	2	3	0	0	0	0	1	1	5	6	9	1
BALBOA PARK	0	1	0	0	1	2	0	1	1	15	2	17	8	26	28	13
BARRIO LOGAN	0	0	0	1	2	3	1	0	1	5	4	9	6	16	19	3
BAY HO	0	0	0	0	0	0	2	4	6	7	5	12	2	20	20	9
BAY PARK	0	0	2	0	2	4	2	3	5	10	9	19	5	29	33	12
BAY TERRACES	0	0	0	5	12	17	4	4	8	1	6	7	8	23	40	5
BIRDLAND	0	0	0	0	0	0	1	2	3	4	3	7	2	12	12	5
BLACK MOUNTAIN RANCH	0	0	0	0	0	0	1	0	1	3	3	6	1	8	8	0
BORDER	0	0	0	0	2	2	0	0	0	0	0	0	1	1	3	0
BROADWAY HEIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BURLINGAME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

# Tactical Analysis

- Identification and analysis of emerging or existing crime patterns, including series and hot spots

# Tactical Analysis

Date: 06/06/11

Crime Analysis Unit  
Mike Winslow - Police Analyst  
(480) 312-8276  
[mwinslow@scottsdaleaz.gov](mailto:mwinslow@scottsdaleaz.gov)

## "BIG BOY" BANDIT ROBBERY SERIES

### OVERVIEW:

- ◆ Since April 1, 2010 there has been 14 robberies occurring at retail business and banks related to the "Big Boy" Bandit.
- ◆ Glendale, Phoenix and Scottsdale have all reported incidents in this series.

### MODUS OPERANDI:

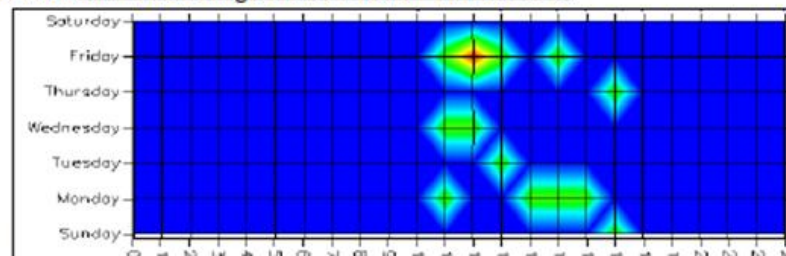
- ◆ The unknown male suspect enters the store or bank during business hours, displays a black handgun and demands cash.
- ◆ In the incidents occurring at retail businesses, the suspect often spends an extended time in the store and at times converses with employees before committing the robbery.
- ◆ In all of the retail business robberies, the suspect demands all of the cash from the register including any cash underneath the tray.
- ◆ As this series has progressed, the suspect has displayed more aggressive behavior. In the Phoenix incident on 5/16 (DR # 2011-xxxx) the suspect threatened the victim by stating he knew where she lived. In both bank robberies the suspect has either pointed the handgun directly at victims (Scottsdale DR# 11-xxxx), or orders the employees to the ground (Phoenix DR# 2011-xxxx).

### SUSPECT / INVESTIGATIVE LEAD / VEHICLE INFORMATION:

- ◆ Surveillance photos (see page 2) and witness statements describe the suspect as a W/M, 40-50 years old, 5'7"-5'9", heavy build, 200-230lbs, grey/salt and pepper hair, grey/salt and pepper goatee or 5 'o clock shadow.
- ◆ In 4 of the incidents, the suspect is seen wearing a shirt with the words "Big Boys and Their Toys" in red, green, and blue letters.
- ◆ The suspect's other clothing varies, but always includes a baseball hat (varied colors/types, some types include Ford Camouflage Hat, Light hat with Arizona on it, and AZ Cardinals Championship Hat) T-Shirt, and Blue Jeans. In the most recent incident (Scottsdale DR# 11-xxxx) the suspect covered his face with a blue bandana.
- ◆ In the most recent incident (DR# 2011-xxxx) a white truck was seen by a witness leaving the area. At this time, it is not known if the vehicle belonged to the suspect.

### TEMPORAL/PREDICTIVE ANALYSIS:

- ◆ Days vary throughout the week with **Monday and Friday** being the most frequent days (4 incidents each). Times range from 1100 - 1730 hours with **68% occurring between 1100 - 1500 hours.**
- ◆ The next predicted incident in the series is between **06/07/2011 - 06/10/2011** assuming the suspect continues to operate the same way as in the past.
- ◆ Please see the attached list and map for details of the specific incidents included in this analysis.





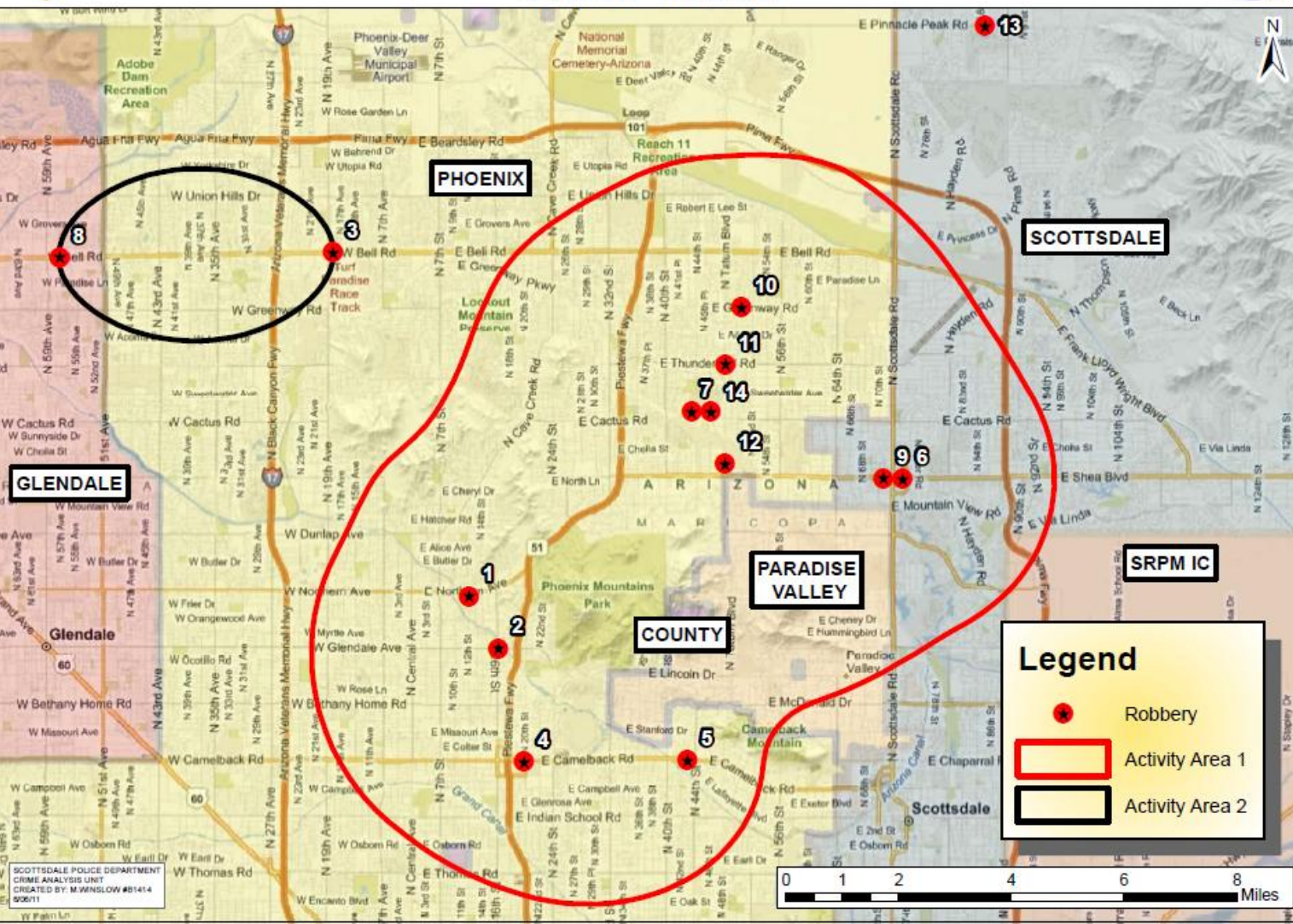
# Tactical Analysis

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## "BIG BOY" BANDIT ROBBERY SERIES

SCOTTSDALE POLICE DEPARTMENT  
"BIG BOY" BANDIT ROBBERY SERIES  
4/01/2011 - 6/02/2011



and banks related to the "Big

displays a black handgun and

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behavior. In the Phoenix incident  
new where she lived. In both  
s (Scottsdale DR# 11-xxxx), or

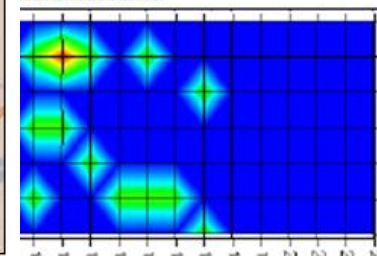
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Boys and Their Toys" in red,

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**1500 hours.**



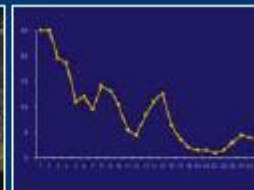
# Strategic/Problem Analysis

- Focuses on long-term trends or chronic problems in crime and disorder
- 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.



# COPS

COMMUNITY ORIENTED POLICING SERVICES  
U.S. DEPARTMENT OF JUSTICE



## ***CRIME ANALYSIS FOR PROBLEM SOLVERS***

### *In 60 Small Steps*

**Ronald V. Clarke & John E. Eck**

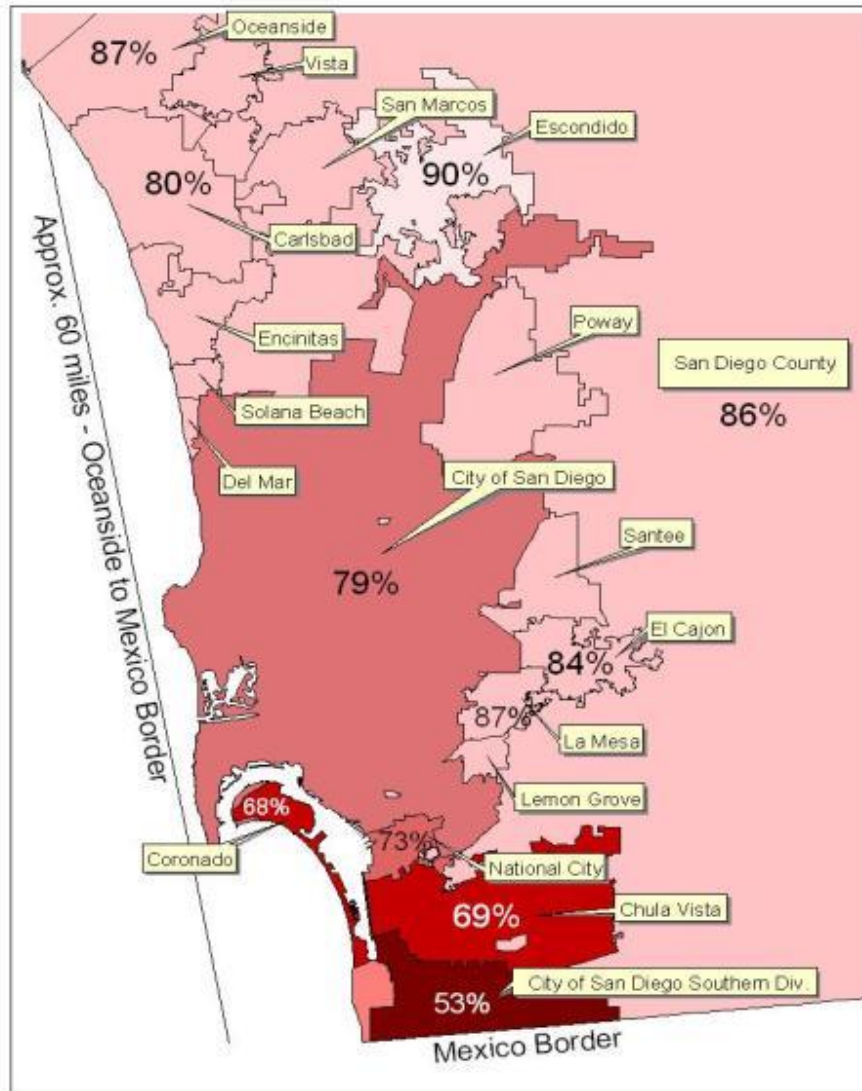


*Center for Problem Oriented Policing*

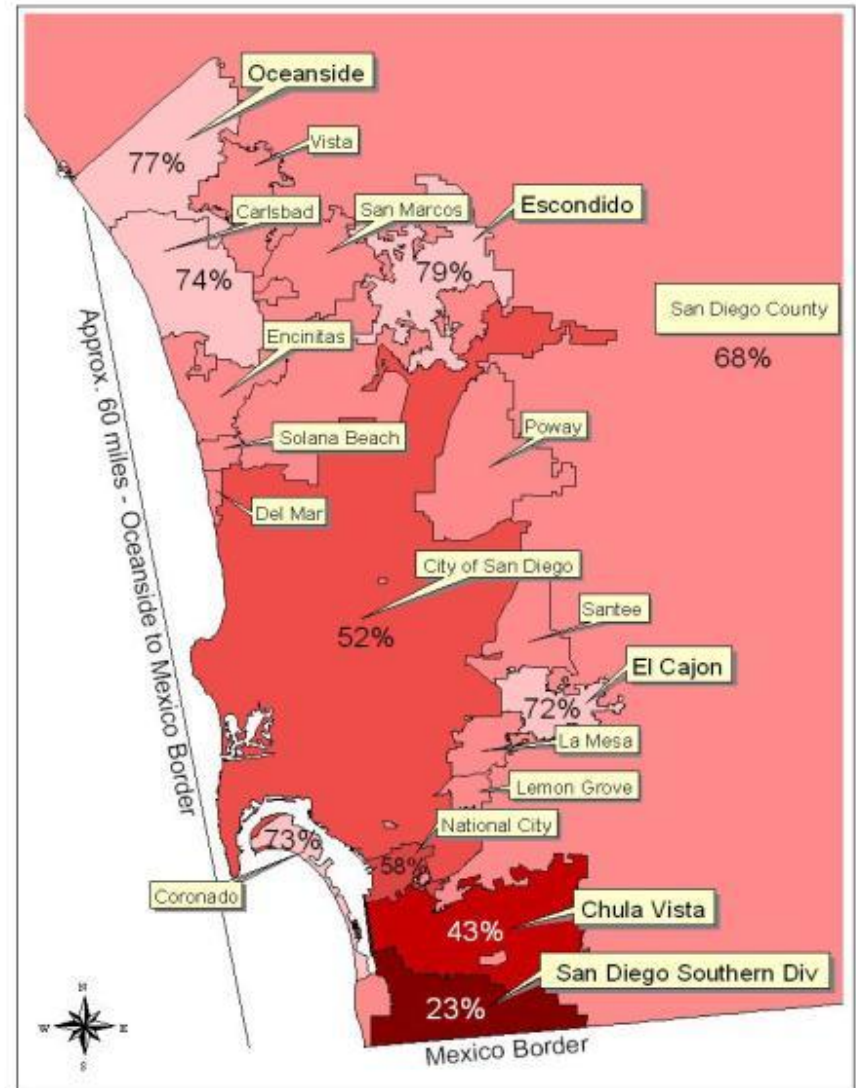


# San Diego County Recovery Rates

## Car Recovery Rates



## Truck Recovery Rates

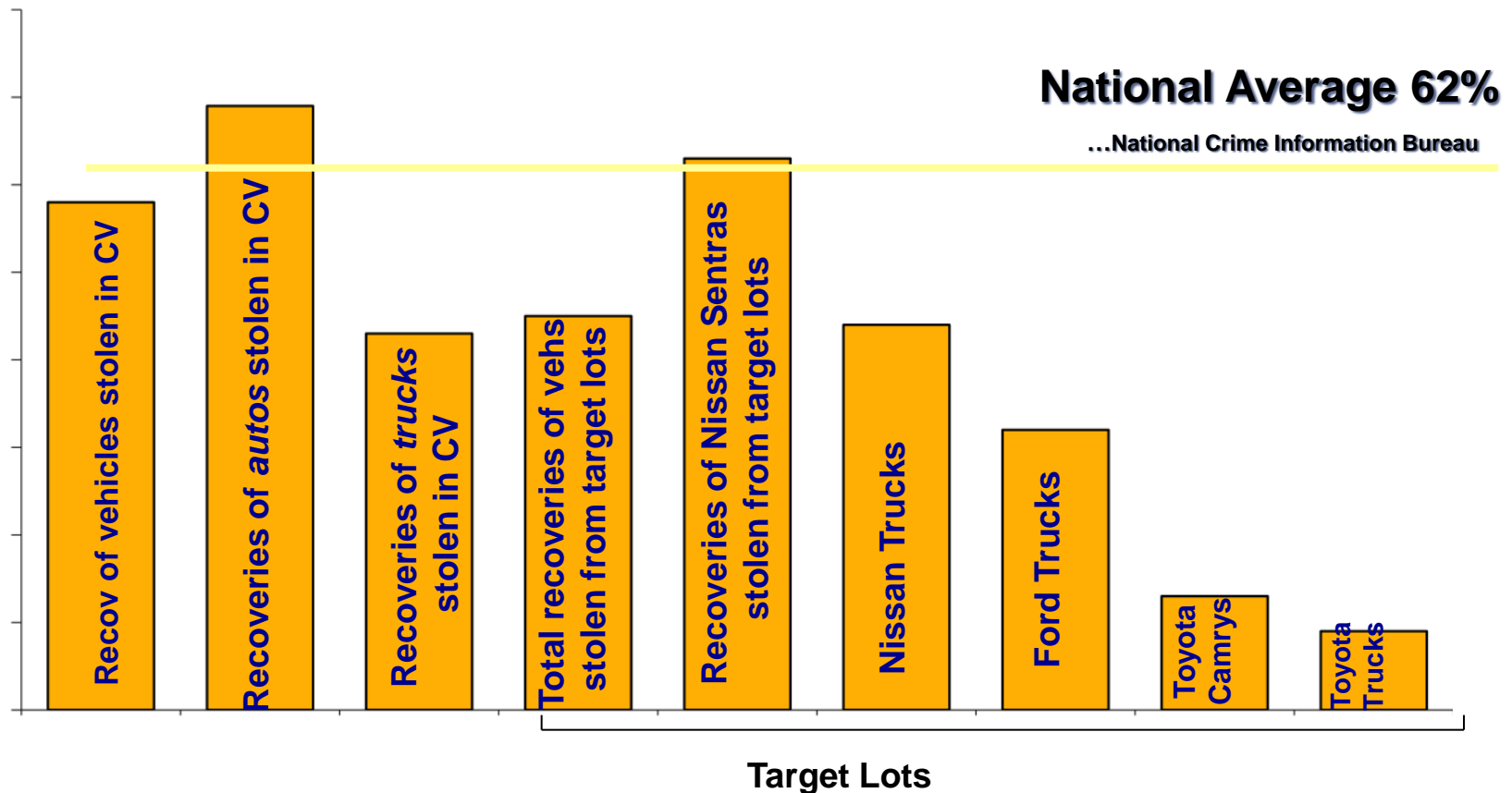


# STOP AND THINK

- How do the previous maps help us understand the “vehicle theft problem” in San Diego County?
- After seeing these, what are some other things you want to know? In other words, what further analysis should be done?



# Chula Vista Recovery Rates



(2001 data, including recoveries of C.V. stolen made by other agencies)

# Recent Applications of Crime Analysis

- Forecasting/Predictive
  - Using historical and contextual data to forecast where crime is most likely to happen
- Real-Time
  - Looking at current data and providing this information out to the field for decision-making
- Intelligence-Led
  - Combining “intelligence” (unofficial data) with traditional police data for more in-depth analysis of crime problems, offenders and places

# Defining the Problem

- Impossible without data and analysis!
  - Traditional sources
  - Non-traditional sources

# Problem Analysis Triangle



# Traditional Sources

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

# Collect your own data

- Visual assessments
- Environmental surveys
- Maps
- Time graphs
- Photos/video
- Intelligence info
- Police interviews
- Police records
- Stakeholder canvass
- Neighborhood surveys
- Business surveys
- Student surveys
- School personnel surveys
- Parent surveys
- Offender interviews
- Victim interviews

## Great Survey Resource:

[http://www.chulavistaca.gov/City\\_Services/Public\\_Safety/Police\\_Department/surveys/](http://www.chulavistaca.gov/City_Services/Public_Safety/Police_Department/surveys/)



# SPI Sites - Data Collection Examples

- Reno - **school-based survey** on effectiveness of rx drug abuse video & attitudes about rx drug use
- Winston-Salem - **community survey** on citizen perceptions of problems and police relations
- Lowell - **periodic surveys of officers** (to gauge integration of Smart Policing in the agency)
- Glendale - **CPTED surveys** (pre- and post-intervention)
- Glendale - **citizen survey** in problem apartment complex
- Palm Beach - documentation of types of assistance requested and provided for immigrant community
- Palm Beach - **community surveys** on trust in police (pre- and post-intervention, with comparison areas)
- Boston - tracking types of problem-solving initiatives undertaken, plus assessment of fidelity to SARA
- Memphis - **survey of police perceptions** about gangs in target area

# STOP AND THINK

- What types of data would you want to collect for your project that are not traditional sources?
- What method would you use to collect this data?



# Researching Your Problem

- Center for Problem-Oriented Policing  
<http://www.popcenter.org>
- Center for Evidence-Based Crime Policy  
<http://gemini.gmu.edu/cebcp>
- National Criminal Justice Reference Service  
<https://www.ncjrs.gov/>
- Jill Dando Institute of Crime Science  
<http://www.ucl.ac.uk/jdi/>
- UK Home Office - Crime Department  
<http://www.homeoffice.gov.uk/crime/>
- Crime-specific organizations

# Working with the External Researcher

- Developing short- and long-term outcome measures
- Helping identify comparison areas and groups for evaluation purposes
- Developing data for cost-benefit analysis

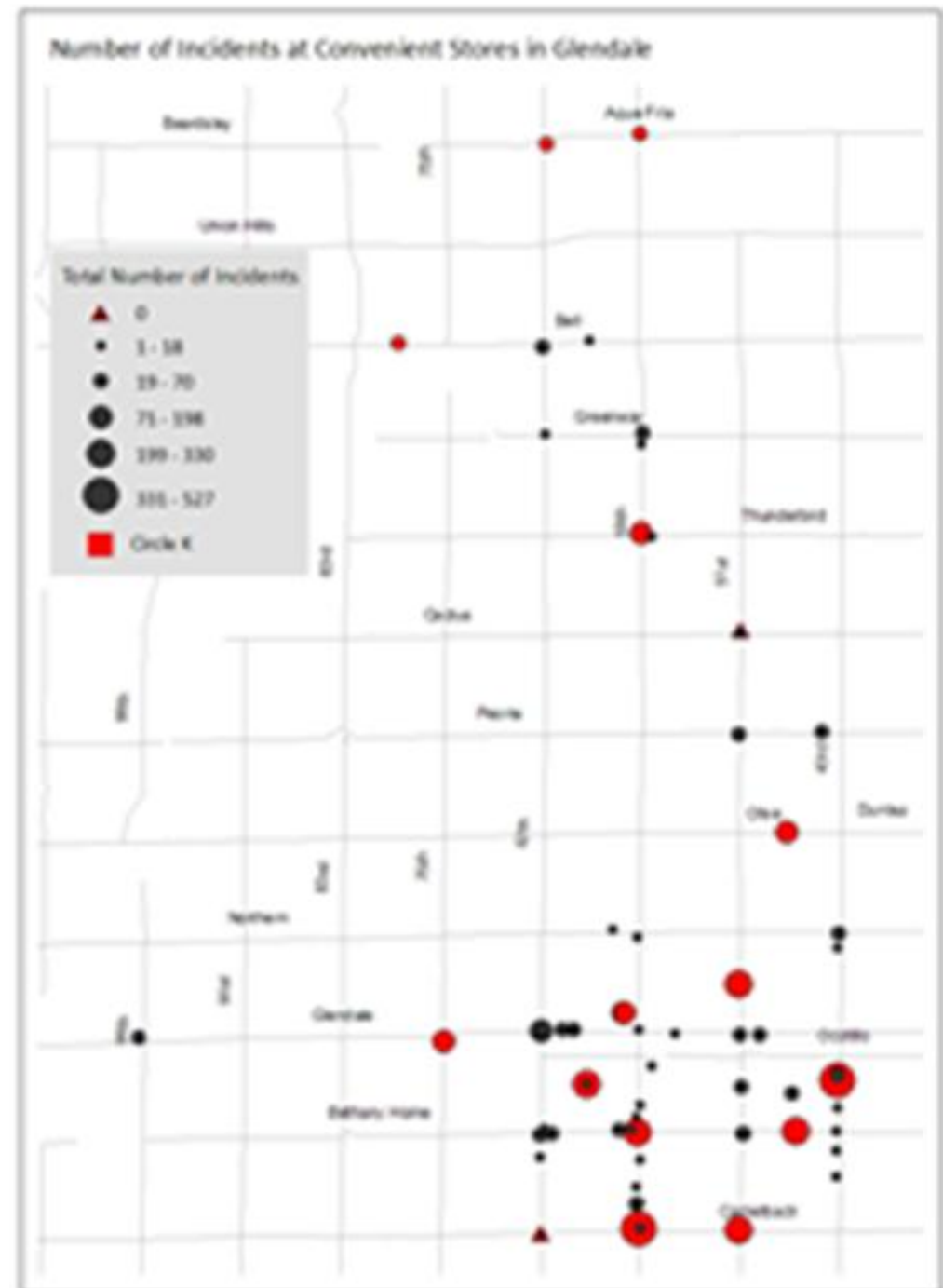
# Making the Most of Your Crime Analysis Resources

1. Include crime analysis in SPI meetings, training sessions, and planning sessions
2. Dedicate crime analysis resources to SPI
3. Provide training to crime analysts where needed
4. Consider TA for crime analysis pertaining to SPI
5. Consider crime analysts the bridge between the researchers and the officers
6. Use analysts to support the officers

# SPI Crime Analysis Examples

- Glendale
- Memphis
- Los Angeles
- Baltimore

# Glendale



# Glendale

Number of Incidents at Convenient Stores in Glendale



## Average Monthly CFS Year Before SPI and During SPI

Store location	8/09-7/10	8/10-7/11	% Change
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### SPI stores

❖ 4306 W Maryland	47.8 (574)	38.8 (465)	-9
❖ 5880 W Camelback	43.4 (521)	44.3 (532)	--
❖ 5907 W Bethany Home	44.2 (530)	17.9 (215)	-26
❖ 5102 W Camelback	30.4 (365)	21.1 (253)	-9
❖ 7428 N 51st Ave	20.3 (243)	24.1 (289)	+4
❖ 4648 W Bethany Home	21.0 (252)	20.8 (249)	--

### Non-SPI Circle Ks

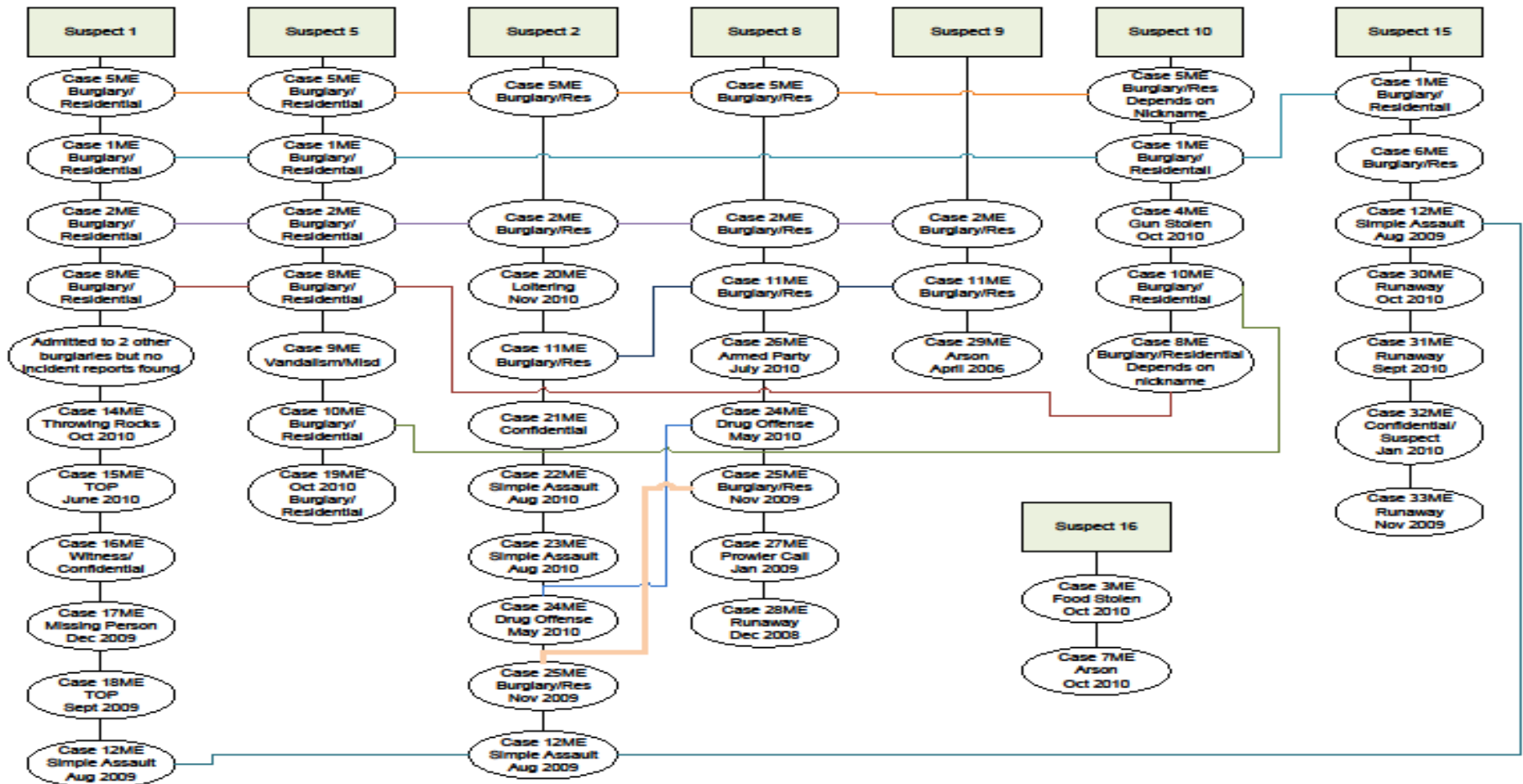
❖ 6305 W Maryland	26.8 (332)	17.2 (206)	-9
❖ 9002 N 47th Ave	16.1 (193)	13.1 (157)	-3
❖ 6937 N 75th Ave	14.5 (174)	17.4 (209)	+3
❖ 6002 W Grand Ave	14.2 (170)	18.2 (218)	+4

### Other

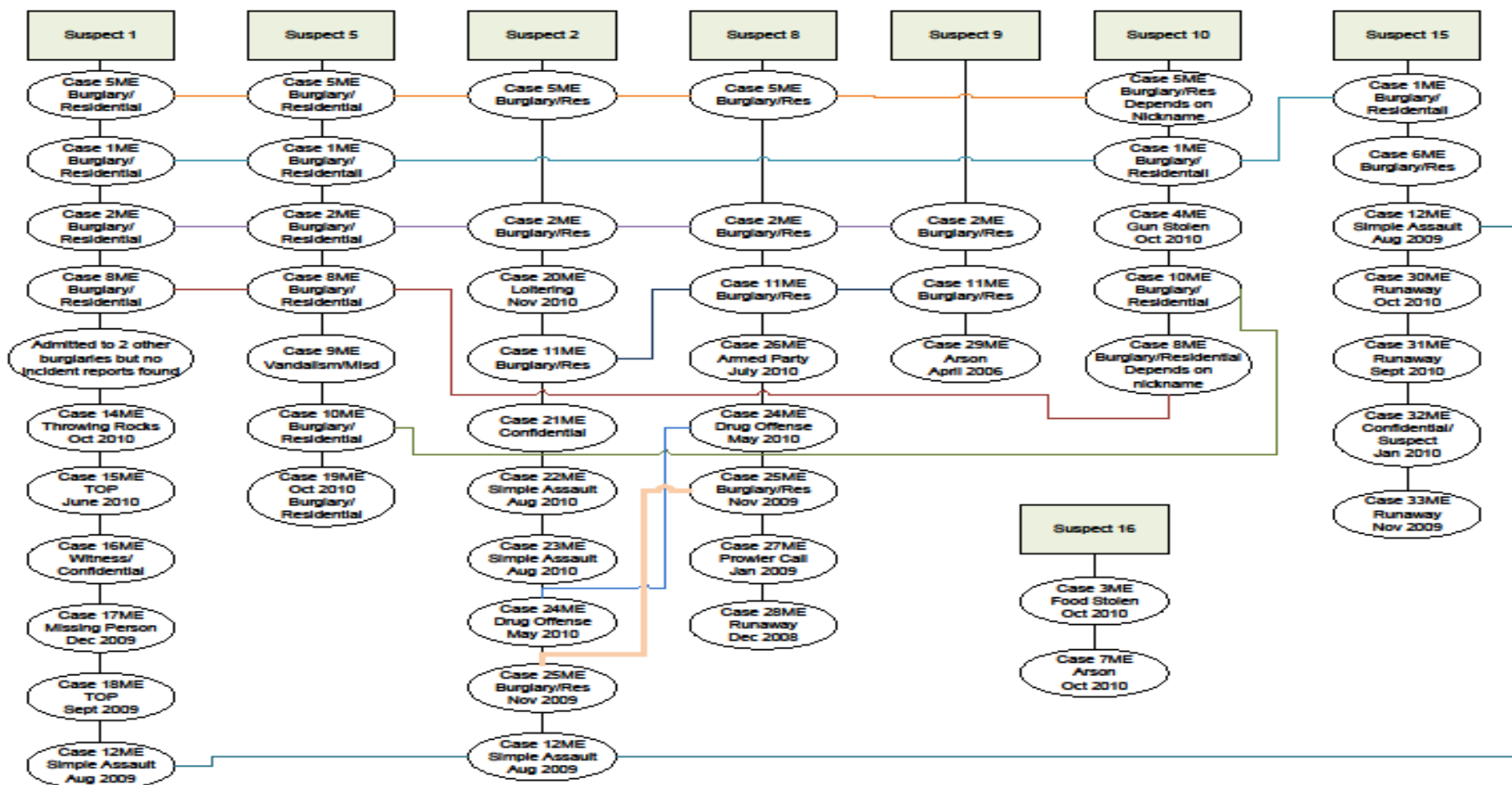
❖ QT: 6702 W Glendale	11.9 (143)	12.3 (148)	--
❖ QT: 5082 NW Grand Ave	4.1 (49)	5.4 (65)	+1
❖ 7-11: 6010 W Bethany Home	5.9 (71)	2.8 (33)	-2
❖ Shell: 6705 W Bethany Home	3.3 (40)	2.9 (35)	--
❖ AM/PM: 9920 W Glendale	4.2 (50)	2.5 (30)	-1



# Memphis



# Memphis

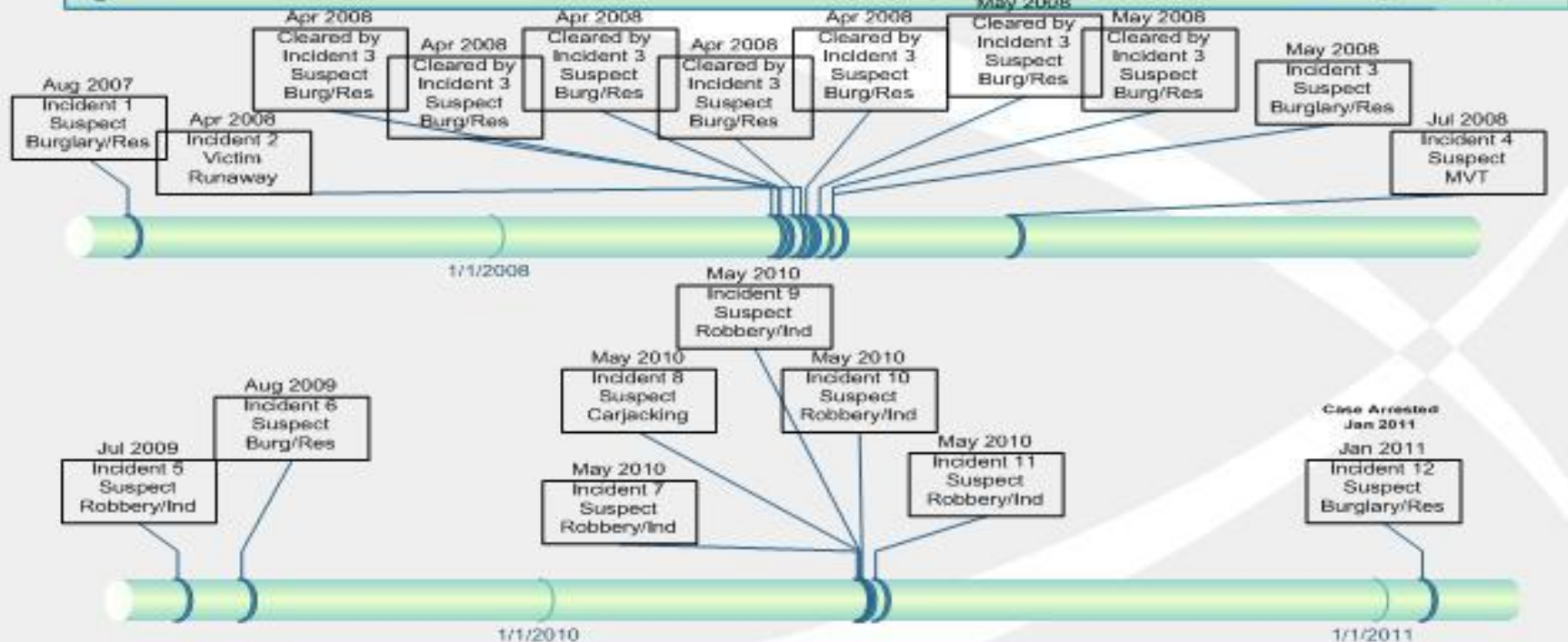


# Memphis

## Juvenile 11 Incident Timeline

Age 17

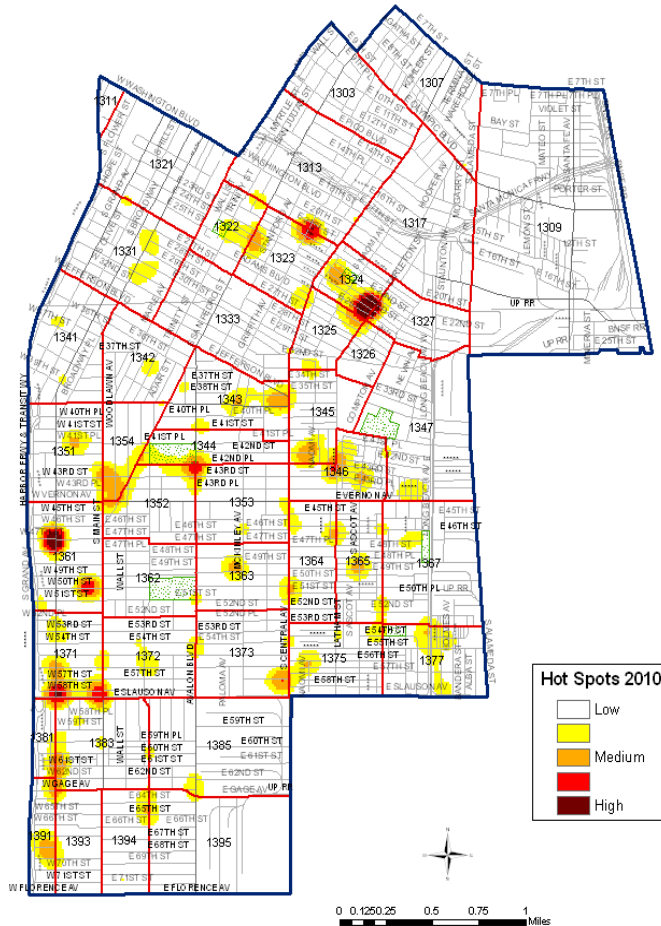
Monday, March 07, 2011



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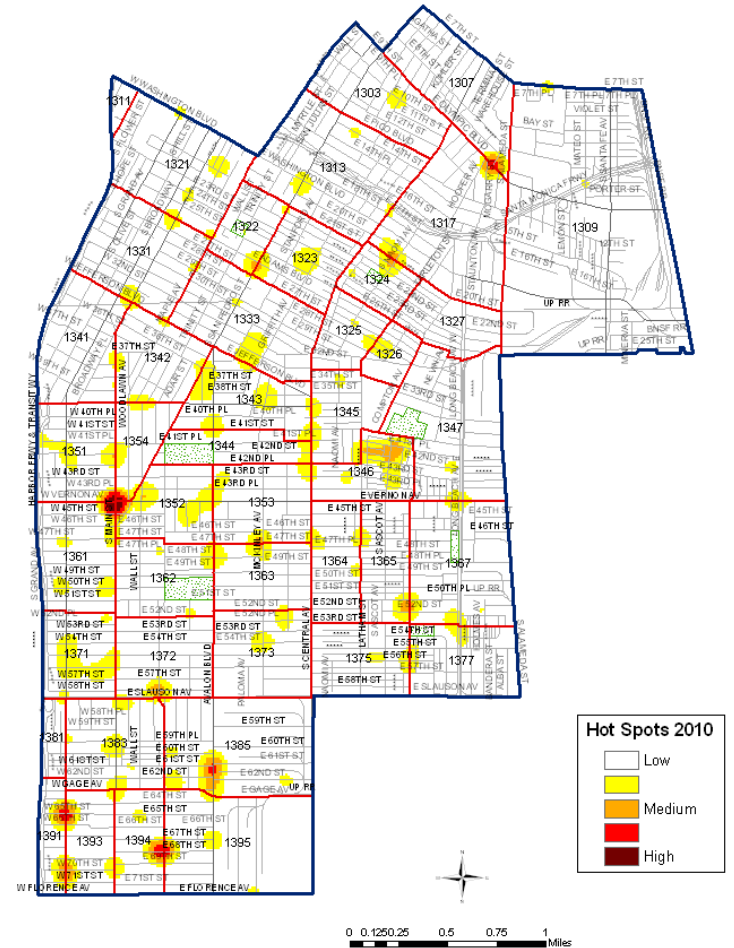
# Los Angeles

Newton Area  
Gun Related Crimes (Gang Related)  
2010



Map prepared by COMPSTAT on 3/21/2011. For internal distribution only.

Newton Area  
Gun Related Crimes (Non-Gang Related)  
2010

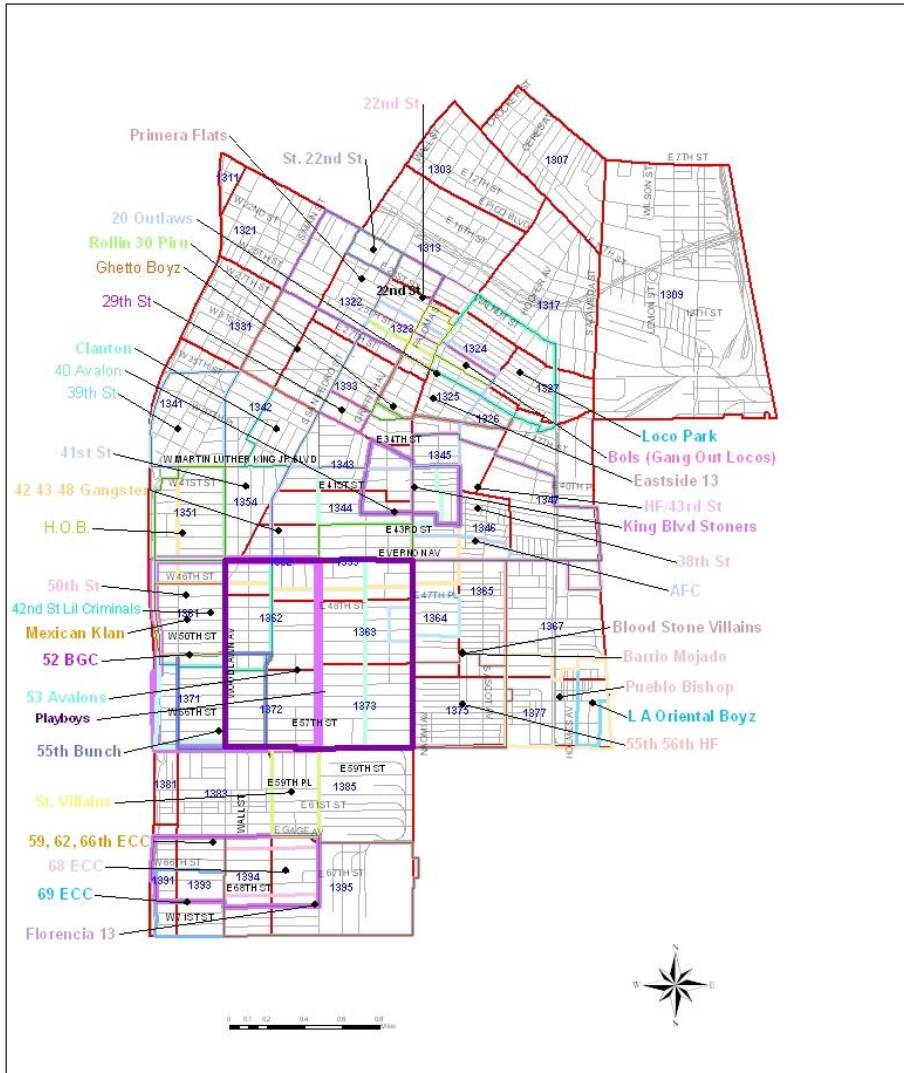


Map prepared by COMPSTAT on 3/21/2011. For internal distribution only.



# Los Angeles

## Newton Area - GANG BOUNDARY MAP 2010



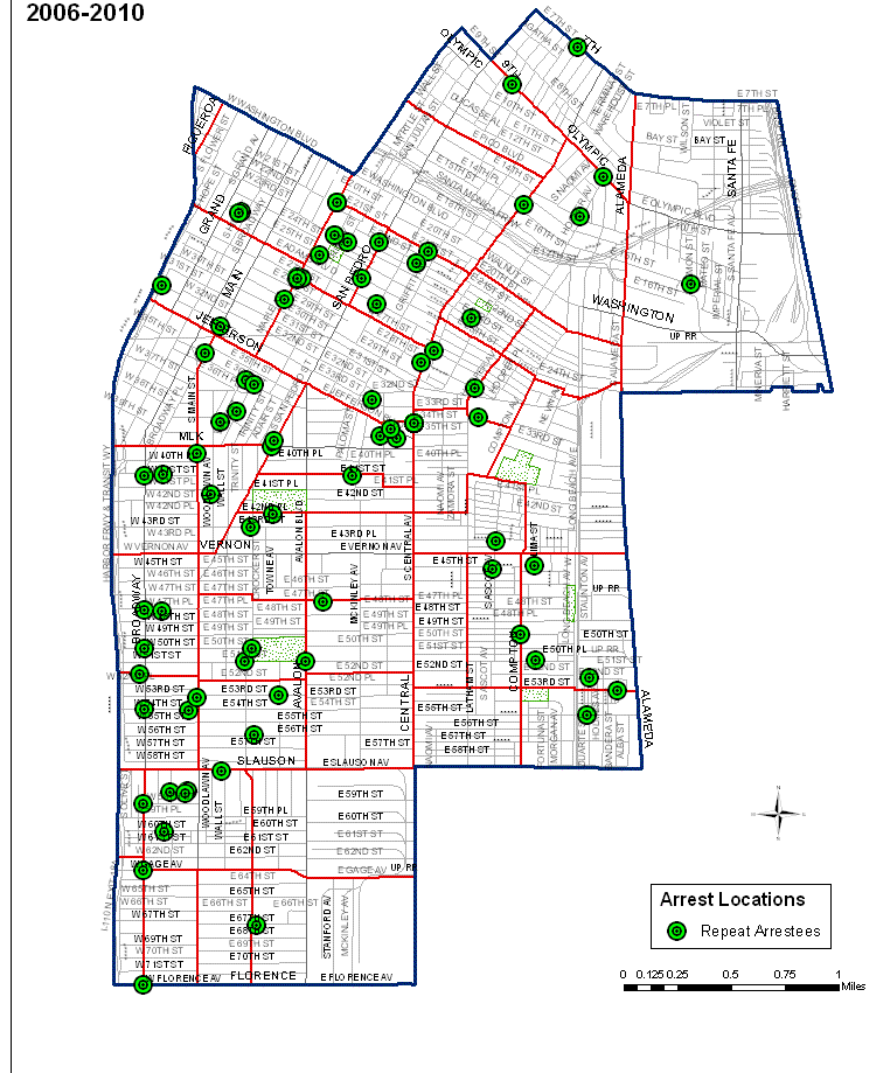
Watch 2 = AM2/PM1 = 0600 to 1759

Watch 3 = PM2/AM1 = 1800 to 0559

AM1 = 0000 to 0559 AM2 = 0600 to 1159 PM1 = 1200 to 1759 PM2 = 1800 to 2359

Map prepared by Newton Crime Analysis Detail on 10/07/10. For internal distribution only.

## Newton Area Repeat Arrestees - Gun Related Crimes 2006-2010



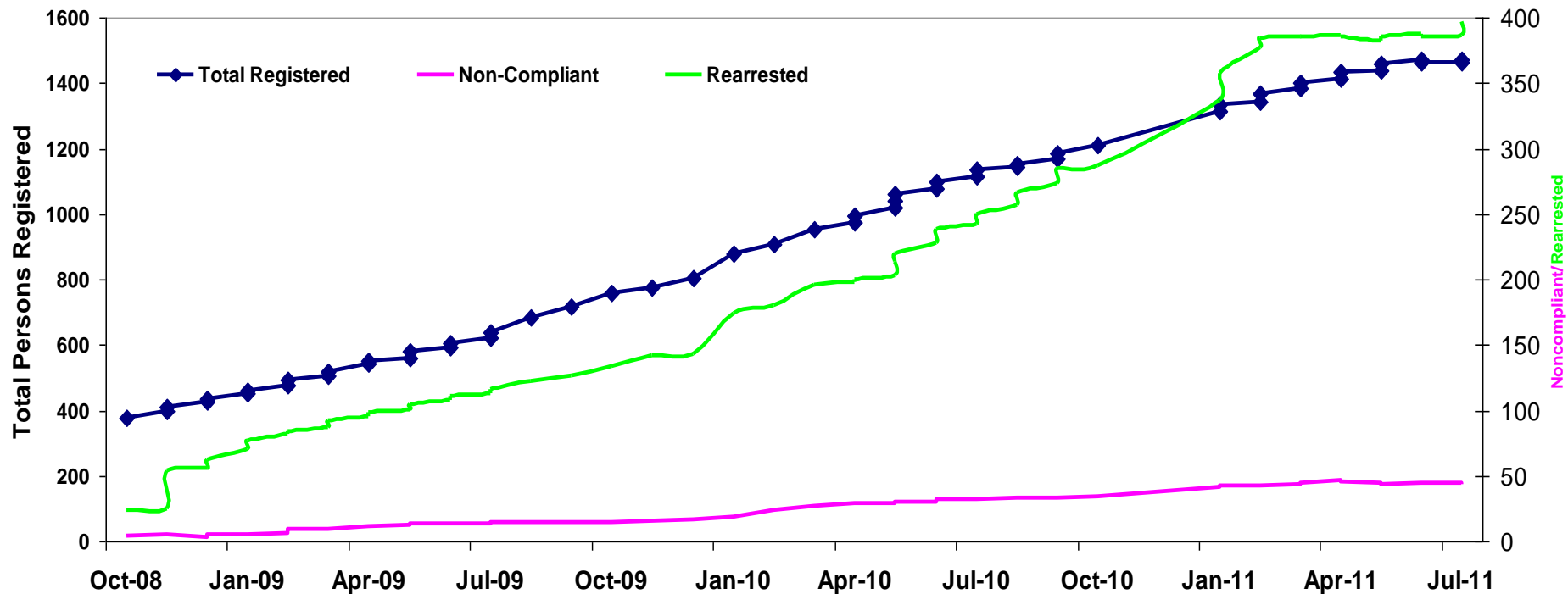
Map prepared by RACR on 6/20/11. For internal distribution only.

# Baltimore - GUNSTAT

- Monthly meetings to look at data/analysis for prioritization
- Felony gun cases and offenders, excluding homicides
  - 40 pieces of information, including charge, bail, criminal history, supervisory status, case disposition, sentence
- Created gun registry of offenders
  - Additional data for analysis

# Results: More Persons Registered as Gun Offenders

GORA: Total Registered, Rearrested and Noncompliant



# How can crime analysts support Smart Policing?

- Use all available information resources and identify new ones
- Work with research partners
- Work with team to develop creative performance measures
- Learn about and apply ILP, predictive policing, POP
- Look for opportunities to contribute



# STOP AND THINK

- *Wrapping Up:* How can CNA and SMEs support crime analysts in their work with SPI?
  - Additional training
  - Technical assistance
  - Recommend analytic software or other tools
  - Other?



# Crime Analysis Resources

- [www.iaca.net](http://www.iaca.net)
  - Networking, publications, conferences, resources - don't reinvent the wheel!
- [www.popcenter.org](http://www.popcenter.org)
  - Yes, we've seen this one before...but it's that important 😊
- Listservs
  - lots of specific ones but some general good ones are...

# Relevant List Servs

- Center for Problem Oriented Policing - <http://popcenter.us1.list-manage.com/subscribe?u=c8090880e2d4ee19b0de44156&id=97e25df8ee>
- Crime and Justice News Daily - <http://crimjj.wordpress.com/>
- Center for Evidence Based Crime Policy - <http://gemini.gmu.edu/cebcp/JoinMailingList.html>
- Urban Institute Justice Policy Center - <http://www.urban.org/center/jpc/index.cfm>
- DOJ COPS Office - <http://cops.usdoj.gov/Default.asp?Item=2492>
- DOJ Office of Justice Programs (choose which ones you want to hear about) - <http://www.ojp.usdoj.gov/govdelivery/subscribe.htm>
- Jill Dando Institute - [https://spreadsheets.google.com/viewform?hl=en\\_GB&formkey=dENkOHR0Qjg5M290Vm9JVGPvVVNDLWc6MA#gid=0](https://spreadsheets.google.com/viewform?hl=en_GB&formkey=dENkOHR0Qjg5M290Vm9JVGPvVVNDLWc6MA#gid=0)

# Questions?

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  - 858.204.3887