



Data. Analysis. Solutions.

#### Smart Policing in Los Angeles: Operation LASER

Newton Division, LAPD Justice & Security Strategies, Inc. (JSS)

#### October 2012

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#### **Overview**

- & Gun Problem
  - **\*** Scanning and Analysis
- Newton's Response:
  - \* Crime Intelligence Detail (CID)
  - **\* Offender-Based Strategy**
  - **\* Location-Based Strategy**
  - \* Implementation
- \* Assessment and Results



## **Key Problem: Gun Violence**

Scanning the Problem: Crime is down, but shots fired, and gangs and guns are major problems...

Analysis showed that Newton had the third highest number of guncrimes in the city.









#### **Response: Operation LASER --**Los Angeles' Strategic Extraction and Restoration Program

- Reduce gun-and gang- related crime in Newton Division
- Newton 1 of 21 Divisions in LAPD
  - 9 square miles; 150,000 people
- LASER is focused on:
  - Chronic offenders and
  - Chronic locations



 Using existing resources – no special task forces or LAPD units



#### **On-going Analysis and Assessment**

- **Create the Crime Intell Detail (CID)**
- Two police officers and one Intell Analyst CID collects information and uses new technology
- FIs, Arrests, Criminal Histories, etc.
- Identify Chronic Offenders and Chronic Locations
- Continually measure dosage



#### **CID and Chronic Offender Process**

- CID gathers intelligence daily from Patrol (Watch 2, Watch 5 and Watch 3), the Bicycle Unit, and the Parole Compliance Unit at Newton Division
- CID focuses on Robberies, Weapons Violations, and Aggravated Assaults related to gun and gang violence
- CID creates "Chronic Offender Bulletins" using 'Palantir'

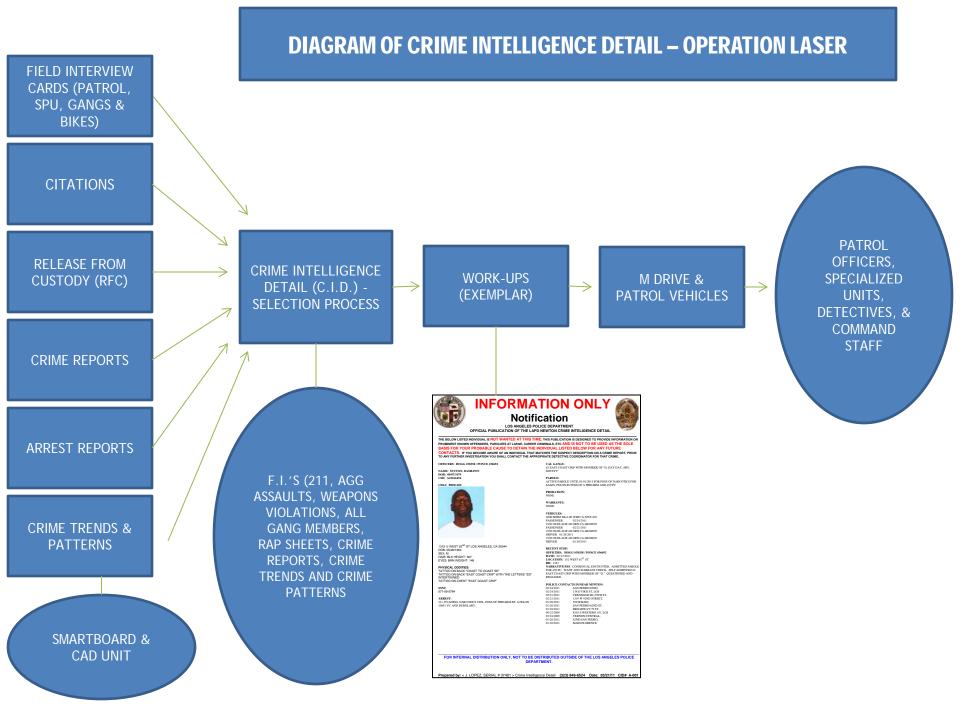


#### **Chronic Offender Bulletins**

- Physical descriptors
- Physical oddities
- Gang affiliation
- Prior crimes committed
- Parole or Probation Status
- Vehicles
- Areas they frequent
- Contact with law enforcement







#### **Chronic Offenders**

- \* 124 Chronic Offenders identified and rank-ordered from August 2011 to January 2012
- 87 of the 124 (70%) have been arrested at least once from Aug 2011 to June 2012
  - 87 offenders scored 15 points or higher 60 (68.1%) arrested
  - \* 37 offenders scored o-15 points 27 (72.9%) arrested
- New list created in May 2012 65 new offenders
  25 (38.5%) arrested
- Of 189 total offenders, 112 arrested at least once (59%)



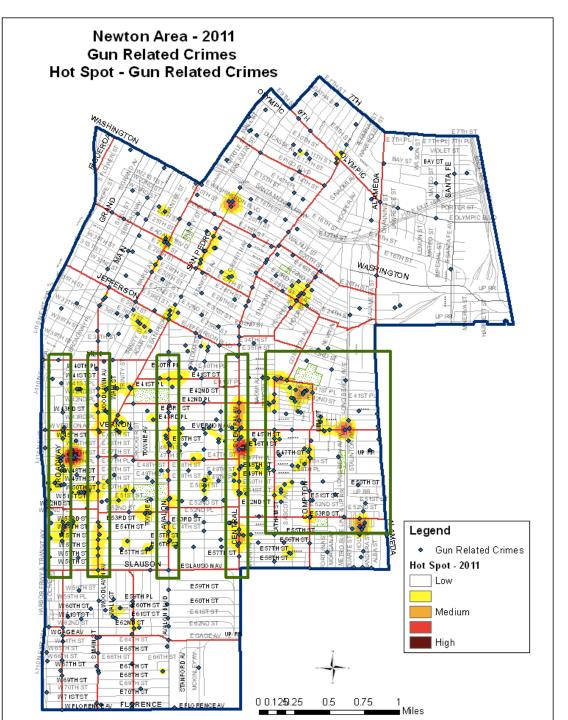
## LASER: Location-based efforts

Where are the chronic locations? Using crime data (2006-2011), GIS, and analytics to answer questions



#### **Gun-Related Crimes Newton Division 2011**

Five Hotspot Corridors (in green)



#### **Interventions: Locations**

#### Weekly Missions in Hot Spot Corridors

#### **Use Existing Resources:**

- \* Patrol Units (watches 2, 3 and 5)
- \* Bikes
- \* Foot Patrol
- \* Parole Compliance Unit
- \* HIDE





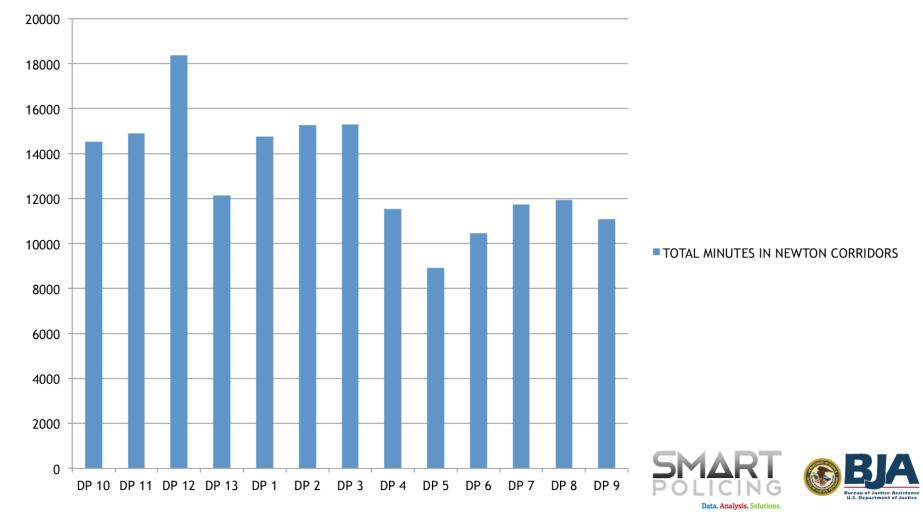
## \* Dosage = Extra minutes/month in hot spot corridors

- Crime Count by Deployment Period (DP) and by month
  - & Gun-Related Crime (Part 1 and 2 incidents with a gun) since 2006
  - All Part 1 Crimes Violent and Property since 2006

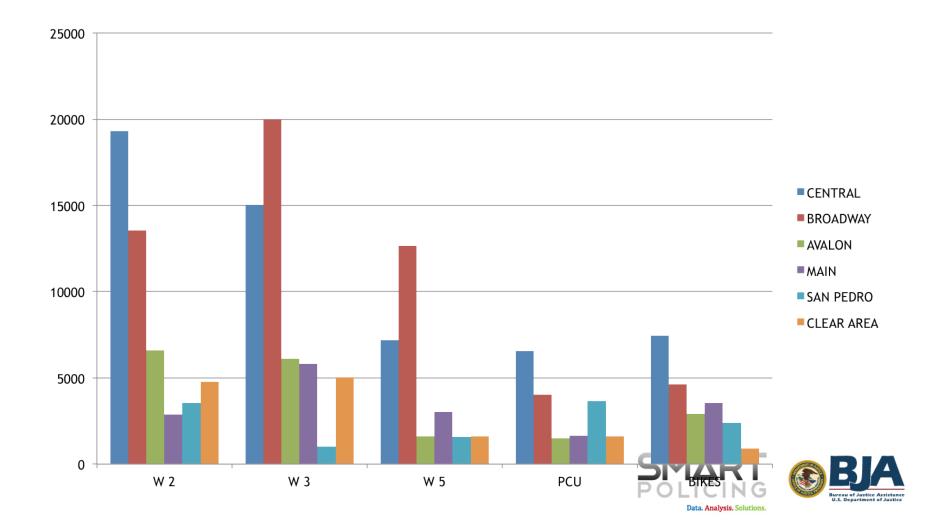


## TOTAL MINUTES IN NEWTON CORRIDORS BY DP, 2011-2012

#### TOTAL MINUTES IN NEWTON CORRIDORS



#### NEWTON COMBINED DEPLOYMENT TIME IN HOT SPOT CORRIDORS DP's 10-13 (2011) to DP 1-9 (2012)



#### **Dosage In Newton Corridors**

- \* On average, patrol, bikes, foot, and PCU spent 13,326 extra minutes per DP in the hot spot corridors
- \* Range: 8,935 (DP 5 in 2012) to 18,380 (DP 12 in 2011)
- \* 13,326 extra minutes equates to 222 extra hours per DP or 55.5 extra hours per week
- \* About 8 hours extra per day in the corridors



#### **Impact Analysis**

# & Use Powerful Analytic Methods: & Interrupted Time Series Design & Panel Data Analysis







#### **Interrupted Time-Series Design**

- One of the most powerful quasiexperimental designs
- \* Compare pre-existing trend before the intervention to the trend during/after the intervention
  - **\*Change in level**
  - **\*Change in trend**



## **Time Series Analysis for Newton**

- Examined:
  - Gun-Related Crime
    - Crime incidents (Part I and II) with a firearm
    - Includes: Homicides, Robberies, Aggravated Assaults, Drive-by shootings, Misdemeanors with weapons (drugs, vandalism, etc.)
  - All Part 1 Crimes
- From January 1, 2006 to June 30, 2012 (78 month period)
- Intervention began Sept 2011
  - \* Arrests of chronic offenders started in Aug 2011, but increased patrol of corridors began Sept 2011
  - 10 post-intervention time periods



#### **Time Series: Bottom Line**

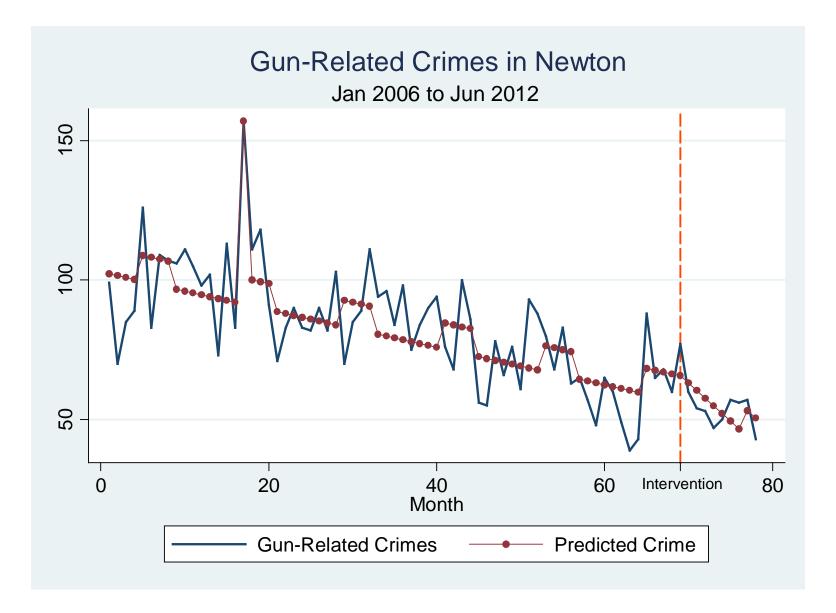
- Results indicate that Operation LASER is having *significant and tangible reductions in:*
- & Gun-related crime (Part 1 and 2)
- \* Homicides
- \* Robberies
- & Violent Crime (Part 1)



#### **Time Series: Bottom Line**

- \* Results suggest that gun-related crime is falling nearly four (4) times faster in Newton after LASER was implemented in Sept 2011
- \* Differences are statistically significant at the .10 level



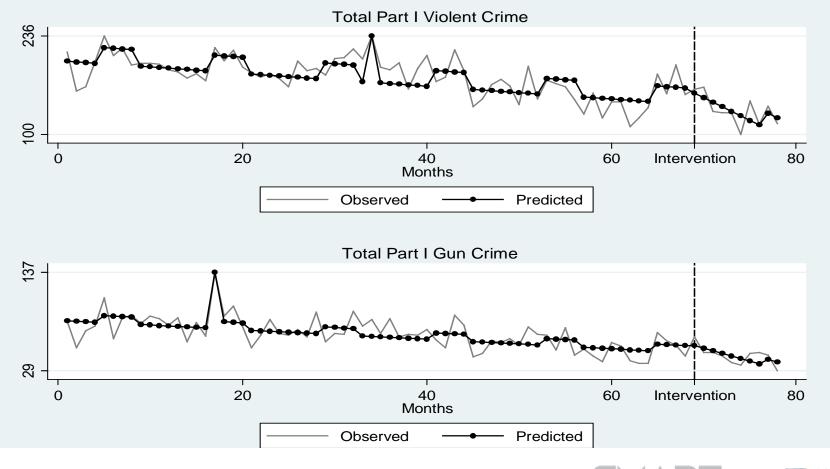


#### **Time Series: Bottom Line**

- Interventions in Newton resulted in a *decrease* of Part I Violent Crimes by an additional 5.393 crimes per month
- Homicides *decreased* by an additional 22.6 percent per month in Newton after Operation LASER began.
- Robbery *decreased* by an additional 0.218
   robberies per month in Newton after Operation
   LASER was implemented

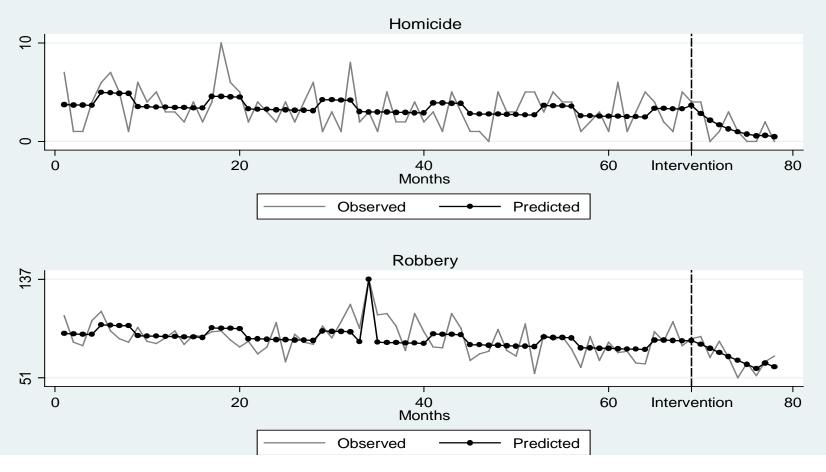


## **Time Series: Violent Crime & Gun Crime**





## **Time Series: Homicide & Robbery**



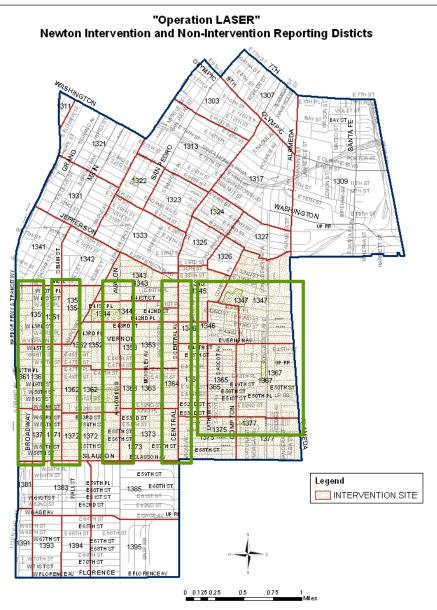


## **Panel Data Analysis: Newton**

- \* Look at gun-related crimes from Jan 2006 to June 2012
  - In addition to Newton, we are including RDS in 77<sup>th</sup> Street, Southeast, Southwest, Northeast, Central, Rampart, and Hollenbeck
  - Monthly counts of gun-related crime for all RDs in these divisions
- In Newton, RDs examined in hot spot corridors
  - 20 RDs considered intervention sites
  - For all of these RDs, the intervention was assumed to start Sept. 2011
- Counts of gun crime are low, so we model trends using the Poisson distribution



#### **Intervention RDs in Newton**



#### **Panel Analysis: Bottom Line**

#### **\* Results from Panel Data Analysis:**

- We compared monthly gun-related crime for the 20 Newton Reporting Districts (in the hotspot corridors) to 299 RDs in the city
- \* Results confirm that gun-related crime decreases an additional 5.3% per month in Newton RDs
- \* Caveat: These results may change when additional covariates are included, but these results are significant.



#### **Future Directions: Analysis**

Re-examine these analyses with more time periods

- Additional time periods will provide more statistical power to detect an effect
- Inclusion of additional data and improvements of the models

We are working towards compiling a database for all RDs that will provide statistical controls
We will also be refining these models
The results may change due to model improvements



#### **Future Directions: Newton**

- Continue to use CID to collect data and conduct analysis
- Continue Missions and Dosage (AVLs?) to maintain and stabilize violence reductions
- Focus on Chronic Offenders
- Expand LASER to include Property Crimes, especially BFMVs



#### **Future Directions: Other Divisions**

- Replicate Operation LASER in areas with the highest gun crime: South and Central Bureaus
- Work with the Real-time Crime Center to coordinate the use of technology
- Measure dosage minutes in the RDs and hotspot corridors
- \* JSS will continue to analyze and evaluate



## **Questions?**

