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Using a Place-Based Technology to Address Shootings in East Palo Alto

East Palo Alto Police Department

April 16, 2013

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Presentation overview

- Project team
- Targeted problem
- Overview of GLDS technology
- Project goals
- Alignment with SPI principles
- Key activities and research questions and methods
- Next steps

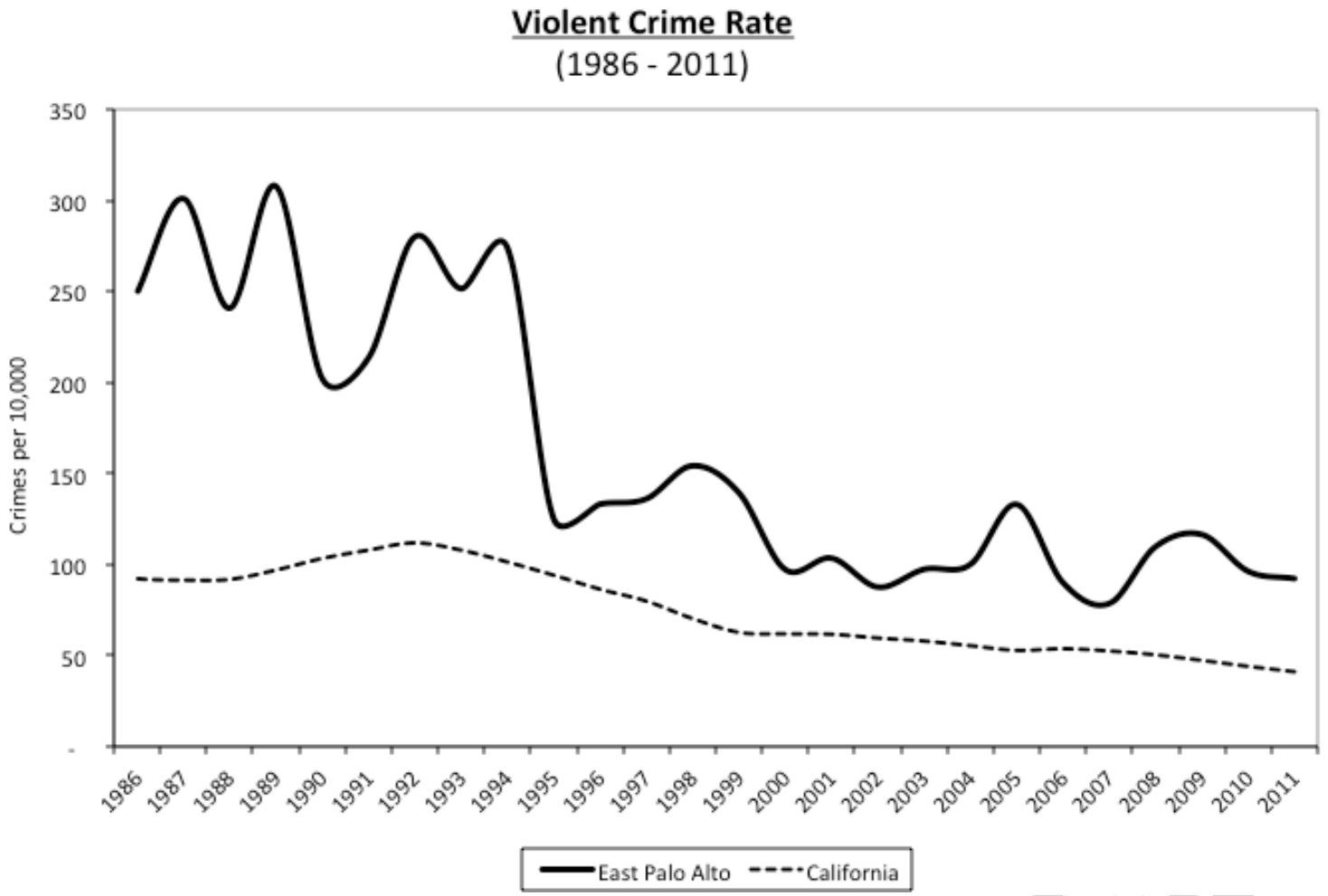
Project team

- East Palo Alto Police Department was awarded the grant and is managing the project
- Warren Institute on Law and Social Policy at UC Berkeley is primary research partner
  - Previous collaboration with PD
- Anthony Braga is serving as research and implementation advisor
  - Previous collaboration with Warren Institute and SPI efforts in Boston

City of East Palo Alto, California

- Small, diverse, Bay Area city
- Approximately 29,000 residents
- 64.5% Latino, 16.7% African-American, 7.5% Pacific Islander, 28.8% White, 41.4% foreign born
- 30 miles south of San Francisco
- 2.6 square miles

Serious and longstanding problem with violent crime and shootings



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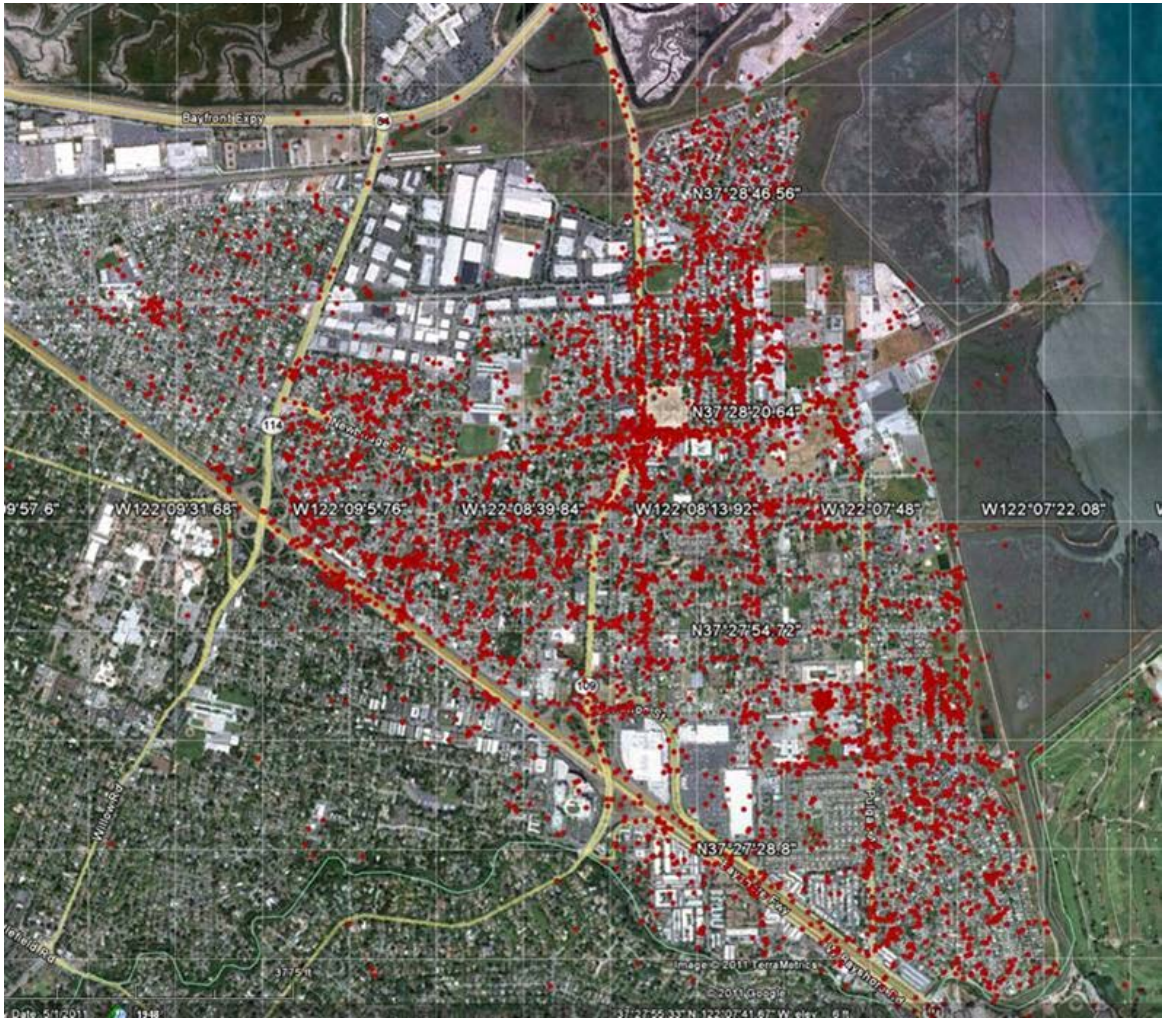
Targeted problem: shooting incidents



- About 500 dispatched calls for service involving a firearm each year
- Between 1,500 – 2,000 shooting incidents detected by acoustic sensor system each year

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Context of the technology

- PDs required to do more with less
- Millions of dollars spent on gunshot location detection systems (GLDS)
- Over 70 police departments using technology in some capacity in the U.S.
- East Palo Alto launched ShotSpotter citywide at the beginning of 2009
- No external, independent evaluations of effectiveness of technology

How the technology works

- System of acoustic sensors detects and locates gunshots
- Information immediately transmitted to dispatchers before 911 calls are received
- GLDS collects data on the universe of shooting incidents:
  - Time
  - Location
  - Duration
  - Number of rounds

Previous use of the technology

- To date primarily used as a rapid response tool in East Palo Alto and many other PDs
- Some use for investigative purposes
- Can the system also be used for problem solving and prevention efforts?
- Another project underway in East Palo Alto on intersection of public health and public safety in which GLDS data was used to identify the geographic areas to be targeted

Project goals

- Document how GLDS has been used by the PD since its launch in 2009
- Gain an in-depth understanding of universe of shootings
- Use technology above and beyond rapid response tool to help design and implement POP strategies and tactics
- Reduce shootings and violent crime

SPI principles

- Purpose area #2: “Develop innovative, data-driven approaches to contemporary crime problems and criminogenic circumstances within their jurisdiction.”
  - Data-driven approach
  - Innovative use of technology
  - Place-based policing
  - Problem-oriented policing

Four key tasks

1. Document changes since 2009 in procedures and strategies because of the GLDS
2. Understand nature and context of universe of shootings and identify hot spots using GLDS data
3. Design and implement POP strategies and tactics to reduce shootings based on analysis
4. Assess the implementation of targeted responses

1. Document changes in procedures and strategies because of the GLDS

- Research questions. To what extent:
  - Have there been changes in how officers are dispatched?
  - Have there been changes in officer workload because of more known shooting incidents?
  - Have there been changes in formal policies or protocols?
  - Has the use of the technology changed since the system was launched 4 years ago?
- Research methods
  - One-on-one interviews with officers and dispatchers
  - On-line surveys
  - Document review

2. Understand nature and context of shootings and ID hot spots using GLDS data

- Research questions
  - How has the level of shootings changed over the last 4 years?
  - What are the patterns in shootings in terms of time of day, day of week, seasonal fluctuations?
  - Where are the shooting hot spots and to what extent do they change in size and location?
  - What percent of shootings is the PD aware of through calls for service?
- Research methods
  - Descriptive analysis of 4 years of GLDS data
  - Mapping shooting hot spots
  - Comparison of GLDS data and calls for service data

3. Design and implement POP strategies and tactics to reduce shootings

- Strategies will be targeted on well-defined hot spots
- Strategies will be based on:
  - Four years of shooting data
  - Assessment of use of the technology to date
  - Knowledge and experience of officers and dispatchers
- Details of strategies will not be decided until after the initial analysis but could include:
  - Special enforcement teams at high activation times, utilization of CPTED, and violence reduction plans in partnership with property owners and residents

4. Assess the implementation of targeted responses

- Research questions on process
  - What were the challenges and keys to success with designing and implementing the targeted responses?
  - Were the responses implemented as designed?
  - Were there any unintended consequences as a result of the new responses?
- Research methods
  - On-going participation in project meetings
  - On-going conversations with key PD and dispatch staff
  - Periodic one-on-one interviews with the same individuals over the course of the project

4. Assess the implementation of targeted responses

- Research questions on outcomes
  - Were there significant changes in levels of shootings in the targeted areas compared to control areas?
  - Were there significant changes in calls for service?
  - Were there significant changes in other types of crime?
- Research methods
  - Potential for random assignment
  - Pre / post analysis of shooting data, calls for service data, and UCR data

Lessons learned to date

- Still very early in the project but…
  - Experience from other project demonstrates that GLDS can be used above and beyond rapid response tool
  - GLDS data is valuable information that has not been fully exploited
  - “Hard data” and knowledge and experience of officers can complement one another

Next steps and schedule

- Conduct assessment of use of GLDS to date
  - To be completed in June
- Conduct analysis of 4-years of shooting data and comparisons with calls for service
  - To be completed in September
- Design of POP strategies
  - To begin in September

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