How Safe Streets Baltimore Uses Open Data

BNIA Data Day

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Dr. Leana Wen
Health Commissioner

Stephanie Rawlings-Blake
Mayor

Overview

- Safe Streets Baltimore
- What data are available?
- Site selection
- Staffing
- Operations
- Program evaluation

Safe Streets Baltimore

- Community-based violence prevention program
- Outreach and conflict mediation to prevent shootings
  - Cure Violence Model
- Utilizes credible messengers
- Four sites: Cherry Hill (2009), McElderry Park (2007), Park Heights(2013), Sandtown-Winchester(2016)

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http://health.baltimorecity.gov/safestreets

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Crime and Risk Related Data on Open Baltimore

- Part I victim-based crimes - incident locations
  - Violent and Property Crimes
- Adult arrests – i.e. drugs, weapons-related
- Calls for Service/911
- Weekly COMSTAT report
- Gun offenders
- Liquor stores, vacants, animal abuse (311 Calls)
- (Police Use of Force, Police cameras,…)

Open Baltimore: https://data.baltimorecity.gov/

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Site Selection

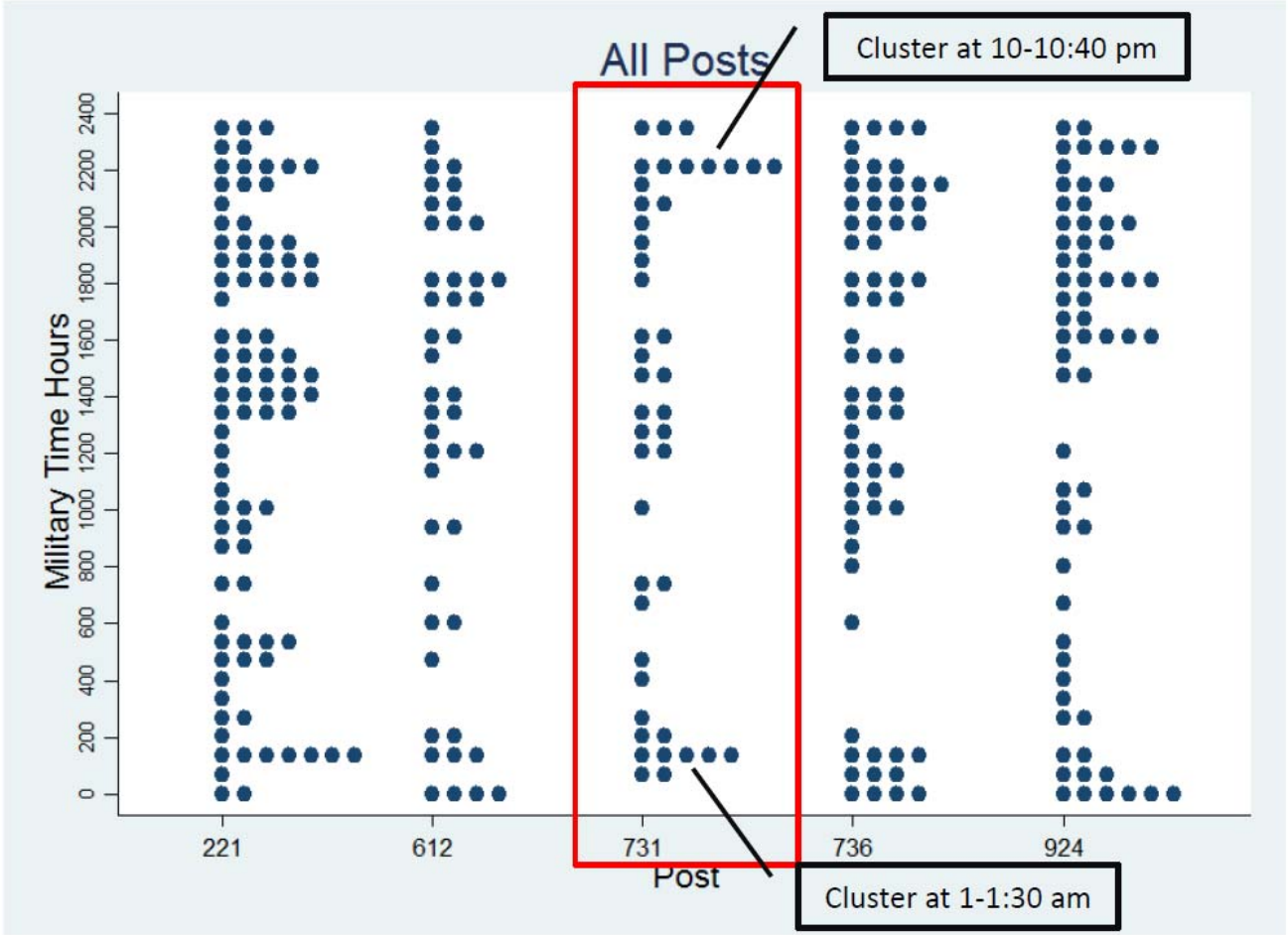
Dataset	Key variables	Link	Limitations
Part I victim-based crime	Incident locations of shootings and homicides Note: each row represents a victim.	https://goo.gl/eJJuHw	'Past year' homicides. No demographics or motive.

We select police posts in the top 25% for gun violence.

- Police boundaries recently changed (we use older post boundaries)
- 3-5 years of homicides and shootings.
- Incidents, victims, post trajectory (stable, up, down).
- New sites cannot border/touch an existing site.
- Protective effects spillover.

Staffing

Violent Crimes and Time of Day, 2015: Focus on Sandtown



Data source: Open Baltimore. We also look at day of week.

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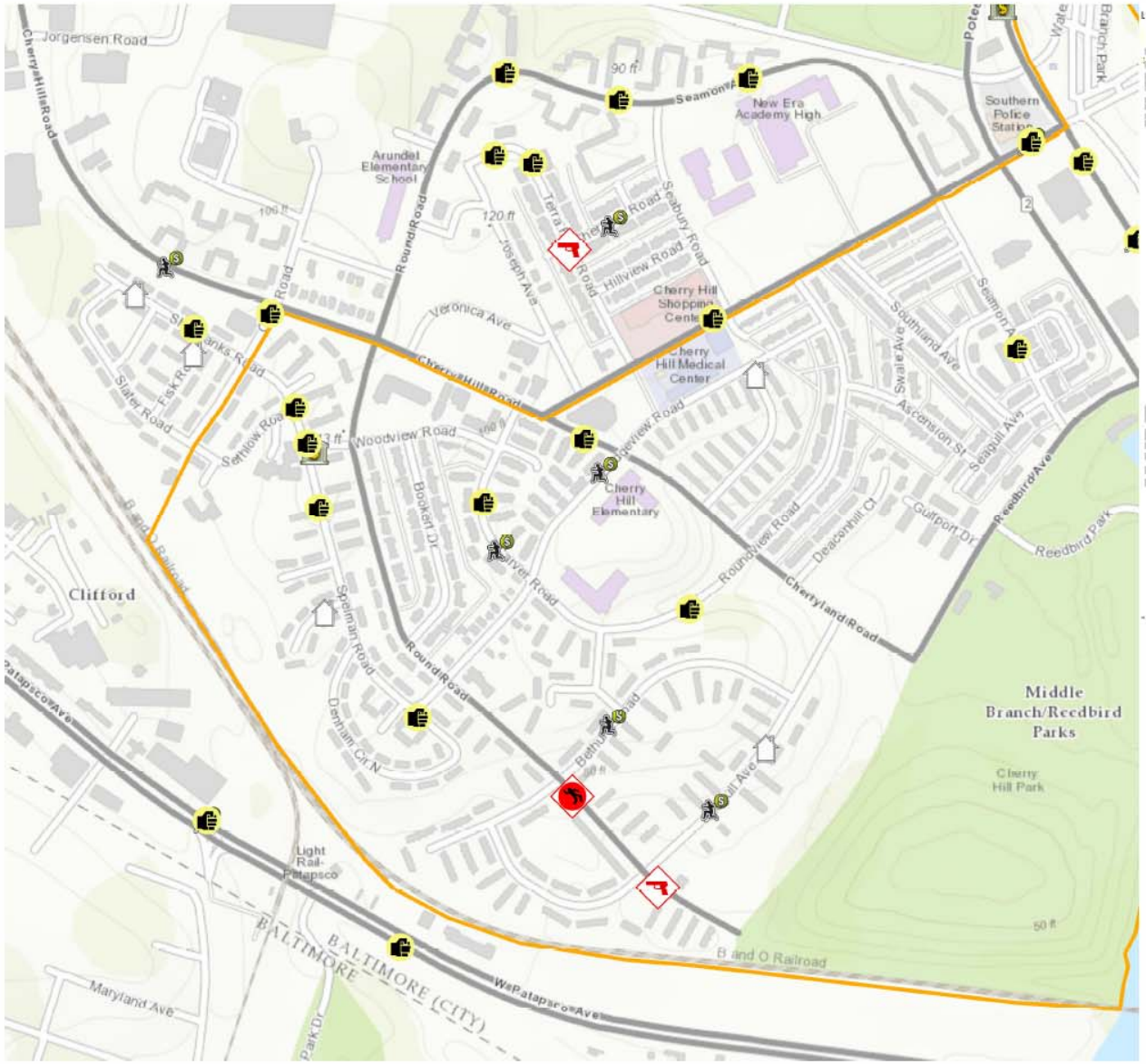
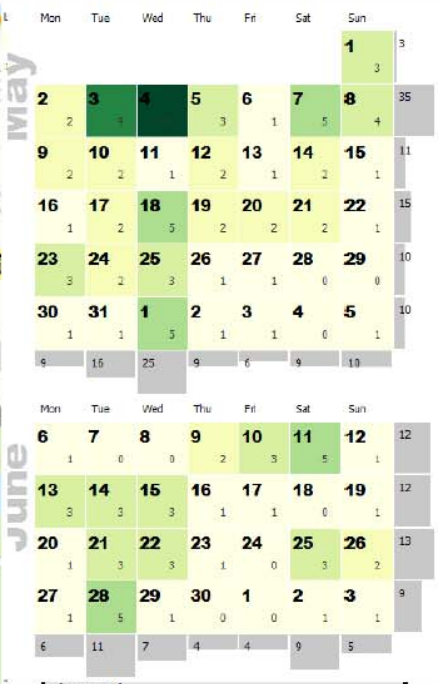
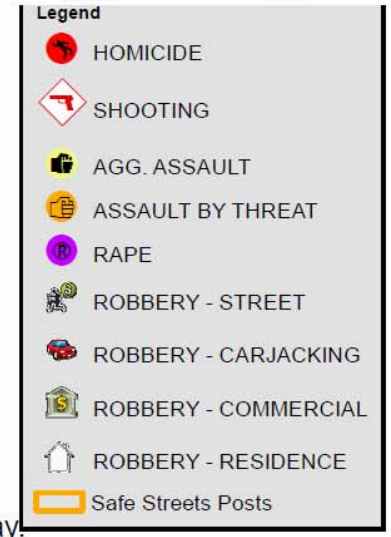
Cherry Hill Violent Crimes, May 1- July 16, 2016







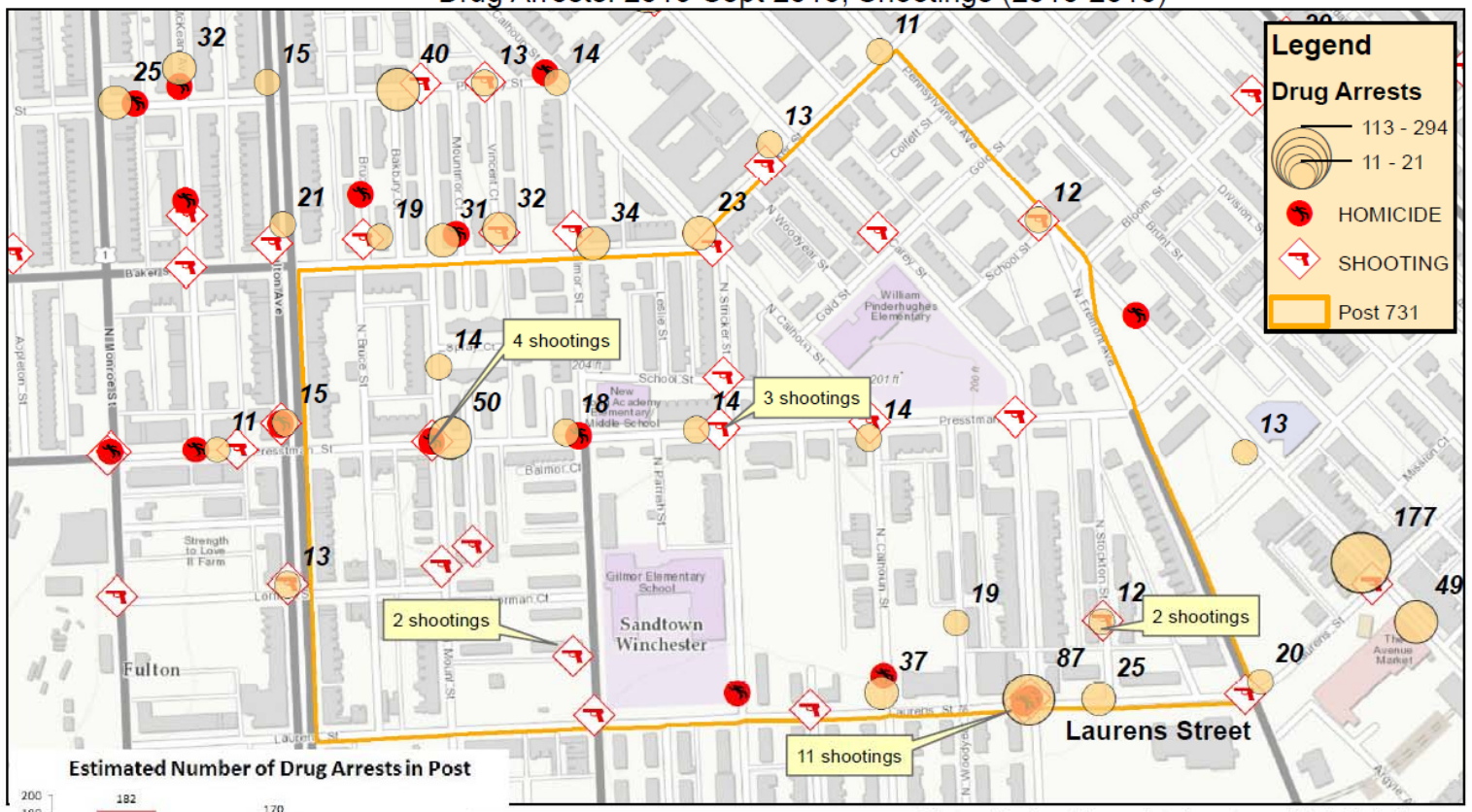
Overlapping symbols may indicate multiple victims and/or incidents. Calender is victims per day.

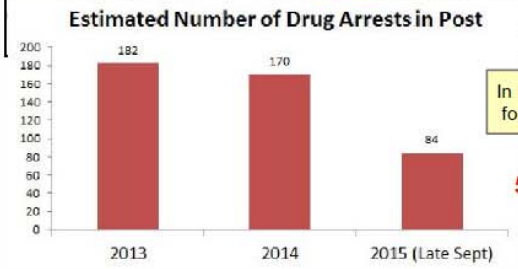
Operations

SAFE STREETS
STOP SHOOTING. START LIVING.

Sandtown-Winchester (Police Post 731)

Adult Drug-related Arrests and Shootings (All Ages)
Drug Arrests: 2013-Sept 2015, Shootings (2010-2015)





In post, number of shooting incidents 2010 to 2015 for locations with multiple shootings

56% of drug arrests are non-marijuana (heroin, cocaine,etc.)

Notes: Number of drug-related arrests are labeled in bold. Areas with fewer than 10 drug arrests are not shown.

The number of drug arrests is likely an underestimate due to problems with classifying drug arrests and missing coordinates and addresses. Source: Open Baltimore, BPD Arrests.

Prepared by: Baltimore City Health Department

Operations

Sandtown-Winchester

Intersection of N Laurens St & N Carey St – **Facing North**

Facing East

Source: Google StreetView, Sept 2014, https://goo.gl/hXwNZY

More shooting incidents at this intersection than anywhere else in Baltimore City

- 12 separate shooting incidents (2008-2015)
- Heavy drug activity in this area

Two shootings in 2016 year-to-date

Data Source: Open Baltimore

Facing South **Facing West**

Google StreetView

Operations

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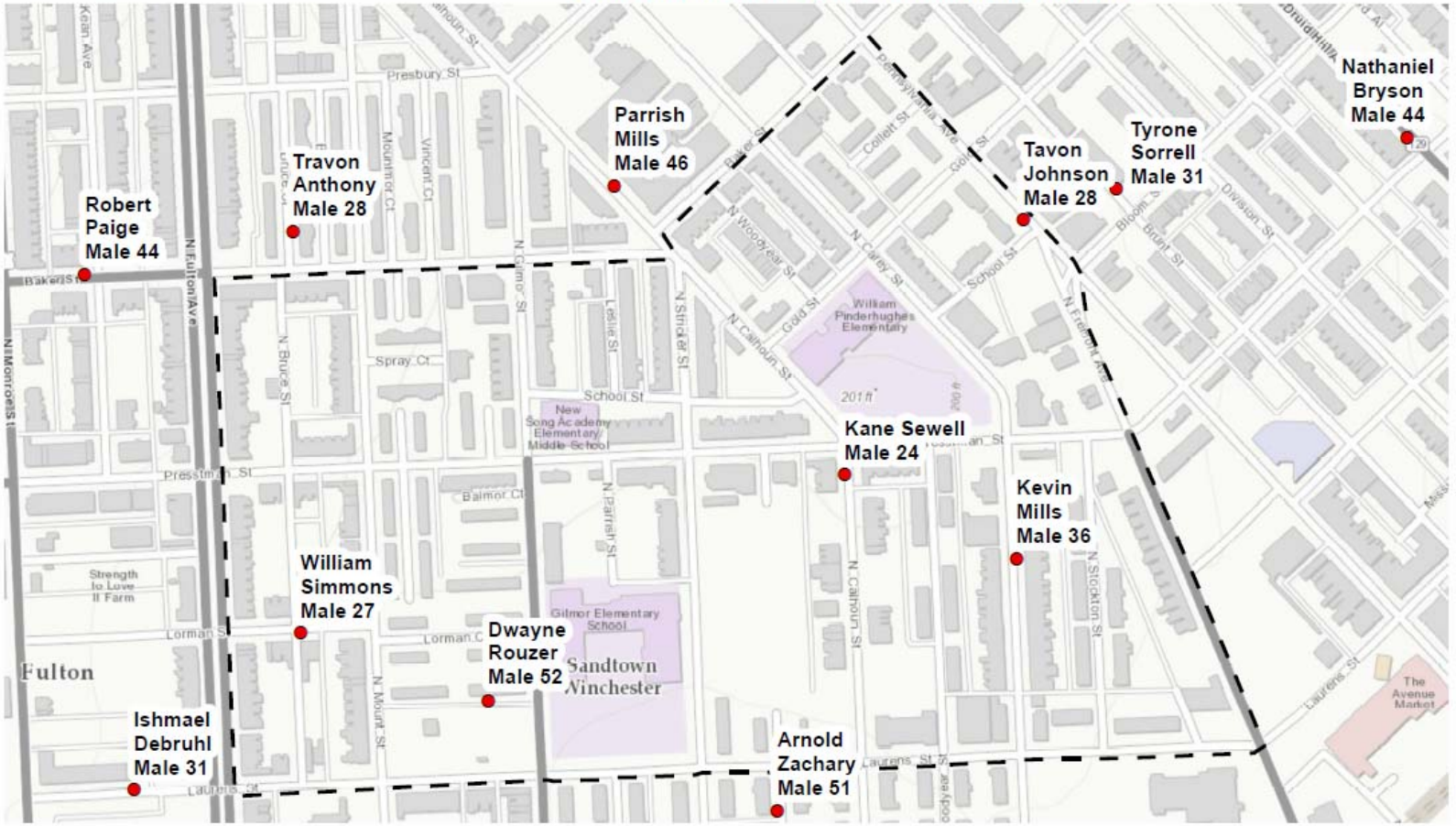
Sandtown-Winchester (Police Post 731)

Note: Whether or not an offender is incarcerated
or out in the community is not available at this time.

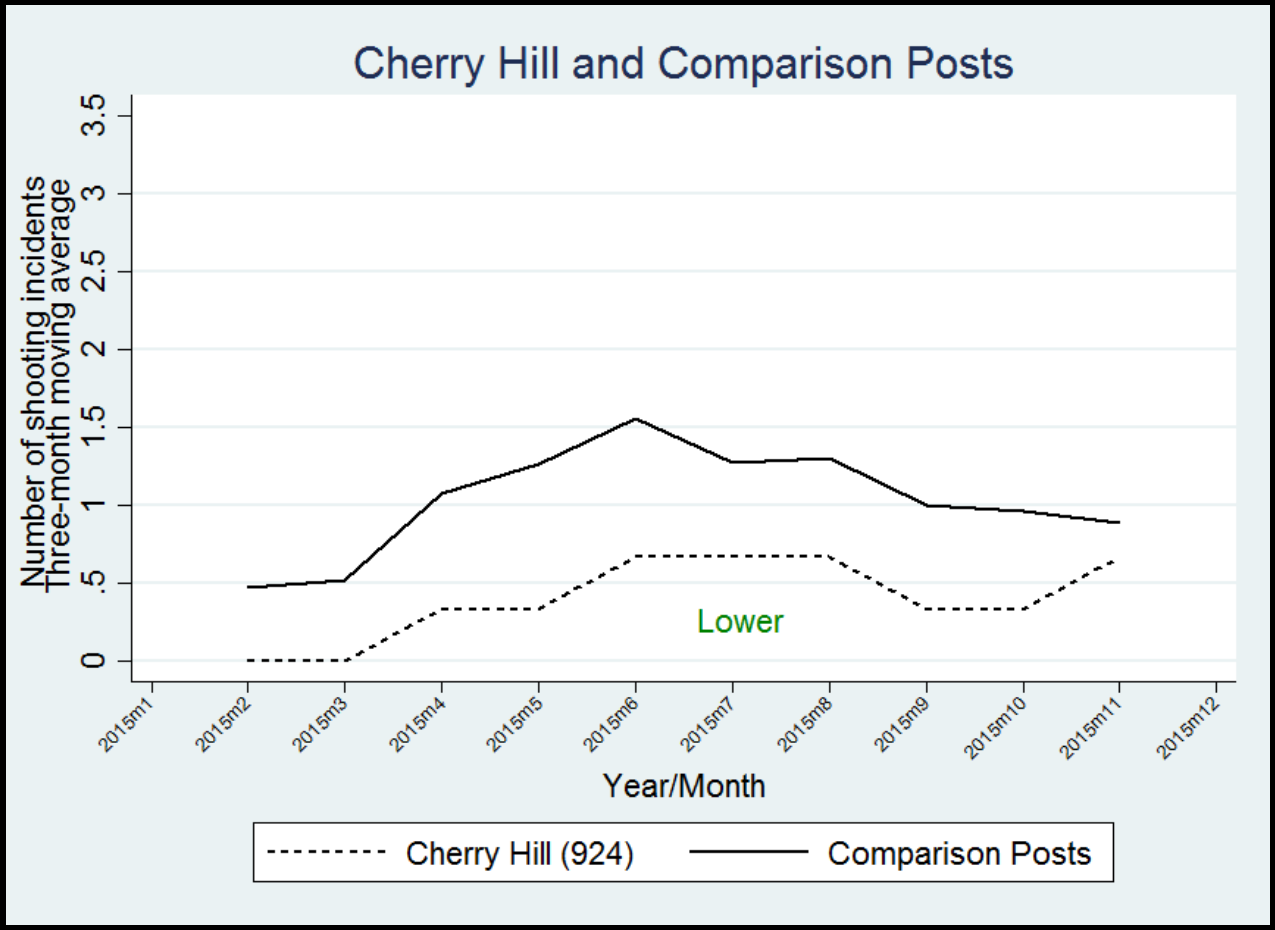


Prepared by: Baltimore City Health Department
Source: Open Baltimore
https://data.baltimorecity.gov/

Program Evaluation

- Graphs and tables (descriptive)
- Comparison group
- Pre-/post-intervention
- Modeling (analytical)
- Past surveying change in attitudes

Moving Averages, 2015



We make comparisons against 1) border posts and 2) a citywide composite/average of the highest shooting areas.

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Mean monthly shooting incidents

- Example: Cherry Hill (Old Police Post 924)*
  - Pre-implementation (12 months)
    - Jan 1, 2008 to Dec 31, 2008
    - 1 shooting incident per month
  - Post-implementation (84 months)
    - Jan 2009 to Dec 2015:
    - Less than 1 shooting every two months **(55% reduction)**

The above estimates above don't take into account citywide changes in the level of violence and police interventions.

* Boundaries recently changed

**Open data only back to 2008

Modeling

Outcome(s)

Shooting incidents
Fatal shootings
Non-fatal shootings

=

Explanatory variables

Presence/ Absence Safe Streets Site

+

Program data (conflict mediations)

+

Drug and Gun Arrests, Police programs

Other variables: month and year

Count models
Comparison groups (border and composite police posts)
Estimated program effects (% reduction in incidents)

Webster D, et al (2013). Effects of Baltimore's Safe Streets Program on Gun Violence: A Replication of Chicago's Ceasefire Program. http://goo.gl/aqBXCJ.

Summary

- Open data are valuable!
- Use of open data is applicable to other crime and violence prevention programs
- Public health surveillance
- Other: MD Case Search, Social Media
- Map gallery – Homicide epidemic
  - baltimorecity.gov/healthmaps

Thanks!

Questions?

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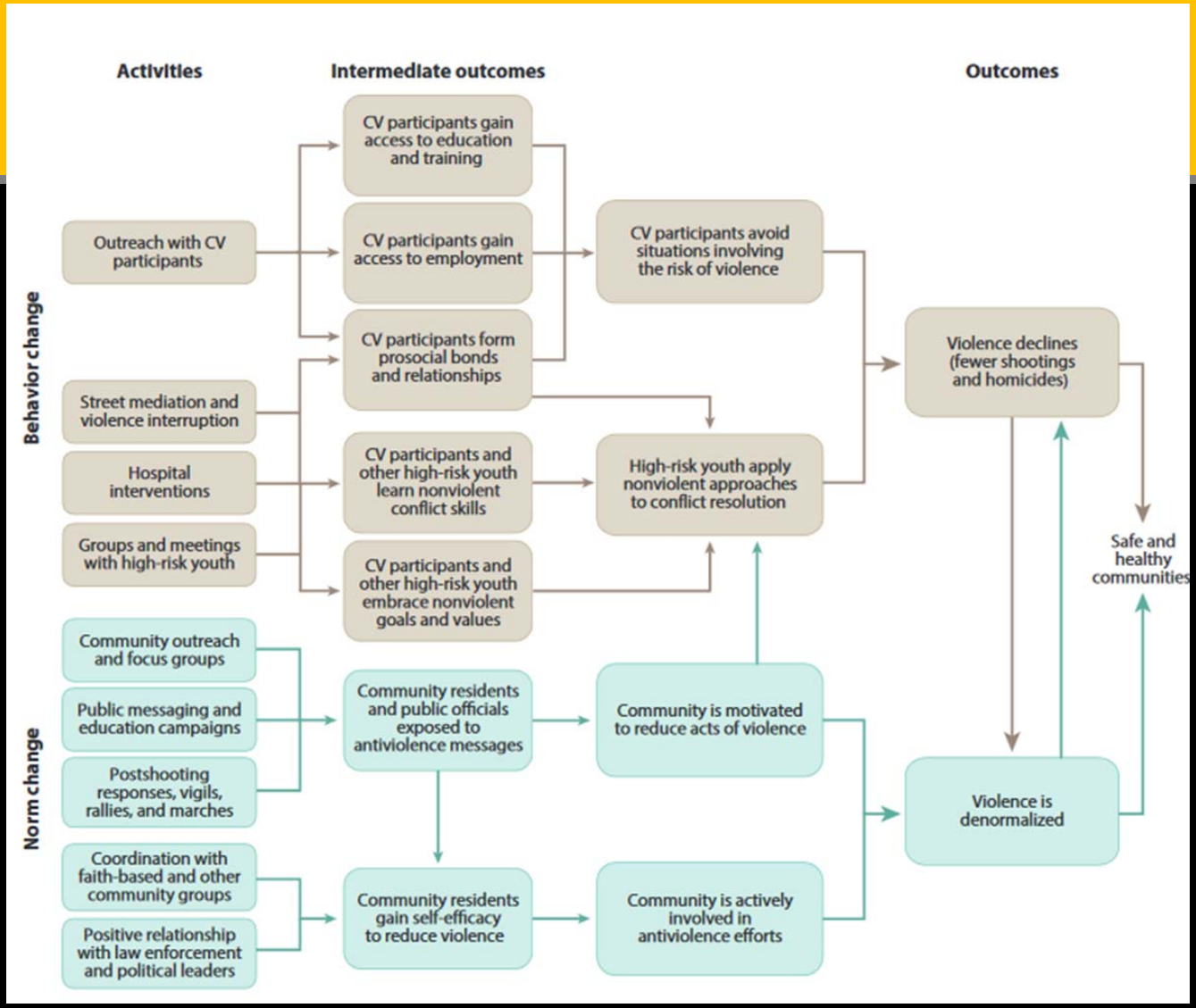
Cure Violence Logic Model



Butts JA, Roman CG, Bostwick L, and Porter JR (2015). *Cure Violence: A Public Health Model to Reduce Gun Violence*. Annu. Rev. Public Health, 36: 39-53. http://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-031914-122509.