

NOLA MURDER REDUCTION

TECHNOLOGY TO POWER DATA-DRIVEN PUBLIC HEALTH STRATEGIES

OVERVIEW

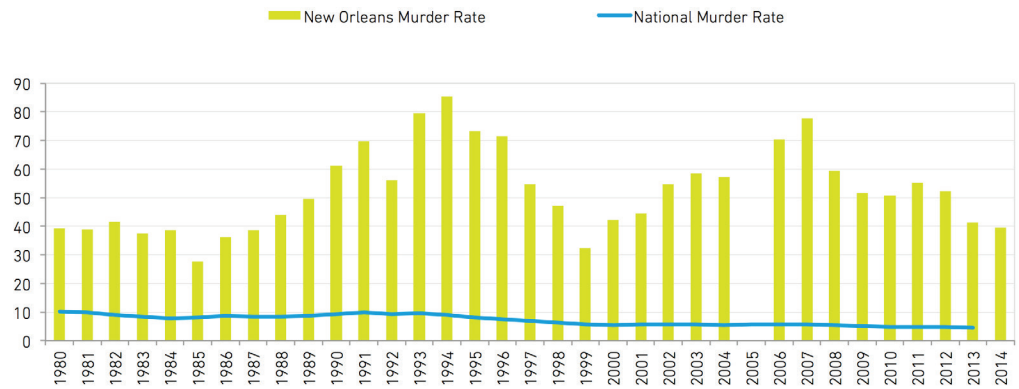
The City of New Orleans has historically struggled with one of the highest murder rates in the country. In response to this alarming challenge, in May 2012, Mayor Mitch Landrieu launched **NOLA FOR LIFE**, a comprehensive strategy that takes a public health approach to murder reduction by channeling programs and scarce resources to the most vulnerable residents in the most vulnerable neighborhoods.

Palantir Technologies has partnered with the Mayor's Office, providing an instance of its flagship Palantir Gotham software platform along with technical and analytical resources in support of the NOLA FOR LIFE strategy. We have integrated data spanning public safety, open source, and proprietary data systems into Palantir, while drawing upon Palantir Gotham's built-in privacy protective capabilities to help ensure that analysis performed in the platform is attentive to security, privacy, and civil liberties sensitivities.

With all data in a unified environment, advisors and researchers in the Mayor's Office, the Multi-Agency Gang Unit (the first of its kind in the country), and the New Orleans Police Department's Intelligence Unit develop rich insights into crime hotspots, criminal gang activity, gang networks, and high-risk individuals who may benefit from specialized intervention. By providing a comprehensive, flexible, and secure framework for cross-jurisdictional analysis, Palantir has helped enable new data-driven approaches to significantly reducing violent crime and murder in New Orleans.

NOLA FOR LIFE BACKGROUND

The prevalence of murder in New Orleans is a critical and persistent issue. Despite a multi-year downward trend, the murder rate in New Orleans in 2013¹ was still significantly higher than both the rate in similarly sized cities and the national murder rate:



National and Local Murder Rate, 1980-2014. New Orleans murder rate data is not available for 2005 due to accounting issues following Hurricane Katrina.

Murders per 100,000 People

New Orleans	Similarly Sized Cities	U.S.
41.2	11.0	4.5

Murder rates in 2013. New Orleans has consistently suffered one of the country’s highest murder rates.

Murder Reduction Challenges

Data-driven initiatives to reduce murder rates have historically been limited by the lack of analytic capacity and resources in the Mayor’s Office, New Orleans Police Department (NOPD), and other City government departments. Moreover, many of the legacy public safety records systems tracking information that might advance such initiatives suffer from a number of deficiencies. The data systems are siloed, are built on inconsistent and discordant information models, and reflect idiosyncratic institutional changes over the years (including shifts in vendor relationships, oversight structures, and jurisdictional boundaries). Policies for data handling have further complicated the picture, as both statutory and elective policies and practices have introduced hard-to-reconcile review and retention frameworks. In many cases, the systems themselves have been permitted to stagnate or degrade due to limited use, with many systems serving as passive repositories rather than helping to inform and advance active research and agency

¹ Though the 2014 New Orleans murder rate was available at the time of printing, comparative murder rates (U.S. and Similarly Sized Cities) were unavailable.

NOLA FOR LIFE BACKGROUND (CONT.)

practices. Entrenched institutional factors have complicated the political landscape for multi-jurisdictional sharing, further amplifying the effect of both legitimate and perceived data protection and privacy concerns.

NOLA FOR LIFE

The City's NOLA FOR LIFE program is a comprehensive strategy that takes a public health approach to the reduction of violent crimes and murders. Recognizing the complexity of this challenge and its causes, the program has emphasized multi-jurisdictional engagement from stakeholders across the gamut of city agencies; local, state, and federal law enforcement; public safety agencies; community partners; service providers; researchers; universities; and national experts. Through its innovative, holistic focus, NOLA FOR LIFE encompasses five operational pillars: Stop the Shooting, Invest in Prevention, Promote Jobs & Opportunity, Improve the NOPD, and Get Involved & Rebuild Neighborhoods.

PALANTIR & NOLA FOR LIFE

Palantir is a data integration, analysis, and visualization platform that helps infuse legacy information sources with new value by unlocking previously inaccessible workflows and applications. Palantir fuses disparate legacy data systems (with their varied formats, data types, object models, access control restrictions, and retention rules) and maps those disparate data sets into a unified view with a harmonized and flexible data model. Once all data is integrated, Palantir exposes it to powerful analytical tools that enable the City and NOPD analysts to search authorized data, generate rich analytical products, and discover new insights in a common environment.

In addition to providing a powerful suite of analytical tools, Palantir is designed to be flexible and configurable, allowing organizations to operate responsibly in complex and evolving legal and ethical regimes. This built-in flexibility allows law enforcement agencies to deploy privacy- and civil liberties-protective measures through enforcing robust and granular access controls to restrict usage of sensitive data sources, implementing differential records retention and purging standards, and providing tamper-evident and effectively immutable audit logs to ensure oversight of the system.

Palantir Deployment Methodology

Instituting the Palantir platform for use by the City of New Orleans involved a multi-stakeholder process, starting with sponsorship from the Innovation Delivery Team within the Mayor's Office and working with data stewards across various participating agencies and institutions. The City of New Orleans began by identifying appropriate data sources (outlined below) needed to advance the effort and subsequently worked with sponsors within the respective departments or agencies controlling those sources to

PALANTIR & NOLA FOR LIFE (CONT.)

broker agreements outlining the intended data uses. With corresponding data usage arrangements in place, the data sources were then integrated into the Palantir platform using a federated model for mirroring content from external Systems of Record while selecting for limited inclusion of data elements deemed useful to the murder reduction efforts and further applying data source-specific access controls to allow for selective exposure of data elements according to users right- and need-to-know. Integrated data structures were iteratively generated, reviewed, and vetted by controlling officials and subject matter experts to ensure data fidelity and suitability for the intended and authorized analytical applications, and to minimize the inclusion of data not necessary for the intended purposes of the project.

Prior to granting permission to use the Palantir platform, each analyst/user received purpose-specific training and granted accounts with access controls determined by the Mayor's Office, in conjunction with approval from the stakeholders from the originating source agencies. Beyond access controls and oversight through effectively immutable and tamper-evident audit logs, data usage and analysis guidelines were used to provide policy guidance for determining how insights uncovered through social graph analysis might be applied in practice. For example, analytical outputs used to identify potential victims for the City's "call-in"² interventions were also manually screened to ensure consistency with other requirements, including verification that identified individuals were under supervision by the Louisiana Department of Corrections Division of Parole and Probation. This vetting process and scope limitation also helped to minimize the risk of creating or perpetuating social stigmas through connections to previous law enforcement encounters.

Analysis in Palantir

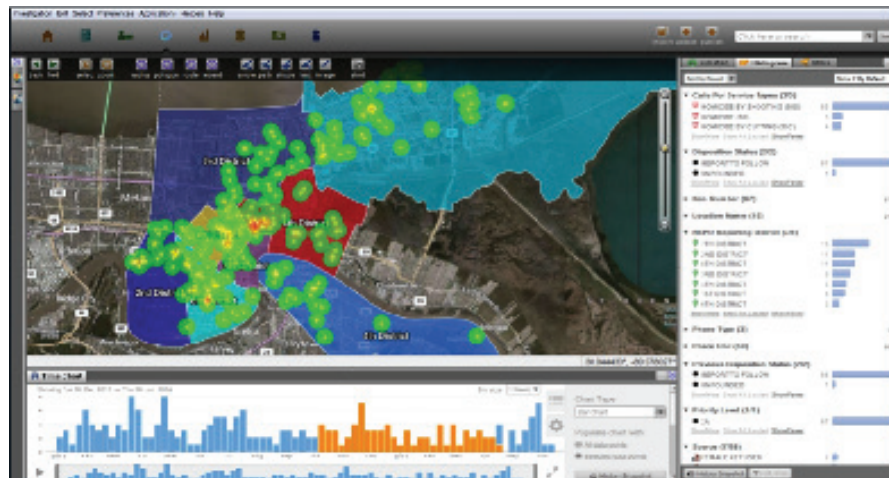
Palantir supports the NOLA FOR LIFE initiatives by informing data-driven program decisions and outcomes. Palantir has been used in support of the following (and more):

- Informing CeaseFire Hospital Crisis Intervention Team efforts to target community outreach to hot spots
- Deploying resources from the Department of Public Works to repair streetlight outages
- Increasing New Orleans Fire Department presence around schools in violent areas
- Identifying schools with high-risk populations for targeting Health Department prevention initiatives
- Analyzing murder victim wound locations for the Innovation Delivery Team
- Supporting the Law Department's efforts to enforce alcohol beverage outlet (ABO) violations

² "Call-ins" typically involve a face-to-face meeting with gang members in a forum setting, during which this partnership of city stakeholders "clearly communicates (1) a credible, moral message against violence; (2) a credible law enforcement message about the group consequences of further violence; and (3) a genuine offer of help for those who want it." http://nnscommunities.org/old-site-files/Group_Violence_Intervention_-_An_Implementation_Guide.pdf

PALANTIR & NOLA FOR LIFE (CONT.)

- Locating and prioritizing neighborhood cleanup sites identified by the Mayor’s Office
- Enabling NOPD to conduct rich social network analysis to identify and understand gang and group involvements in murders and shootings



Palantir’s Map application. Palantir’s visualization tools enable rich insights into trends and patterns in New Orleans murders.

Data Sources in Palantir

The primary data sources that have been integrated are standard law enforcement and public safety records systems from NOPD, Orleans Parish Sheriff’s Office, and other partner agencies:

- Calls for Service (CAD)
- Electronic Police Reports (EPR)
- Field Information Cards (FIC)
- Case Management System (CMS)
- NIBIN Ballistics System
- Orleans and surrounding Parishes’ Parole and Probation Records
- Sheriff’s Office Arrest and Booking Records
- Group and Gang Database

Additionally, various open source data sets have been integrated to provide community and infrastructure views of New Orleans:

- Schools, hospitals, libraries, streetlights, and other civic infrastructure location details and descriptive characteristics
- Liquor store registries
- Residential and Commercial private camera registries
- Map layers for police, fire, city council, and historic districts, as well as city parks and statistical areas

**PALANTIR & NOLA
FOR LIFE (CONT.)****Analytical Approaches**

By allowing analysts to apply powerful analytical and visualization tools against all available data in a single environment, Palantir has enabled the discovery of insights that go beyond well-known characterizations of murder in New Orleans and further flesh out the modalities of these crimes. Analysis using Palantir has, for example, illuminated the roles of feuds, retaliations, drugs, common disputes, and gangs in shootings and homicides. Building on these insights, analysts have been able to construct hypotheses to guide further analysis and inform enforcement and intervention strategies.

Palantir has proven particularly valuable in helping the City of New Orleans develop these insights because the platform is designed to augment rather than replace the role of human analysts. By helping to automate repetitive and mundane tasks, Palantir frees the analysts to apply their subject matter expertise and critical decision making capabilities to analytical work that algorithms alone are incapable of reliably performing. This approach provides both for accuracy in, for example, minimizing the risks of false-positive identifications (especially where the lives and liberties of individuals are concerned) and for accountability in the event the information is mishandled.

One example of an analytic workflow that instantiates these principles of augmenting human intelligence is social network graphical analysis, a new strategy used both to investigate shootings and to proactively identify vulnerable communities and individuals who are most at risk of becoming victims.

Investigating Shootings

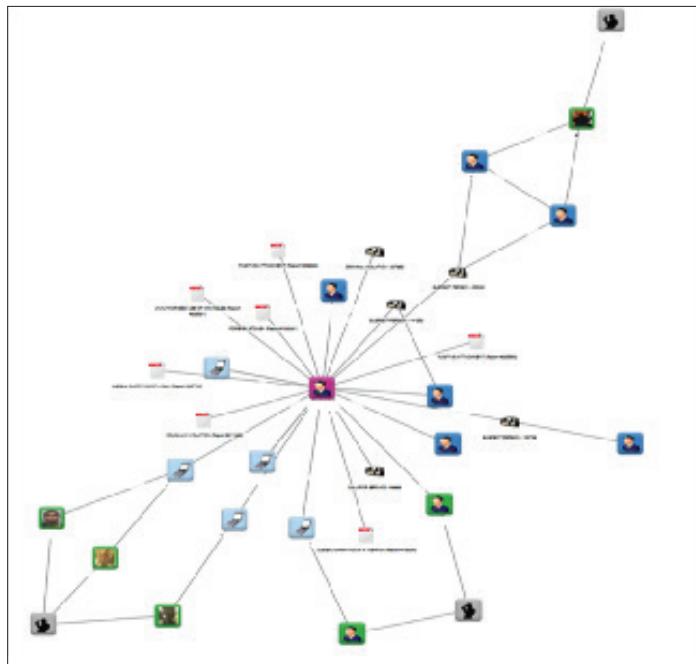
In 2013, New Orleans averaged 1.46 shootings per day (and .41 murder victims per day). When shootings occur, an NOPD analyst uses Palantir to create a comprehensive view of the relationships of the involved victims and suspects. The analyst draws upon subject matter expertise, training, and policy guidelines, to supplement the insights surfaced through Palantir in order to insure that analytical outcomes are valid, reliable, and methodologically and procedurally sound. The resulting analytical products are delivered to NOPD leadership, NOPD detectives, and relevant federal partners, subject to the appropriate restrictions and limitations on usage of the information contained in the products. Additional ad hoc social network analysis charts are often provided to assigned detectives to support and help solve specific investigations.

Palantir has also been used to create sophisticated baseline analyses to better understand NOLA's criminal groups and gangs. Social network graphical analysis has been combined with existing law enforcement information and other investigatory sources to firmly establish gangs as "criminal enterprises" to assist in indictment processes. A clearer understanding of these networks also helps surface gang territory trends and visually highlight the potential for emerging feuds.

PALANTIR & NOLA FOR LIFE (CONT.)

Understanding High Risk Populations

Research by Yale sociologists Andrew V. Papachristos and Christopher Wildeman³ evaluating homicides in Chicago (and other high-crime African American communities) suggests that up to 40% of homicide victimization emanates from highly concentrated networks of individuals constituting less than 4% of a given neighborhood’s population, all with some level of criminal involvement in previous shootings.



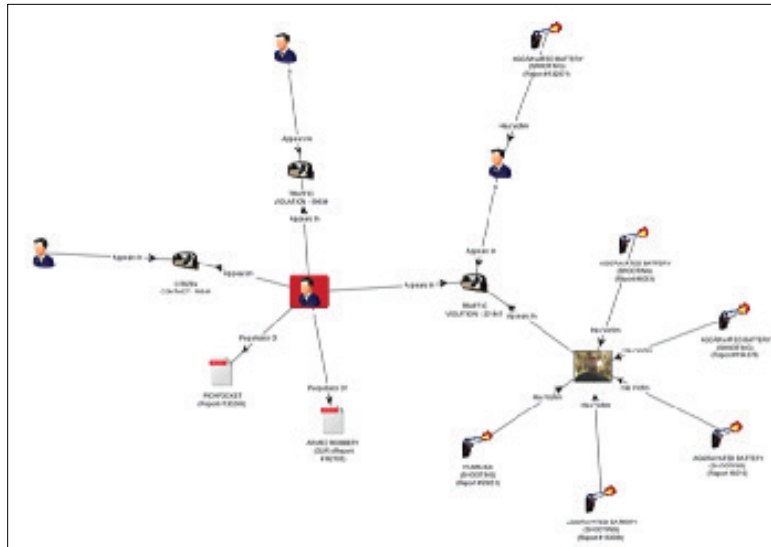
Palantir’s Graph application supports social network analysis. Graphical discoveries and visualizations assist in drawing out otherwise non-obvious connections among suspects and potential associates.

Drawing on these insights, NOLA analysts have developed advanced techniques to identify the most high-risk and vulnerable populations. Using social graph analysis of data ranging from 2011 to the present, analysts can effectively identify 35-50% of the likely shooting victims from a population of approximately 3,900 citizens (1% of the total city population).

This “NOLA Model” can be further refined as new insights are captured and additional high-risk factors are surfaced. Similar to the criminal investigation methodology noted earlier, analysts use Palantir to enhance and augment their training and specialized skills in evaluating information sources. Palantir also enables them to carry out this analysis in a secure, restricted, and auditable environment to ensure authorized data usage and accountability.

³ See, for example, Andrew V. Papachristos and Christopher Wildeman. [Network Exposure and Homicide Victimization in an African American Community](#). American Journal of Public Health: January 2014, Vol. 104, No. 1, pp. 143-150.

PALANTIR & NOLA FOR LIFE (CONT.)



Analysts leverage information on individuals' previous interactions with law enforcement to perform social network graphical analysis and define a related network of high-risk victims.

As the following table indicates, these analytical methods have helped to identify a subset of approximately 3,000 individuals to whom NOLA FOR LIFE can direct programs, services, and intervention strategies in order to maximize the impact of scarce resources and help prevent murders in New Orleans.

	New Orleans Population	High Risk Population	Non-High Risk Population
Population	378,750 (2013 Estimate)	2,916	375,834
% of NOLA population	100%	0.77%	99.23%
2014 Fatal Shooting Victims (annual rate per 100,000)*	146 victims (38.5)	38 victims (1,303)	108 victims (28.7)

*current as of 12/31/2014

PALANTIR & NOLA FOR LIFE (CONT.)

Interventions & Outcomes

The Mayor's Office and NOLA FOR LIFE team are developing innovative strategies for putting the NOLA Model into action.⁴ Palantir's analytical capabilities help stakeholders to develop these new strategies and devise the City's prevention, intervention, and rehabilitation programs.

As the City engages program partners and must increasingly make strategic allocation decisions with limited resources, data-driven decision making becomes even more essential. For example, the City can leverage Palantir to focus resources on individuals exhibiting the highest predictors of violence (e.g., age, criminal history, gang affiliation), identify individuals who are already engaged through other NOLA FOR LIFE programming, and determine whether law enforcement intervention or social service prevention (or a combination of the two) is more appropriate.

The City's efforts through NOLA FOR LIFE have yielded some concrete successes. At the close of 2014, New Orleans saw a 21.9% reduction in murders and a 14.2% reduction in total shooting victims for the combined periods of 2013 - 2014 as compared with 2011 - 2012. The number of murders is the lowest the City has seen in 43 years (39.6 murders per 100,000 people).

However, the murder rate is still well above the national average and there is considerably more work to be done. In order to further effect and maintain a lower murder rate in New Orleans, the City will likely need to explore earlier intervention strategies. Through the integration of additional data sources and further refinement of analytical techniques, Palantir Technologies will continue to provide City analysts with the resources they need to drive these insights and initiatives.

Expanding the effort to include other jurisdictions of city governance (e.g., the school system and social services sectors) will introduce new data protection and privacy sensitivities around NOLA FOR LIFE objectives. Palantir will support the City in developing sound practices and deploying complementary privacy-protective features. Palantir's dedicated Privacy and Civil Liberties (PCL) team along with our advisory board of academic and privacy experts (the [Palantir Council of Advisors on Privacy and Civil Liberties](#)) will draw upon their experience dealing with similar complex privacy challenges in these spaces and will provide technical guidance and support in understanding and adapting to these issues.

⁴ <http://www.govtech.com/data/New-Orleans-Cuts-Murder-Rate-Using-Data-Analytics.html>