Person-Based Predictive Policing Questions & Considerations

Professor Andrew Guthrie Ferguson

Background: Lack of Trust

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New Study Says Chicago Police's 'Heat List' Inaccurate, Ineffective

CPD says that its "strategic subject list" predicts most of the city's shootings. But the algorithm used to make that list, and the names on [...] secret. Now a new RAND corporation study says the CPD's list has not been a good predictor of who will be a shooting victim.

By Justin Bull and Miles Bryan | Aug 19, 2016, 10:06am EDT

DEEP TECH

LAPD ditches predictive policing program accused of racial bias

Police say they're dumping the program to cut costs

April 22, 2020 - 5:13 pm

POLICY / REPORT / US & WORLD

Chicago's predictive policing tool just failed a major test

/ A RAND report shows that the 'Strategic Subject List' doesn't reduce homicides

By Matt Stroud
Aug 19, 2016, 10:28 AM EDT

0 Comments (0 New)

Dylan Lathrop

CBSN ORIGINALS

LAPD not giving up on data-driven policing, even after scrapping controversial program

By Grace Baek, Taylor Mooney
February 23, 2020 / 7:00 AM EST / CBS News

CBS REPORTS

Inputs, Interventions, Impacts

Racial Bias

Police Power

Civil Rights/ Law

Data Inputs: Chicago

CITY OF CHICAGO
OFFICE OF INSPECTOR GENERAL

ADVISORY CONCERNING THE CHICAGO POLICE DEPARTMENT'S PREDICTIVE RISK MODELS

OIG FILE #18-0106
THE CHICAGO POLICE DEPARTMENT'S PREDICTIVE RISK MODELS   JANUARY 23, 2020

A.   CLEAN AND VET DATA AND DEVELOP PROTOCOLS TO REGULARLY UPDATE PTV-RELATED INFORMATION

CPD's risk scores and tiers were unreliable as they were not updated regularly and the quality of the data was, in certain respects, poor.[10] Until CVRM was launched on January 9, 2019, SSL scores had not been updated since August 2016, resulting in scores which were static for nearly two and a half years. Specifically, CPD used and disseminated information that,

1. retained risk scores and tiers for individuals who were not arrested again within the four years following IIT's calculation,
2. did not assess the risks of individuals who were arrested after the risk scores and tiers were last calculated, and
3. did not account for additional activity that could impact individuals' risk scores and tiers.

Problematic data inputs – theory.
Problematic data practices – reality.

Source: Off. OF THE INSPECTOR GEN. CHICAGO POLICE, Advisory Concerning the Chicago Police Department's Predictive Risk Models, (Jan. 2020).

How strategic is Chicago's "Strategic Subjects List"? Upturn investigates.

Brianna Posadas · Follow
Published in Equal Future · 12 min read · Jun 22, 2017

- The number of times an individual was a victim of a shooting;
- An individual's age during their most recent arrest;
- The number of times an individual was the victim of an aggravated battery or assault;
- The number of prior arrests an individual had for violent offenses;
- The individual's number of prior narcotics arrests;
- The number of prior arrests an individual had for unlawful use of a weapon;
- An individual's trend in recent criminal activity;[1]
- An individual's gang affiliation.[2]

The entire Strategic Subjects List dataset consists of **398,684 individuals.** That's the whole universe from which a smaller, "strategic list" gets culled.

What's really surprising is that, out of those 398,684 people, 287,404 have scores over 250, the level that CPD says earns them heightened police scrutiny. That's more than two-thirds of the entire list. Further, it's not clear how all of these "higher risk" individuals were placed on the SSL in the first instance.

Many people in the data have no obvious markers traditionally associated with "high risk of criminal activity," and many of that ostensibly lower-risk group nevertheless have scores above the CPD cutoff: **127,513 individuals on the list have never been arrested or shot, but around 90,000 of them are deemed to be at "high risk."**

Inputs and Policing: Chicago: Arrests & Victimization

OIG FILE #19-1181
RACE- AND ETHNICITY-BASED DISPARITIES IN CPD'S USE OF FORCE   MARCH 1, 202

FIGURE 7: Compounding disparity in Citywide investigatory stops and uses of force

Compounding Disparity in Citywide Investigatory Stops and Uses of Force

Citywide Population: 2,682,122

Black: 809,557   30.2%
Non-Black: 1,872,565   69.8%

Total investigatory stops: 337,090   Investigatory stops

Black: 230,353   68%
Non-Black: 106,737   32%

Inputs predicting what?

- If arrests are inputs for risk, then police actions can shape "risk" independent of the individual's actions.

- If victimization is an input for risk, then non-criminal (environmental/social) factors shape "risk" independent of the individual's actions.

- If predictive interventions are based on things other than individual culpability, a predictive risk scoring system for police is flawed in design.

Interventions: When? What? ~~Effective?~~

When to Do Something – 18 Months?

- What valid interpersonal predictions can be extrapolated out a year and half?

- What is a police officer to do?

The Chicago Police Department began using a series of risk models to predict PTV individuals in 2012. The first five PTV risk models were iterations of SSL, while the sixth and most recent version was CVRM. Both models analyzed individuals' attributes to predict their likelihood of becoming a PTV over the next 18 months.

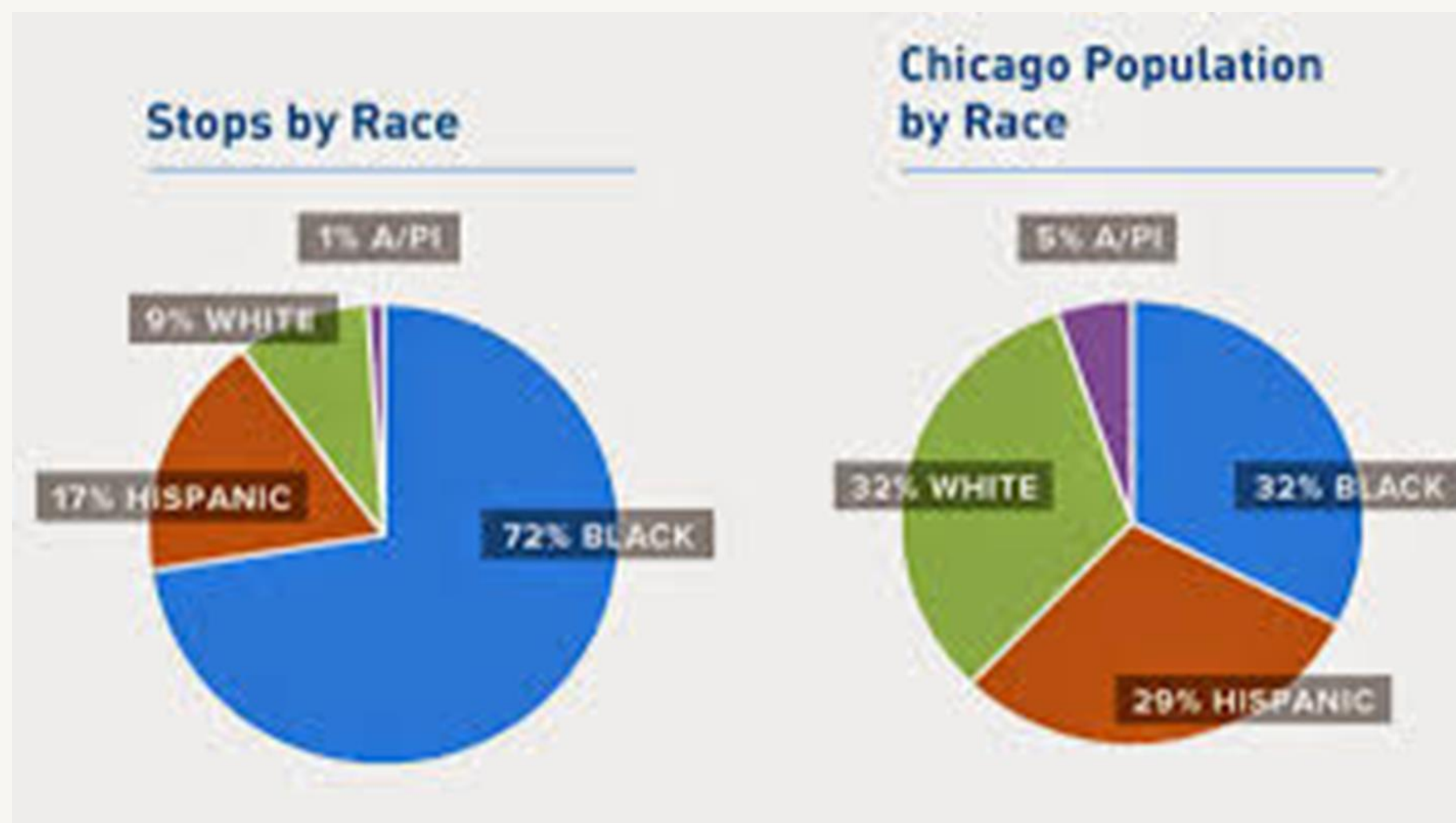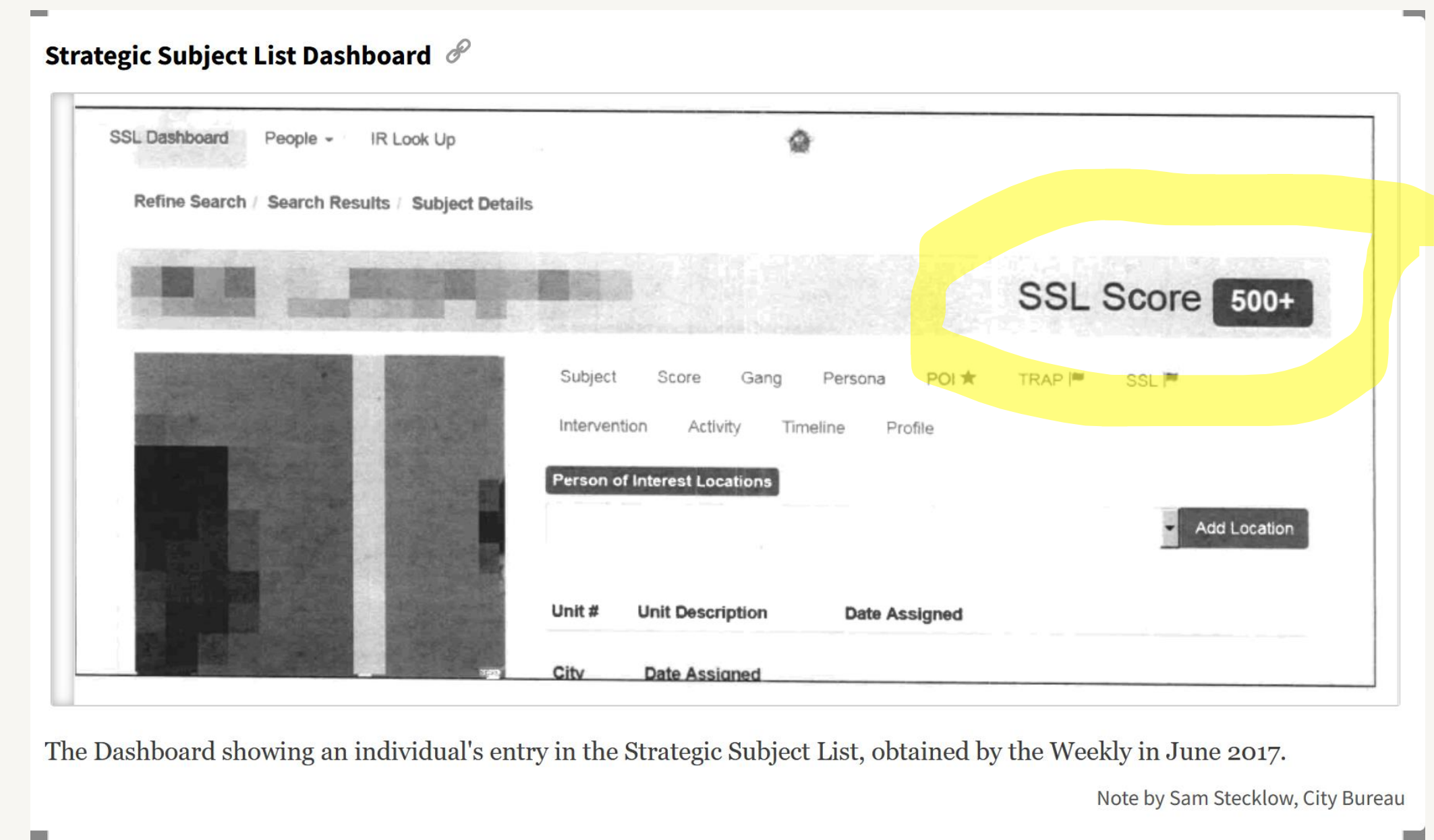over the next 18 months.

What to do? What can police do?

Over the course of the PTV program, CPD used its PTV risk models in several ways, including:

- Custom Notification Program: CPD used the prediction model to help inform referrals to its Custom Notification Program, designed to identify at-risk individuals and connect them to social support services.[5] (According to CPD directives, the risk scores or tiers were among several factors guiding referrals to this program);[6]

- Targeted Repeat-Offender Apprehension and Prosecution (T.R.A.P) Program: According to CPD's Special Order S10-06, T.R.A.P. "allows the Department and the State's Attorney's Office to work together to identify repeat offenders with the high propensity toward violent, gang-related crime." The program "focuse[s] on enhanced prosecution to detain, convict, and incarcerate these offenders."[7] District commanders may have used an individual's SSL score as one of ten potential criteria in determining eligibility for the program; and

- Gang Violence Reduction Strategy (GVRS): CPD's General Order G10-01 describes GVRS as "comprised of multiple components: information gathering, analysis, dissemination of intelligence, linking of gangs to their factions, social network mapping, and a variety of mission-specific operations focused on targeted gang members and their associates."[8] CPD stated that SSL was one of four "technical components" of GVRS. [9]

Source: Off. OF THE INSPECTOR GEN. CHICAGO POLICE, Advisory Concerning the Chicago Police Department's Predictive Risk Models, (Jan. 2020).

Impacts: Suspicion & Use of Force

Risk scores can impact police interactions and suspicion on the streets.

Even if the score is not based on anything, the perception of risk can distort policing.

The Dashboard showing an individual's entry in the Strategic Subject List, obtained by the Weekly in June 2017.

Note by Sam Stecklow, City Bureau

THE FINDINGS

The Justice Department investigation found that CPD officers have engaged in a pattern or practice of using force, including deadly force, that is unreasonable, in violation of the Fourth Amendment. This pattern or practice includes:

Impacts: Punishment & Policy

Punishment without convictions.

The fact that CPD's models generated PTV scores or tiers for all individuals arrested, including those not necessarily convicted, may have resulted in interventions which effectively punished individuals for criminal acts for which they had not been convicted. According to Special Order S10-05, individuals who received a custom notification as a result of a PTV risk score or tier, regardless of whether they were convicted, may have been subject to harsher charging decisions on subsequent arrests.[17]

Predictive Policing programs in Chicago shut down.

To properly decommission the program, OIG recommends that the Department,

1. appropriately revise its orders and directives to remove language referencing SSL and CVRM,
2. remove risk scores and tiers from CPD databases,
3. ensure all appropriate CPD personnel, including commanders and district intelligence officers (DIOs), are informed about the discontinuation of PTV risk models,
4. ensure external agencies no longer have access to risk scores or tiers, including any indirect means (e.g. email updates), and
5. determine whether other methods employed by officers are empirically based and can accurately predict individuals at risk of becoming PTV.

Inputs: Los Angeles
(Los Angeles Strategic Extraction and Restoration)

"*The basic premise is **to target with laser-like precision** the violent repeat offenders and gang members who commit crimes in the specific target areas. The program is analogous to laser surgery, where a trained medical doctor uses modern technology to remove tumors or improve eyesight.*"

Diagram of CID Operation LASER
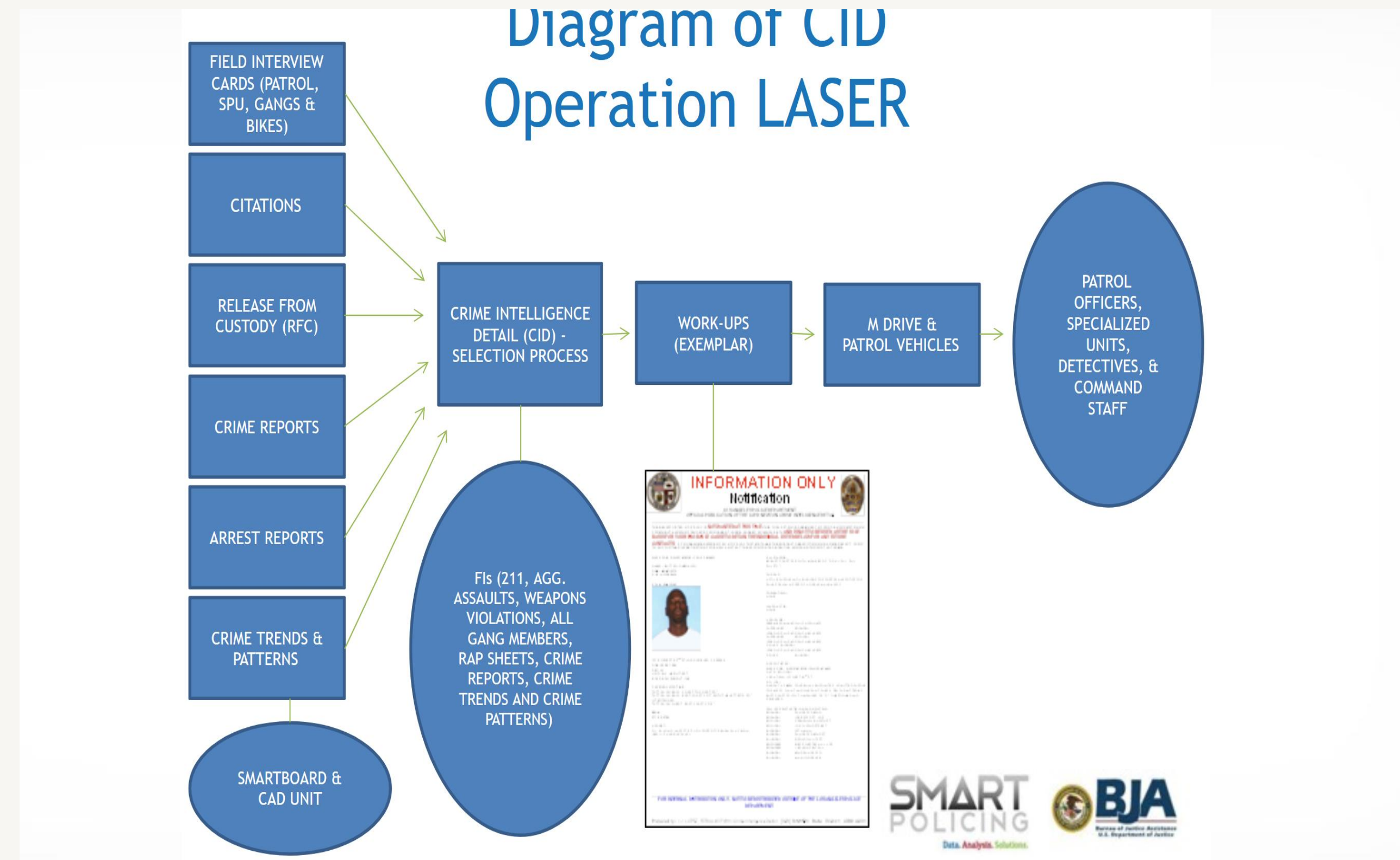
Data Inputs: L.A.

The point system used for the Chronic Offender Program has changed somewhat since it was first implemented. At the inception of the program, each person who was the subject of a work-up received the following:

- 5 points if the individual is a gang member.
- 5 points if the individual is on parole or probation.
- 5 points if the individual had any prior arrests with a handgun.
- 5 points if the individual had any violent crimes on his or her rap sheet.
- 1 point for every "quality police contact" in the last two years.[8]

In 2017, two criteria in the point system above were modified to include the following considerations:

- Identify the number of violent crime arrests the individual had over the last two years. Apply 5 points for each violent crime arrest.
- Determine whether the individual has used a gun in the course of his/her activities. Apply 5 points for each incident involving a gun over the last two years.

Inputs

- Some people had **no points**, relying on informal referrals. 37 people listed as "Active," as well as 75 people listed as "Inactive," were added to the database with a total of zero points.

- **Points were random. Assigned points per offender ranged from zero to 101**. The majority of people in the database – about 59 percent – had **25 points** or less.

- Arrest numbers were inconsistent. **Nearly half of Chronic Offenders** – 44 percent – of those with detailed point calculations were listed as having either **zero or one such arrest**.

- While about half of Chronic Offenders were listed as having one or more reported arrests for gun-related crimes, about **half were listed as having no such arrests**.

- Nearly 10 percent of the Chronic Offenders in the database **did not have any "quality police contacts"** recorded, and the majority had less than five such contacts.

- Alternatively, several Chronic Offenders were listed as having been contacted by the police anywhere from 20 to 45 times.

OFF. OF THE INSPECTOR GEN., L.A. POLICE COMM'N, REVIEW OF SELECTED LOS ANGELES POLICE DEPARTMENT DATA-DRIVEN POLICING STRATEGIES 3 (2019)

Interventions? ~~Effective?~~

Strategies for Intervention

Once developed, an Area's list of 12 Chronic Offenders is presented to the Area Commanding Officer for approval. The Area Commanding Officer then determines which field personnel (Patrol Unit, Gang Enforcement Detail, Parole Compliance Unit, etc.) to assign to a given Chronic Offender for the purposes of conducting follow-up with that individual.

Based on Department materials provided to the OIG, the Department's recommended follow-up activities included: 1) sending a letter to the offender; 2) conducting warrant checks; 3) conducting parole/probation compliance checks; and 4) conducting door knocks and advising the offender of available programs and services designed to reduce the risk of recidivism. Personnel who are assigned an offender are to provide a status update to their Commanding Officer every two weeks regarding what actions have been taken with that offender. This information is also entered into a database.

OFF. OF THE INSPECTOR GEN., L.A. POLICE COMM'N, REVIEW OF SELECTED LOS ANGELES POLICE DEPARTMENT DATA-DRIVEN POLICING STRATEGIES 3 (2019)

Bad Data = End of Program

6. *Conclusions and Next Steps*

Chronic Offender Program

In considering the available data, the OIG identified significant barriers in evaluating the Chronic Offender Program. The most significant of these was a lack of clear, reliable data that could be used to measure both the inputs and outcomes related to these efforts. Another barrier was the significant variation in how the program was being used across different Areas. These variations also led to concerns about the extent to which the Chronic Offender Program practices are aligned with a clear set of goals, and whether these activities are properly balancing the

potentially intrusive nature of the program with the risk to public safety posed by the people included in it.

One of the primary areas that lacked clarity was the overall goal of the program itself. As stated in its materials, Operation LASER was initially designed to arrest and remove people who had a disproportionate impact on violent and gun-related crime in their community. These goals appear to have evolved into something closer to the deterrence of crime, as evidenced by the use of a letter and other types of engagement. The OIG also observed that some Areas appear to simply use the program as a way to track designated offenders and provide general awareness for officers.

Prediction turned into deterrence which turned into surveillance.

Impacts On Police-Citizen Relations

OFF. OF THE INSPECTOR GEN., L.A. POLICE COMM'N, REVIEW OF SELECTED LOS ANGELES POLICE DEPARTMENT DATA-DRIVEN POLICING STRATEGIES 3 (2019)

Bulletins encouraged unconstitutional stops:

• Language was in the materials suggesting that officers who see designated Chronic Offenders "may stop them, do a field interview, and let them go, if appropriate," the document also states that "[i]n many situations, however, as with all stops, [the stops] should be constitutional and legal."

Enacted without rules – No formal rules. No Special Orders, Department Notices/Correspondence, or Manuals – relating to Operation LASER

Operated without training protocols – Only informal trainings

Data Not Updated

• The database included people who were in custody,
• Almost 30 percent of the people in the database had no updates listed, with an additional 18 percent having just one such entry.
• In contrast, about eight percent of Chronic Offenders in the database had more than 10 update entries, with a small number of people (14) having between 20 and 34 such entries.

Impacts on Trust

CALIFORNIA

LAPD ends another data-driven crime program touted to target violent offenders

"Active" Chronic Offenders by Race/Ethnicity and Gender						
Race/Ethnicity	Male #	Male %	Female #	Female %	Total	%
Hispanic/Latino	116	49.8%	8	3.4%	124	53.2%
Black/African American	70	30.0%	2	0.9%	72	30.9%
White	28	12.0%	6	2.6%	34	14.6%
Other	3	1.3%	0	0.0%	3	1.3%
Total	217	93.1%	16	6.9%	233[19]	100.0%

HOW THE LAPD AND PALANTIR USE DATA TO JUSTIFY RACIST POLICING

In a new book, a sociologist who spent months embedded with the LAPD details how data-driven policing techwashes bias.

Mara Hvistendahl
January 30 2021, 7:00 a.m.

OFF. OF THE INSPECTOR GEN., L.A. POLICE COMM'N, REVIEW OF SELECTED LOS ANGELES POLICE DEPARTMENT DATA-DRIVEN POLICING STRATEGIES 3 (2019)

Today's Terry: Fourth Amendment
## in a World of Threat Scores = Predictive Suspicion

Reasonable suspicion = low standard of suspicion. Unbounded. Undefined. Open.

Predictive information about risk, past criminal activity, algorithmic scores, etc. How does that impact suspicion? Will Fourth Amendment rights change depending on algorithmic risk scores? Can predictive risk be used to justify a stop?

Predictive Prosecution
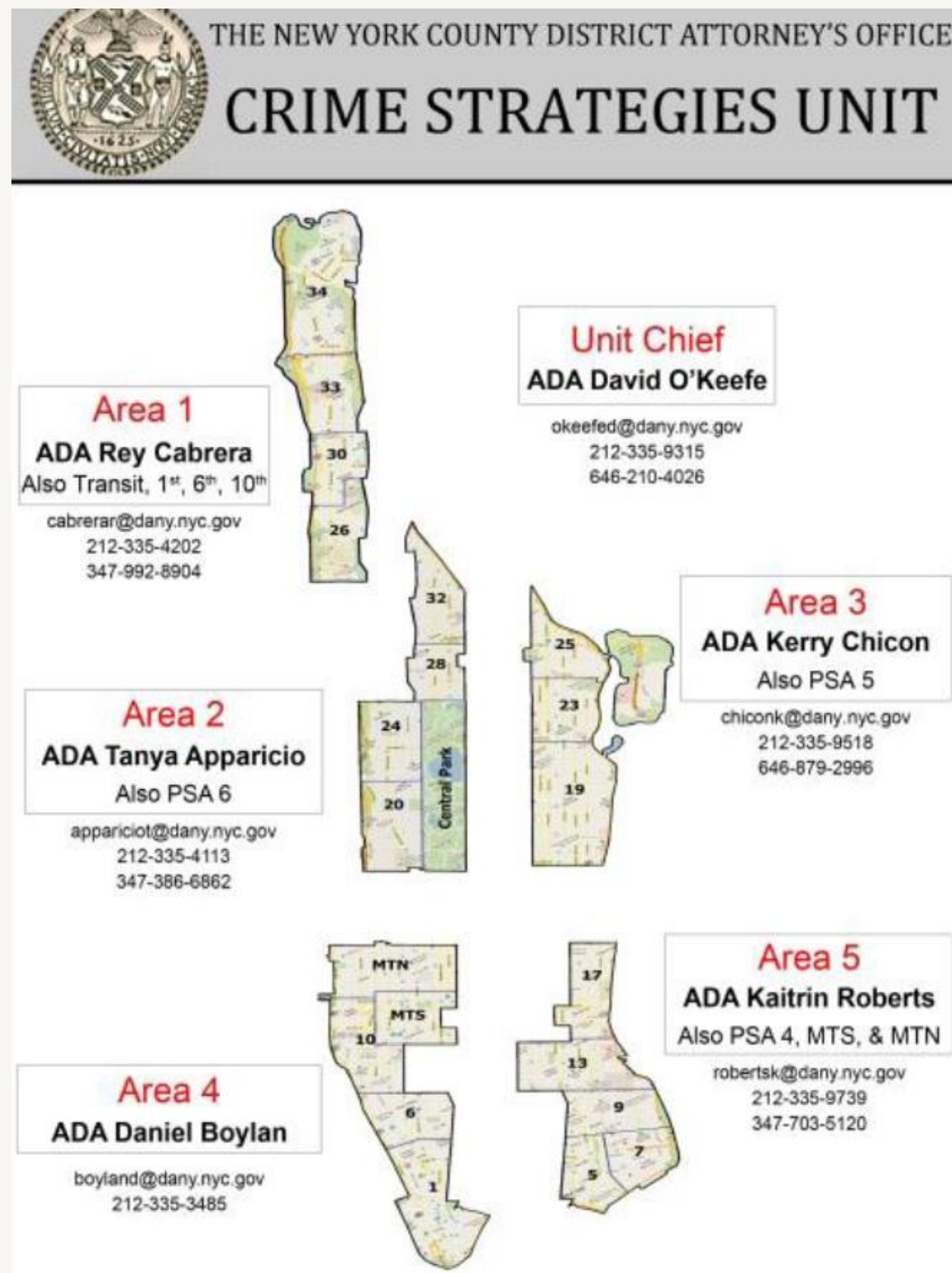
Predictive policing of targets linked with prosecutorial powers.

Targeting priority offenders.

- Inputs – convictions.
- Interventions – pretrial detention, trial punishment.
- Impacts – new form of surveillance and strategy.

HOW THE MANHATTAN DA'S USE OF BIG DATA TARGETING RISKS CHANGING THE RULES OF PROSECUTION

Future Reality: What's Next? What if it is all data?

When everything is digital (paperwork, videos, evidence management, GPS, social media, geolocation, etc.,) how can there not be predictive analytics?

Recommendations

- **Adoption**: Person-based predictive policing should not be adopted until inputs, interventions, and impacts can be evaluated as effective in reducing criminal activity. The cost to citizen-police trust is too high to pilot unproven theories. As of 2024, there have been no validated or reliably tested person-based predictive policing strategies shown to work in practice at scale.
- **Inputs**: Person-based predictive policing should not be based on police-generated inputs or non-criminal inputs. Arrests, police contacts, and other police-initiated actions should not be used to elevate the risk score of an individual. Victimization should not be the basis of heightened police intrusion. Inputs must be carefully chosen to avoid reifying existing structural inequities around poverty, race, or over-policing certain communities that result in higher involvement in the criminal justice system.
- **Interventions**: Person-based predictive policing interventions must be timely and actionable. Risk scores that predict acts 18 months in the future provide no actionable information to officers on a daily basis. A risk score that provides no actionable information adds no value. Interventions must be based on culpable actions. Risk scores should not be used to justify additional police contacts (absent a predicate crime). Police departments may not be the appropriate institution to reduce risk absent a criminal predicate (i.e., the problem with predictive policing may be the policing part).
- **Impacts**: Person-based predictive policing should be subjected to data audits to ensure accurate use of data. Person-based predictive policing should be subjected to racial justice audits to avoid racially biased use of risk scores. Person-based predictive policing should not be the basis for any police stop and should not be a factor in the Fourth Amendment reasonable suspicion analysis.

Appendix

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