Collecting, Analyzing, and Responding to Stop Data: A Guidebook for Law Enforcement Agencies, Government, and Communities

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I. Foreword

In the wake of nationwide protests following the deaths of George Floyd, Breonna Taylor, and other unarmed Black Americans at the hands of law enforcement, the public appetite for policy change around policing has grown at an unprecedented rate. A July 2020 study released by Gallup found that 58 percent of Americans agree that policing needs major changes, while only 6 percent say no change is needed. Moreover, large majorities support an "increased focus on accountability [and] community relations."

Policymakers, in turn, are racing to keep pace. According to the National Coalition of State Legislatures, lawmakers have introduced 450 pieces of legislation in 31 states in the 11 weeks after George Floyd's death, with more being introduced daily.

Many of these changes are long overdue. We are heartened to see some of our elected leaders beginning to reimagine public safety grounded in the values of the communities they serve rather than the dogma that has failed so many Americans. Fear of uncertainty cannot outweigh the urgency of this moment, and the magnitude of the change needed to meet it.

This guidebook, however, is based on a simple truth: Data collection and analytics are the key to building a new approach. We can't arrive at a safer version of policing unless we can measure what's going on and respond to it. This is particularly true with regard to policies and practice at the core of police operations today, including the use of traffic and pedestrian stops.

At the end of the twentieth century, analytics transformed law enforcement by helping police predict and reduce crime, providing public safety benefits to some communities while widening disparities in others. Now, we need another transformation. If policing is about justice, then we have to measure justice — not just talk about it.

That means measuring not just crime, but the cost of combatting it and whether or not policing generates equitable outcomes. We need to ask about the cost of the widespread use of traffic and pedestrian stops, with a particular focus on communities blighted by generations of government neglect and disinvestment. We must measure the impacts on these neighbors and determine whether practices actually make them safer. We must be willing to consider whether, in trying to solve crime and safety problems, we are producing additional harm.
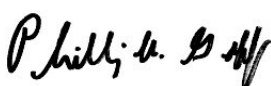
Law enforcement leaders across the country need to ask these types of questions as they seek to identify and reduce harmful outcomes and racial disparities. And governments, from the local to the federal level, need to provide the tools to answer them.

California's leaders recognized the need for robust data collection earlier than most. In 2015, the state enacted the Racial and Identity Profiling Act (RIPA) mandating data collection for all traffic and pedestrian stops. It became the nation's largest and most comprehensive stop data collection effort to date.

We were honored to observe and evaluate the implementation of those requirements. This guidebook has been informed by our findings, which reinforce a core belief: Robust data collection benefits both law enforcement and communities.

We hope it serves as a useful resource for law enforcement executives, policymakers, and community leaders committed to building a new system of public safety. Your work has never been more important.

Sincerely,

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II. Introduction

In 2015, California enacted the Racial and Identity Profiling Act (RIPA), requiring every law enforcement agency in the state to collect data on all vehicle and pedestrian stops, including all citations, searches, arrests, uses of force, and much more (herein referred to as stop data). Although other states had enacted stop data requirements previously, RIPA set in motion what would become the nation's largest and most comprehensive stop data collection effort to date.

With support from the U.S. Department of Justice's Office of Community Oriented Policing Services, researchers from the Policing Project at New York University School of Law and the Center for Policing Equity (CPE) took this opportunity to observe and evaluate the implementation of these new requirements. In collaboration with the California Department of Justice, CPE and Policing Project researchers conducted focus groups with officers; met with command staff and data-focused leadership, before and after RIPA went into effect; and conducted extensive research into relevant issues, including profiling, the current state of stop data collection practices, and data best practices.

The recommendations and conclusions contained in this Guidebook are not drawn from a particular agency, but are a culmination of research. The research team would like to extend special thanks to the following agencies for their willingness to share and work with us:

- Bay Area Rapid Transit Police Department
- California Highway Patrol
- Los Angeles County Sheriff's Department
- Los Angeles Police Department
- Richmond Police Department
- San Diego Police Department
- San Francisco Police Department
- Stockton Police Department

This Guidebook is written for law enforcement executives (e.g., attorneys general, chiefs, sheriffs), government officials at the state and local level, and community leaders. Above all else, it makes one essential point—that stop data collection benefits both law enforcement and communities. Without these data, even the most basic questions about whether officers are operating effectively or equitably go unanswered.

The main chapters of this Guidebook provide basic information on a variety of critical topics, including:

- The need for stop data collection and analysis (Chapter III)
- The benefits of stop data collection and analysis to law enforcement, government, and communities (Chapter IV)
- What data should be collected (Chapter V)
- How data should be collected (Chapter VI)
- How data integrity can be ensured (Chapter VII)
- How data should be analyzed and what sorts of information can be gained through that analysis (Chapter VIII)
- How data and conclusions should be communicated to the public (Chapter IX)
- How law enforcement and government can respond to what the data show (Chapter X)

The Guidebook's appendices then provide more detailed information, including:

- Background on the research partners (Appendix A)
- A comprehensive list of research questions that quality data can answer (Appendix B)
- Suggested variables to collect (Appendices C and D)
- A sample training assessment tool (Appendix E)
- Common data errors to avoid (Appendix F)
- In-depth explanations of local and statewide implementation plans (Appendices G and H)

These appendices are designed to serve as resources once the reader is closer to actually implementing a stop data program.

Any local agency, state government or community members seeking to implement a stop data program should think through each of the topics above from the outset. By covering a wide range of issues, we hope not only to encourage comprehensive data on all stops but also to make clear that law enforcement must analyze and act on such data in ways that promote just and effective policing for all.

III. The Need for Stop Data Collection

Police officers in the United States conduct tens of millions of vehicle and pedestrian stops each year, making the stop a key element of modern law enforcement and the most common interaction that members of the public have with officers.[1] All agencies use vehicle stops to issue tickets for moving violations and to point out equipment problems. And many also attempt to use these stops to investigate criminal activity,[2] to intercept drugs,[3] to make arrests, and to deter crime through increased officer presence.[4] Much of this applies to pedestrian stops, which are not required to be motivated by any violation for which there is probable cause.[5] Stated simply, the officer-initiated stop is a core feature of American policing at present.

Despite the prominence of stops, there is much we still do not know about them, including their efficacy in achieving public safety and their impact on the public. These questions—asked by law enforcement executives and communities alike go largely unanswered because the data needed to answer them are lacking. This Guidebook offers a partial solution to these unanswered questions by providing a blueprint for the collection of quality stop, arrest, and use of force data—what we are referring to as stop data—and the benefits that come from collecting them.

Putting aside the unanswered questions, what we do know should make clear the importance of stop data collection:

- First, although many agencies use stops as a crime-fighting tactic, the evidence that they effectively reduce crime is mixed.[6] Even the impact of stops on traffic safety is not particularly clear, especially when balanced against how much officer time is spent making routine stops.[7]
- Second, stops can be used pretextually to enable other law enforcement activities, such as obtaining consent to search. There is reason to doubt the efficacy of these practices, which also impose significant burdens on individuals.[8]
- Third, a wealth of research indicates that vehicle stops and pedestrian stops disproportionately burden non-White communities.[9]
- Finally, the operational realities of stops—particularly vehicle stops—pose dangers both to those stopped[10] and to law enforcement officers.[11]

Collecting and analyzing stop data can shed light on all of these issues. By embracing stop data collection and analysis in a transparent way, law enforcement can realize a range of benefits, such as:

- Obtaining concrete evidence about whether stops are achieving law enforcement and public safety objectives;
- Providing a better understanding of how stops impact the community and whether certain groups bear a disproportionate burden from those stops;
- Permitting agencies to better assess the conduct of individual officers; and
- Building community trust through improved transparency and dialogue about policing practices.

Again, the only way to answer these questions is to collect and analyze data.

Unfortunately, stop data collection is not the norm across the country. Presently, approximately only 20 states require data collection on vehicle stops, and even those requirements vary widely.[12] Furthermore, even in places where these data are collected, many agencies store data in ways that make it difficult—if not impossible—to standardize and analyze, which in turn makes it difficult to identify patterns of behavior and inform changes to policy or practice. This trend has held true over time. For example, research funded by the National Institute of Justice has found that police agencies are often unable to analyze their crime data in general, including their stop data.[13]

This Guidebook aims to help change this status quo. It builds on prior recommendations that every law enforcement agency collect demographic stop data by providing concrete, step-by-step guidance to develop a comprehensive and accurate data collection system that does not unnecessarily burden law enforcement.[14]

IV. The Benefits of Stop Data Collection

Key Takeaways:

- Critical questions asked by law enforcement executives can be answered only if the right data are collected.
- Stop data can be used to examine and improve law enforcement policies and practices, as well as help assess whether resources can be directed in more fruitful ways.
- Stop data can allow agencies to assess the existence of racial disparities and use findings to acknowledge and respond to what is and is not within their control.
- Law enforcement should be proactive and engage researchers to examine agency operations and officer behavior prior to any high-profile, officer-involved incidents. Doing so shows good faith in fostering positive community relationships.

Data collection and analysis are slowly becoming a bigger component of modern policing. We have already seen agencies leverage data in a wide variety of ways, including: tracking use of force incidents;[15] developing an early intervention system (EIS) to identify officers who might benefit from preemptive intervention;[16] employing predictive policing, including forecasting hot spots for interventions to prevent crimes;[17] and even assessing community sentiment regarding local law enforcement, including willingness to report crimes.[18] Collecting comprehensive stop data should follow suit.

Although more and more police agencies are collecting data on stops, these data are often collected in an unstructured manner, with little tabulation, uniformity, or quality control. This means that agencies struggle to analyze their own stop data, interpret their findings, or compare them with other agencies. Some agencies do not make their data public, and plenty of agencies are not collecting analyzable (i.e., tabular) stop data in the first place. As a result, many communities and law enforcement agencies are missing out on crucial information that could help both officers and the public better understand (and improve) how policing strategies are playing out on the streets.

There is no reason for agencies to remain in the dark. Those that collect the right data can begin to answer a variety of critical questions regarding the impact and efficacy of their tactics. The rest of this chapter includes examples of the types of questions that agencies can begin to answer if they collect stop data. A fuller (but not exhaustive) list is included in Appendix B.

Generally speaking, the questions law enforcement and communities can begin to answer with stop data fall into four categories:

A. Measuring the effectiveness of policing strategies (efficiency)
B. Assessing group disparities (disparity/equity)
C. Assessing degree of group representation (proportionality)
D. Assessing outliers in officer behavior (standouts)

In this chapter, we discuss each of these categories, explaining how stop data can provide insight.

A. Measuring the Effectiveness of Policing Strategies (Efficiency)

Stop data can provide concrete evidence of how well a given tactic works and what impact it has on the public. As agencies face lower staffing levels, they must increase efficiency, directing their limited resources to strategies proven to increase safety, reduce crime, and retain their legitimacy. To do this, agencies need to consider both the benefits and the costs of vehicle and pedestrian stops, including any social harms. Doing so without stop data is impossible.

For example, stop data can be used to assess the impact of stops on traffic safety. Some research has suggested a link between traffic enforcement (e.g., pursuing moving and non-moving violations) and improved traffic safety, although the relationship is not as strong as one might expect.[19]

Gold vs. Silver Standard:

For each of the four topic areas mentioned in this chapter, we provide "Gold Standard" and "Silver Standard" questions.

Gold Standard questions are likely to provide the most actionable findings but are often time consuming and involve complicated methods of analysis. They can account for community-level factors, such as crime and poverty, but usually require someone with expertise in statistics. Whenever possible, Gold Standard questions should be analyzed in addition to Silver Standard questions.

Silver Standard questions should always be asked. Although they have more limitations in terms of what they can reveal, these questions can still provide meaningful information to guide agencies and inform the public. Silver Standard questions are often less costly to answer than Gold Standard questions, requiring less statistical expertise and fewer resources, but they do not account for community-level factors that may be contributing to rates of disparity.

Rather than relying on general research studies combined with local accident and other traffic safety data, stop data can allow an agency to make more specific determinations about whether enforcement in a particular neighborhood or at a particular intersection is improving local traffic safety. With this information, the agency can make deliberate decisions about whether and where to most effectively deploy traffic safety resources.

Robust stop data collection can also allow an agency to assess whether stops are having an impact on short- or long-term crime levels, or whether stops are a valuable mechanism for collecting criminal evidence. At present, although there is evidence suggesting that hot-spot policing can reduce crime, there is also evidence that attempting to scale to citywide deployment may be less effective.[20]

Stop data can empower an agency to identify which strategies work and which do not. Further, collecting these data can help ensure that the agency is directing resources into proven methods that make people safer while strengthening community trust. The questions below illustrate some of the ways that an agency can explore effectiveness and efficiency-related issues:

Gold Standard
1. Have crime rates increased or decreased in areas that have been the subject of recent proactive targeted enforcement?
2. Have citizen complaints of racial or identity profiling increased or decreased in areas that have been the subject of recent proactive targeted enforcement?

3. Have calls for service increased or decreased in areas that have been the subject of recent proactive targeted enforcement?

Silver Standard
1. What is the rate of pedestrian/vehicle stops resulting in citation or arrest?
2. What is the rate of searches/frisks resulting from stops?
3. What is the rate of contraband yield resulting from searches/frisks?

B. Assessing Group Disparities (Disparity/Equity)

There is a substantial body of research dating back to the 1990s that shows officers around the country stop non-Whites at a significantly higher rate than Whites.[21] This concern grew as officers increasingly relied on traffic stops during the War on Drugs, and the phrase "driving while Black" soon entered the mainstream.[22] Allegations of racial profiling drew increased attention from the press, among legislators, and in courts.[23] In the largest study on stop data to date, the Stanford Open Policing Project examined 93 million traffic stops made across the country and found that Black drivers were stopped more often than White drivers, and that Black and Latinx drivers were searched more often than White drivers.[24]

At its core, much of the movement toward gathering stop data is motivated by a desire to identify and root out biased policing outcomes. It is important to note, however, that the

most stop data collection can do is identify disparities. A disparity is a "difference between the likelihood of a given outcome for different groups (for example, the likelihood of being pulled over or of being searched during a traffic stop)."[25] Disparity does not necessarily mean there has been discrimination, which generally requires showing discriminatory intent.

Putting aside the question of intent, it is necessary to understand the unequivocal impact of policing on certain groups. Even if an officer, a unit, or an agency does not intend to target a specific group of people, unequal effects might still be caused by training, policies, or protocol, as well as by implicit bias. There is much to learn from identifying disparities. The mere fact that they exist is reason to act, regardless of whether the underlying cause is discrimination or not, because disparities can strain police–community relations as well as officer efficacy.

Before any disparities in policing can be addressed, however, they must first be diagnosed. Consistent, standardized, and high-quality data on stops are crucial for this.

Although racial and ethnic disparities are the most common type of disparity that stop data can help illuminate, a law enforcement agency or community could explore a wide variety of potential disparities—gender, age, disability status, sexual orientation, English-language ability, veteran status, and much more. By identifying which of these disparities exist, an agency can evaluate whether its efforts are being spent to bring about the intended outcomes and evaluate any breakdowns in the process that become apparent through the data.

Examples of research questions that can measure disparity in stops are as follows:

Gold Standard
1. Are there racial disparities in decisions to use force among perceived race of persons stopped when controlling for age, gender, offense type, and neighborhood context (e.g., crime, poverty)?
2. Are there racial disparities in the yield rates of contraband found among perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?
3. Are there racial disparities in the use of de-escalation techniques (e.g., verbal judo) among perceived race of persons stopped when controlling for gender and neighborhood context (e.g., crime, poverty)?

Silver Standard
1. Are there racial disparities in rates of persons searched?
2. Are there racial disparities in rates of persons arrested?
3. Are there racial disparities in rates of persons on whom force was used?

These same questions could be asked for differences other than race, such as disparities by gender or by age.

C. Assessing Degree of Group Representation (Proportionality)

Taking the previous section one step further, assessing the degree of group representation measures the likelihood of certain outcomes for different demographic groups. Specifically, agencies can measure the proportion of incidents (e.g., stops, citations, uses of force) compared to a group's representation in the community to determine if the group is disproportionately affected.

Research questions to measure proportionality are as follows:

Gold Standard
1. Are there racial disparities between the number of pedestrian and vehicle stops across perceived race of persons stopped compared to their representation in the population when controlling for neighborhood context (e.g., crime, poverty)?
2. What is the proportion of the number of citizen complaints in the neighborhood to the number of police stops in the same neighborhood when controlling for neighborhood context (e.g., crime, poverty)?
3. What is the proportion of the number of citizen complaints alleging racial or identity profiling to the number of police stops in the community when controlling for neighborhood context (e.g., crime, poverty)?

Silver Standard
1. Is the proportion of pedestrian stops by race equal to their representation in the population?
2. Is the proportion of vehicle stops by race equal to their representation in the population?
3. Are there racial disparities between perceived race of persons identified in officer-initiated stops in proportion to the perceived race of persons identified in all calls for service?

D. Assessing Outliers in Officer Behavior (Standouts)

Officers have significant discretion in deciding whom to stop. Discretion itself is not a bad thing and, in many instances, is crucial to good policing. Problems arise when discretion is exercised in a way that reflects bias of any sort, be it intentional or unintentional, or when discretion is exercised in an unlawful or inappropriate way. An agency can use data to help determine the existence of bias (of officers or units), to identify possible explanations other than bias, and to ameliorate these issues in the future through targeted responses.

Good stop data can help an agency keep track of the types of stops an officer makes and the outcomes of those stops. Analysis of these data might show, for example, that cumulatively the agency is issuing too many citations for offenses that disproportionately burden low-income residents, such as expired tags or broken taillights. Or, the data may reveal that a particular officer (or unit) is primarily issuing citations in situations in which the agency prefers warnings instead. Data could also indicate whether a small number of officers are initiating a disproportionate share of stops, also known as outliers. The agency should look to identify which officers are outliers across all measures. For example, if the agency's data show that the vast majority of officers find evidence of criminal activity in 30–70% of their searches, outliers might be officers with a yield rate below 15% or above 85%. Depending on further information, the agency can choose to redirect those officers' efforts to more preferred methods.

Using data to identify and adjust officers' behavior creates greater accountability within an agency, which establishes an internal culture based on fairness and evidence-based policing. Accordingly, these subsequent questions measure the extent to which disparate findings are at the officer or department-level.

Gold Standard

1. Are some officers responsible for a disproportionate amount of stops when controlling for assignment type?
2. What common factors exist among officers with the highest rate of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
3. What common factors exist among officers with the highest number of citizen complaints when controlling for offense type and neighborhood context (e.g., crime, poverty)?

Silver Standard

1. What is the average number of stops per officer?
2. What is the average number of searches per officer?
3. What percentage of each officer's searches yield contraband?

In short, by collecting and analyzing stop data, law enforcement agencies and communities have the potential to answer numerous questions that they could not previously. Doing so can yield a range of benefits, from making law enforcement tactics and operations more effective and more equitable, to improving community relations and minimizing racial and other disparities.

Stories from the Field

Throughout our research, agencies and officers expressed concerns about whether stop data would be analyzed with sufficient context. For example, we heard from officers assigned to highly segregated neighborhoods that their stops would inevitably be of the predominant race or ethnicity. Their concern was whether data analysis would assume these officers were biased, or whether contextual factors would be taken into account. This is a complicated issue and one we revisit throughout this Guidebook. The most fundamental point to understand, however, is that gathering more data is the only way to provide context.

V. The Mechanics of Stop Data Collection: When and What to Collect

Key Takeaways:

- All law enforcement agencies conducting stops should collect stop data—including specialized units.
- Data should be collected from all vehicle stops and all investigatory pedestrian stops (i.e., involuntary interactions between officers and pedestrians).
- Pedestrian and vehicle stops must always be distinguished from one another and never grouped together without an easy marker of separation.
- Data collected should include information on the officer making the stop, the person being stopped, the nature of the stop, actions taken during the stop, and any enforcement outcomes from the stop.

Every effort to begin stop data collection starts with three fundamental questions:

1. Which law enforcement agencies and officers should collect stop data?
2. For which encounters should officers collect data?
3. What specific data should officers collect?

This section provides guidance to help answer each of these three questions. Appendices C and D provide much more detail, including specific examples from California's statewide implementation.

When answering these questions, we have sought to balance two competing interests: On the one hand, in order to truly assess the efficacy of stops and reap the benefits discussed above, stop data must be comprehensive. On the other hand, officers have limited time, and time spent collecting data is time away from other tasks. Although we think the recommendations in this Guidebook strike the right balance, this is ultimately a decision for agencies, communities, and states to make on their own (see Appendices G and H).

A. Which Law Enforcement Agencies and Officers Should Collect Stop Data?

The short answer to the question of which agencies and officers should collect stop data is **all**, with very limited exceptions.

Stop data collection is an essential practice for every law enforcement agency, no matter how small or specialized. We recommend that, in addition to traditional police agencies and sheriff's offices, stop data collection should be conducted by:

- All police agencies of state or municipal educational institutions (e.g., police agencies of K–12 public school districts, university police agencies);
- All transit officers (e.g., officers making stops on subways, trains, and buses);
- State police agencies and/or highway patrol; and
- Probation and parole officers conducting searches other than those required for routine monitoring of their charges as mandated by the court.

Exception:

- Stop data requirements should not apply to officers making stops in custodial settings (such as routine searches in prisons or jails).

Within agencies, specialized units are important to include, particularly because they are often excluded from other accountability measures (such as body-worn cameras). Although vehicle stops are perhaps most associated with uniformed patrol officers, plain-clothed interdiction units make a tremendous number of stops, including pedestrian stops.

This does not mean that collection will necessarily look the same for all units. It is essential that gang, vice, and other similar special task forces or units be given data capture

alternatives that do not impede their ability to operate in the clandestine manner necessary for their specific duties.

B. For Which Encounters Should Officers Collect Data?

Police agencies should record data on **all vehicle stops**—that is, every time an officer pulls a car over, for any reason. Some agencies only collect vehicle stop data if a citation is issued or an arrest is made. Doing so limits the usefulness of the data because it is not truly representative or comprehensive.

Some states exclude roadblocks and checkpoints from stop data collection requirements.[26] These states generally do so for two reasons: First, under the law, these stops are set up as programmatic interventions whose primary purpose differs from traditional law enforcement.[27] Second, stops that are based on a truly neutral formula (such as stopping every tenth car or stopping a group of 20 cars at once) rather than on individual characteristics should not show any demographic disparities.

We do not agree with this position and instead recommend collecting stop data for **all roadblocks and checkpoints**. Doing so can have several important benefits. A thorough and systematic effort to identify disparities can confirm (or disprove) that these stops are neutral in practice. In addition, even if the stops are truly random and neutral, this can provide an important benchmark for future analysis (see Section VIII.A.1 for a more detailed discussion of benchmarks), and can help evaluate the efficacy of roadblocks. We therefore recommend collecting data for all such stops while clearly noting (as part of the collected data) that these stops occurred at a roadblock or checkpoint. This can be as simple as using a checkmark or a unique code that allows an officer to indicate if a stop was a roadblock/sobriety check stop.

We also recommend that agencies collect data on **all pedestrian stops**. It can sometimes be unclear when a pedestrian is "stopped." Under federal and most state laws, a pedestrian is "stopped" when an officer takes actions that, based on the totality of the circumstances, would make a reasonable person feel that they are not free to walk away from the officer. Although this standard is not perfect, it is the same standard used to determine whether a stop is legally justified and whether evidence obtained during the stop will be admitted in court; therefore, this approach has the advantage of being a standard familiar to officers.

Officers need not record encounters that are purely casual and voluntary, such as helping someone with directions, asking residents how their day is going, or inquiring about neighborhood issues of concern. But these encounters must be truly casual and voluntary, and even a casual and voluntary encounter may turn into a stop. For example, an officer may engage someone in small talk but, over the course of the conversation, develop reasonable suspicion that the person has committed a crime. If the officer begins to ask investigatory questions, or if the officer asks for the person's ID, a stop has occurred and data will need to be recorded.

Examples of Pedestrian Stops:

- Officer makes an arrest or issues a citation
- Officer conducts a temporary detention (Terry stop) and frisk
- Officer conducts a search (even if the search is consensual)
- Officer displays a weapon
- Officer blocks a person's path or issues a verbal command to remain
- Officer takes a person's license or ID
- Officer tells a person to place their hands on the hood of the patrol car

Police agencies need to ensure—through policy revisions and/or updated training—that officers have a firm understanding of the actions that may turn a citizen encounter into a stop for which data should be collected.

Other routine and general stops that can be excluded from stop data collection are discussed in more detail in Section C. For example, routine security screenings at facilities or events, such as sports arenas or courthouses, should not be subject to stop data requirements.[28]

One final point: It is essential that stop data differentiate between vehicle and pedestrian stops. This can be achieved with a simple code or marker that indicates a pedestrian rather than a motorist was stopped. Agencies should not rely on traffic code violations to differentiate vehicle stops from pedestrian stops.

C. What Specific Data Should Officers Collect?

The specific data that a particular law enforcement agency or state decides to collect should be the result of stakeholder engagement and, as a result, may vary from place to place.[29] Still, there is good reason to standardize as much as possible, so that data can be compared across agencies and states.

This Guidebook provides recommendations for a baseline of data to collect. Agencies should always feel empowered to collect more data that they feel might be relevant, understanding there is a tradeoff between more comprehensive data and officer time spent collecting it.[30] When redesigning data collection procedures, agencies must preserve data metrics that are required to be tracked for internal purposes or for external funders or oversight agencies.

It is vital for agencies to collect information about what occurs during the course of a stop (including the behavior of the person stopped, any searches conducted, and any force used) and the outcome of the stop (such as any contraband found, citations, arrests, or injuries to subjects or officers). A more comprehensive list of this information is included in Appendices C and D. Generally speaking, we recommend that, at a minimum, every stop data collection program include data addressing **five major categories**:

1. The officer making the stop
2. The person being stopped
3. The details of the stop (time, date, location, etc.)
4. Actions taken by the officer and individual during the stop (including force used)
5. Any enforcement outcomes following the stop

Figure 1 illustrates the points during which data should be recorded. These capture points would include the data from the five major categories mentioned above, but are meant to show the elements of a stop in a time sequence.

1. The Officer Making the Stop

In order to analyze the decision making of particular officers and units, an agency should collect data on the officer who initiated the stop, including that officer's assignment or beat (e.g., patrol, traffic, gang) at the time of the stop.

However, for privacy reasons, we discourage including any personally identifiable information (PII) about an officer, such as the officer's name or badge number. Each officer should be assigned a unique identifier so the agency can link a particular officer to a specific stop but the public cannot. Doing so allows the agency to make data available to the public without divulging information about a particular officer's beat, patterns, or other unique information.

Key Officer Variables to Capture:

✓ Individual characteristics (e.g., race, age, gender), excluding PII
✓ Agency characteristics (e.g., beat, assignment, rank, years on the force)
✓ Unique identifier (i.e., not badge number, date of birth, or anything else externally identifiable)

2. The Person Being Stopped

Next, law enforcement should capture demographic information on the person stopped. Doing so is the only way to identify any disparities in individuals stopped or how they are treated during the stop.

We recommend that the officer record their initial perception of the person stopped, including race, ethnicity, gender, age, and English fluency, as well as any physical, mental, or developmental disabilities. The officer should also record whether the subject appears to be experiencing a mental or other behavioral health crisis. Incorporating training on identifying mental and physical disabilities—and sensitivity

Figure 1. Stop Data Capture Points

| Decision to stop | Actions during stop | Force used | Result of force | Enforcement outcome |

surrounding these—is also important. In the case of a vehicle stop, these data ordinarily need to be recorded only for the driver, unless other passengers have violated the criminal or vehicle code, the officer takes an action toward the passenger, or the passenger receives any enforcement outcome, such as a warning or citation.

As noted above, our recommendation is that the officer record data based on their initial perceptions. Initial perception means the earliest point in time that the officer perceives these characteristics. Sometimes this does not occur until the officer approaches the vehicle. Using the officer's perception is broadly supported in social science research as the best way to assess disparities and potential bias in stops: If bias is factoring into an officer's decision to make a stop, perception is the relevant variable.[31] Asking an officer to report their perceptions relies on honest reporting by that officer, but agency policy also should make clear that an officer will never be punished merely because their perception of an individual's race, gender, or other characteristic differs from actual fact.

The officer should not take into account other indicators that may become apparent during the course of the stop, such as the individual's self-identification, any database lookup, or information on the driver's license. In addition, racial information is not uniformly provided on driver's licenses, and requesting the subject of a stop to self-report race could escalate what may be an already tense interaction.[32] In states where race—or other similar demographics—is captured on the state-issued license, the officer should indicate both their perception as well as what the factual/actual race is, per the government issued ID.

3. Details of the Stop Itself

Officers must record the time, date, and location of every stop. Doing so makes it possible to link stop data to other internal systems, such as dispatch logs or officer activity logs for internal tracking. Collecting these data also makes it possible to track the number of stops over time and to evaluate fluctuations in the data that may correspond to specific times of the day, days of the week, or even months or seasons. This can be critical to evaluating disparities and testing different crime-control strategies, community-policing initiatives, and training or policy changes.

Agencies also can require officers to record whether stops are "intelligence-led." Intelligence-led policing is best described as a process in which information is analyzed and shared among a collaborative group of law enforcement partners to identify high-frequency locations, offenders, and threats to public safety.[33] A stop would be considered intelligence-led, for example, when analytics are used to pinpoint a specific individual in an attempt to intercept and prevent future criminal activity.

Requiring officers to record this information allows an agency to better assess the stops being made and orients officers to think critically about the reasons they are making a stop in the first place—which may make them less likely to act on any implicit biases. When the Oakland Police Department included this prompt in its stop data as part of an effort to deprioritize stops for minor violations, the number of discretionary stops dropped by 37% in the following year.[34]

Key Variables to Capture Regarding Person Stopped:

✓ Individual characteristics (e.g., perceived race, age, gender)
✓ Type of stop (e.g., pedestrian, vehicle)*
✓ Unique identifier (i.e., not license number, date of birth, or anything else externally identifiable)

Pedestrian and vehicle stops must always be distinguished from one another in the data. They should never be grouped together in a way that makes it difficult to tell if the stop is of a pedestrian or a motorist.

Many elements can be tracked with a simple checkbox, such as:

• Was the subject's race perceived before the decision to stop?
• Was the stop initiated by another agency?
• Was the stop intelligence-led?

4. Actions Taken by the Officer During the Stop

It is not only the initial decision to make a stop that matters. Agencies need to collect data on actions taken by an officer during a stop, specifically around searches and use of force.

Key Stop Variables to Capture:

✓ Details (e.g., date, time, location, call for service, intelligence-led)
✓ Reason for stop (e.g., moving violation, matched suspect description, equipment violation)
✓ Unique identifier (ideally linking call to CAD or other internal database)

Searches: Officers often use stops to investigate and search for evidence of a crime. Therefore, it is critical that agencies record search data that would include the reason for the search, any consent requested or given, what the search yielded, and what if any property was seized. A full list of the data we recommend collecting is available in Appendix D.

This information is vital for multiple analyses, including evaluating whether stops are effective in discovering criminal evidence and whether there are disparities in the standards used to support a search for some groups as compared to others.

Key Search Variables to Capture:

✓ Decision to search (e.g., plain view, incident to lawful arrest, Terry frisk)
✓ Consent obtained (e.g., asked for consent [Y/N], obtained consent [Y/N])
✓ Result of search (e.g., contraband found, weapons found)
✓ Property seizure (record any property that was seized)

Examples of Search-Related Research Questions:

1. Are there racial disparities in the yield rates of contraband found among perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?
2. Are there racial disparities in rate of officer requests for consent to search based on perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?
3. What is the rate of contraband yield resulting from searches/frisks?
4. What percentage of searches yield contraband for each officer?

Use of force: The availability of video recordings of use of force incidents has heightened public awareness of this issue and created a public demand for new accountability measures.[35] As part of stop data collection, agencies should record whether force is used, what type of force is used (including the type of force instrument), and the reason for the use of force. Data systems should also be equipped to record multiple officers using force and the force type used by each.

In addition, data should capture whether there is injury to the person or the officers; this includes lethal and/or firearm use, all of which should be recorded in the same database.

No types of force should be excluded from data capture. Agencies that separate firearm from other types of force, that fail to record all instances of force, or that exclude certain force types from analysis will be unable to fully analyze their data. A full list of data we recommend collecting is available in Appendix D.

Key Force Variables to Capture:

✓ Officers involved (by unique ID, noting who used which force type)
✓ Type of force used (should allow for multiple types, not just highest level)
✓ Injury (to person and officers)

Like needing the right ingredients to bake a good cake, good data analysis begins with good data collection. Collecting the right stop data is crucial to being able to answer key questions about the efficiency and equity of agency operations. To this end, it is essential to establish when data should be collected, which encounters require data collection, and what data should be collected. This will set the stage for all subsequent steps in drawing meaningful conclusions from the data.

5. Post-Stop Enforcement Outcomes

As with searches and uses of force, it is critical to collect data on the enforcement outcomes of stops to evaluate more than just the initial decision to stop. We recommend agencies record data such as no action taken, warning issued, citation issued, and/or arrest made. If a warning or citation is issued, the specific warning or violation cited should be recorded. If an arrest is made, the specific offense charged should be recorded.

We also encourage the use of a narrative to capture the order in which events happen and the motivation behind enforcement actions. The goal is to record the time sequence of events and each officer's motive for coercive behavior. It is key to capture things like what the subject does and in what order, as well as how the officer responds leading up to the enforcement behavior.

Key Takeaways of Circumstances to Capture:

Include:
- ✓ Non-consensual vehicle stops, including non-emergency checkpoint stops (e.g., DWI checkpoints) regardless of outcome or whether any further action is taken
- ✓ All pedestrian stops (non-consensual encounters), regardless of outcome or whether any further action is taken
- ✓ All consensual encounters (vehicle or pedestrian) that result in search or request to search, regardless of outcome or whether any further action is taken
- ✓ All uses of force, including those that do not result in arrest
- ✓ All arrests
- ✓ All encounters resulting in a citation or warning

Exclude:
- ✗ Consensual encounters (such as providing roadside assistance) that do not result in a use of force, a search, or a request to search
- ✗ Custodial stops and searches (when the individual is already in a custodial setting)
- ✗ Airport stops and searches that occur within the mandatory checkpoints
- ✗ Special events screenings, including secondary screenings (e.g., entry into a public event)
- ✗ Emergency checkpoints (this would not include roadblocks/sobriety checkpoints for non-emergency reasons, which should be captured)

VI. How to Collect the Data

Key Takeaways:

- Agencies have options when it comes to data collection methods: paper form, handheld mobile device, mobile data computer.
- Giving officers options of which method to use will reduce frustration and missing data.
- Agencies are encouraged to use only one data management system or integrate separate systems as much as possible.
- Diverse perspectives and beta tests are crucial to the roll out of any new system or data collection method.
- All data should be stored electronically.

Having determined when to collect data and what type of data to collect, the next step is to think through how officers in the field will actually collect data. In order for proper analysis to be performed, each data point must be clearly captured in a separate field rather than only in narrative form. Data points must also either be housed in one data management system or be linkable through a unique identifier across multiple systems. For instance, if data are recorded separately, it should be possible to match a stop that results in use of force to that use of force. If a use of force incident cannot be connected to a specific stop and all its details, it is not as useful for data analysis.

A. Inclusion of Diverse Perspectives

Comprehensive stop data collection is a significant undertaking for any agency, regardless of size. Although this Guidebook can serve as a resource, actually implementing data collection requires many specific decisions and may require rewriting sections of an agency's policy manual.

In our experience, we have found it important to have diverse perspectives in the room when making these sorts of decisions, including both community and officer perspectives. Officer involvement should not be limited to command staff (as is typical). The ideas offered by data-focused personnel and patrol officers, for example, can be critical when working through details and ensuring data integrity. Further, community voices should reflect the diversity of the community, particularly those who are subjected most frequently to stops.

Although diversity of perspective is essential, if agencies find themselves in a "too many chefs in the kitchen"

scenario, they may want to consider guidance from national experts. When looking for best practices in national resources to help guide decision making, agencies should rely on common practices as outlined by reputable national organizations and resources, such as the Bureau of Justice Assistance, National Incident-Based Reporting System (NIBRS), the Police Executive Research Forum, the International Association of Chiefs of Police, the Vera Institute, Fair and Impartial Policing, Stanford SPARQ, CPE, and the Policing Project, to name a few.

Stories from the Field

Agency X went about designing a data-collection interface for mobile handheld devices. The agency emphasized how important it was that actual officers in the field beta test and review the interface before it went live. The officers were able to give invaluable feedback, such as that the interface was slow to load in areas with spotty Wi-Fi and that the buttons were too small for officers to select with their thumbs—a very common way to use mobile devices. Officers also shared that the order of survey items did not flow the way information typically would during a stop, which made data entry slower and less intuitive. Lastly, officers shared that when using a mobile device they were concerned that the public would think they were texting or playing games on their phone instead of patrolling, when they were actually entering data from their most recent stop. Having this feedback from a sample of officers helped Agency X make changes to the mobile device before rolling it out to the whole agency. This allowed for smoother implementation and less overall resistance.

B. Data Collection Methods

Agencies across the country use some combination of three options for data collection: (1) in-car laptops, often called mobile data computers, or MDCs; (2) smartphones or other handheld mobile devices; and (3) paper forms or cards (sometimes used to track information that will be entered into a computer terminal at the station after a shift). Each method has its benefits and drawbacks; these are summarized in Table 1 and discussed in more detail in Appendix G, which includes detailed examples.

Although each agency and jurisdiction ultimately will make its own decision regarding which collection method is best, we have two strong recommendations:

First, data eventually must be **stored in an electronic database**. Stated another way, data that are not digitized are almost useless. When data are stored only on paper, or in open text or narrative form, it is incredibly burdensome to enter electronically in large batches and to aggregate (i.e., group together) and evaluate.

For many agencies, this will be old news. For those that feel resource-constrained in making this switch, we suggest that this must be a priority. Some agencies have been able to acquire additional mobile devices or in-car computers through federal and state grants by agreeing to use these tools, in part, to collect stop data. State actors also should consider providing funding, devices, or technology to agencies under mandated stop data collection efforts.

Second, although all data should be stored in a digital format, law enforcement agencies should **offer a combination of methods**—both electronic and paper. Doing so gives officers the flexibility to collect data under all conditions. Electronic methods (MDCs and smartphones) have huge advantages in efficiency and clarity. But MDCs are not practical for officers who are on foot or bicycle, and smartphones can be difficult to use in areas with intermittent phone or data service. Therefore every agency should also make paper forms available for occasions when an officer is unable to utilize electronic means.

Some officers feel they could enter data faster on an MDC, while others feel the handheld device is more portable and efficient. Being required to use one or the other creates frustration and a "grass is always greener" mentality from officers who feel data collection would be easier if only they had the other device. Providing a range of options for officers—MDCs, smartphones, and/or paper forms—allows them to use the method that best fits their needs and skills.

No matter which method is used, agencies must ensure that officers record their interactions in a timely manner. Immediate recording facilitates more accurate data collection, as it is difficult for officers to recall information accurately as time goes by and as their number of interactions increases. Even if paper forms are used and entered into a computer later, they should be filled out at the time of the stop, not at the station after a shift.

Table 1. Data Collection Method Comparison

Data Collection Method	Pros	Cons
Mobile Data Computer	Full-size screen and keyboard; constant connection to power; familiar to most officers; cost is usually built into standard vehicle outfitting.	Only useful to officers with vehicles; can lose connectivity to Wi-Fi; not always responsive to more current apps and web-based data programs.
Handheld Mobile Device	Can be used by all officers; allows more data capture in real time; requires less equipment; is more customizable in terms of apps and software.	Small buttons; harder to see screen and enter data; can lose connectivity to Wi-Fi; can be costly to procure for whole agency; loses power if not recharged.
Paper Form	Not reliant on internet connection; user friendly and requires little training; cheapest form of data collection.	Requires extra steps to get in electronic format; can be easily lost/misplaced/damaged; must be reprinted and re-issued with changes; bulkier for officers to have on hand; less useful for large data capture.

VII. Ensuring Data Integrity

Key Takeaways:

- Data must be collected for all encounters that are subject to reporting.
- Data must be complete and accurate.
- Complex scenarios in the field threaten data integrity—training and policy must address this.
- Building in automation to data collection reduces front-end errors.
- Data should be audited regularly and systematically to prevent errors on the back end.

In order for the stop data collection to actually achieve its goals—evaluating operational effectiveness, efficiency, and equity—it is essential that there be a high degree of data integrity.

In the stop data context, data integrity has three components:

- Data are collected for each encounter that is subject to stop data reporting.
- For each encounter, the data collected are complete.
- For each encounter, the data collected are accurate.

Achieving data integrity requires a concerted effort from the entire law enforcement agency. Threats to data integrity include:

- Different officers collecting data using different criteria (e.g., one officer collects data for all stops, another officer collects it only for certain stops);
- Different officers use different methods to collect data (e.g., one officer collects data through an electronic stop data form, another only includes the data in a narrative report); and
- Different officers interpret data points differently (e.g., one officer classifies a jaywalker as a pedestrian stop, another classifies a jaywalker as a traffic stop).

Achieving data integrity requires establishing policies informed by best practices, following the policies uniformly, and reinforcing them through training of officers upon hire as well as periodically or immediately following policy changes. This chapter provides guidance on each of these issues.

A. Officer Training

Data integrity begins with ensuring that officers receive proper training on when and how to collect stop data. A comprehensive training session includes four components:

1. Brief pre-simulation briefing, usually in the form of a simulated police radio dispatch to an 'event' in a classroom setting;
2. Participation in the simulation event (in the classroom) and recording of the data;
3. Same day completion of a police occurrence report documenting the event and the actions of the officer(s) involved; and
4. Oral debriefing, scoring of assessment by a senior police officer assessor.[36]

Additional ideas for training officers are discussed in detail in Appendices E, F, and G. For now, we offer a general training template and a few lessons relevant to every jurisdiction.

A comprehensive training provides officers with essential knowledge of the origins and intent of any statutory, regulatory, or agency reporting requirements. Next, quality training explains the intended uses for stop data, including supervisor review and auditing.[37] This is followed by more technical training, such as what data to collect, when to collect it, and how to use the actual data system. In our research we found that most agencies focus only on the last piece—how to use the data system. This is incomplete training.

Effective training cannot be a one-time event through one video or written order; it must be ongoing. Training should be a recurring topic at commanding officers' and operations

meetings. Ongoing updates and reminders should be transmitted to officers at roll call, even in the months after data collection begins. There should also be a feedback loop for officers who are having issues or facing complex scenarios for which training would be effective.

Stories from the Field

Agencies that have implemented data collection similar to what is required by AB 953 emphasized the need for thorough and robust training. Strong models consist of mandatory and comprehensive training, given to all officers, that includes instruction, hands-on practice, and scenario-based discussions with someone familiar with the data fields and policies. Such strong trainings take longer than one hour and are followed by some type of assessment, follow-up resources, and retraining for officers who need it.

Agencies that struggle to implement stop data collection often conduct training lasting one hour (or less) during a roll call or shift change, which can result in some officers never receiving it. These inadequate training methods are mostly technical—they focus on how to use a new system or enter data instead of on the nuances of policies and the scenarios involved, such as the factor of perception, the exclusion of consensual stops, and management of multiple-person stops.

Key Takeaways of Good Training Practices:

- Train on uniform standards that are reflected in the policy manual.
- Training should be thorough; it should be instructional as well as hands-on (more than just one hour per shift change).
- Training should include an assessment tool, and those who fail must retest.
- Training should provide officers with resources (e.g., FAQ pages linked to their data collection software).
- Training should be ongoing as new fields are added or new software is introduced.

B. Anticipating Complex Scenarios

Complex scenarios are those that deviate from the scope of a standard interaction. These could be encounters that occur quite often or rather infrequently, but when they occur, they confuse officers from a data perspective. Agencies should anticipate these situations and keep them in mind when developing training, as officers are likely to ask questions about them. Here are some of these complex situations and our recommendations:

Multiple persons stopped in a vehicle: Stop data should be recorded for the driver only, unless a separate enforcement action (such as a frisk or search) is taken against the passenger. In the latter situation, data should be recorded for each person against whom action is taken. All individuals should have a unique ID for the stop and should be linked to the same stop through a unique umbrella ID for the stop itself.

Multiple pedestrians stopped: Stop data should be recorded for each pedestrian who is stopped (i.e., reasonably believed he or she is not permitted to leave). This includes anyone whose ID is requested, anyone made to sit on a curb or put their hands on a vehicle, and anyone instructed to remain on the scene. All individuals should have a unique ID for the stop and should be linked to the same stop through a unique umbrella ID for the stop itself.

When another agency has initiated the stop: Agencies should offer a checkbox to indicate if the officer took action on a stop initiated by another agency. This is a common situation for transit police and highway patrol officers, and for agencies whose jurisdictions overlap with these other entities. At the state level, it is important to ensure that agencies do not duplicate the recording of the stop. When two agencies take part in a stop, the data should be collected only by the primary agency—that is, the agency with investigative jurisdiction based on local or state laws or interagency agreements. When this is unclear, it should be determined at the scene which agency will take reporting responsibility for the stop. However, if an officer from the non-primary agency takes any action (such as conducting a search or using force), that officer should still record that data for internal tracking.

Officers patrolling with a partner: When officers are working with a partner, it should be the officer who initiates and/or has the most contact with the subject who records the stop data. This may require officers to log on and off an MDC with different officer IDs throughout the day. Problems arise when officers stay logged in with a single officer's ID, and all stops for the day are attributed to that officer, even when both are involved. This creates issues in the event of citizen complaints, when the named officer might not be the officer on record in the stop data.

Stops that begin as one criminal code (e.g., assault) but end as another (e.g., resisting arrest): Both codes should be captured—one as the reason for the stop and the other as the enforcement outcome for the arresting or citation code.

These complex scenarios would also be well suited to incorporate into the assessment tool, as they are less intuitive than some other data practices. A sample assessment tool is provided in Appendix E.

C. Systematic/Automated Error Correction

Automation can preserve time when officers are entering data and when command staff are reviewing data; it can also generally reduce errors. Our broad suggestions for implementing automation are as follows:

- Integrate stop data collection with existing systems (e.g., dispatch, records management) to facilitate auto-population and minimize copying errors.
- Enable the system to retain core information about a stop, such as location, time, date, and officer information, and automatically populate these data for multiple-person stops.[38]
- Build logic into the system that prevents conflicting answers or flags errors (e.g., an improbable date) for the officer entering data.
- Use geocoding technology to formalize recording of address fields (e.g., suggest a geocodable location when an officer enters an approximate or incorrect address).
- Build in standard checks for personnel who are conducting audits to compare certain fields and look for glaring inconsistencies (e.g., search = incident to lawful arrest; arrest = no).

D. Auditing the Data

Agencies should have clear procedures in place to audit data and to immediately address any problematic findings.

Although data auditing is an essential process, we acknowledge that it will create an administrative burden, particularly on first-level supervisors who will likely bear the brunt of this responsibility. Agencies should do what they can to minimize and offset this burden. Agencies can, for example, automate pieces of this review process, such as by creating a system that notifies supervisors when an officer has not submitted a stop data form within the required time (generally, by the end of their shift). Although reviewing data will always impose some additional administrative burden, it is essential and should be viewed as a core law enforcement activity, not an optional component of stop data collection.

Level 1 (Individual) Review: Each agency should have at least one level of review. Supervisors must take steps to ensure that officers are consistently and accurately collecting stop data. Each agency can choose what method works best for them, but one simple option is to task every sergeant with randomly spot-checking officers' daily logs or arrest reports against their stop data collection. For example, if an officer's activity sheet indicates they issued five citations, the sergeant should verify that a stop data entry exists for each one. Similarly, an agency might ask a sergeant to spot-check stop data against field-interview cards (paper forms filled out by officers after they conduct a stop), dispatch logs, body-worn camera logs, citizen complaints, or a combination of these, depending on what other systems the agency has in place.

Data checks should be tied to performance and should be reflected in policy and training. In order to have valid data, officers need to be incentivized to enter it correctly and honestly.

If an audit uncovers that an officer is making innocent mistakes, additional training may suffice. One should not assume—particularly early in implementing a stop data collection program—that inconsistencies are necessarily purposeful. That said, willful or repeated failures to comprehensively or accurately collect data may require discipline.

In order to impose discipline, agencies must develop clear policies (see Section X.A.2). Agencies must decide via internal policy what the ramifications are for officers

Figure 2. Level 1 Audit

Figure 2. Level 1 Audit

Supervisor review (officer level review) → **Are data complete?**
- No → Send back to officer
- Yes → **Are data correct?**
  - Yes → Clear for Level 2
  - No → Send back to officer
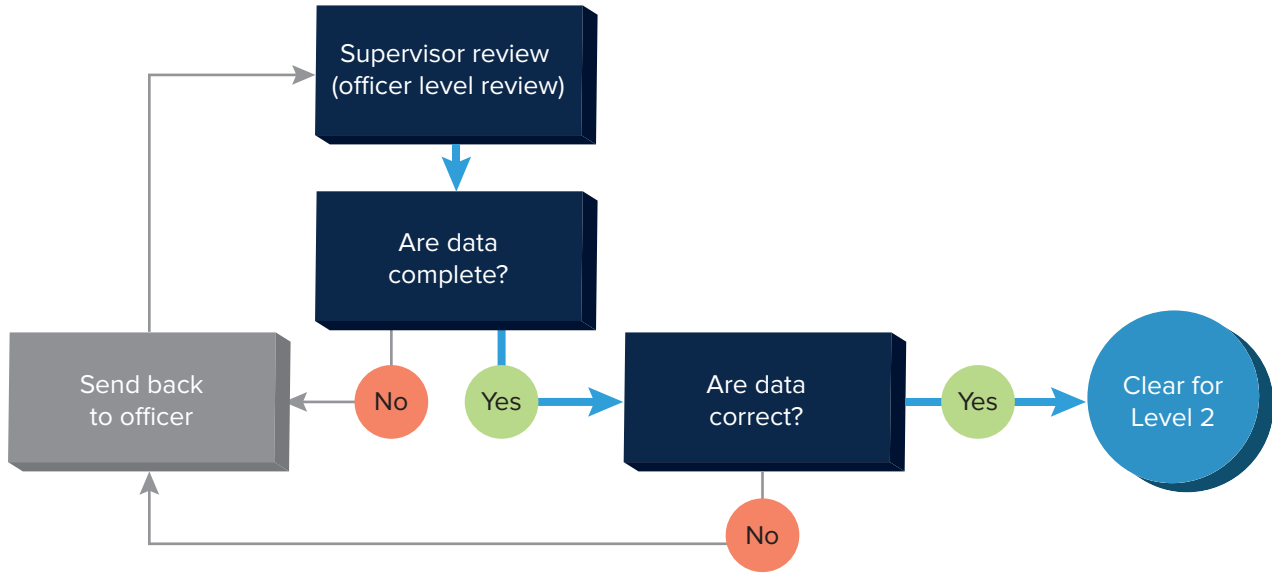
who demonstrate recurring data entry issues, as well as for officers whose data indicate patterns of bias or deviation from agency policy in their stops. We recommend agencies have a system in place that is known to the officers, with graduated repercussions for first-, second-, and third-time data issues, as well as larger disciplinary measures and retraining for officers who show clear patterns of biased actions (see Sections IX.A and IX.B).

Level 2 (Unit) Review: While initial review should be focused on the officer level—ensuring that stop data forms are being completed promptly and accurately—the purpose of a second-level review is to identify systemic issues. This level compares data errors within or among units and identifies specific shifts or units that stand out. Differences found at this level might require that officers fix errors, that the whole unit is retrained, and/or that the policy is amended to correct the deviation from expected process.

Figure 3. Level 2 Audit

Supervisor review (unit level data) → **Spot check data** → **Are data correct?**
- No → Officers fix errors
- Yes → Clear for Level 3

Retrain
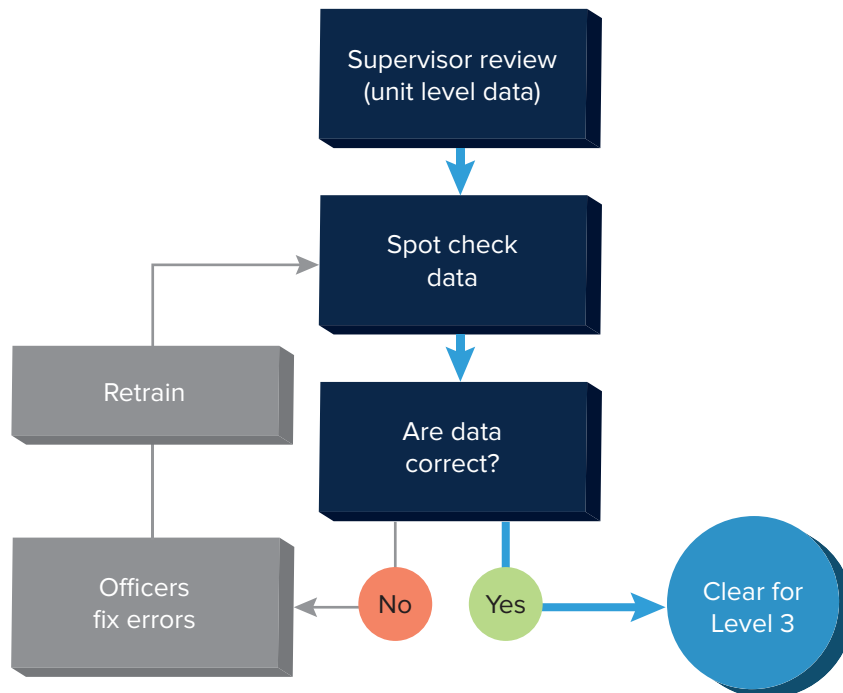
Level 3 (Agency) Review: This review is intended to be at a higher level in order to prepare the data for analysis and for sharing with the public. Review at this stage includes removing any officer or subject PII in the data (which, for safety reasons, should not be included in any data released to the public) and ensuring that no glitches in the system have omitted large amounts of data or skewed the results (such as a field defaulting to "no" for all encounters).

Gold vs. Silver Auditing Practices:

The **Silver Standard** would have at least one level of review to help ensure data integrity.[39] Supervisors in every agency should ultimately be accountable for conducting this data audit with two goals in mind: (1) finding and correcting errors at the individual stop level, and (2) combing the data for PII.

The **Gold Standard** would include three levels of auditing: one at the officer level, the next at the unit level—detecting larger patterns that might indicate more general data collection issues—and the third at the agency level (to comb the data for PII).

Figure 4. Level 3 Audit

Stories from the Field

Accountability for data accuracy varies greatly by agency. Some agencies issue periodic agencywide memos that correct general data misconceptions or address updates to the system but provide no targeted feedback for officers. Under this system, there is no way for management to ensure that each officer is consistently collecting stop data. The only way to catch such discrepancies might be individualized comparison—for example, if a citizen complained but there was no record of the stop. This possibility seems to incentivize many officers to comply with data requirements, but it is difficult to assess systematically.

Other agencies perform regular and detailed audits of their data to ensure that there are stop data to match every field interview card. Officers in these types of agencies face immediate notice and reprimand if these two do not add up. Command staff acknowledge that this type of inconsistency is occasionally the result of officers entering data for one another, such as in partnered situations. Spot-checking officer data also seems to work well, with sergeants randomly selecting and scrutinizing stop data from their units and then requiring officers to rectify errors. Some agencies tie this into performance reviews, which seems to be the biggest incentive for officers to take data collection seriously.
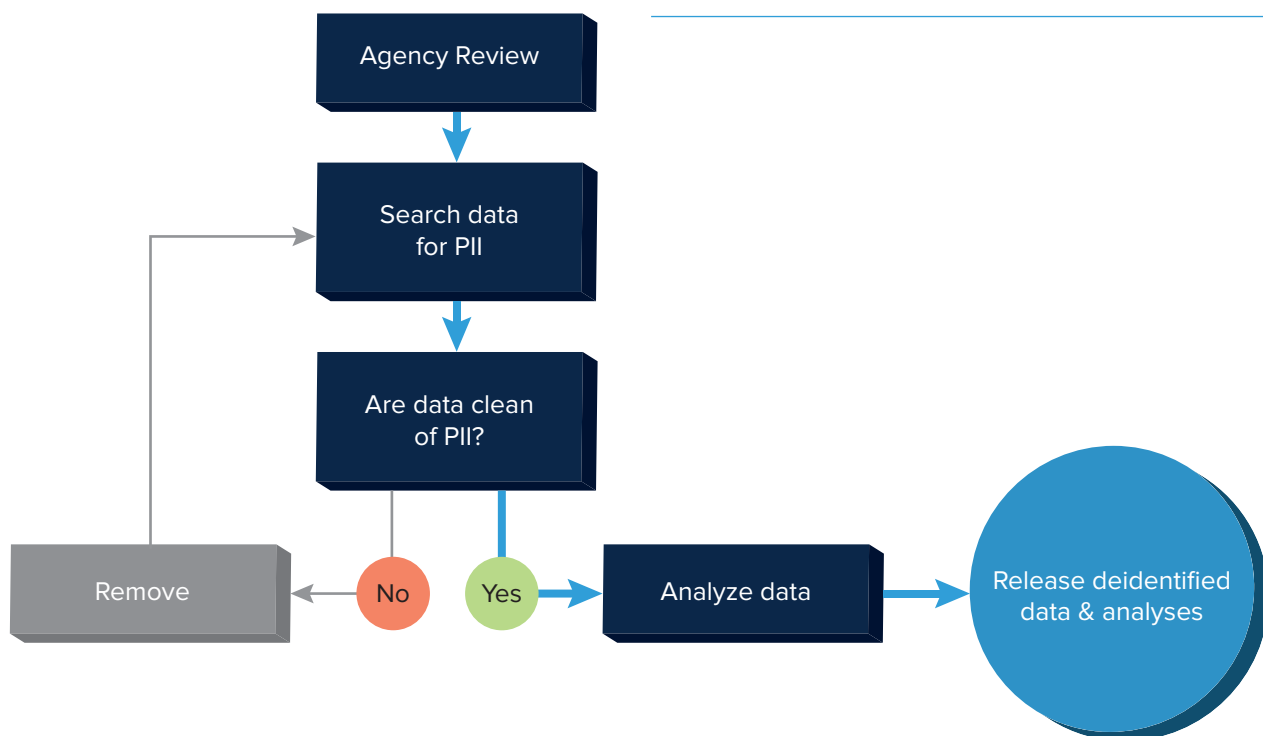
VIII. Analyzing the Data

Key Takeaways:

- Data analysis is crucial—agencies with the resources to hire experts should do so, while other agencies should look to partner with universities or researchers.
- Robust analysis is holistic, using multiple sources of data and, when possible, integrating qualitative information from narrative fields, surveys, or focus groups.
- Analysis can be used to assess both the effectiveness of specific tactics and any disparities in how those tactics are applied in the community.
- Carefully select an appropriate benchmark for your agency/city and, when possible, partner with experts to conduct this type of complex analysis.
- Three levels of explanation for police-data analysis are: community level, the department level, and the relationship level (between community and department).

Collecting stop data means little without thorough analysis. Even among law enforcement agencies collecting stop data today, few are doing the sort of thorough, multifaceted analysis that is possible with adequate data. This limitation is completely understandable—analysis of demographic stop data is a complex charge, one that likely requires personnel with some degree of specialized training in data analysis or statistics. However, comprehensive data analysis is vital to give agencies information on (1) overall operations and which tactics are most effective; (2) individual unit or officer performance; and (3) any demographic disparities in enforcement.

For larger agencies, hiring personnel who can conduct in-house data analysis should be a priority. Smaller cities and towns should prioritize partnering with local universities, independent researchers, or think-tanks specializing in this sort of work. Utilizing student interns from graduate programs is a great way to accomplish this for very low to no cost.

To be clear, there are no perfect, universally accepted practices when it comes to analyzing stop data.[40] Nevertheless, this section summarizes some of the best techniques gaining traction in the world of social science research, as well as some simpler techniques that any agency can perform.

A. Types of Analysis

There are two main categories of data collection and analysis: quantitative and qualitative. The type most agencies are likely to be familiar with is quantitative. Quantitative data are numeric and are analyzed via mathematical calculations. Qualitative data, on the other hand, can best be classified as non-numeric observations that approximate and characterize rather than measure.

> **Quantitative observation:** Ray has solved 97 of the 100 cases he has worked on in his career.
>
> **Qualitative observation:** Ray is the best homicide detective we have.

1. Quantitative Data Analysis

Most stop data—such as the number of stops, racial distribution of persons stopped, and search and arrest rates—are quantitative. There are several methods for analyzing quantitative data. Which method is best depends, in part, on what questions you are trying to answer. For example, if you partner with experts, you can use advanced statistical techniques to determine the degree to which non-officer factors (e.g., crime, poverty) play a role in disparate outcomes.

The most basic quantitative analysis requires only an elementary knowledge of math. Even the most complex analysis usually begins by calculating **frequencies** in the data, including, but not limited to, counts of demographic group data (e.g., race, age, gender, and the number of stops per month or year). Tables 2 and 3 provide examples of simple frequency analysis.

Table 2. Example A of Frequency Analysis

Month	Stops
January	397
February	425
March	517
April	997
May	545

Table 3. Example B of Frequency Analysis

Race	Stops	Searches
Black	15	12
White	36	15
Asian	5	2
Latinx	11	5
Mixed Race	2	1

Plotting these frequencies onto a graph can sometimes make useful information more apparent. Figure 5 shows stops per month; as you can see, there was a spike in stops in April. Seeing this, an agency might conduct an internal review to determine what caused the spike.

Figure 5. Example Graph of Stops per Month
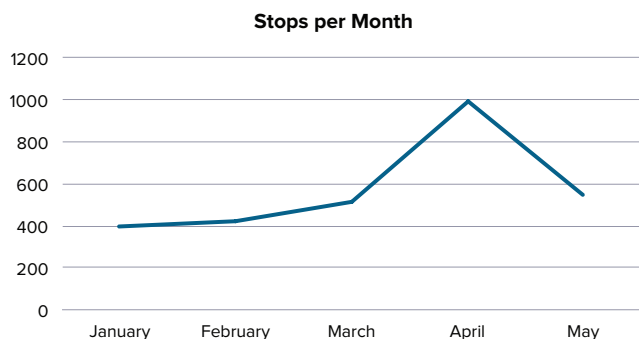
The next level of quantitative analysis combines frequency calculations, such as the race of persons searched compared to the race of persons not searched. This is referred to as a **cross tabulation**. A cross tabulation can be used to calculate, by race or by gender, the rate of stops, citations, arrests, use of force, and so on. From a cross tabulation, one can begin to see more subtle disparities.

For example, in Figure 6, although White drivers represent the highest number of total persons stopped, fewer than half were searched. However, nearly all of the Black drivers who were stopped were subject to a search. This indicates that the search rate for Black drivers was higher than the search rate for White drivers.

Figure 6. Example Graph of Stops and Searches by Subject Race
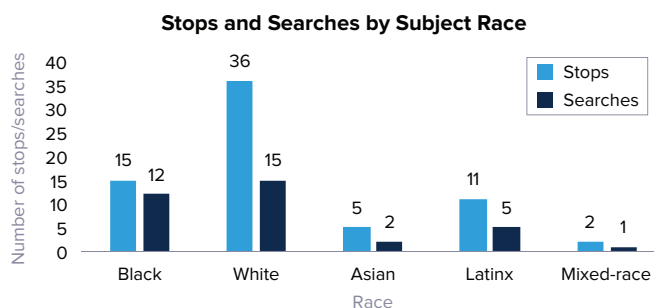
Disparities are not always immediately apparent from raw data. For example, from the graph above it is impossible to assess whether the fact that over 52% of stops were of White persons is "too low" or "too high" because the "right" distribution of stops—that is, the number of stops that would show no disparities—is not clear.[41] To answer this question, agencies need to establish a baseline of the number of people from each race one would expect to be pulled over in a naturally occurring context.

This concept is a process known as **benchmarking**.[42] For instance, all else equal, in a population that is 50% male and 50% female, we would expect the number of stops of male and female drivers to be roughly equal. If 75% of the individuals stopped in a jurisdiction are female, this would be a disparity that an agency should investigate further.

This is an overly simplistic example of benchmarking. In the real world, the most common examples of benchmarking that have been used (though not without issue) are census data or population benchmarking, traffic crash data testing, and veil of darkness testing.[43] Although benchmarking is

very useful for understanding the frequency of stops across different communities, the limitations of benchmarks are such that even seasoned researchers do not always agree on the best ones.[44] Population benchmarking, for example, is useful, but it cannot be the only analysis. More sophisticated analyses that factors in crime and poverty can shed more light on what is and is not to blame for disparate findings. Involving experts can be a great way to use benchmarks responsibly.

That said, when trying to ensure you have the data necessary for an appropriate benchmark, there are several things to consider. We have included some examples of these considerations in the inset box.

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Key considerations for choosing the best benchmark:

- Are there seasonal elements to your city that result in drastically different populations at different times of the year?
- Is your city a commuter city, meaning that daytime workers drastically alter the racial and socio-economic population compared to the resident population?
- Is your city a tourist destination, where the individuals present at a given time would not map directly onto the local resident population?
- Is your agency a highway or transit patrol that crosses multiple jurisdictions?

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Stop data can also provide useful information about an agency's basic operations, and this type of raw data analysis does not require much statistical know-how. Specifically, it provides valuable context for an agency, allowing it to take stock of information such as how officers spend their time, what their interactions with the public look like, and how those interactions are resolved. For example, vehicle stops can be mapped onto motor vehicle crashes to see if officers are stopping drivers for moving violations in areas where the most accidents take place. These data can also be cross-referenced to see what road conditions and times of day tend to create more accidents. Though this analysis is based on hindsight, any observable patterns in traffic accident data can help an agency re-evaluate its current deployment and enforcement strategies.

Determining the rates of different kinds of stops and comparing them to the actual outcomes of the stops is another form of benchmarking. This simple analysis can shed light on the efficacy of policing tactics or deployments on a variety of outcomes, such as improving traffic safety or fighting crime. In terms of traffic safety, vehicle stop data can be combined with traffic accident data over time to assess whether moving-violation stops at a particular location have improved traffic safety. To do this, the International Association of Chiefs of Police recommends that police agencies collaborate with state and local transportation agencies and emergency medical services to collect the supplementary data that can serve as the benchmark.

Two approaches to measuring efficiency and disparity of stop outcomes are stop level hit rate (SHR) tests and threshold tests. The **SHR test** is the simpler of the two, but it can also shed light on the effectiveness and impact of stops. If an agency is unable to partner with a local institution or hire a staff member capable of conducting threshold tests, we recommend agencies use the SHR test to assess the probability of specific outcomes (like discovering a weapon) based on the information available to the officer before the stop, or during the stop but before a search.[45] For example, an agency can use an SHR test to conclude how often a stop resulted in discovery of a concealed weapon, the demographics of the people found in possession of a weapon, or the likelihood that a weapon will be found in a given situation.[46]

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Research questions that measure basic operations:

1. What is the rate of pedestrian stops resulting in citation or arrest?
2. What is the rate of vehicle stops resulting in citation or arrest?
3. What is the rate of searches/frisks resulting from stops?
4. What is the rate of contraband yield resulting from searches/frisks?
5. What is the rate of use of force incidents?

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A **threshold test** is used to determine whether there is a disparity in the level of conduct required for certain actions, such as searches or use of force, between different

groups. For instance, if the level of suspicious activity for an officer to carry out a search is lower for non-White persons who are stopped, this disparity suggests the presence of bias.[47] The strength of the threshold test comes from the way it analyzes officer decision making during a stop. By comparing which subject actions or circumstances result in enforcement outcomes, we can compare the thresholds at which different racial groups are held accountable.

The last level of stop data analysis, and the most complex, is **regression analysis**. This approach to analysis can provide the most detailed picture of a disparity by measuring the extent to which it can be attributed to community-level factors, such as crime and poverty, and, by extension, how much is not explained by community-level factors. There are several types of regression analysis that can be run based on the quality and type of data available.

In a regression analysis that examines police use of force on the census-tract level, for example, researchers control for the effect of intervening variables, such as crime rate or poverty level. While it is not possible to measure how much of a disparity is attributable to officer bias, we can measure how much is attributable to community factors known to drive disparities; the remaining disparity could be attributable to unmeasurable factors including, but not limited to, officer bias. While a raw comparison of per-capita ratios might show that Black people were 10 times more likely than White people to experience police use of force, controlling for the levels of crime and poverty in the areas where use of force occurred might show that approximately 40% of the disparity is attributable to community factors; therefore, in this example, Black people are actually six times more likely than White people to experience police use of force, if community factors are held equal.

2. Qualitative Data Analysis

Stop data are generally not qualitative. Qualitative data in policing are most commonly captured in narrative form, such as in use of force reports, body camera footage, or open text fields where circumstances are described (e.g., a suspect description). Although the focus of this Guidebook remains on quantitative data, agencies that choose to incorporate qualitative measures, such as analysis of narrative fields, body camera transcripts, or community member interviews, can learn more than agencies that do not. In particular, qualitative data can be useful when trying to

assess issues such as officer attitudes, officer behavior toward community members, or experiences of community members when they interact with law enforcement. For this reason, we recommend including a narrative text field for officers to record the order in which things happen and their motivations for enforcement actions.

There are several methods for gathering qualitative data on stops, but most qualitative analysis in policing begins with a written transcript of narrative reports, interviews, focus groups, or body camera footage. Researchers examine these data for common themes, which can then be coded. The codes can then be quantified and compared to one another. An example of this would be to see how many use of force reports contain the word "weapon" or "danger." Researchers can also perform conversation analysis—for example, of body camera footage—to examine how officers interact with different subjects during a stop.

For the most effective understanding of the intersection between law enforcement and communities, agencies should consider partnering with researchers to add qualitative measures to their data-gathering strategies. Focus groups and interviews, for example, would fall outside of the scope of normal police work, but these methods can allow for broader outreach to the community to capture more abstract metrics, such as community trust and perceptions of police legitimacy.[48] Hearing from and analyzing the sentiments of residents to better understand how the community feels about stops can create a more detailed understanding of the impact of stops, arrests, and uses of force on the people who experience them.

B. Levels of Analysis

Through their work analyzing policing data and making recommendations to police agencies, CPE has developed three levels of explanation for interpreting and responding to stop data. These levels reveal likely contributors to patterns of disparity in stop data, and are part of CPE's National Justice Database framework. The National Justice Database is the nation's largest law enforcement behavioral database. The three levels of explanation, discussed in more detail below, are community level, department level, and relationship level.[50]

Stories from the Field

In a 2017 study in San Jose, researchers supplemented their findings of racial disparity in traffic and pedestrian stops by interviewing officers to understand at a more granular level how stops are carried out and how they perceive who is committing crime. Similar interviews were also conducted with residents to serve as a cross-check for how residents perceived crime and who is committing it. From this information, the department was able to determine whether stops could be attributed to the demographics of a certain neighborhood, the specialization of officers' units, and the racial group each unit interacts with. This process can show discrepancies between officer perceptions, community perceptions, and stop data findings about where crime occurs and who commits it.[49]

1. Community-Level Explanations

Community-level explanations fall into two categories:

- Individual-level explanations, which include individual attributes or behaviors that may lead to greater interaction with law enforcement, such as mental health challenges, homelessness, or participation in criminal activity.
- Community-level conditions, including neighborhood conditions, such as poverty or high crime rates, that may result in higher rates of interaction with law enforcement.

A community-level explanation for a finding of disparities in stops could be that a transit police agency experiences many people sleeping in stations due to homelessness, and the agency is required by law to stop those individuals. In this case, the appropriate response is not warranted at the department level, but rather at the community services level, to address the issue of homelessness, which is leading to increased interactions with law enforcement. Stops might decrease if homelessness was addressed by community health or social services interventions.

2. Department-Level Explanations

Department-level explanations can also be classified two ways:

- Individual officer explanations, such as behaviors or attitudes of officers, that may result in them viewing members of certain communities with a higher level of suspicion, resulting in a disproportionate rate of stops

or more punitive dispositions after a stop.
- Departmental climate, law-related, or policy-level explanations, such as institutional policies, practices, or norms that may increase law enforcement contact with some members of the population more than others. An example of a department-level explanation would be the finding that officers are being over-deployed to patrol some communities in comparison to others, and that by reducing the number of officers deployed to the area, the disparities in stops are also reduced. Moreover, police agencies may be constrained by federal, state, or local laws that contribute to disparate interactions with individuals and communities. It is important to know if these external regulations are having an impact on equitable policing in an agency.

It is important to answer these questions at the department level as well as the officer level. It is equally important to capture the officer's initial decision to stop, decisions made by the officer during the course of the stop, and the final results of the stop. Therefore, we recommend that agencies also look at disparities in the treatment of people once they have been stopped—an analysis that avoids the most complex benchmarking challenges because the denominator is clear; all people that have been stopped.

Research questions that measure community-level factors:

1. Are there racial disparities in the yield rates of contraband found among perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?
2. Are there racial disparities between perceived race of persons stopped and the result of the stop when controlling for neighborhood context (e.g., crime, poverty)?
   a. What is the relationship between perceived race of persons stopped and their rate of arrest?
3. Are there racial disparities between perceived race of persons identified in officer-initiated stops in proportion to the perceived race of persons identified in all calls for service?
4. Is the rate of calls for service proportional to the crime rate in the neighborhood?
5. Are there disparities in race of suspect for crimes actually committed versus for suspicious activity?

Individual officer-level data can be very useful. Separating out these data can help guide supervisors in evaluating whether the stop and use of force incidents of their subordinates are appropriate in terms of frequency and officer conduct. By examining individual officer performance over time, it is possible to understand which officers are contributing to the majority of these statistics.

Conducting data analysis on these metrics can also provide a crucial supplement to an agency employing an early intervention system, or EIS. An EIS is useful in automating the process of raising red flags among a variety of predetermined areas.[51] Adding in detailed stop and use of force data as part of this system (whether automated or through supervisor review) can provide context to better understand whether a single officer is behaving outside the norm of his or her unit, or even if an entire unit is producing disparities through their actions.

Finally, supervisors can use individual officer-level data to discover data inconsistencies, especially if data on a stop are only partially collected by an individual officer or not classified properly according to internal guidelines. As with the other examples mentioned, this could lead to further investigation (see Section X.B.5) or highlight the need for streamlined data entry processes, new codes, or similar changes. Before implementing an EIS, agencies should establish specific policies on training and supervisor responsibilities.

Agencies should take care in how they use individual officer-level data, avoiding the allure of basing incentives on the number of arrests or citations simply because these data are easy to track. Using data in this way causes more problems than it solves. Basing rewards on a high number of enforcement actions can encourage officers to engage in stops that do not have clear public safety benefits. Because of where officers are deployed, such tactics are likely to result in more stops with poorer outcomes and in certain groups experiencing a higher number of stops, such as people who happen to live in a designated high crime area.

Included are some basic operational questions that will allow an agency to assess officers' rates of productive enforcement.

Stories from the Field

A study of the city of Oakland found that only 20% of officers reviewed were responsible for 54% of stops, which raises questions about why these officers were more active.[52] Though this figure alone does not automatically suggest misconduct, it could help a supervisor focus on a particular unit or officer for closer evaluation.

In a separate study, through a review of post-stop data from the New York Police Department (NYPD), Goel et al. found that certain categories used to justify a stop—such as "furtive movements"—overwhelmingly did not result in the recovery of a weapon. This raises questions about the standard that officers were using to articulate reasonable suspicion, especially when Black or Latinx individuals were stopped. Given the widespread and uncoordinated nature of this finding throughout the NYPD reports, the researchers suggested this illustrates a clear avenue for policy change in terms of data collection methods (e.g., "furtive movements" should not be included on a report form) as well as agencywide policy and training around conducting pedestrian stops.[53] Fundamentally, understanding whether a current stop policy actually results in desired outcomes (e.g., arrest of a violent offender, recovery of drugs or weapons) can inform an agency's efforts to improve its own success rate, which could also result in increased community trust and perception of police legitimacy.

Research questions that measure department-level factors:

1. Are some officers responsible for a disproportionate number of stops when controlling for assignment type?
2. What common factors exist among officers with the highest rates of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
3. What percentage of searches yield contraband for each officer?
4. Have crime rates increased or decreased in areas that have been the subject of recent proactive targeted enforcement?
5. Have calls for service increased or decreased in areas that have been the subject of recent proactive targeted enforcement?

3. Relationship-Level Explanations

Relationship-level explanations measure the interaction between communities and police: Distrust of law enforcement can reduce community members' willingness to cooperate with officers. Similarly, a sense that communities do not trust or respect officers may cause officers to feel unsafe or defensive in some neighborhoods. In order to perform this type of analysis, an agency must have access to community-level data that gauges levels of trust, perceived legitimacy, and levels of respect or fear toward law enforcement. Some of these can be explored with data that law enforcement likely already collects, such as calls for service and citizen complaints. Gaining a full understanding of community perspectives would likely require a partnership with a researcher, university, or other external market research partner. These entities are trained to collect this type of data in the community and to compare these data with agency data.

An example of a relationship-level explanation would be discovering that the community's lack of trust in law enforcement causes crimes to go unreported, leading to more unsolved crime, criminal networks, and thus violence in some communities. In this case, the issue in need of repair is not the resistance or the force; it is the distrust that results in both. Relationship-level explanations measure the interaction between communities and police: Distrust of law enforcement, due to historical mistreatment, can reduce community members' willingness to cooperate with officers.

The nature of an interaction during a stop can increase community distrust of the police. A study of body-worn camera footage revealed that officers in Oakland were more formal and took the time to explain their reasons for stops more often with White community members than with Black community members.[54] Though the study did not determine that the officers had overt intent to explain things differently, the difference illustrates the negative impact of stops on Black community members through the tone of an interaction alone, even if the stop does not result in an outcome such as citation or arrest.

On its own, this one conclusion of the Oakland study may not seem important enough to merit policy change or retraining of officers. However, as the researchers in that study found, it takes on more significance when considered as part of a larger pattern of disparate stops.[55] Combining qualitative and quantitative tools to understand stop data is one such example, as described above.

Research questions that measure relationship-level factors:

1. What is the proportion of the number of citizen complaints alleging racial or identity profiling to the number of police stops in the community when controlling for neighborhood context (e.g., crime)?
2. What is the relationship between officer race and the number of citizen complaints against them when controlling for neighborhood context (e.g., crime, poverty)?
3. Is the rate of calls for service proportional to the crime rate in the neighborhood?

The more that analysis procedures are refined and standardized for stop data, the easier it will be for law enforcement agencies and researchers to make comparisons between states and jurisdictions with respect to policing and to evaluate the state of policing on a national level. This type of analysis is not only critical for communities but also for agencies' internal purposes, as it will aid in making needed improvements.
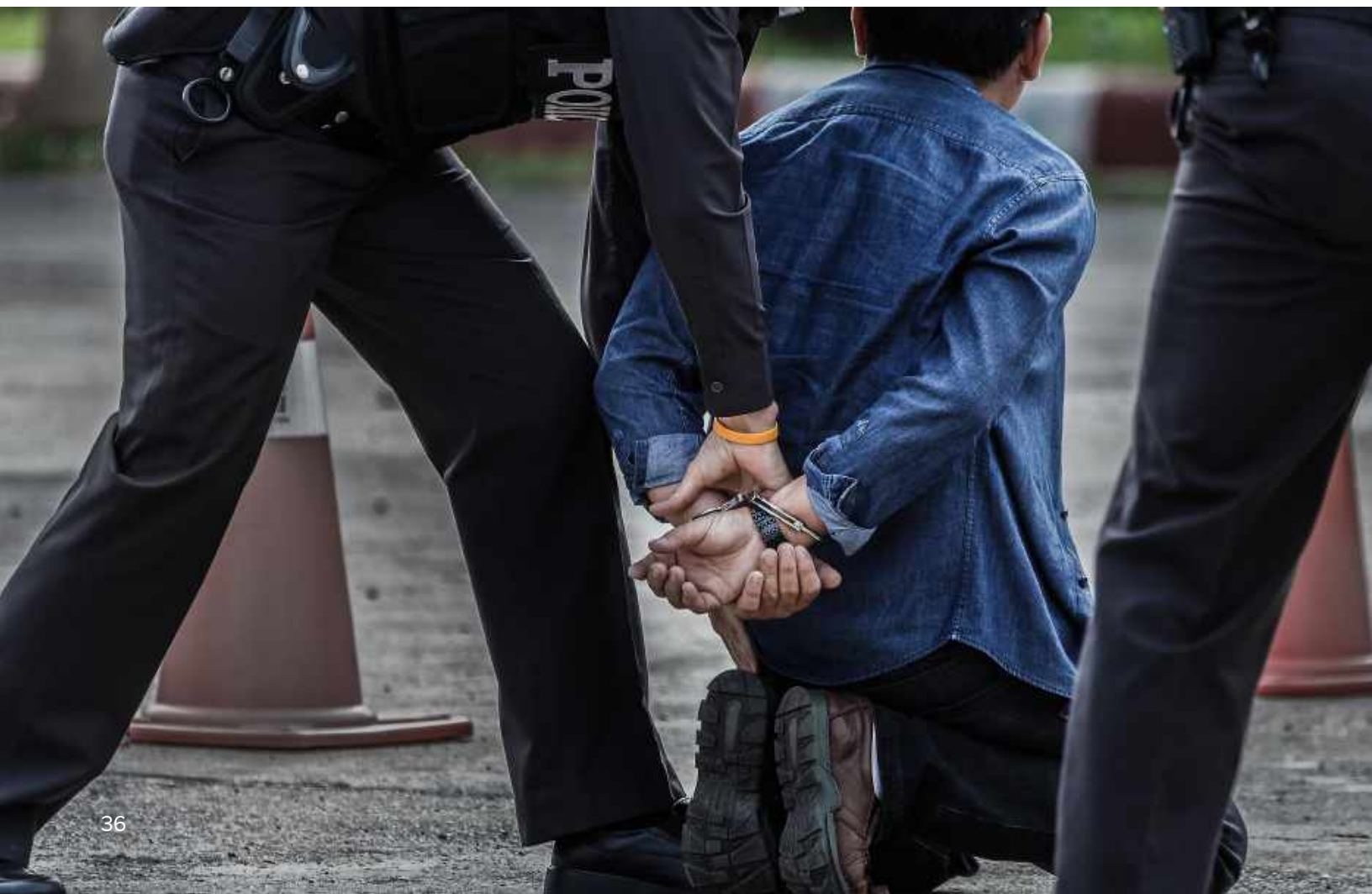
IX. Communicating the Data

Key Takeaways:

- Stop data should be analyzed and contextualized by the agency or external researchers.
- Results should be made public to provide structure to the interpretation of the data and to identify what they do and do not say on the front end.
- Raw, de-identified stop data should be available to and accessible by the public.
- As much information as possible should be provided at the most granular level possible, though without PII of officers or subjects of the stop (including crime victims).
- Agencies should present stop data in ways that the public can easily understand, ideally with interactive maps but at least with some method of visualization.

One of the primary reasons to gather stop data is to increase an agency's transparency in the community it serves. Transparency, as well as responding to community concerns, has the potential to build trust and improve perceptions of legitimacy. When an agency releases stop data and analyzes it, it signals a commitment to evaluating its operations and the behavior of its officers. Enabling members of the public to interpret the data themselves demonstrates a willingness to be responsive to public concerns and to work collaboratively to achieve common goals.

Whenever possible, data and analysis should be contextualized to account for crime and poverty (which requires high-level statistical analysis) so people do not seek to hold police agencies accountable for things outside of their control. Agencies will want to be ahead, rather than behind, any public misuse of their data or "bad science." To do so, consider bringing in research partners to perform or verify the analysis of agency data.

A. Making Data Open and Available for Download

Once data have been collected and audited, it is essential to make them available in a way that can be used and understood by the public. Data are important for more than internal use. Civilians in a democracy have the right to know what their government, including law enforcement, is up to. In order to be informed, the public needs access to up-to-date information that can be reviewed, analyzed, and shared. By empowering people to explore government activity, open data fosters transparency and civic engagement.[56] To promote these values, it is critical that stop data are publicly available in a tabular form that is useful to the broader public. For any state legislature considering a stop data protocol, and any law enforcement agency implementing a stop data protocol, there are four essential items to consider when making data public.

First, making data open means it must be available for download at the incident level. Summary statistics and aggregate information can be useful, but researchers need access to incident-level data in order to conduct analyses and yield insights about stops. Accordingly, every row in a dataset should represent a single, uniquely identifiable stop or use of force. Providing this type of granular information empowers members of the public to make their own assessments and come to their own conclusions from the data.

Second, making data open means providing the public with all of the information necessary to understand it. Providing a "data dictionary" or "metadata file" is the best way to accomplish this. A data dictionary should provide a concise but complete definition of every variable in the data. For example, if a database uses codes to differentiate pedestrian stops from vehicle stops, then it is critical that the public can easily find a key and an explanation for those codes. It should also be immediately clear which variable uniquely identifies each incident. A metadata file should also provide additional information about the dataset and any edits that were made to it. For example, it is essential to identify a contact person for the data. It also should be perfectly clear when the data were

last updated. If incident location data have been masked or edited in any way, it is important to state the rationale for doing so up front. This type of metadata enables the public to understand how to correctly interpret the data, which is essential for meaningful civic engagement.[57]

Third, making data open means that it is structured and machine readable, and that the public can inspect it without access to any special software. There are many file types in which data can be published. Researchers need to be able to query stop data, so file types like PDFs are not considered completely open. Spreadsheets are a common way of releasing information, but not everyone has access to proprietary software like Microsoft Excel. It is essential to make data available in formats that can be read by many types of open-source software. These file formats include .csv, .json, .txt, and more. Different file types have different advantages.[58] Accordingly, data should be provided in several different open file formats, if possible. There are also a number of online resources that exist to support open data initiatives.[59]

Fourth, it is essential that data are de-identified before they are made publicly available. It is sometimes necessary to collect data that could be used to identify an individual who appears in a dataset, whether as a subject or an officer (name, date of birth, address, license plate number, badge number, etc.). This Personally Identifiable Information must be removed or redacted before release to the public. An essential first step is to think through the variables that could have identifying information. For example, where is officer information recorded? Where is information about the person being stopped recorded? Is there vehicle information that could be identifying? Are there any narrative fields in the data? A common approach for dealing with these types of PII is to replace any potentially identifying information with a placeholder such as "[REDACTED]."

B. Analyzing and Visualizing Stop Data

Collecting stop data and making it publicly available is a critical first step—but it is not enough. For most people, a table of numbers is not meaningful on its own. While some researchers will have the skills to download data in its raw form and analyze it, most members of the public will not. It is thus critically important for the agency (or, preferably, an external researcher) to analyze the data prior to its release and to release the analyses along with the data. The public should not be left to play with the data without being guided by context or conclusions from validated analyses. This responsible release of data will help curtail the data being manipulated different ways by differently motivated actors. It will also help craft a single message about what the data do and do not reveal for a particular agency or state.

Go for gold, but if you can't, there are still ways to analyze data responsibly. In a perfect world, all agencies would have limitless resources for data collection and analysis. However, each agency needs to work within the confines of its existing budget and resources. An example of **Gold Standard** data analysis would be to perform a regression analysis that takes into account community-level factors, such as crime and poverty, when examining disparate outcomes in stops, arrests, and use of force. This would require someone with advanced statistical training. In lieu of this, there are **Silver Standard** methods of data analysis, such as frequencies and cross tabulations, that one can utilize without having more advanced statistical training.

Once data have been analyzed, visualization should be kept simple. Empowering community members to explore stop data in visual ways does not require cutting-edge technology or abundant resources; a straightforward approach is usually the clearest. In the absence of data visualization tools, resource-limited agencies can implement creative and practical alternatives. These include pie charts showing different types of force used, charts detailing the top 10 stop locations and the top 10 reasons for stops, or maps with dots that show, by neighborhood, where stops are happening frequently. ***Any* form of stop data visualization is better than none** and will be helpful for a community to understand where and how its agency's resources are being spent. Visualizations should not, however, replace access to raw data.

Visualizations, such as maps, allow the general public to understand data. When thinking about their community, most people do not visualize a spreadsheet of numbers but instead think in terms of places they know: blocks they visit, routes they take to work, and so on. Plotting stop data results on a map helps orient community members in ways that make the data feel relevant and helps them better understand how they are being policed.[60] The public should be able to look at a data visualization and intuitively know

what they are seeing. The purpose of visualizing incidents like stops is to allow the viewer to see how these incidents are spread across space and time. For example, a viewer may be curious to see if certain types of stops are concentrated in particular neighborhoods, or if stops increase during a particular time of year. This is why it is essential that a data visualization allows the audience to see and sort each individual stop.

Stories from the Field

The Rochester Police Department recently designed a data visualization tool that allows the public to explore incidents of crime in the city. Anyone can search the interactive crime map by location, date range, or type of crime. Using the tool, a resident can quickly identify what types of crimes have happened in their neighborhood in the last 30 days. A simple color scheme informs the viewer about what type of crime each dot represents. Other valuable information is available for each crime dot on the map, like the time of day it occurred and the status of the case. Allowing the public to explore data in this way can help ensure they are informed and invested.

X. Responding to the Data

Key Takeaways:

- Policing practices that data show to be ineffective should be limited.
- Agencies should focus on setting clear policies and establishing effective training programs, both agencywide and for individual officers.
- If stop data suggest problematic behavior by individual officers, peer intervention or an EIS may be effective. Any disciplinary processes should be clearly explained from the beginning of the program.
- If stop data reveal disparate enforcement, agencies should work to reduce these effects through policy change, officer training, and agency order, when necessary.

Having collected and analyzed the data, it is essential that law enforcement agencies address areas of concern. There is no one-size-fits-all approach; responses must be tailored to what the data show. For example, in Rhode Island, the state revised its police training around implicit bias and traffic stops after two studies found racially disparate treatment for traffic stops. This led to a reduction in consent and probable-cause searches of cars but an increase in the rate of contraband uncovered.[61] Following a study in Connecticut that found officers treated motorists differently based on race, the state began requiring that officers give a stopped driver a card explaining how to file a complaint.[62] After North Carolina's mandated traffic stop data showed massive racial disparities in traffic stops, several jurisdictions revised their practices for traffic stops, including requiring officers to obtain written consent before searching a car during a traffic stop.[63]

Although every agency should look at its data and devise its own solutions, this section offers a few examples of the types of responses an agency might consider. Generally speaking, responses fall into two categories: (1) strategic, agencywide and (2) individualized.

A. Strategic, Agencywide Responses

If data suggest that stops are not reducing crime or are not being administered as intended, agencies have a number of options depending on what kinds of problems the data reveal. These options include evaluating their tactics, changing their policies, or updating their training approaches.

1. Evaluating Tactics

As an initial matter, an agency should evaluate its enforcement strategies and be responsive to the results. It is important for agencies to continually evaluate the effectiveness of internal "productivity goals" for officers regarding stops. Although intelligence-focused efforts can be a dynamic strategy that works well in some agencies, tactics that focus on generating large numbers of stops do not always effectively translate to lower crime outcomes.

For example, a study of stops made by the Metropolitan Nashville Police Department revealed that traffic stops had neither a short-term nor a long-term effect on crime.[64] Some studies have even found that these strategies are counterproductive; one study of the NYPD found serious crimes like murder and robbery actually declined during a two-month period when proactive policing was paused.[65]

It is therefore critical that agencies use their data to continually examine the effectiveness of proactive measures in their own agencies and that they respond accordingly to findings if their practices are yielding negative or positive results.

2. Changing or Updating Policies

Depending on what data analysis reveals about how, when, and under what conditions officers are making stops, it may be necessary to change an agency's stop-and-search policies. Agencies should engage local communities for input on revised policies. This can lead to better and more creative policies that are more responsive to local problems; it can also improve police–community relationships more broadly.

An agency may need to review its policies with regard to reasonable suspicion. If data suggest that officers across an agency are conducting stops under a wide range of circumstances, with no uniformity justifying reasonable suspicion, then the agency should review its policy to ensure that it does more than restate the *Terry v. Ohio* legal standard.[66] Generally, "reasonable suspicion" means that an officer needs to be acting on more information than simply a hunch or suspicion; beyond that, it can be difficult to know what rises to this level. Precisely because reasonable suspicion is a challenging legal concept, it is essential that agency policies provide meaningful guidance to officers about when they should and should not conduct stops.

There is evidence to suggest that when officers lack proper guidance and make stops on vague grounds, racially discriminatory and class-based effects emerge.[67] This is not only a constitutional matter, but a matter of law enforcement efficacy. Studies also suggest that stops based on vague or generalized criteria are less likely to lead to arrest or to turn up any evidence of criminal activity, and therefore may result in unnecessary intrusions. One innovative approach for attacking all of these issues is for an agency to require officers to articulate the specific offense, not simply the general criminal activity, for which they have grounds to make a stop.[68]

If there are indications that officers are conducting consent searches and rarely finding criminal evidence or contraband, a policy change may be appropriate to limit officer discretion. Some productive policy changes could include requiring officers to secure supervisor approval before pursuing a consent search, or requiring officers to inform subjects of their right to refuse or revoke their consent at any time. Some agencies already employ strategies like these. For example, agencies in New Orleans, LA and Kalamazoo, MI, require an officer to first obtain supervisor approval before asking an individual for consent to conduct a search.[69] This helps ensure that officers ask to conduct searches only when circumstances actually warrant it. The Austin Police Department policy reminds officers that overuse of consent searches can "negatively impact the Department's relationship with our community."[70] These policies are good examples of how to ensure that officer use of consent searches is appropriate and effective.

Stories from the Field

One of the research partners previously worked with a law enforcement agency whose stop data indicated a particularly low hit rate for plain view vehicle searches. (A plain view search is conducted without a warrant because the contraband or evidence of criminal activity is plainly visible from a location where the officer has the right to be—such as outside of a car, looking in.) Obviously something was wrong with this situation. It was incumbent on the agency to determine whether this was a data collection problem (e.g., were officers mistakenly indicating "plain view" as the basis for search?) or a training problem (e.g., did officers not understand what a plain view search was?), or if there was some other cause. Without collecting and analyzing data to look for these types of conflicting outcomes, agencies are not able to make the corrections to training or policy that enable them to be efficient, evidence-based stewards of public safety.

3. Enhancing Training

Whenever a policy is changed, officers must be trained on the new policy and how they can fully comply. Training should focus on areas that data suggest are a problem for officers, and should incorporate real-world examples. For example, if officers are routinely making stops without reasonable suspicion, then training should dedicate more time and examples to ensuring that officers understand when stops are and are not appropriate. Real-world examples will help officers understand how written policies are supposed to play out in actual citizen–police encounters.

Where training relates to complicated legal matters, such as reasonable suspicion or probable cause, it should be led by qualified instructors with experience in relevant topics, such as the Fourth Amendment and related case law. Ideally, training sessions would also be developed using input from professional educators and community members. For example, agencies should discuss their proposed policies with LGBTQ+ individuals, disability advocacy groups, as well as racial and ethnic groups to ensure that policies support positive and respectful interactions.

Real-world examples can be incorporated into training through roundtables or debriefing sessions with small groups of officers. Roundtables or debriefing sessions—more often applied in the context of use of force—are meetings of small groups of officers (fewer than 10) during which they discuss their experiences with and understanding of various policies. These sessions can be incorporated into a schedule of formal or regular training, or they can be separate, periodic events (e.g., semiannual) to allow officers to somewhat regularly reflect on their stop data program.

At roundtables or debriefing sessions, officers can come together to review examples of stops with a range of different outcomes. By collectively reviewing reports of prior stops—and any other relevant material, like dash and body camera footage—officers understand what went well or poorly in the encounter and can brainstorm about what they would have done differently. This collective self-analysis can help prepare officers to make good, fast decisions in the field.[71]

B. Department- or Officer-Level Interventions

If the data suggest that a subset of officers is making a disproportionate number of stops, routinely making stops without proper justification, or conducting searches that rarely turn up evidence of a crime, then the agency will need to consider how to best address those individuals. This may take place through further investigation, retraining or peer intervention efforts, implementation of an EIS, or discipline.

1. Making Sure the Problem is Really Individual

Even where a problem appears to be officer-specific, it is important that agencies take a broad view and investigate the real source of the problem. For example, if individuals in a specific group—such as a particular unit or beat—exhibit similar problems, it is possible that the agency should conduct an intervention with the group supervisor. When a problem is shared across officers in the same line of command, agencies should go directly to leadership in order to understand whether officers are being inappropriately trained, incentivized, or otherwise poorly led.

2. Retraining Officers

Retraining is a simple step towards improving outcomes for particular officers, especially, for example, where the data reveal a pattern of stops conducted without reasonable suspicion. Roundtables and debriefing sessions are especially valuable for re-training because they provide officers with an opportunity to discuss difficult encounters and strategies for improving outcomes. Retraining can occur where officers are made to retake the same training they already received. It might be necessary, however, to revise the initial training in order to make it responsive to the issue at hand. Agencies should work toward incorporating into each type of training an assessment tool that can be scored and used as a barometer of training effectiveness. (See Appendix E for an example.)

3. Instituting Peer Intervention

Peer intervention is a new method to help individual officers improve group outcomes. Peer intervention programs are designed around the idea that officers should be involved in holding their peers to high standards of behavior, and they should be trained to intervene when their peers are approaching a policy violation. If data indicate that officers are inappropriately making stops, a peer intervention program that includes specific guidance on stops, searches, and arrests may help to improve outcomes. New Orleans, for example, has implemented a peer intervention program, called EPIC (Ethical Policing is Courageous), that focuses on training officers to intervene before another officer does something wrong.[72] While it is new, the scenario-based training program equips bystander officers with tools to improve outcomes across a wide range of policing practices.

4. Instituting Early Intervention Systems

Implementing non-disciplinary intervention systems can be a powerful way to improve individual officer outcomes without lowering morale and to combat a problem before it becomes ingrained or agencywide. A number of police

agencies use an EIS to accomplish this. An EIS, which typically is conducted via third-party software, entails an analysis of a wide range of officer-specific risk factors.[73] It can consider data from stop reports as well as employment logs, injury reports, complaints, and more. By identifying officers who might need additional training or support, an EIS can improve individual officers' outcomes and careers, mitigate future complaints, and improve agencywide morale. As an example, the Miami–Dade Police Department uses an EIS to identify officers for interventions like informal counseling sessions; these may then lead to additional resources for the officer, such as specialized training programs or psychological services.[74] The agency has seen an improvement in outcomes, including a decrease in complaints, since deploying the system. Before implementing an EIS, agencies should have specific policies on training and supervisor responsibilities established.

5. Assigning Fair Discipline Where Warranted

Discipline may be warranted within a fair system of accountability. Disciplinary structures should be clear and consistent. The more that officers are instructed on the front end about policies and what types of practices are discipline-eligible, the more officers will perceive a disciplinary system as fair and legitimate. As discussed in Section X.B, the way to ensure accurate data and officer accountability is to tie data practices and behavior to performance metrics and, when needed, disciplinary measures. Policy and training need to be clear from the beginning, making officers aware of the predetermined consequences for any infractions. For agencies whose employment contracts permit it, one way to accomplish this is through a disciplinary rubric created in collaboration with community groups and police unions. Such a rubric should specifically define the kinds of inappropriate stop practices that warrant discipline.[75]

XI. Conclusion

Agencies that collect and analyze stop data have a tremendous opportunity to see a variety of benefits: They can position themselves at the forefront of evidence-based policing by obtaining concrete evidence about whether stops are achieving law-enforcement and public-safety objectives. They can gain a better understanding of how stops impact their communities and whether certain groups endure a disproportionate burden from those stops. They can better assess the conduct of individual officers or units. Taking these steps and meaningfully responding to the data not only has the potential to realize all of these benefits but will also build community trust through improved transparency and dialogue about policing practices.

This Guidebook is intended as an instruction manual for law enforcement, government officials, community members, and anyone else interested in studying policing. In developing our recommendations, we incorporated the lessons we have learned working with communities impacted by policing across the United States. We also learned invaluable lessons from the perspectives and experiences of law enforcement, both in California and across the country.

Those empowered to collect and respond to their data can, for the first time, answer the Gold Standard questions about efficiency, disparity, proportionality, and officer standouts. Being able to explain any findings from a community, department, and relationship level allows law enforcement agencies to observe and respond to the nature of the problem instead of having to assume that all findings are the fault of the agency. By mandating comprehensive stop, arrest, and use of force data, cities and states—especially those that have experienced upheaval and national attention for police violence—will be able to respond meaningfully in a responsible and transparent manner.

In order to one day compare data across agencies, standardization is desperately needed. Federal agencies have attempted to do this through the Uniform Crime Reporting (UCR) and NIBRS systems, but both leave out some of the more basic yet important aspects of law enforcement interactions. This Guidebook is an attempt to introduce data best practices in one centralized form, so that agencies and state actors seeking to be proactive can utilize this resource and implement effective data collection strategies.

Appendix A:
Additional Background on Research Partners

The research that informed this Guidebook was sponsored by the U.S. Department of Justice's Office of Community Oriented Policing Services (COPS Office). The California Department of Justice received grant funding from the COPS Office, with the Policing Project and Center for Policing Equity serving as subgrantees tasked with developing the Guidebook.

A. Policing Project

The Policing Project at New York University School of Law partners with communities and police to promote public safety through transparency, equity, and democratic engagement.

Our work is focused on policing accountability, but also on shifting the conversation surrounding "accountability." Often, when people talk about a lack of accountability in policing, they mean that when an officer harms someone or surveillance techniques are deployed inappropriately, no one is held responsible—officers are rarely disciplined or prosecuted, courts admit evidence the police have seized illegally, and civil lawsuits are not successful.

This is back-end accountability—and it kicks in only after something has gone wrong, or is perceived to have gone wrong. Back-end accountability is very important, but because it can only target misconduct, there is a limit to what it can accomplish to guide policing before it goes awry.

Instead, our work focuses on ensuring accountability and democratic participation on the front end. Front-end accountability means the public has a voice in setting transparent, ethical, and effective policing policies and practices before the police or government act.

In cities across the country, we are working collaboratively with advocates, activists, community members, and policing and government officials, all committed to improving policing through front-end accountability.

B. Center for Policing Equity

As a nonprofit research and action think tank, the Center for Policing Equity aims to provide leadership in equity through excellence in research. Using evidence-based approaches to social justice, we use data to create levers for social, cultural, and policy change. We work collaboratively with law enforcement, communities, and political stakeholders to identify ways to strengthen their relationships. Together, we increase policing equity through transparency and accountability while maintaining high standards of service, reliability, and protection.

As a result of our collaborations, we have received the endorsement of the Major Cities Chiefs Association and crafted a blueprint for research and action in policing equity. We are proud to have worked with many of the nation's largest and most committed police agencies in the United States and abroad.

Our team comprises research scientists, former law enforcement, race and equity experts, data virtuosos, and community trainers. Our aim is to bridge the divide of communication, generational mistrust, and suffering. Most of all, we represent the path that science can forge towards public safety, community trust, and racial equity.

Our work is powered by science. We use advanced analytics to diagnose disparities in policing, shed light on police behavior, and answer questions police and communities have asked for years about how to build a healthy relationship. It is a process everyone can trust—even when they cannot trust one another.

Appendix B:
Expanded List of Possible Research Questions

The list of questions contained in this appendix expands upon the research questions presented in the body of the Guidebook. It is by no means an exhaustive list of the questions an agency can answer with good stop data. Even if a topic of interest to your agency is not discussed in the Guidebook, collecting those data on the front end will enable you to answer the questions that are important and unique to your context.

A. Disparity/Equity

Gold Standard

1. Are there racial disparities in *decision to use force* among perceived race of persons stopped when controlling for age, gender, offense type, and neighborhood context (e.g., crime, poverty)?

2. Are there racial disparities in *levels of severity of force* used among perceived race of persons stopped when controlling for age, gender, offense type, and neighborhood context (e.g., crime, poverty)?

3. Are there racial disparities in use of *less lethal or lethal force* among of unarmed individuals on whom this level of force was used when controlling for age, gender, and neighborhood context (e.g., crime, poverty)?

4. Are there racial disparities in use of *less lethal or lethal force* among *armed* individuals when controlling for age, gender, and neighborhood context (e.g., crime, poverty)?

5. Are there racial disparities in use of *de-escalation techniques* (e.g., verbal judo) among perceived race of persons stopped when controlling for gender and neighborhood context (e.g., crime, poverty)?

6. Are there racial disparities in the frequency of *no-action* stops across perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?

7. Are there racial disparities in the yield rates of contraband found among perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?

8. Are there racial disparities between perceived race of persons stopped and the result of the stop when controlling for neighborhood context (e.g., crime, poverty)?

a. What is the relationship between perceived race of persons stopped and their rate of arrest?

9. Are there racial disparities in rate of *officer requests* for consent to search based on the perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?

10. Are there racial disparities in rate of *consent given to search* by the perceived race of persons stopped when controlling for neighborhood context (e.g., crime, poverty)?

Silver Standard

1. Are there racial disparities in rates of *vehicle drivers* stopped?

2. Are there racial disparities in rates of *pedestrians* stopped?

3. Are there racial disparities in rates of persons *searched*?

4. Are there racial disparities in rates of persons *arrested*?

5. Are there racial disparities in rates of persons receiving *citations*?

6. Are there racial disparities in rates of persons on whom *force was used*?

B. Proportionality

Gold Standard

1. Are there racial disparities between number of pedestrian and vehicle stops across perceived race of persons stopped compared to their representation in the population when controlling for neighborhood context (e.g., crime, poverty)?

2. Is the frequency of *pedestrian* stops by perceived race equivalent to the proportion of those races represented in the community when controlling for neighborhood context (e.g., crime, poverty)?

3. Is the frequency of *vehicle* stops by perceived race equivalent to the proportion of those races represented in the community when controlling for neighborhood context (e.g., crime, poverty)?

4. What is the proportion of the *number of citizen complaints* in the neighborhood to the number of police stops in the same neighborhood when controlling for neighborhood context (e.g., crime, poverty)?

5. What is the proportion of the number of citizen *com-plaints alleging racial or identity profiling* to the number of police stops in the community when controlling for neighborhood context (e.g., crime, poverty)?

Silver Standard

1. Is the proportion of *pedestrian* stops by perceived race equal to their representation in the population?
2. Is the proportion of *vehicle* stops by perceived race equal to their representation in the population?
3. What is the proportion of the race of citizens' *general complaints* to the race of individuals stopped by police in the same neighborhood?
4. What is the proportion of the race of citizens with *complaints alleging racial and identity profiling* to the race of individuals stopped by police in the same neighborhood?
5. What are the differences in the racial distribution of subjects of high-discretion stops (i.e., officer observed) versus low-discretion "stops" (i.e., red light cameras) for the same traffic infractions?
6. Are there racial disparities between perceived race of persons identified in officer-initiated stops in proportion to the perceived race of persons identified in all calls for service?

C. Efficiency

Gold Standard

1. What percentage of action stops resulting in a citation were for a vehicle equipment issue?
   a. Are there racial disparities between perceived race of persons stopped and their rate of *citation* for a vehicle equipment issue (e.g., broken taillight)?
   b. Are there racial disparities between perceived race of persons stopped and their rate of *warning* for a vehicle equipment issue (e.g., broken taillight)?
   c. Are there racial disparities between perceived race of persons stopped and their rate of *arrest* for suspended license or open warrants due to unpaid traffic tickets or low-level moving violations?
   d. Is there a difference in the frequency of these arrests when the stops occur in a predominantly White zip code, versus a predominantly non-White zip code?
2. Have *crime rates* increased or decreased in areas that have been the subject of recent proactive targeted enforcement?

3. Have *citizen complaints* of racial or identity profiling increased or decreased in areas that have been the subject of recent proactive targeted enforcement?
4. Have *crime rates* increased or decreased in areas where proactive targeted enforcement has been removed?
5. Have *calls for service* increased or decreased in areas that have been the subject of recent proactive targeted enforcement?
6. Have *calls for service* increased or decreased in areas where proactive targeted enforcement has been removed?

Silver Standard

1. What percentage of action stops resulting in arrest were for a suspended license or open warrant due to unpaid traffic tickets?
2. What is the rate of *pedestrian* stops resulting in a citation or arrest?
   a. What is the rate of *non-White* pedestrian stops resulting in a citation or arrest?
   b. What is the rate of *White* pedestrian stops resulting in a citation or arrest?
3. What is the rate of *vehicle* stops resulting in a citation or arrest?
   a. What is the rate of *non-White* vehicle stops resulting in a citation or arrest?
   b. What is the rate of *White* vehicle stops resulting in a citation or arrest?
4. What is the rate of *searches/frisks* resulting from stops?
   a. What is the rate of *non-White* individuals searched?
   b. What is the rate of *White* individuals searched?
5. What is the rate of *contraband yield* resulting from searches/frisks?
   a. What is the rate of contraband yield from *non-White* individuals searched?
   b. What is the rate of contraband yield from *White* individuals searched?
6. What is the rate of *use of force* incidents?
   a. What is the rate of use of force incidents on *non-White* individuals?
   b. What is the rate of use of force incidents on *White* individuals?
7. What is the rate of *highest* severity level of force used on each racial group?
8. What is the rate of *lowest* severity level of force used on each racial group?

9. How many use of force incidents resulted in *arrest or citation* issued?
   a. How many use of force incidents of *non-White* individuals resulted in arrest or citation?
   b. How many use of force incidents of *White* individuals resulted in arrest or citation?

D. Standouts (Outliers of Officer Behavior)

Gold Standard

1. Are some officers responsible for a disproportionate amount of stops when controlling for assignment type?
2. What is the relationship between officer race and their number of action stops when controlling for assignment type (e.g., traffic, gang unit)?
3. Is *officer* race a predictor of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
4. Is *subject* race a predictor of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
5. What common factors exist among officers with the *highest* rate of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
6. What common factors exist among officers with the *lowest* rate of use of force incidents when controlling for offense type and neighborhood context (e.g., crime, poverty)?
7. What common factors exist among officers with the *highest* number of citizen complaints against them when controlling for offense type and neighborhood context (e.g., crime, poverty)?
8. What common factors exist among officers with the *lowest* number of citizen complaints against them when controlling for offense type and neighborhood context (e.g., crime, poverty)?

Silver Standard

1. What is the average number of *stops* per officer?
2. What is the average number of *searches* per officer?
3. What percentage of searches yield *contraband* for each officer?
4. What is the average number of *arrests* per officer?
5. What is the average number of *use of force* incidents per officer?

Going beyond stop data: Beyond being more transparent about vehicle and pedestrian stops, a police agency can strive to better understand the level of trust and feelings of legitimacy the community has toward their agency. Some of these questions can be answered with data the agency likely already collects; others would require surveys or interviews with community members—a costly undertaking that should include research experts.

We have included some additional questions that fall outside of the scope of stop data but that we consider important to improving agency outcomes and community relationships. These additional questions fall into two themes: wellness (of both officers and communities) and community trust.

Assessing officer wellness should be a priority for each agency. Community wellness is also important, although it is not something an agency has as much direct control over. It is important to measure the baseline wellness of officers and community members by assessing things such as mental health, homelessness, domestic violence, and physical health and safety. From there, an agency can measure the impact of stops on each of these elements, by looking at the effects on these measures when stops increase or decrease in areas. Examples of important elements to observe and explain include measuring injury to officers or trauma to subjects sustained during a use of force incident, or general community stress over concerns that interactions with law enforcement can turn deadly. The research questions provided here only begin to scratch the surface of understanding these realities more deeply, but they represent elements of stops that should be studied in detail.

E. Wellness (Officer and Community)

Gold Standard

1. In use of force instances that result in *subject injury*, are there racial disparities between the race of the person and calls for EMS treatment when controlling for agency policy?
2. What common *personal* factors exist among officers with the highest levels of use of force involvement (e.g., marital status, age, race, military experience)?
3. What common *professional* factors exist among officers with the highest levels of use of force involvement (e.g., rank, unit/assignment, years of experience, beat)?

Silver Standard

1. Are there disparities in officer unit assignment and seeking agency resources for *mental health/addiction services*?
2. What percentage of use of force incidents resulted in hospital-treated injury or death of an *officer*?
3. What percentage of use of force incidents resulted in hospital-treated injury or death of an *individual subject*?
   a. Are there racial disparities in *rate of injury* among racial classifications following a use of force incident?
   b. Are there disparities among racial classifications of the injured parties and officer initiated calls for EMS services following *use of force*?
4. What percentage of individuals were refused entry at central booking due to injury in situations where EMS was *not* called following use of force?
   a. Are there racial disparities among the subjects of injury-based *central booking refusals*?

F. Community Trust

Gold Standard

1. Do community members report a high level of trust in officers to police the community *safely and effectively*?
2. Do community members report a high level of trust in officers to *treat them fairly* when detaining them during a stop?
3. What is the relationship between officer race and the number of *citizen complaints* against them when controlling for neighborhood context (e.g., crime, poverty)?
4. Do non-White community members report a similar level of *fair treatment* by police compared to White community members?
5. Are there racial differences in community members' perceptions of the fairness of *outcomes* of their interactions with police?
6. Are there racial differences in community members' perceptions that the *reasons* they had contact with police were legitimate?
7. Do officers perceive that the majority of community members are *well meaning* toward them?
8. Do officers perceive that the majority of community members *follow the law*?
9. Do officers perceive that most community members have a high degree of trust in law enforcement to police them *safely and effectively*?
10. What is the relationship between officer race and the number of *citizen complaints* against them when controlling for neighborhood context (e.g., crime, poverty)?

Silver Standard

1. Is the rate of calls for service proportional to the *crime rate* in the neighborhood?
2. Are there disparities in the race of suspect in *community calls for service*?
3. Are there disparities in race of suspect for *crimes actually committed* versus *suspicious activity*?

Appendix C:
AB 953 Data Collection Requirements

Agencies within the state of California are required to collect the data listed here. Agencies from other states are free to use this as a guide for modelling their own systems, but we have also included a more general data collection list in Appendix D for agencies who do not wish to mirror the regulations from the state of California.

Template for the Enacted Racial and Identity Profiling Act Stop Data Regulations

Additional data values for the stop of a student in a K–12 public school are listed in gray.

1. Originating Agency Identifier (prepopulated field)

2. Date, Time, and Duration of Stop
Date: (e.g., 01/01/19)
Start Time (approx.): (e.g., 1530)
Duration of Stop (approx.): (e.g., 30 min.)

3. Location
- Report one (listed in order of preference): block number and street name; closest intersection; highway and closest highway exit. If none of these are available, the officer may report a road marker, landmark, or other description, except cannot report street address if location is a residence.
- City:_____
- Check here to indicate stop is of a student at K–12 public school: _____ Name of K–12 Public School _____

4. Perceived Race or Ethnicity of Person Stopped
(select all that apply)
- Asian
- Black/African American
- Hispanic/Latino(a)
- Middle Eastern or South Asian
- Native American
- Pacific Islander
- White

5. Perceived Gender of Person Stopped (may select one from options 1–4 AND option 5, if applicable, or just option 5)
1. Male
2. Female
3. Transgender man/boy
4. Transgender woman/girl
5. Gender nonconforming

6. Person Stopped Perceived to be LGBT (Yes/No) ("Yes" must be selected if "Transgender" was selected for "Perceived Gender")

7. Perceived Age of Person Stopped
(input the perceived, approximate age)

8. Person Stopped Has Limited or No English Fluency (Yes/No)

9. Perceived or Known Disability of Person Stopped (select all that apply)
- Deafness or difficulty hearing
- Speech impairment or limited use of language
- Blind or limited vision
- Mental health condition
- Intellectual or developmental disability, including dementia
- Disability related to hyperactivity or impulsive behavior
- Other disability
- None

10. Reason for Stop
(select one—the primary reason for the stop only)
- Traffic violation
  - Specific code (CJIS offense table; select drop down) and
  - Type of violation (select one)
    - Moving violation
    - Equipment violation
    - Non-moving violation, including registration violation
- Reasonable suspicion that person was engaged in criminal activity

- Specific Code (drop down; select primary if known) and
- Basis (select all applicable)
  - Officer witnessed commission of a crime
  - Matched suspect description
  - Witness or victim identification of suspect at the scene
  - Carrying suspicious object
  - Actions indicative of casing a victim or location
  - Suspected of acting as a lookout
  - Actions indicative of a drug transaction
  - Actions indicative of engaging in a violent crime
  - Other reasonable suspicion of a crime
- Known to be on parole/probation/PRCS/mandatory supervision
- Knowledge of outstanding arrest warrant/wanted person
- Investigation to determine whether person was truant
- Consensual encounter resulting in search
- Possible conduct warranting discipline under Education Code sections 48900, 48900.2, 48900.3, 48900.4, and 48900.7 (select specific Educ. Code section & subdivision)
- Determine whether student violated school policy

A brief explanation is required regarding the reason for the stop and must provide additional detail beyond the general data values selected (250-character maximum).

11. Stop Made in Response to a Call for Service
(Yes/No) (Select "Yes" only if stop was made in response to call for service, radio call, or dispatch)

12A. Actions Taken by Officer(s) During Stop
(select all that apply)
- Person removed from vehicle by order
- Person removed from vehicle by physical contact
- Field sobriety test conducted
- Curbside detention
- Handcuffed or flex cuffed
- Patrol car detention
- Canine removed from vehicle or used to search
- Firearm pointed at person
- Firearm discharged or used
- Electronic control device used
- Impact projectile discharged or used (e.g., blunt impact projectile, rubber bullets or bean bags)

- Canine bit or held person
- Baton or other impact weapon used
- Chemical spray used (e.g., pepper spray, mace, tear gas, or other chemical irritants)
- Other physical or vehicle contact
- Person photographed
- Asked for consent to search person
  - Consent given
  - Consent not given
- Search of person was conducted
- Asked for consent to search property
  - Consent given
  - Consent not given
- Search of property was conducted
- Property was seized
- Vehicle impound
- Admission or written statement obtained from student
- None

12B. Basis for Search (if search of person/property/both was conducted; select all that apply)
- Consent given
- Officer safety/safety of others
- Search warrant
- Condition of parole/probation/PRCS/mandatory supervision
- Suspected weapons
- Visible contraband
- Odor of contraband
- Canine detection
- Evidence of crime
- Incident to arrest
- Exigent circumstances/emergency
- Vehicle inventory (for search of property only)
- Suspected violation of school policy

A brief explanation is required regarding the basis for the search and must provide additional detail beyond the general data values selected (250-character maximum). This field is not required if basis for search is "condition of parole/probation/PRCS/mandatory supervision."

12C. Contraband or Evidence Discovered, if any (during search/in plain view; select all that apply)
- None
- Firearm(s)
- Ammunition
- Weapon(s) other than a firearm

- Drugs/narcotics
- Alcohol
- Money
- Drug paraphernalia
- Suspected stolen property
- Cell phone(s) or electronic device(s)
- Other contraband or evidence

12D. Basis for Property Seizure
(if property was seized; select all that apply)
- Safekeeping as allowed by law/statute
- Contraband
- Evidence
- Impound of vehicle
- Abandoned property
- Suspected violation of school policy

12E. Type of Property Seized (select all that apply)
- Firearm(s)
- Ammunition
- Weapon(s) other than a firearm
- Drugs/narcotics
- Alcohol
- Money
- Drug paraphernalia
- Suspected stolen property
- Cell phone(s) or electronic device(s)
- Vehicle
- Other contraband or evidence

13. Result of Stop (select all that apply)
- No action
- Warning (verbal or written): Code/ordinance cited (drop down)
- Citation for infraction: Code/ordinance cited (drop down)
- In-field cite and release: Code/ordinance cited (drop down)
- Custodial arrest pursuant to outstanding warrant
- Custodial arrest without warrant: Code/ordinance cited (drop down)
- Field Interview Card completed
- Noncriminal transport or caretaking transport (including transport by officer,
- Transport by ambulance, or transport by another agency)
- Contacted parent/legal guardian or other person responsible for the minor

- Psychiatric hold (Welfare & Inst. Code, §§ 5150, 5585.20.)
- Referred to U.S. Department of Homeland Security (e.g., ICE, CBP)
- Referral to school administrator
- Referral to school counselor or other support staff

14. Officer's Identification (I.D.) Number
(prepopulated field)

15. Officer's Years of Experience
(total number of years worked as a peace officer)

16. Type of Assignment of Officer (select one)
- Patrol, traffic enforcement, field operations
- Gang enforcement
- Compliance check (e.g., parole/PRCS/probation/ mandatory supervision)
- Special events (e.g., sports, concerts, protests)
- Roadblock or DUI sobriety checkpoint
- Narcotics/vice
- Task force
- K–12 public school, including school resource officer or school police officer
- Investigative/detective
- Other (manually specify type of assignment)

Appendix D:
Center for Policing Equity Data Checklist

This list was created by CPE as part of the National Justice Database. CPE uses this list to request data from agencies, but it has been reframed here to list variables agencies should consider collecting—or consider revising how they are collected—on the front end.

Information Regarding Stop
- Unique identifier
- Date of incident
- Time of incident
- Reason for stop/offense
- Vehicle or pedestrian stop
- Location/address
  - Latitude/longitude
  - Street address details
  - Beat, precinct, district, police service zone, etc., and appropriate shapefiles/maps
  - Location type (as coded by NIBRS/UCR)
  - Whether stop occurred at a checkpoint
- Disposition(s) (e.g., citation, arrest, release)
- Was stop intelligence-led?
- Was a search conducted on occupant(s) and/or the vehicle?
- Nature of each search (e.g., incident to arrest, plain view, consent)
- What contraband was found in each search, if any?
- Was property seized (name the property)?
- Was a K9 used to search?
- Was vehicle and/or foot pursuit involved?

If Use of Force Occurs[76]
- Nature of contact (e.g,. traffic stop, call for service, warrant)
- Was the stop officer-initiated?
- Disposition(s) (e.g., citation, arrest, release) for each subject
- Subject resistance (e.g., verbal aggression, physical, fleeing)
- Were de-escalation techniques used? (e.g., verbal judo, soft skills, social intelligence techniques that reduce the need for physical contact)
- Type(s) of force (e.g., restraint only, physical force, lethal)

- Did subject(s) possess a weapon?
- Did subject(s) use the weapon?
- Police weapons/tools used (e.g., handgun, OC spray, taser)
- When a firearm is used, whether it was discharged
- Number of officers involved
- Camera on scene
- Camera activated/operating?

Information Regarding Officer's Perception of Person Stopped
- Subject identification number (no PII)
- Perceived race/ethnicity
  - Perceived before stop? Y/N
- Perceived sex
- Perceived age
- Perceived non-English speaking?
  - Was translator provided? Y/N
- Perceived homeless?
- For vehicle stop only:
  - Indicate whether driver or passenger
  - Number of subjects in vehicle

Information Regarding Officer[77]
- Officer's identification number (no PII)
- Race/ethnicity
- Sex
- Age
- Agency years of experience
- Rank (at date of stop)
- Geographic assignment (at date of stop)
- Department assignment (e.g., patrol, SWAT, SRO) (at date of stop)
- Military background/experience
- Number of officers involved

Consider also collecting data pertaining to crime/offense and calls for service in a similar fashion.

Crime/Offense Data

Incident Details
- Unique identifier
- Date of incident
- Time of incident
- Was incident a result of a call for service or officer-initiated activity?
- NIBRS or UCR classification
- Offense description
- Location/address
    - Latitude/longitude
    - Street address details
    - Beat, precinct, district, police service zone, etc., and appropriate shapefiles/maps
    - Location type (as coded by NIBRS/UCR)
        - Bias motivation (as coded by NIBRS/UCR)

Suspect Demographics (Collect this information for each suspect.)
- Suspect identification number (no PII)
- Race/ethnicity
- Sex
- Age

Victim Demographics (Collect this information for each victim.)
- Victim identification number (no PII)
- Race/ethnicity
- Sex
- Age

Officer Demographics (Collect this information for each involved officer.)
- Officer identification number (no PII)
- Race/ethnicity
- Sex
- Age
- Agency years of experience
- Rank (at date of incident)
- Geographic assignment (at date of incident)
- Department assignment (e.g., patrol, SWAT, SRO) (at date of incident)
- Military background/experience

Calls for Service

The dataset should include police calls only (as opposed to EMS or fire safety calls). The dataset should include all priority levels.

Incident Details
- Unique identifier
- Location/address
    - Latitude/longitude
    - Street address details
    - Beat, precinct, district, police service zone, etc., and appropriate shapefiles/maps
    - Location type (as coded by NIBRS/UCR)
- Call type (e.g., suspicious person, assault, narcotics)
- Priority level (by number)
- Date and time of call
- Date and time of response
- Disposition (e.g., report taken, unfounded)

Subject Information
- Subject description

Officer Demographics (This should include each officer involved.)
- Race/ethnicity
- Sex
- Age
- Injury/hospitalization
- Agency years of experience
- Rank (at date of call)
- Geographic assignment (at date of call)
- Department assignment (e.g., patrol, SWAT, SRO) (at date of call)
- Military background/experience

Appendix E:
Sample Assessment Tool

This sample assessment tool is meant to serve only as a guide to the types of critical thought questions you should be asking; it is not meant to serve as the entire assessment. It would be most useful to ask these types of questions following a simulated training event. The tool should be customized for your agency, and the questions should be tailored to evaluate your officers' correct/incorrect responses to the event.

1. You stop a driver you initially perceive as a White male. When you approach the vehicle, he appears to be Asian, speaks only Chinese, and his ID is a passport from China. What is the correct race to record for this individual?
   a. **White**
   b. Asian
   c. Mixed race
   d. Unknown

2. True or False: You stop a speeding vehicle with three passengers in addition to the driver. You ask the driver for their license and registration. You let them go with a warning. For your stop data, you must record the demographic information for each of the four people in the car.
   a. True
   b. **False**

3. True or False: You see a disabled vehicle and stop to help the individual change a tire. While you are next to the vehicle you see through the window what appears to be a bag of an illegal substance and a needle. You perform a non-consensual search of the car. The contents of the bag turn out to be medication for which the driver has a prescription. The stop concludes as a no-action stop. You still need to fill out stop data for this because there was a detention in the form of a search during your consensual encounter.
   a. **True**
   b. False

4. Which of these is considered personally identifiable information (PII)?
   a. A person's race
   b. **A person's address**
   c. A person's LGBTQ+ status
   d. All of the above

5. Underline the sentence in this narrative that contains prohibited PII:

   White male, 5'11" subject matched description of home invasion suspect. Detained as Ped stop outside of his home at 1321 Maple Ave. Springfield. Performed frisk search and asked for ID. DL confirmed height as 5'll". Subject self-identified as disabled. Dispatch confirmed actual suspect was in custody during my stop. No-action stop.

Appendix F:
Common Data Collection Errors (Advanced)

Through our extensive work with policing data, and data in general, we have developed this list of common data errors that are easy for agencies to make if systems are improperly designed. Some of these are also caused by end-user (officer) error but can be mitigated through proper data portal design. Each of these data errors can make analysis difficult and threaten data integrity. Thus, it is important that agencies do their best on the front end to minimize the possibility of these issues as well audit the data for these errors once they have been entered.

A. Front-End Data Errors (Errors in Data Collection Design)

- **Not clearly distinguishing pedestrian stops from vehicle stops**
  Example: Traffic code violations are sometimes used to determine which incidents involve a vehicle driver versus someone on foot.
  - Many agencies fail to have a marker that clearly indicates whether a stop was of a pedestrian or a vehicle driver. This is problematic because these two types of stops need to be analyzed separately for them to make sense. The circumstances and interpretation of problematic actions are different for each. Relying on other indicators (such as traffic code violations) to distinguish vehicles from pedestrians only complicates matters and is not reliable. Vehicle and pedestrian stops should always be separated in the data with a clear, standard marker.

- **Inconsistent coding of variables**
  Example: Male = 1 Female = 2; Male = 0 Female = 1
  - This would be a problem because, when the data are analyzed, a code of "1" could indicate either a male or a female. There are also too many codes for just the two attributes of male and female. Consistent coding would have a unique number or letter for a given attribute, and all officers should be using the codes the same way.

- **Categorical variables that are not mutually exclusive**
  Example: Age of person stopped = 0–18, 18–25, 26–30...

- What this means simply is that the categories should never overlap, and more than one answer should never apply for variables that have fixed categories. In the example, a subject who is 18 years old could be recorded in Category 1 or Category 2. The only time this is acceptable is in situation where more than one option is likely to apply—for example, "force type used". This would then be a "check all that apply" variable.

- **Attributes that are too broad**
  Example: Reason for stop = Motor Vehicle Infraction, Non-Motor Vehicle Infraction.
  - In this example there are more reasons for which a stop could occur. Categorizing an infraction as "motor vehicle" versus "non-motor vehicle" leaves out important distinctions, such as if the individual stopped was a pedestrian, a suspect in a crime, or any other legal justification for a stop. It is important to break out these reasons, because categories can always be condensed later, but they can never be distilled more specifically if collected at such a broad level. Take, for instance, subject age: If raw ages are collected (18, 32, 57), they can always be grouped later into age ranges (18–25, 26–35, etc.); but if only the ranges are collected at the front end, we will never be able to determine the individuals' exact ages.

- **Open text fields that should/could be categorical fields**
  Example: Officer assignment type = [open text field]
  - Any time you have a variable with a fixed, finite number of categories, these categories should be listed in a dropdown menu. Think of the 50 states or officer assignment type, for instance. In both cases, we know what all the possible answers are, so they should be in list form for the officer to select rather than type in. Open text fields create issues for analysis. If, for example, one officer enters the state as "New Jersey" and another enters it as "NJ," when you attempt to analyze this, they will show as two different responses. (That does not even factor in a misspelling, such as "Neu Jersey," which would show as a third, separate classification.) Therefore, limit open text fields as much as possible—for example,

to situations where the list would be much too long or the categories are not all known, such as subject property seized. A compromise is to have a nearly exhaustive list of all the common categories, and then allow for an "Other" option. This should always permit (and require) the officer to write in what the "other" category was.

- **Inconsistent identifiers**
  Example: Tagging officers by alternating between employee ID and badge number (putting aside that both of these would be PII and should not be used in policing data)
  - Having different unique IDs for officers gives the illusion that these are two different people, when they are the same. Using two different possible logins or unique identifiers would create this problem. The same problem would occur if an officer with one unique ID leaves the agency temporarily, or is put on leave and then given a new unique ID upon return. A unique ID should follow an officer for the life of their employment with the agency, even if there is a gap in employment. It should function the same way a social security number functions for members of the public. It should also not be tied to anything outwardly identifying about the officer, such as a DOB, badge number, etc.

B. Back-End Data Errors (End-User Errors)

- **Missing data or data not collected**
  Example: Gender _____
  - When data are not entered, the common term for it is missing data. This occurs any time a field is left blank. Missing data pose a problem for many types of analysis and should be limited as much as possible. All fields should be considered necessary and should always be filled in, even with a n/a option if it does not apply.

- **Erroneous data entry**
  Example: DOB = 1/13/2054
  - The birth year above is clearly wrong. Whenever possible, the data system should flag these issues, such as where a date is not possible or it conflicts with other information entered. Some systems are better equipped to handle this than others. Data auditors should also comb for these types of obvious errors.

- **Conflicting data entry**
  Example: Arrest = No; Search reason = Incident to Lawful Arrest
  - The example above would be problematic because both of these cannot be true. If the individual was not arrested, they should not have been searched as part of the arrest. There are other types of data that relate to one another in a similar way. If a system cannot be made to automatically flag conflicting entries, auditors should run queries to look for issues such as this, where two or more things are unlikely to both be true (e.g., plain view search with no contraband yield).

- **"Other" is not specified**
  Example: Contraband found = Other: _____
  - The option for "other" should be used sparingly and only in situations where the list cannot be exhaustive. The race field, for instance, is one that should never have an "other" or "unknown" option. When "other" is used as a catch-all, there should be a field to specify what the "other" is, and this field should never be left blank. "Other" without an explanation is as problematic as missing data when it comes to analysis.

- **Patterns that stand out**
  Example: If certain stretches of time, such as whole weeks or months, contain zero stops, this could be due to a reporting error, or a data storage issue, etc.
  - Data should be audited for patterns of missingness and for large fluctuations. For instance, if one month shows zero arrests, or a 300% increase in stops, these data should be examined closely to determine if there are any explanations for the change or if it was due to an end-user or system error. Before analysis, it is important to have explanations or resolutions to any odd patterns in the data. And when working with external partners for analysis, all patterns should be explained up front, when the data are turned over

Appendix G:
Local Implementation Guide

This appendix provides additional details for an agency or community that is considering implementing a stop data collection program in their jurisdiction.

A. Community Engagement

In designing a stop data collection strategy, an agency should involve the public in developing the new policies and procedures. It is important to make sure officers at every level understand why stop data collection is useful, but this is equally true for other stakeholders in the jurisdiction. Examples of other stakeholders include public officials, academics with a background in data collection, advocacy groups, and interested members of the public. Engagement is a crucial part of front-end accountability—the idea that allowing stakeholders to have a voice in designing policy and practice is necessary to achieve public safety.

To ensure community engagement is effective, an agency must first define why it would be useful in shaping a data collection strategy. Is the agency seeking to vet its data collection strategy with local lawmakers? Is the agency unsure of how to undertake stop data analysis and wants to partner with experts to carry it out? Does the agency want to notify residents that stop data will now be collected and will be publicly available at set intervals?

Achieving each goal requires different mechanisms for engagement, especially in terms of who will be engaged and how. Here are sample engagement ideas:

- **If the agency is seeking to vet its data collection strategy with local lawmakers:** Presenting the agency's specific data collection strategy to local lawmakers could help secure additional funding, if needed, to purchase new equipment, train officers, and so on. Involving lawmakers early in the process can ensure that the agency is acting in line with the regulations of stop data law; it also educates councilmembers on the challenges the agency may face in implementing the strategy.

- **If the agency wants to partner with experts to carry out its stop data analysis:** Some medium- or small-sized agencies may not have the resources to hire full- or part-time staff trained in social science data analysis methods. Partnering with researchers can help overcome this obstacle and ensure more accurate analysis as well as insight into how best to disseminate findings for broader public understanding.

- **If the agency wants to notify residents about stop data collection:** Informing the public about a new policy and giving them guidance on where to find out more information is a crucial component of engagement, even if it does not involve working closely with members of the community at large. Through social media campaigns, public meetings, and press conferences, a law enforcement agency can explain why stop data are being collected, how the data impact community members, and where more information can be found.

B. Policy and Procedure Updates

As with any new policy or procedure, stop data collection protocols should be formalized as part of general orders or a policy manual. This means that when updates are made to policies and procedures related to stop data, these changes must be carried out in a transparent manner. Transparency applies to how stop data orders are updated as well as to how they are disseminated afterward.

During the **updating** process, consider gathering input from line officers as well as command staff concerning how to improve stop data collection in a way that addresses the challenges a particular agency may face. It is also important to consider giving the public a chance to weigh in on the orders through a community engagement initiative.

In terms of **dissemination**, stop data collection policies and procedures—along with the entire policy manual, ideally—should be made easily accessible to the public and to line officers. This includes uploading stop data collection orders online and informing the public where they can be found, especially if policies are not located on the main page of the agency's website.

C. Officer Training

Another issue with local implementation of stop data collection is how to train the officers who will be charged with collecting the data, analyzing it, and making it available to the public. Agencies of different sizes will face different challenges in terms of operationalizing officer training.

Larger agencies theoretically have enough staff and budget to retrain some personnel to focus on the back-end tasks of maintaining a database of stop data, analyzing the data, and disseminating the results. Creating specialty units related to stop data (or even data analysis more broadly) is one way to ensure that the data collected are accurate, so that the findings from the data can be used to inform policy decisions. However, training line officers to ensure that collected stop data are accurate and useful is a more difficult task, considering the large number of officers who will need to be trained on related policy, procedure, and technology. To address this issue, large agencies can employ a train-the-trainer model—in which a few officers are trained on how to teach stop data collection methods to the rest of the force—thereby cutting down the number of training sessions that need to be held overall. The Commission on Peace Officer Standards and Trainings (POST) can also be a good resource for training larger agencies.

By contrast, **smaller agencies** may struggle to acquire the staff or resources necessary to carry out the components of stop data collection, analysis, and publication. Though the number of personnel to train is smaller, it can be difficult to allocate staff to maintain a database or perform analysis on collected data. Partnering with social science researchers, such as students from a university, to handle the data is one potential solution; another is applying for grants from the state or federal government to supplement the budget for acquiring new technology or staff to work on stop data.

D. Understanding Legal Structures

When starting a stop data program, **local police agencies should take into account existing legal structures that may affect the use and release of stop data.** For example, the stop data reports officers fill out may be subject to state Freedom of Information laws or rules about discovery. If collection of stop data is required under state law, that law may specifically address the relationships between stop data

and public records requirement. But when a local agency is collecting stop data, the legal structures from public records laws and discovery rules will apply to the records, and the agency should take those structures into account from the beginning of the process.

State public records laws determine the scope of the information that can be requested by the public, with many following the basic structure of the federal Freedom of Information Act (FOIA). FOIA exempts law enforcement records that could interfere with law enforcement proceedings or invade individuals' privacy, among other specified conditions, from public disclosure.[78] States' law enforcement exemptions vary, but public records laws typically exempt personally identifiable or confidential law enforcement information from disclosure.[79] This does not usually include arrest records or similar documents, and may not exempt all stop data information. An agency should seek specific guidance before starting a stop data program as to what information in a stop data report could and could not be made public.

Discovery rules may also mandate some disclosure of stop data. Under certain circumstances, a defense attorney may seek either an individual stop data form about a particular stop that led to an arrest or seek stop data more broadly to demonstrate a pattern of behavior by either an individual officer or a law enforcement agency. State laws on what information is required to be provided at what point in the process will also vary.[80] Individual stop records are more likely to be required than stop records more broadly, but the agency should be aware of rules surrounding both.

Prior to setting up a stop data program, an agency with limited resources may find it easier to set up data collection in a way that limits PII collected during the stop; this will reduce the time and cost to remove such information later. For example, using unique officer ID numbers rather than badge numbers removes any need to anonymize officer information afterwards; likewise, rounding private addresses to the 100 block prevents subject information from being disclosed. The agency should ensure there is a process set up from the beginning to remove any other PII from all stop data in a way that will satisfy public records laws in that state. In addition, the agency might consider flagging any stop data reports that result in arrest or use of force to make it easier to provide discovery if those cases are prosecuted.

E. Understanding Technical Capabilities and Limitations of Your Agency

Local police agencies should consider the pros and cons of different methods of data collection, taking into account their own technical capabilities and individual circumstances. We recommend flexibility, but not all local agencies will be equipped with all the electronic methods of data collection. More specific pros and cons for each are described below.

1. In-Car Computer

Most patrol officers conduct their patrols from a squad car, many of which are equipped with onboard mobile data computers, called MDCs. If the stop data collection platform is made accessible via this computer, an officer can input the information about a stop immediately, instead of having to wait until they have returned to the station. Moreover, computer based systems can be equipped with the ability to auto-populate certain fields in a stop data form, which also makes the process of data entry faster. A computer-based data entry system can also check automatically for errors in spelling or incorrectly entered codes before a report is submitted, thereby preventing issues down the line when the stop data need to be analyzed.[81] Finally, MDCs make data entry easier due to the large keyboard, screen, and the ability to navigate with a cursor.

However, there are drawbacks to consider with this method. Entering data on a computer is clearly not practical for all types of units (e.g., foot patrol, bike patrol, mounted units), which is why we ultimately recommend an agency be flexible in how it collects data to accommodate different needs. In addition, officers interviewed for this Guidebook indicated that it is not always efficient to enter data on an MDC, especially because training on the devices—and on stop data entry in particular—is usually limited. Relatedly, officers noted that they are not able to be in touch with their surroundings while sitting in the car entering information into a laptop. Thus, MDCs could pose a potentially dangerous distraction while in the field.

In terms of the software itself, the configurations of MDCs usually accommodate dated software that is neither efficient nor user-friendly. Sometimes secure logins to an MDC reset too frequently, which forces officers to keep changing them often. Even at a more fundamental level, installing a

stop data collection platform on an MDC requires technical knowledge, or vendor resources that may be beyond the capacity of smaller agencies. There are also limitations in terms of the need for a "significant amount of start-up money and the increased burden on support services within the agency due to the use of technology."[82]

2. Smartphone or Other Mobile Device

A smartphone or other portable device (e.g., a tablet) has the same benefits of using technology in the field to immediately enter stop data as an MDC. Because it is portable outside of a patrol vehicle, it also offers increased mobility. Thus, a smartphone or tablet can be used by all units, not just those that use vehicles while on patrol. Officers also often already carry work smartphones, which could make the rollout of stop data collection in an agency much faster.

Even with these added benefits, however, smartphones pose their own unique challenges to collecting stop data. For one, the smaller screen size on a smartphone makes it more difficult and time consuming to enter information into a stop data form. Using a tablet can mitigate this problem, unless the officer needs to be able to carry the smart device on their uniform for increased mobility. For devices with wireless connections, some officers in focus groups described incidents where driving through dead zones automatically logged them off the data collection system, which required them to log back in for every new stop. Dead zones also prevented timely data collection in some instances, as officers had to wait until they had a signal again to enter data.

Beyond these technical issues, there is the problem of public perception—unlike working on a laptop or paperwork, which both look official, officers worry that inputting data on a smartphone may look to the public like they are engaging in personal use, such as texting or playing games. Even though this is not a technical issue, the concern over public perception may discourage officers from inputting stop data in a timely manner.

3. Paper Form

Paper forms still hold value as a data collection method, even in the face of technological improvements. For one, they are simple to create and distribute, without the need for technical knowledge, training, or investments in software or hardware. Paper forms also do not have the limitations

that affect all kinds of technology, such as battery life, internet connection, need for login information, and mobility. In order to be useful, however, any data recorded on paper must later be transferred into an electronic database. This process can be sped up by scanning paper reports into a computer system and rendering the handwriting into machine-encoded text that can be parsed by a program.[83] Though there is still a chance for errors if an officer's handwriting isn't clearly legible, it could be faster than having personnel input the information by hand (although this is also a valid option).

The drawbacks of paper forms should also be considered when designing a data collection strategy. No matter how the information is transferred from paper form to the database, the added time to do so must be taken into account, along with the need for additional personnel who have the

knowledge and availability for the task.[84] This additional step could also increase error rates. The task will take even longer if there are errors from the original data collection stage in the field (i.e., a paper form cannot automatically check for errors, so if an officer miswrites a code or a date, it may not be caught by a human technician). Moreover, errors in the transfer of data from the form to the computer—due to handwriting illegibility or mistakes made by the technician inputting the information when typing—will also slow the process. Paper forms also cannot be changed as quickly as online platforms; it takes more time and money to revise, print, and redistribute forms to officers when fields are updated to reflect new data collection points.[85] Finally, there is the issue of version control if an officer reverts to using an older form after a revised one has been issued.

Appendix H:
Statewide Implementation

This appendix provides additional detail to guide government officials considering implementing a statewide stop data collection program. Drawing on lessons learned from California's AB 953 process—the largest and most comprehensive stop data process in the country—the appendix begins by offering a few key lessons and concludes with a detailed description of California's process.

A. Key Takeaways from California

Unlike local implementation of stop data collection, which can be undertaken voluntarily by one agency, statewide collection almost certainly must be implemented through a state law. This requires achieving some level of consensus among diverse stakeholders and creating a law that can apply to a diverse array of agencies. Every state's process will vary, but here are some valuable lessons from California's experience that can help make this implementation as smooth as possible:

1. Stakeholder engagement, while always necessary, is even more critical in a statewide process. Engagement must reach all corners of the state and include communities and police officers. Designating a particular body or entity to conduct outreach is also crucial.

2. Designating one state agency or entity (such as the state's Department of Justice) to oversee implementation can help ensure a standardized process across the state. That entity should be the central repository for all agencies reporting stop data. The entity should plan for how and when to make the data public (including in response to public record requests).

3. The state must offer a no-cost data collection option to its agencies. Ideally this tool would include both a paper form and a web-based data collection option that officers can run on mobile devices or computers.

4. At every step of the process, it is essential to think about scale and about how to centralize processes and limit the burden on particular agencies. Officer training is one example. It is an immense effort to train officers across an entire state. Although every agency should have the right to conduct its own trainings, a more efficient option is to involve the relevant state Commission on Peace Officer Standards and Trainings (POST).[86] Doing so ensures more consistent training and preserves agency resources, particularly for smaller agencies.

5. Implementing stop data collection can be a complex task for law enforcement agencies, particularly if done well. As such, it is essential to allow adequate time for agencies to implement collection requirements. In particular, we recommend giving larger agencies (1,000+ sworn personnel) at least one year from the publication of all requirements before data collection is required to begin.

6. State leadership must account for both large and small agencies in any rollout plan. In particular, we recommend a staggered rollout, starting with larger agencies and giving smaller agencies more time. One must also understand the particular challenges different agencies face (e.g., large agencies need more time to train officers; small agencies often face resource, technology, and expertise challenges).

B. Detailed Roadmap of California's Stop Data Collection Process

On October 3, 2015, California Governor Jerry Brown signed the Racial and Identity Profiling Act (RIPA) into law. This law, also known as AB 953, requires collection of perceived demographic data as well as other information regarding vehicle and pedestrian stops, including the reason for the stop and post-stop outcomes, according to the following schedule:

- The largest agencies (more than 1,000 officers) began collecting stop data on July 1, 2018, and reporting to the California Department of Justice (CA DOJ) by April 1, 2019.[87]
- Agencies with 667–999 officers began collecting data on January 1, 2019, and will begin reporting to the CA DOJ by April 1, 2020.

- Agencies with 334–666 officers will begin collecting data by January 1, 2021, and reporting to the CA DOJ by April 1, 2022.
- Finally, the smallest agencies (with fewer than 334 officers) will begin collecting data January 1, 2022, and reporting to the CA DOJ by April 1, 2023.[88]

AB 953 also directed the California attorney general to create the Racial and Identity Profiling Advisory Board (RIPA Board) "for the purpose of eliminating racial and identity profiling, and improving diversity and racial and identity sensitivity in law enforcement."[89] On June 30, 2016, then-Attorney General Kamala Harris created the RIPA Board,[90] which had its first meeting on July 8, 2016. Meetings must be held at least three times each year at different locations in California (once in northern California, once in central California, and once in southern California). Given its focus on racial and identity profiling generally, the RIPA Board is charged with examining all aspects of policing that relate to these issues beyond stop data, such as the civilian complaint process and the creation of bias-free policies and procedures. For more information on board meetings, minutes, and videos, visit https://oag.ca.gov/ab953/board.

AB 953 requires most California law enforcement agencies to collect data on all stops made by their officers and to report these data to CA DOJ.[91] However, the authors of AB 953 elected not to define all of the data that law enforcement agencies will be required to collect. Instead, the law tasked the California attorney general with consulting with stakeholders, including the RIPA Board, to issue regulations that "specify all data to be reported, and provide standards, definitions, and technical specifications to ensure uniform reporting practices across all reporting agencies."[92]

To prepare the regulations, CA DOJ held two public comment periods and numerous meetings with a diverse set of stakeholders over the course of 2016 and 2017, including with the newly formed RIPA Board. The CA DOJ also conducted a field test in May 2017 to measure the implementation of the regulations on the ground, specifically in terms of costs and benefits of different collection and reporting methods. After these steps, which included revising the originally proposed regulations and vetting those changes with the public, CA DOJ released the final AB 953 regulations, which became effective on November 7, 2017.[93] The final text of the regulations is available here: https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/stop-data-reg-final-text-110717.pdf?.[94]

While the regulations were being finalized, and continuing thereafter, CA DOJ resources were assigned to the implementation of the new statewide repository, called the Stop Data Collection System (SDCS). Some of the key activities of the CA DOJ included:

- Publishing technical specifications, a data dictionary, and other system documents
- Hosting regional meetings with the agencies to review and walk through technical documents
- Organizing meetings with vendors that supply agencies with local record management systems
- Conducting multiple site visits and recurring conference calls with each agency
- Presenting webinars co-hosted with the CA DOJ's Civil Rights Enforcement Section
- Processing test records submitted to the CA DOJ prior to launching data collection
- Creating and testing user accounts for agencies prior to launching data collection
- Conducting train-the-trainer sessions with agencies on the SDCS

In the spirit of facilitating the ability of a large and diverse array of individual law enforcement agencies to successfully comply with stop data requirements, the regulations provided agencies with three methods to submit data to the statewide repository: (1) a free, CA DOJ-hosted web application (the SDCS); (2) web services; and (3) secure file transfer protocol (SFTP).

The CA DOJ developed these three submission methods to provide flexibility to meet the needs of each agency's local infrastructure. Web services and SFTP allow agencies to collect data in a local system and then forward records to the statewide repository. It is important to note that the data standards for each method are the same. All three utilize standard fields and validation checks. To ensure data conform to the requirements of AB 953 and its regulations, the system performs validation on every record and every field. The system automatically flags data entries that do not comply with the CA DOJ's technical specifications.

As outlined in the 2020 annual RIPA Board report, the SDCS in particular "uses a series of rules and user permissions to protect the quality and integrity of the data."[95] Following are examples of such protections that have been set in place:

- Reported data must be complete and must follow uniform standards.
- Access to stop records is restricted.
- A specified error resolution process must be followed.
- Once submitted, perception data (i.e., perceived demographic data about the person stopped) is locked and cannot be changed by the officer or agency.
- Transactions are stored in system audit logs.

A help desk is available to provide 24/7 phone support for any technical issues. Typical support calls may involve assisting a user to reset their password or explaining a system-generated message.

Finally, individual agencies have taken a variety of steps to ensure successful implementation of the new stop data collection and reporting requirements. These activities include, but are not limited to, drafting and implementing agency policies regarding data collection, developing administrative bulletins, conducting in-person trainings, and providing online tutorials.

In order to gain insight into the specific needs of law enforcement agencies with respect to the technical aspects of data collection and submission, the CA DOJ facilitated two Lessons Learned sessions during the fall of 2019. The CA DOJ's business, legal, technical, and research teams participated with law enforcement staff representing the 15 agencies that were collecting stop data at the time, as well as some of the agencies scheduled to begin collecting data on January 1, 2021.

These sessions served as an open forum to share lessons learned during the initial implementation process of data collection. The goal was to elicit feedback on training, outreach, technology, timelines, annual close-out processes, and designation and handling of persons' PII and officers' unique identifying information, as well as responses to Public Records Act requests, data analysis, and future enhancements. The agencies were able to share their experiences and feedback, trade advice, and discuss gaps in training with the CA DOJ—for example, they identified a need for more scenario-based training. The CA DOJ will incorporate the feedback to improve the implementation process for the next group of agencies due to start submitting stop data into the statewide repository.

Endnotes

1.   *See, e.g.*, Emma Pierson et al., *A Large-Scale Analysis of Racial Disparities in Police Stops Across the United States (Mar. 13, 2019)*, https://5harad.com/papers/100M-stops.pdf [hereinafter Stanford Open Policing Project]; NYCLU, Stop-and-Frisk in the de Blasio Era (2019), https://www.nyclu.org/en/publications/stop-and-frisk-de-blasio-era-2019 (discussing the 92,383 reported stops in New York City between 2014 and 2017).

2.   *See, e.g.*, Richard J. Ashton, *Bridging the Legal Gap Between the Traffic Stop and Criminal Investigation*, Police Chief Mag., https://www.policechiefmagazine.org/bridging-the-legal-gap-between-the-traffic-stop/ ("Traffic law enforcement regularly identifies those who have perpetrated—or who intend to commit—serious criminal acts."); Seth W. Fallik & Kenneth J. Novak, *The Decision to Search: Is Race or Ethnicity Important?*, 28 J. Contemp. Crim. Justice 146, 153 (2012) (defining investigatory stops).

3.   *See, e.g.*, Federal Law Enforcement Training Center (FLETC), *Introduction to Drug Interdictions* (podcast transcript), https://www.fletc.gov/sites/default/files/imported_files/training/programs/legal-division/podcasts/fletc-legal-division-drug-interdictions/podcast-transcripts/Part-I---Introduction.pdf (introducing a FLETC trainer and former uniformed officer as part of a training on vehicle stops: "Greg made hundreds of investigative traffic stops. Greg is going to help us identify some of the factors that may be used to identify a drug trafficker").

4.   *See, e.g.*, National Highway Traffic Safety Administration, *High Visibility Enforcement (HVE) Toolkit*, https://www.nhtsa.gov/enforcement-justice-services/high-visibility-enforcement-hve-toolkit ("High Visibility Enforcement (HVE) is a universal traffic safety approach designed to create deterrence and change unlawful traffic behaviors. HVE combines highly visible and proactive law enforcement targeting a specific traffic safety issue.").

5.   *See* Daniel Bergner, *Is Stop and Frisk Worth It?*, The Atlantic (Apr. 2014), https://www.theatlantic.com/magazine/archive/2014/04/is-stop-and-frisk-worth-it/358644/ (discussing police using pedestrian stops that "aim to get guns off the street, to glean information and solve crime sprees, and, perhaps above all, to act as a deterrent"); *see also* S. A. Bandes et al., *The Mismeasure of Terry Stops: Assessing the Psychological and Emotional Harms of Stop and Frisk to Individuals and Communities*, 37 Behav. Sci. & L. 176 (2019).

6.   A recent Policing Project study in Nashville suggests that stops had no significant impact on crime, prompting a major change in policing strategy and an overall decrease in stops. *See* Policing Project, An Assessment of Traffic Stops and Policing Strategies in Nashville (2018), https://www.policingproject.org/nashville-traffic-stops. For further studies showing the discrepancy between the number of Black drivers pulled over and the number of searches that uncovered contraband, *see, e.g.*, John Lamberth, *Driving While Black*, Wash. Post (Aug. 16, 1998) (author of seminal New Jersey Turnpike study that found Black drivers were disproportionately stopped by N.J. State Patrol); Criminal Justice Statistical Analysis Ctr., Div. of Criminal Justice Servs., Dep't of Justice, West Virginia Traffic Stop Study: Final Report (February 2009); Rebecca C. Hetey et al., Data for Change: A Statistical Analysis of Police Stops, Searches, Handcuffs, and Arrests in Oakland, Calif., 2013–2014 (2016), https://www.issuelab.org/resource/data-for-change-a-statistical-analysis-of-police-stops-searches-handcuffings-and-arrests-in-oakland-calif-2013-2014.html; Kate L. Antonovics & Brian G. Knight, *A New Look at Racial Profiling: Evidence from the Boston Police Department*, Working Paper 10634 (2004), https://www.nber.org/papers/w10634.pdf; Andrew Gelman, Jeffrey Fagan, & Alex Kiss, *An Analysis of the New York City Police Department's 'Stop-and-Frisk' Policy in the Context of Claims of Racial Bias*, 102 J. Am. Stat. Ass'n 813 (2007).

7.   Though there are few studies focusing on the question of police time use, some preliminary findings show that traffic stops are often what patrol officers spend most of their time on during a shift. See, e.g., Xiaoyun Wu & Cynthia Lum, *Measuring the Spatial and Temporal Patterns of Police Proactivity*, 33 J. Quantitative Criminology 915 (2016).

8.   Bandes et al., *supra* note 5.

9.   For more information on traffic stops, *see* Stanford Open Policing Project, *supra* note 1; for more information on pedestrian stops, *see, e.g., Latest Court Filing Shows Race Still Plays a Role in Stops and Frisks by Police in Philadelphia*, ACLU Pa. (Nov. 27, 2018), https://www.aclupa.org/news/2018/11/27/latest-court-filing-shows-race-still-plays-role-stops-and-fr.

10.   Ted R. Miller et al., *Perils of Police Action: A Cautionary Tale from US Data Sets*, 23 Injury Prevention 27 (2016).

11.   Janet M. Blair et al., *Occupational Homicides of Law Enforcement Officers in the United States, 2003–2013: Data from the National Violent Death Reporting System*, 51 Am. J. Preventive Med. 188 (2016).

12.   *It's Time to Start Collecting Stop Data: A Case for Comprehensive Statewide Legislation*, Policing Project (Sept. 30, 2019), https://www.policingproject.org/news-main/2019/9/27/its-time-to-start-collecting-stop-data-a-case-for-compre-hensive-statewide-legislation.

13.   *See* Robert R. Friedmann, Richard Rosenfeld, & Nadia Borissova, Statistical Analysis Bureau, Ga. State Univ., *Improving Crime Data Project* 8–9 (May 2010), https://www.ncjrs.gov/pdffiles1/nij/grants/237988.pdf. Notably, the data often remain at an aggregate level, and thus cannot be used by local law enforcement to examine their own practices in greater detail—once analyzed, the data are not returned to police departments for their own use. *Id.*

14.   President's Task Force on 21st Century Policing, Final Report of the President's Task Force on 21st Century Policing (2015), https://cops.usdoj.gov/pdf/taskforce/taskforce_finalreport.pdf; *see also* The Leadership Conference on Civil and Human Rights, New Era of Public Safety: A Guide to Fair, Safe, and Effective Community Policing (2019), https://policing.civilrights.org/report/; Stanford Open Policing Project, *supra* note 1.

15.   *See, e.g.*, Cal. Gov't Code § 12525.2.

16.   *See, e.g.*, Ida Lieszkovszky, *Cleveland Police to Improve Early Intervention Program*, Cleveland.com (Jan. 11, 2019), https://www.cleveland.com/metro/2015/05/cleveland_police_to_improve_ea.html (describing an EIS that was proposed as part of the new settlement agreement between the Department of Justice and the city).

17.   By noting this we are not endorsing predictive policing generally, nor any particular product. As others have noted, law enforcement agencies must guard against the possibility that the data used to "predict" crime itself may be biased (for example, because they are based on biased enforcement practices), which might serve to magnify and engrain those biases. *See, e.g.*, Kristian Lum & James E. Johndrow, *A Statistical Framework for Fair Predictive Algorithms*, Cornell U. (Oct. 25, 2016), https://arxiv.org/abs/1610.08077.

18.   *See, e.g.*, Elucd, https://www.elucd.com/.

19.   See Ross Owen Phillips et al., *Meta-Analysis of the Effect of Road Safety Campaigns on Accidents*, 43 Accident Analysis & Prevention 1204 (2011) (giving examples of how mixed methods of traffic enforcement and public safety campaigns seem to have the biggest effect on improved traffic safety, rather than traffic enforcement alone); Donald A. Redelmeier et al., *Traffic-Law Enforcement and Risk of Death from Motor Vehicle Crashes: Case-Crossover Study*, 361 Lancet 2177 (2003) (illustrating that traffic enforcement has an immediate impact on decreasing the risk of fatal crashes only in the first month after a traffic conviction, a benefit that lessens after the second month and is not significant in the third or fourth month).

20.   On hot-spot policing, *see* Anthony A. Braga et al., *Hot Spots Policing and Crime Reduction: An Update of an Ongoing Systematic Review and Meta-Analysis*, 15 J. Experimental Criminology 289 (2019) (reviewing 65 studies and finding

small but statistically significant benefits in crime prevention without displacement of crime to surrounding areas); Nat'l Acad. of Sci., Eng'g, and Med., Proactive Policing: Effects on Crime and Communities (2018) (finding short-term successes from proactive policing strategies, including hot-spot policing, but noting that effects on racial bias and long-term impacts on crime are still unknown). At the same time, however, research from one of the authors of this Guidebook indicates that, on a wider basis, traffic stops are not an effective strategy for reducing crime. *See* Policing Project, *supra* note 6 (finding that crime levels moved irrespective of the number of stops made and that these stops rarely ended in an arrest or turned up drugs or other contraband, casting more doubt on their effectiveness).

21. *See* Lamberth, *supra* note 6; David A. Harris, *Driving While Black: Racial Profiling on Our Nation's Highways*, ACLU (1999), https://www.aclu.org/report/driving-while-black-racial-profiling-our-nations-highways; Amy Farrell et al., Rhode Island Traffic Stop Statistics Act Final Report (2003), www.dot.ri.gov/community/CCPRA/docs/2003_Rhode_Island_Traffic_Stop_Statistics_Final_Report_NU.pdf.

22. *See* Frank R. Baumgartner, Derek A. Epp, & Kelsey Shoub, Suspect Citizens: What 20 Million Traffic Stops Tell Us about Policing and Race (2018); Michelle Alexander, The New Jim Crow: Mass Incarceration in the Age of Colorblindness (2012); David A. Harris, Essay, *"Driving While Black" and All Other Traffic Offenses: The Supreme Court and Pretextual Stops*, 87 J. Crim. L. & Criminology 544, 560–73 (1997) (providing anecdotes of people alleging they were caught "driving while Black"); *id.* at 546 n.10 (citing Michael A. Fletcher, *Driven to Extremes: Black Men Take Steps to Avoid Police Stops*, Wash. Post, March 29, 1996, at Al; Henry Louis Gates, *Thirteen Ways of Looking at a Black Man*, New Yorker, Oct. 23, 1995, at 59).

23. It is important to note, however, that state supreme courts and the Supreme Court of the United States have ruled in favor of the police in litigation challenging the use of pretext stops since the 1990s; these stops have disproportionately affected Black and Latinx drivers. *See, e.g.*, Whren v. United States, 517 U.S. 806 (1996); Heien v. North Carolina, 574 U.S. 54 (2014); People v. Hackett, 971 N.E.2d 1058 (Ill. 2012). However, recent cases from the Oregon Supreme Court, ruling that police officers cannot use traffic violations as justification to search for contraband, and the California Supreme Court, ruling that failure to produce a valid license does not justify a vehicle search, may indicate a shift in how courts are viewing this issue. See State v. Arreola-Botello, 451 P.3d. 939 (Or. 2019); Bob Egelko, *Lack of Driver's License Isn't Reason for Police to Search Vehicle at Traffic Stop*, S.F. Chron. (Nov 26, 2019), https://www.sfchronicle.com/news/article/Lack-of-driver-s-license-isn-t-reason-for-14862015.php.

24. Stanford Open Policing Project, *supra* note 1.

25. Racial and Identity Profiling Advisory Board, Annual Report 16 (2018) https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/ripa-board-report-2018.pdf.

26. *See* Racial and Identity Profiling Act, AB 953, 2015–2016 Leg., Reg. Sess. (Cal. 2015), ch. 466., 2015 Cal. Stat. 4153 [hereinafter "Cal. AB 953"]. But if states do exclude these searches, it is vital to define them very narrowly to avoid normal police practices from being labeled "programmatic" to exempt them from data reporting requirements. Final Statement of Reasons, Proposed Regulations § 999.224–.229, at 45 (Cal.) https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/stop-data-reg-fsor-revised-110817.pdf? ("[T]he Department has deleted the general provision regarding 'programmatic searches and seizures' and replaced it with more specific provisions governing routine security screenings at building or special event entrances, and checkpoints or roadblocks.").

27. *See, e.g.*, Michigan Dep't of State Police v. Sitz, 496 U.S. 444 (1990); City of Indianapolis v. Edmond, 531 U.S. 32 (2000).

28. *See* Cal. AB 953; 625 Ill. Comp. Stat. 5/11-212 (2019), http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=062500050K11-212.

29. *See* Lorie A. Fridell, Police Executive Research Forum, By the Numbers: A Guide for Analyzing Race Data from Vehicle Stops 39 (2004), https://justice.utah.gov/Documents/Research/Race/PERF%20by%20the%20Numbers.pdf ("Law enforcement agencies' involvement of residents [particularly minority residents] in data collection planning can improve police–citizen relations, enhance the credibility of the research efforts, and increase the likelihood that the community will view the outcome as legitimate. Involving jurisdiction residents in discussions regarding data analysis/interpretation has the additional advantage of educating a core group of residents about the complexities and constraints of the process.").

30. *See, e.g.*, Racial and Identity Profiling Advisory Board, Annual Report 3 (2019) [hereinafter RIPA 2019 Annual Report], https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/ripa-board-report-2019.pdf ("In keeping with the spirit of the RIPA legislation, the Board encourages agencies to view the data elements mandated by the statute and its implementing regulations as the floor, rather than the ceiling. Agencies should not feel limited by the statue or regulations, rather they should consider collecting any additional demographic or other data that would be relevant to identify trends or disparities among the interactions of their officers with the public.").

31. Lorie Fridell et al., Police Executive Research Forum, Racially Biased Policing: A Principled Response 129 (2001), https://www.policeforum.org/assets/docs/Free_Online_Documents/Racially-Biased_Policing/racially%20biased%20policing%20-%20a%20principled%20response%202001.pdf.

32. *Id.* at 129–30 (noting that a 1999 International Association of Chiefs of Police resolution "urges states to incorporate race and ethnicity as a data element and print it on the driver's licenses to facilitate the capture and accurate recording of this information" if they require data collection on race).

33. Rich LeCates, *Intelligence-Led Policing: Changing the Face of Crime Prevention*, Police Chief Mag. (Oct. 17, 2018), https://www.policechiefmagazine.org/changing-the-face-crime-prevention/; *see also* U.S. Dep't of Justice, Office of Justice Programs, Bureau of Justice Assistance, Intelligence-Led Policing: The New Intelligence Architecture (2005), https://www.ncjrs.gov/pdffiles1/bja/210681.pdf; U.S. Dep't of Justice, Global Justice Information Sharing Initiative, Navigating Your Agency's Path to Intelligence-Led Policing (2009), https://it.ojp.gov/documents/d/Navigating%20Your%20Agency's%20Path%20to%20Intelligence-Led%20Policing.pdf.

34. Lara O'Reilly, *How Oakland Police Cut Traffic Stop Numbers by 40% with a Simple Checkbox*, Yahoo Finance UK (July 1, 2019), https://finance.yahoo.com/news/how-the-oakland-police-cut-traffic-stop-numbers-by-40-with-a-simple-checkbox-070000004.html.

35. U.S. Comm'n on Civil Rights, Police Use of Force: An Examination of Modern Policing Practices (2018), https://www.usccr.gov/pubs/2018/11-15-Police-Force.pdf.

36. Mark Wayne LaLonde, Assessment in Police Recruit Training Simulations (2004) (unpublished M.A. thesis, Royal Roads University), https://www.collectionscanada.gc.ca/obj/s4/f2/dsk4/etd/MQ93535.PDF.

37. Racial and Identity Profiling Advisory Board, Annual Report 94 (2020) [hereinafter RIPA 2020 Annual Report], https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/ripa-board-report-2020.pdf.

38. For example, when officers detain 20 people at a house party, instead of having to reconstruct each entry from scratch (entering the same date, time, location, reason for stop), there should be the option to preserve the core information of the stop to populate into each person's stop data entry. This would save a considerable amount of time and reduce the possibility of error. Relatedly, when officers are stationed at the same place all day, they should have the option to "save location" or other basic information so they do not have to type in "Blackberry Mountain Boulevard," for example, for every stop.

39. Robin Engel et al., Univ. Of Cincinnati Policing Inst., Traffic Stop Data Analysis Study: Year 3 Final Report (2009), http://www.azdps.gov/sites/default/files/media/traffic_stop_data_report_2009.pdf.

40. Or. Criminal Justice Comm'n, STOP Program Research Brief: Analytical Approaches to Studying Stops Data 1 (2018), https://www.oregon.gov/cjc/stop/Documents/Traffic_Stop_Research_Memo_Final_Draft-10-16-18.pdf.

41. Fridell, *supra* note 29.

42. *Id.*

43. RIPA 2020 Annual Report, *supra* note 37.

44. Or. Criminal Justice Comm'n, *supra* note 40.

45. *See* Sharad Goel et al., *Combatting Police Discrimination in the Age of Big Data*, 20 New Crim. L. Rev. 181, 187–90 (2017).

46. *Id.*

47. Stanford Open Policing Project, *supra* note 1, at 6.

48. See Michael R. Smith et al., San Jose Police Department Traffic and Pedestrian Stop Study 101–11 (2017), https://www.sjpd.org/records/utep-sjpd_traffic-pedestrian_stop_study_2017.pdf.

49. *Id.* at 101–02. Similarly, an analysis of search-and-seizure procedures by the Ohio State Highway Patrol used stop data along with focus groups and a departmentwide survey to arrive at more comprehensive best practices. *See* Robin S. Engel et al., Understanding Best Search and Seizure Practices: Final Report (2007), https://ocjs.ohio.gov/OSHP_Search&Seizure.pdf.

50. *National Justice Database*, Center for Policing Equity, https://policingequity.org/what-we-do/national-justice-database.

51. *See* Karen L. Amendola & Robert C. Davis, Best Practices in Early Intervention System Implementation and Use in Law Enforcement Agencies 4 (2018), https://www.policefoundation.org/publication/best-practices-in-early-intervention-system-implementation-and-use-in-law-enforcement-agencies/.

52. Strategies for Change: Research Initiatives and Recommendations to Improve Police–community Relations in Oakland, Calif. 11 (Jennifer L. Eberhardt ed., 2016) https://stanford.app.box.com/v/Strategies-for-Change.

53. *See* Goel et al., *supra* note 45, at 187–90.

54. Rob Voigt et al., *Automated Analysis of Body-Worn Camera Footage*, in Strategies for Change, *supra* note 52, at 14.

55. Interestingly, by 2015, following the publication of the study's findings in 2014, Oakland had decreased the number of its stops by half. *See* Ben Poston & Cindy Chang, *LAPD Searches Blacks and Latinos More. But They're Less Likely to Have Contraband than Whites*, L.A. Times (October 8, 2019), https://www.latimes.com/local/lanow/la-me-lapd-searches-20190605-story.html.

56. *See International Open Data Charter*, Open Data Charter https://opendatacharter.net/principles/ (Principle 5).

57. *See id.* (Principle 4).

58. For example, .csv format is simple and easy to open in any program, but a .json stores geographic information in a way that makes it efficient to make maps.

59. For example, Project Open Data (https://project-open-data.cio.gov/catalog/) and the Federal Geographic Data Committee (https://www.fgdc.gov/standards) have excellent resources on open data standards and schema.

60. *See* Samantha Leonard, *Data Visualization Best Practices*, NORTHEASTERN U. (Nov. 15, 2018), https://www.northeastern.edu/levelblog/2018/11/15/introduction-data-visualization/.

61. Sharon LaFraniere & Andrew W. Lehren, *The Disproportionate Risks of Driving While Black*, N.Y. TIMES (Oct. 24, 2015), https://www.nytimes.com/2015/10/25/us/racial-disparity-traffic-stops-driving-black.html.

62. *Id.*

63. *Id.* (noting that the City Council of Fayetteville, N.C., required officers in 2012 to obtain written consent before searching a car, a practice that was endorsed by a White House task force on policing in 2015); *see also What Decades of Traffic Stop Data Reveals About Police Bias*, CBS NEWS (Mar. 2, 2019), https://www.cbsnews.com/news/what-decades-of-traffic-stop-data-reveals-about-police-bias/; Jim Wise, *Written Consents are Fayetteville Policy*, RALEIGH NEWS & OBSERVER (Sept. 3, 2014), https://www.newsobserver.com/news/local/counties/durham-county/article10049000.html.

64. POLICING PROJECT, *supra* note 6.

65. Christopher M. Sullivan & Zachary P. O'Keeffe, *Evidence That Curtailing Proactive Policing Can Reduce Major Crime*, 1 Nature Human Behavior 730 (2017).

66. *Terry v. Ohio*, 392 U.S. 1 (1967).

67. O'Reilly, *supra* note 34.

68. Tucson Police Department, General Orders: 2200 Constitutional Issues 4 (2016), https://www.tucsonaz.gov/files/police/general-orders/2200CONSTITUTIONAL_ISSUES.pdf?uuid=5d5e9b99ba816.

69. In Kalamazoo, the Department of Public Safety implemented this policy following a 2013 racial profiling study that found that Black motorists were stopped and searched more often than White motorists. The policy was reportedly based on a similar procedure in Austin. Rex Hall Jr., *Kalamazoo Public Safety Officers Target Black Drivers in Traffic Stops, Racial Profiling Study Concludes*, MLIVE (Jan. 20, 2019), https://www.mlive.com/news/kalamazoo/2013/09/kalamazoo_public_safety_office_19.html; *see also* Chris Sipsma*, KDPS Releases Open Letter Outlining Changes in How It Fights Crime*, WWMT (Feb. 15, 2015), https://wwmt.com/news/local/kdps-releases-open-letter-outlining-changes-in-how-it-fights-crime; Emily Monacelli, *Racial Profiling Study: Policy and Operations Changes Continue at Kalamazoo Public Safety One Year Later*, MLIVE (Jan. 20, 2019), https://www.mlive.com/news/kalamazoo/2014/10/racial_profiling_study_policy.html. In New Orleans, the policy stems from the recent consent decree process in the city. See New Orleans Police Department, Chapter 1.2.4.: Search and Seizure (July 10, 2016), https://nola.gov/getattachment/NOPD/NOPD-Consent-Decree/Chapter-1-2-4-Search-and-Seizure.pdf/.

70. General Orders, Austin Police Department 156 (2020), https://www.austintexas.gov/sites/default/files/files/Police/General_Orders.pdf.

71. *See, e.g.*, Fred Leland, *How Shift Debriefings Can Improve Officer Safety*, PoliceOne (Mar. 3, 2013), https://www.policeone.com/Officer-Safety/articles/6140523-How-shift-debriefings-can-improve-officer-safety/; Arland Keys, The Consultant's First Semiannual Report on the Investigatory Stop and Protective Pat Down Agreement for the Period January 1, 2016–June 30, 2016 203 (2017) https://www.aclu-il.org/sites/default/files/wysiwyg/the-consultants-first-semiannual-report-3-23-17.pdf (recommending that the Chicago Police Department "create a vehicle for getting small groups of officers to share thoughts. What happened here and why? What factors do you think the officer was considering in this situation? What are the key choice points here? What did the officer do right? What might he/she have done differently?").

72. New Orleans Police Department, EPIC Program Guide (2017) http://epic.nola.gov/epic/media/Assets/EPIC-Program-Guide.pdf.

73. Samuel Walker et al., Supervision and Intervention within Early Intervention Systems: A Guide for Law Enforcement Chief Executives (2005), https://www.policeforum.org/assets/docs/Free_Online_Documents/Early_Intervention_Systems/supervision%20and%20intervention%20within%20early%20intervention%20systems%202005.pdf.

74. Samuel Walker et al., *Early Warning Systems: Responding to the Problem Police Officer*, National Institute of Justice: Research in Brief (2001) https://www.ncjrs.gov/pdffiles1/nij/188565.pdf.

75. *See* Fridell et al., *supra* note 31 (noting that stop data alone can show correlation but not causation when analyzing individual racial bias, and should therefore be considered one indicator prompting further investigation before disciplinary actions are taken).

76. Use of force data should capture each type of force used in an incident, as well as different force types used by different officers involved. These data should not be collapsed into the highest level of force used and should reflect all instances of force used against subjects, including firearm and deadly force. Firearm data should not be collected or maintained separately from other force types.

77. Most of the information regarding the officer is static personnel information that does not need to be entered each time the officer makes a stop, but must be linkable to the stop for analysis purposes through the unique ID of the officer. This information can also be made to autopopulate each time an officer goes to fill out a new stop form. Note that age, years of experience, and assignment type will need to be updated regularly; these provide a snapshot of the officer at the time the stop occurred.

78. 5 U.S.C. § 552(b)(7).

79. *See, e.g.*, Tex. Gov't Code § 522.108; N.M. Stat. Ann. § 14-2-1(A)(4) (exempting "law enforcement records that reveal confidential sources, methods, information or individuals accused but not charged with a crime"); Ohio Rev. Code Ann. § 149.43(A)(1)(h) (exempting "[c]onfidential law enforcement investigatory records").

80. *See* Emily Dyer, Chelsea Stacey, & Adrian Viesca, *Statewide Rules of Criminal Procedure: A 50 State Review*, 1 Nev. L.J. F. 1, 23 (2017) ("Currently, there is no consistent approach across the states for discovery rules, as '[d]iscovery systems range from mandatory to discretionary and from mutual to reciprocal.'") (quoting Rossie D. Alston, ACLU of Vir., Brady v. Maryland and Prosecutorial Disclosures: A Fifty State Survey 2 (2014)).

81. Rob Tillyer et al., *Best Practices in Vehicle Stop Data Collection and Analysis*, 33 Policing: Int'l J. Police Strategies & Mgmt. 69 (2010).

82. *Id.* at 74.

83. *Id.*

84. *Id.*

85. *Id.*

86. Currently, the RIPA Board works with POST in California to develop trainings and materials related to racial and identity profiling. Building on this relationship, the RIPA Board could also work with POST to incorporate training on stop data collection best practices. *See* RIPA 2020 ANNUAL REPORT, *supra* note 37.

87. These agencies included the California Highway Patrol, Los Angeles Police Department, Los Angeles County Sheriff's Department, Riverside County Sheriff's Department, San Bernardino County Sheriff's Department, San Diego County Sheriff's Department, San Diego Police Department, and San Francisco Police Department.

88. *See* CAL. GOV'T CODE § 12515.5(a)(1)–(2); CAL. CODE REGS. TIT. 11, § 999.224–.229.

89. *See* RIPA 2019 ANNUAL REPORT, *supra* note 30, at 1. AB 953 sets the makeup of the RIPA Board to include:
- The Attorney General, or his or her designee
- The President of the California Public Defenders Association, or his or her designee
- The President of the California Police Chiefs Association, or his or her designee
- The President of California State Sheriffs' Association, or his or her designee
- The President of the Peace Officers Research Association of California, or his or her designee
- The Commissioner of the California Highway Patrol, or his or her designee
- A university professor who specializes in policing and racial and identity equity
- Two representatives of human or civil rights tax-exempt organizations who specialize in civil or human rights
- Two representatives of community organizations who specialize in civil or human rights and criminal justice and who work with victims of racial and identity profiling, with at least one being between 16 and 24 years of age
- Two religious clergy members who specialize in addressing and reducing racial and identity bias toward individuals and groups
- Up to six other members, two assigned by the Governor, two by the President Pro Tempore of the Senate, and two by the Speaker of the Assembly

See Racial and Identity Profiling Advisory Board, STATE OF CAL. DEP'T OF JUSTICE, https://oag.ca.gov/ab953/board#members.

90. Press Release, *Attorney General Kamala D. Harris Announces Membership of New Racial and Identity Profiling Advisory Board, Including Prominent Law Enforcement and Civil Rights Leaders*, STATE OF CAL. DEP'T OF JUSTICE (June 30, 2016), https://oag.ca.gov/news/press-releases/attorney-general-kamala-d-harris-announces-membership-new-racial-and-identity.

91. State of California Department of Justice, Notice of Proposed Rulemaking Action (Dec. 9, 2016), https://oag.ca.gov/sites/all/files/agweb/pdfs/ripa/nopa-112916.pdf.

92. AB 953, 2015–2016 Leg., Reg. Sess. (Cal. 2015), ch. 466, 2015 Cal. Stat. 4153.

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94. *Id.*

95. RIPA 2020 ANNUAL REPORT, *supra* note 37, at 18–19.