ShotSpotter Connect™

Crime Modeling Policy

ShotSpotter® is committed to providing law enforcement solutions that help improve public safety while protecting individual civil liberties. This document describes the policy ShotSpotter employs for its patrol management system, ShotSpotter Connect™. Connect is a software tool that can make officers more effective in reducing overall crime in a community through data-driven, proactive patrolling of the highest risk areas by district, beat, day and shift.

For many years, police departments have deployed patrols based upon hotspot maps of past crime locations assuming that future activity will likely occur at the same places. Instead of assuming that past crimes are the best predictor of future crimes, Connect uses a host of additional variables and machine-learning algorithms to better estimate the risk for future crimes at a particular location. These risk assessments are then turned into a patrol plan and disseminated to officers in the field. Because such systems influence the day-to-day operations of a police department, it is important that these systems help to align police activity to address the problems that are affecting a community without introducing unwarranted biases.

Historical crime data used to train the models on how to assess the likelihood of crimes has the potential to suffer from the introduction of human biases that led to recording of a crime in the first place and thus unfairly suggest more policing. However, biased modeling can be mitigated with a modeling policy that is thoughtful about the data sources it uses and by avoiding crime types that are vulnerable to enforcement bias.

As background, enforcement bias varies across crime types. This bias is significantly less present in Part I crimes (e.g., major crimes such as homicides, robberies, assaults, or burglaries) than it is in Part II crimes (e.g., quality of life crimes such as drug-related, prostitution, or other nuisance crimes). Assessing Part II crimes that are susceptible to enforcement bias can harm communities by repeatedly sending officers to the same areas that in turn lead to more crime being recorded in that area. These runaway feedback loops occur when the crime model controls the next round of data that is fed back into the model.

Our desire is to assess future crime rather than future policing, so we have developed the following Crime Modeling policy to limit the effects of enforcement bias.

ShotSpotter will endeavor to not…

- Knowingly harm the communities we serve
- Model crime types that can lead to bias such as:
  - Most Part II crimes (except for Simple Assault and Destruction/Damage/Vandalism)
  - Crimes that are unaffected by patrols (e.g. Domestic Violence, Shoplifting)
  - Obvious locations (e.g. Housing Project)
  - Crimes where data is not available
- Allow the crime model to create its own data
- Model crimes using low quality data

This policy reinforces our commitment to help law enforcement provide equal protection for all and strengthen rather than harm their relationship with the communities they serve.