



# Developing a Footwear Database

## Solving crime using shoeprints

**Agency:** West Vancouver (BC) Police Department

**Project Duration:** 07/01/19–11/01/19

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**Context**

Despite being present at about 35% of all crime scenes, footwear impressions represent a small portion of physical evidence used in court cases. Law enforcement and courts are starting to recognize the benefit of collecting shoeprints at crime scenes and using footwear data for crime analysis.

**Key Finding**

Footwear data have linked multiple crimes to the same shoes and suggested additional crimes may have been committed by the same perpetrators on the basis of shoeprints.

\*BetaGov provides ongoing training to agency personnel to become research-savvy “Pracademics” who can lead trials.

**Background**

Footwear impressions can provide a great deal of information about the scene of a crime and have been used in some cases to solve crimes. A footprint indicates the type of shoe worn, but also suggests characteristics of the person wearing the shoe including gender, size, and age. Technological advances have improved the ability of forensic scientists to lift footwear-impression evidence from a crime scene.

Many agencies now maintain footwear databases, including the FBI, the Royal Canadian Mounted Police, and many police departments and crime laboratories. There are 200,000 forensic examiners of footwear- and tire-impression evidence in the United States.

The West Vancouver Police Department (WVPD) is developing its own footwear database that will link shoe type to person. Additionally, the database may permit linkage of shoeprints/footwear to multiple crimes.

**Design**

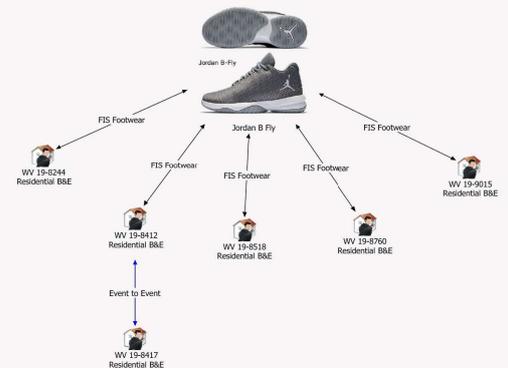
This is a first evaluation of a potential footwear database. In developing such a database, officers began by taking a photocopy of a suspect's footwear tread when he or she is arrested. This image is fed into the database which allows for comparison with crimes and shoeprint data. The database stores images by shoe type, make/model, and persons wearing those shoes. When shoeprints are taken at a crime scene, they are also entered into the database and compared to existing images.

**Lessons Learned**

Footwear images from 52 “breaking and entering” (B&E) suspects were collected, as well as 45 footwear prints from crime scenes. The database provided evidence of links between footwear and multiple crimes. Five footwear images in the database were linked to 26 B&E crimes (see example provided in figure below). Two individuals were charged with a B&E, which also links them through their footwear to nine other B&E crimes. These results suggest that patterns of crime might be identified through the use of footwear images collected as an additional crime-solving tool.

**Next Steps**

A shoeprint/footwear database will provide another tool for solving crimes. Efforts are underway to expand the use of the shoeprint/footwear database to ensure that shoeprints of all suspects are entered into the system.



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