



Data Driven Policing

Delivering Improved Safety and Security whilst
Building Trust - Seattle Police Department

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SEATTLE POLICE DEPARTMENT

DATA ANALYTICS PLATFORM FOR ADVANCED REPORTING

In July 2012, the Seattle Police Department entered into a Consent Decree with the US Department of Justice to settle allegations around excessive use-of-force by Officers. As part of the settlement agreement, SPD agreed to develop better data reporting and tracking protocols.

Where did we start?



SPD, supported by Accenture, created DAP 1.0 - a Tableau solution that allowed access to data that was previously available across 6 original different data source systems.

There were over 19 different data sets that were used to create custom visualisations to gain insights.



“This integrated platform has improved our ability to track use of force and officer performance across multiple measures. These analytics not only promote accountability, but also enhance police operations”

Chief of Police
Seattle PD

DAP 1.0:
2016 - 2020

The original focus of the DAP was to enable SPD to understand the full picture of data from across systems with a focus on increasing compliance and reducing risk.

Enabled Capabilities of DAP 1.0



DOJ Compliance

SPD is supported in compliance with the rules and regulations set forth by the Department of Justice



Reduced Time to Insights

DAP enables analysis across the SPD organisation providing deeper / broader insights faster



Data Driven Decisions

Data insights allow business stakeholders to make better, informed decisions



Improved Data Quality

DAP brings to light business critical data quality issues and facilitates timely remediation





“BECOMING DATA CURIOUS”





DAP Evolution: *Journey to Cloud*

The development of DAP 1.0 provided SPD access to clean, consolidated operational data which has continued to enhance their potential to analyse department activities.

The increase in demand for data insights lead SPD to a move toward a secure cloud infrastructure – **DAP 2.0.**



AWS Global Public Sector Partner Awards in the “Best Global Expansion”





DAP 2.0 Provides Seattle Police ...

An elastic infrastructure that grows and shrinks as needed. No need to wait for infrastructure to be bought, acquired, installed and provisioned. No need to pay for idle compute resources, only pay for what has been used.



Better Access to Data

- Cloud hosted data lake with most critical source systems
- Easily ingest new data into secure environment for discovery



Better Access to Tools

- Choose from an array of native AWS tools ready to deploy in the secure environment



Better Access to Compute

- Ability to spin up or down resources as needed
- Choose from a range of instance types to meet processing/modeling needs



DAP 2.0

2020 - Today

SPD continues to seek new strategies to meet the increased demand for critical data made possible by DAP as well as increase their ROI.



Move to cloud for streamlined access to tools & compute.



Collaboration with private and academic institutions.



Established a hypothesis driven approach to analytics.

Analytics at SPD

Prior to DAP 2.0, most analytics use cases stopped at PoC. Today, we have 4 PoCs in queue for production, and 3 use cases in production as of Spring 2023.

1

AVL Geospatial Analysis*

3

Biased Crime Detection, NLP

2

Use of Force Policy Analysis, NLP

4

Geolocation & Geocoding



PrISM:

Proactive Integrated Support Model

Acts as an early intervention solution to identify when Officers may be exhibiting behavior which is a risk to others or their own mental wellbeing.



RMD:

Risk Managed Demand

Identifies 911 calls for service which can be safely handled with a co-response between police and city, or no police response at all.



PSM:

Propensity Score Matching, Behavioral Disparity - Race

Measures the racial bias of frisk occurring during a terry stop when the subject is white, or non-white aggregated by precinct and month.



Lessons Learned

IT Expertise

There was an understanding of the capability and support in the organisation, the limitations we were working under, and also how the value proposition for all participants changed throughout the project.

Public Perception

SPD knew there was a need to future proof the public perception of their project. The work we undertook around Responsible AI & our Trust Framework, the pre mortem work AWS and Accenture collaborated on, and the internal structure they established, were all key to success.

Third Party

The client would no longer accept black box solutions. They now have a benchmark with other providers and hold them to a level of scrutiny, which is clearly different in light of DAP 2.0.

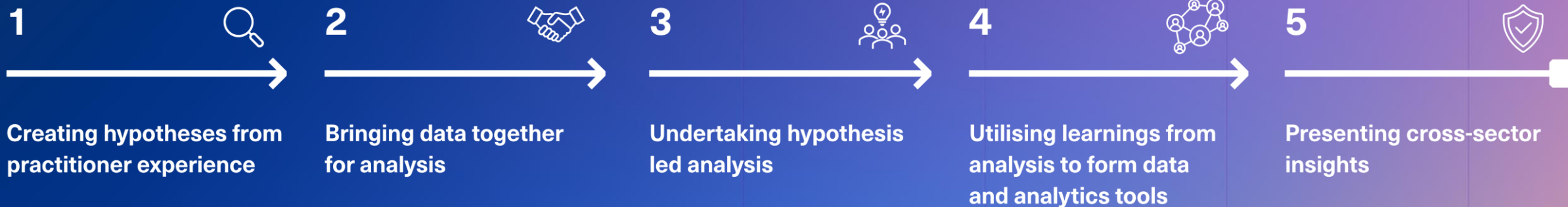




Innovation Begetting Innovation

Learnings from Seattle PD and others are currently shaping leading research and cross-sector partnership.

Collaborating with the Centre for Data & Analytics in Policing (CDAP)





Foundational investigative insights

First-hand experience from policing practitioners guides and enriches the development of analytical techniques to tackle evolving threats.

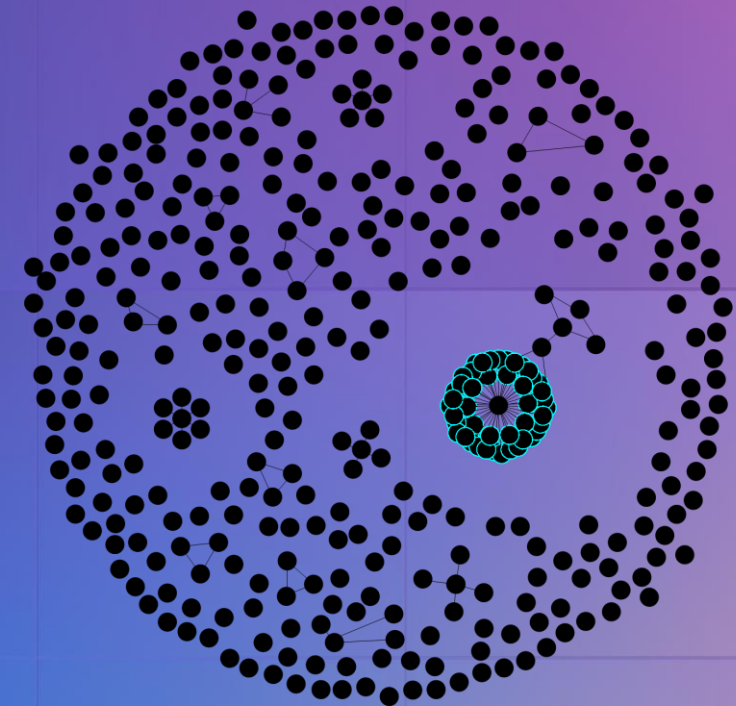
*“Mr X did most of the talking and the other two were quiet which **I thought was strange.***

*He's been into the branch several times and is an Interpreter to open accounts. He usually comes in the branch with three other people who can't speak English. A lot of the **accounts he helps to create are later closed.***

*I don't like dealing with him **because of his behaviour.***

*He doesn't make any small talk and **he seems quite dodgy.**”*

Identifying relevant features in written
Crime & Intelligence logs



Utilising readily available tools
to form insight for policing practitioners





Towards a cross-sector data ecosystem

Project Castellum is uncovering how financial institutions, law enforcement and data specialists can work together in the fight against modern slavery.

The two black nodes in this cluster represent people known by law enforcement to be involved in MSHT but not known to be linked to this particular network. Without linking datasets, practitioners would not get this insight.



- Known by law enforcement to be involved in MSHT
- Bank sort code linked to "known" individual
- Unknown to law enforcement
- Known principle member of an MSHT organised crime group





Thank you & Questions!

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