



CASE STUDY

Improving policing with business intelligence and data analytics

Halton Regional Police Service | *Ontario, Canada*



Industry

- Public Safety

Solution

- Octave I/CAD, Octave OnCall Records

Challenges

- Critical data siloed
- Time and resource constraints
- Vast amount of data

Results

- Single database
- Actionable intelligence
- Supports Police Analytics Unit

As part of the Greater Toronto Area in Ontario, the Regional Municipality of Halton is experiencing Canada's fastest population growth. It has been named Canada's safest regional municipality to live in for six consecutive years. The agency protecting this growing region is [Halton Regional Police Service \(HRPS\)](#).

With over 1,000 members, HRPS ensures the safety of more than 500,000 residents across 1,000 square kilometers or 386 square miles. From urban centers to farmlands, the agency supports diverse law enforcement efforts and policing scenarios.

HRPS is a forward-thinking police agency. While the region has low crime rates, agency leaders wanted to improve operational efficiencies and make smarter public safety decisions. To achieve this, HRPS decided to leverage its collected data to identify areas for improvement.

However, converting that data into actionable intelligence presented several challenges for the agency. Critical public safety and law enforcement data was siloed throughout the organization. Consolidating all of the agency's data assets into one data warehouse would

consume too much time, money, and manpower. Also, the data the agency collects is vast, making it difficult to extract, analyze, and report in an accurate and timely manner.

As a result, HRPS needed a solution that would connect, mine, and transform data from across the organization, making it easier to analyze and accurately report.

Transforming data into intelligence

Using big data is a growing trend among police agencies worldwide. But mining and transforming big data into business intelligence is nearly impossible without the right tools and processes.

HRPS selected Octave to help leverage its public safety data with a business intelligence system – one that would connect, mine, and transform siloed data into a single database for faster and more accurate reporting and decision-making.

"We hoped to improve our service delivery model," HRPS Deputy Chief Nishan Duraipappah said. "We wanted to not only

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Joseph Glover
Police Analytics
Coordinator
Halton Regional
Police Service



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make better decisions, but also improve our deployment of officers and utilize resources more wisely. We needed a system that would allow us to better understand how we operate."

The police service deployed Octave's business intelligence software to build a data warehouse that consolidated data from various sources, regardless of location or structure. The solution pulls data from Octave's computer-aided dispatch (CAD) software, records management system (RMS), and other sources. Then, the system transfers the data-sets into one database to quickly query and run custom reports, prototype new reports, and write custom scripts.

Supporting the police analytics mission

Having a business intelligence system that quickly transforms data into accurate reports is powerful. With experts and analysts to interpret and validate findings, an organization can realize even greater results from its data.

Octave's software supports the agency's Police Analytics Unit, which mines and leverages data from within and outside of HRPS to make the police service more efficient and effective for residents. Staffed with data scientists, mathematicians, programmers, and police, the unit operates like a technology startup within HRPS and works to foster data-driven decision-making.

"(Octave's) business intelligence software is critical to how we collect, analyze, and turn our data into actionable intelligence," said Joseph Glover, HRPS police analytics coordinator. "The system is a critical ingredient to implementing our police analytics vision."

The business intelligence system ensures analysts collect, analyze, and report relevant public safety data. It also gives them the flexibility to develop custom script languages and web tools that support the changing data needs of the agency.

Improving operational efficiencies

With Octave's business intelligence software and the Police Analytics Unit working together, HRPS can now transform its vast amount data into actionable intelligence to improve operational efficiencies. Leveraging data from its dispatch and records systems, each individual action performed by officers is time-stamped and classified based on the nature of the activity. The system then analyzes the data to enable proactive and preventative operations.

"We've always had ideas about ways to improve operational efficiency and public safety quality, but we never had a way to quantify and prove out those ideas," said Glover. "Now we have a business intelligence system, analysts, and processes to measure data points that affect operating efficiencies. We can see if policy changes are working by looking at data."

Armed with monthly, quarterly, and annual performance measures, the agency quantifies officer activities, allowing supervisors to better determine how to allocate teams to improve public safety. HRPS has been able to make more informed decisions on managing cross-dispatch scenarios, reducing officer speeding incidents, mapping criminal activity hot spots, and more.

"We have not only been able to look at our deployment models across our policing geography, but we've also been able to make changes to where police officers police, and with zone realignment," Duraiappah said. "We have done studies on peak-time policing and have been able to redeploy resources at peak times, which has, in turn, provided better community safety for our citizens and businesses."

The HRPS also partnered with Hexagon to integrate its RMS with its financial and human resources systems. The agency's objective is to manage officer work performance and accurately forecast budgetary needs.

"We've now moved from just making decisions based on best assumptions or previous knowledge of an area to making data-driven business decisions," Duraiappah said. "Now, it's become our philosophy."

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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