DAVISTA

HEIMDALL FOR LAW ENFORCEMENT

ARE YOU SWIMMING OR DROWNING IN YOUR DATA?

A Data-Driven Approach to Risk and Incident Reduction

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PREDICTIVE INTELLIGENCE FOR MODERN POLICING

Are You Swimming or Drowning in Your Data?

Sink or swim? Early in my career, our SWAT team leader took us to our local high school swimming pool. He told us to jump in and tread water for fifteen minutes. No big deal, at least not for me. Two of my teammates, however, were a bit apprehensive. Why? I thought to myself. What is the big deal?

Treading water is easy if you are a floater but not so much if you are a sinker. I was not a sinker and never even realized such a thing existed. Then, I watched two grown men fight like hell to keep their heads above water before turning into human anchors and slipping below the surface and down to the bottom of the pool. Weird.

While this is not an article about floating, I did learn a valuable lesson that day. Sometimes, you have to resist the urge to fight, find the ability to locate your center of gravity, and learn the concept of buoyancy force. Most people don't actually float and will sink if they stay in one place. However, everyone will float if they swim.

Using data to your advantage is akin to understanding the difference between what it means to sink or swim. Police departments are awash in data. If you fear it and avoid jumping into the "data pool," there is little fear of drowning. But if you want to master it, sometimes you have to jump in.

The good news is this: you don't need to be the Michael Phelps of data to get started. In fact, a gold medal can be something other than the goal, and you don't need a data scientist, either. Although, if you can afford one, I certainly wouldn't turn one down.

Data is information. Information is the lifeblood of policing.

Developing a leadership strategy that produces results should be the overarching goal for police administrators. Sometimes, this requires innovation; other times, it can be as simple as adopting proven ideas and concepts and adapting them to your local needs. While there are over eighteen thousand police departments in America, they are all unique. How do I know this? Because there are over three hundred and fifty million people in this country, and we are all different in some form. There are universal truths among the differences, and data is one of them. So, our strategy was built on tangible data that could be measured.

We took an adaptive approach to change at our agency. This means we modified our existing COMPSTAT program, integrated data-driven management philosophies, and then assessed our progress monthly using performance metrics. There was no penalty for a lack of progress, only learning and continuous improvement. Not everyone bought in; that is for another article, but we reached a critical mass, and progress came one success and one failure at a time. If you are a Jim Collins fan, consider the first few years as our flywheel momentum building.

In a future article, I will drill down on specific ideas and concepts, but for today, I want to provide a high-level overview of what is possible when we "focus" on the right things.

In 2016 U.C.R. Part I Crimes peaked at the Lafayette Police Department, culminating after a steady increase in calls for service over the previous two decades. The agency reached historical highs in Robberies, Aggravated Assaults, Burglary, Larceny, and Auto Theft. Robberies, in

particular, were a significant concern, reaching 110, more than triple the 20-year average. Burglaries peaked at 582, and Larcenies at 2,218.

The city has been on an aggressive growth trajectory since the late 1990s, with annexation and expansion of private investment coupled with city and county services. The jurisdiction is in the backyard of a Big Ten university. Living and working in this thriving community has been an exciting time. With any growth comes challenges, particularly in public safety, which is a critical driver in economic development. We viewed this as an opportunity to showcase what our agency was capable of, and we partnered with some great minds and innovative technology.

Community support is the foundation of public safety. Law enforcement administrators must work closely with elected officials who understand the importance of investment in the public safety apparatus. They must also collaborate with community stakeholders to build relationships and trust. These critical components open up the lines of communication between citizens, businesses, academia, and safety officials. This is important for funding, but the real value in these relationships is the exchange of *data and information*, which is the lifeblood of effective policing. From there, it is up to the leaders to plan, strategize, execute, and continually assess results. Public safety begins with understanding core issues driving crime and placing demands on law enforcement services. Accountability is a shared responsibility.

Every officer, from the beat cop to the top cop, must engage when resources are stretched. Roles and responsibilities need to be established and communicated. Then, individuals can be free to set and pursue their goals within the mission parameters. The age-old management principle implies that what gets measured must be managed.

"What gets measured gets managed!"

What was our strategy? Identify our core issues and then assign specific units and individuals to create plans to address the problem. Then, relentlessly pursue the problem and follow up on the action and progress. It is not necessarily a new concept. Consider it a hybrid combining CompStat on the back of the OODA (Observe, Orient, Decide, Act) loop principle. What is unique is the technology designed around this concept.

The devil is always in the details. This process we undertook was slow and methodical. We started with understanding how our resources were being deployed and utilized. Standard patrol allocations are generally designed around geographical patrol areas. The typical allocation strategy is to create equity in workload and to provide prompt response to emergency calls for service. Translation: make sure no one officer is, on average, working a disproportionate number of calls for service over time. The workload is balanced, with an expectation that they get to priority calls within a designated time parameter (The response time expectation depends on area and municipality priorities). This can be generally effective. However, it is based on the premise that all officers are equal and produce relatively comparable results.

There is a catch. What happens when one-third of your workforce handles two-thirds of your calls for service on an average patrol shift while another one-third handles less than one-third of your calls? This imbalance creates stress on the most productive element of the workforce. It makes them LESS productive because it pulls them away from calls for service that drive value and pushes them into "call-taking" modes that keep them busy but not necessarily effective. If you are not tracking data and performance metrics, how can you understand accurately who is doing the work well?

By tracking our officer's obligated time and unobligated time, along with their activity, we began to chart where and how they produced results as individuals and members of a shift or specialty unit (Teamwork!). Once we had a solid understanding of performance, we took a precise and intentional approach to deployment. We built "prescriptive" patrol responsibilities and divided the workload, pushing the most critical core problems to our units tasked with no obligated response designation. The concept is built on "putting your best people on your biggest opportunities." Now, our most productive officers could relentlessly pursue solutions to our biggest problems without the distraction of being diverted to calls for service that keep officers busy but not necessarily productive.

You can't just be busy for the sake of being busy. You must be busy in ways that are driving value!

With the support of our Mayor, City Council, and other community stakeholders, we reallocated existing workforce personnel to specific roles in our organization. We added a few additional positions to support our objectives. This process began in the second half of 2015. With the assistance of another analyst, we built upon our data-tracking mechanisms of spreadsheets and information bulletins to improve the common operating picture of our agency. Sharing information across the organization was paramount to improved situational awareness. Not only does this enhance officer safety, but it also improves effectiveness by collectively identifying core crime and safety information.

Our monthly CompStat meetings became "Focus" meetings. Through collaborative efforts, our command staff identified and selected core issues to focus on patrol, investigative, and administrative actions. Each month, identified issues and problems were revisited. The common operating picture and priorities were updated. This feedback loop was continuous, and core issues stayed on the focus list until they were resolved to a point where all staff members felt they were adequately addressed. Everyone in the organization had a role and contributed to the C.O.P.

The proof is in the data.

The proactive policing strategies developed over the last decade have been effective. Our civilian and sworn staff have embraced the concept of driving policing forward through more intelligent data gathering, intentional personal interactions, and precise tactics. Prescriptive

policing is a philosophy and deployment strategy we have pursued and developed to drive value at L.P.D. By utilizing new data collection technologies and techniques and then analyzing this data to identify crime and social disorder trends before they peak, we have been able to intervene with appropriate resources as soon as possible. These early intersections solve problems sooner, which frees up valuable time and resources on the back end. Whether this means identifying and arresting criminals or providing resource-appropriate direction to citizens in crisis, it has effectively managed our call load and driven violent crime down.

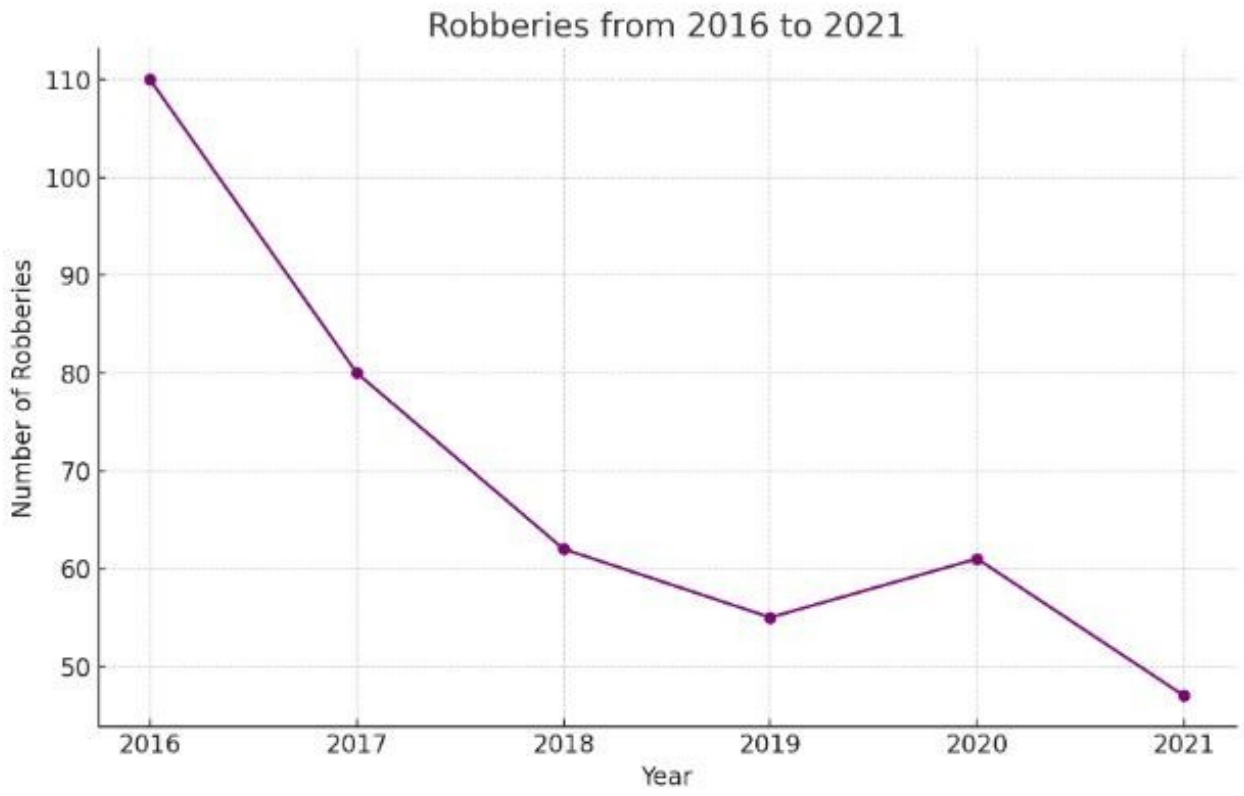
Five-Year Comparisons of Part 1 Offenses

	2017		2018		2019		2020		2021	
	offenses	cleared	offenses	cleared	offenses	cleared	offenses	cleared	offenses	cleared
HOMICIDE	4	4	4	2	5	2	7*	7	6	5
RAPE	43	26	34	31	38	26	35	16	30	3
ROBERRY	80	31	62	30	55	31	61	18	47	11
AGGR ASLT	238	184	238	178	256	195	326	205	249	135
BURGLARY	573	107	502	88	387	97	424	90	345	77
LARCENY	1903	421	1979	443	1844	395	1616	300	1436	193
AUTO THEFT	162	35	142	30	157	26	158	29	198	37
ARSON	8	2	12	6	7		13	2	10	1
TOTAL	**3011**	**806**	**2973**	**808**	**2749**	**772**	**2633**	**667**	**2321**	**462**

* One homicide incident in August of 2020 included a justified homicide. The F.B.I. defines a justified homicide as a felon being killed by an officer or civilian while committing a felony

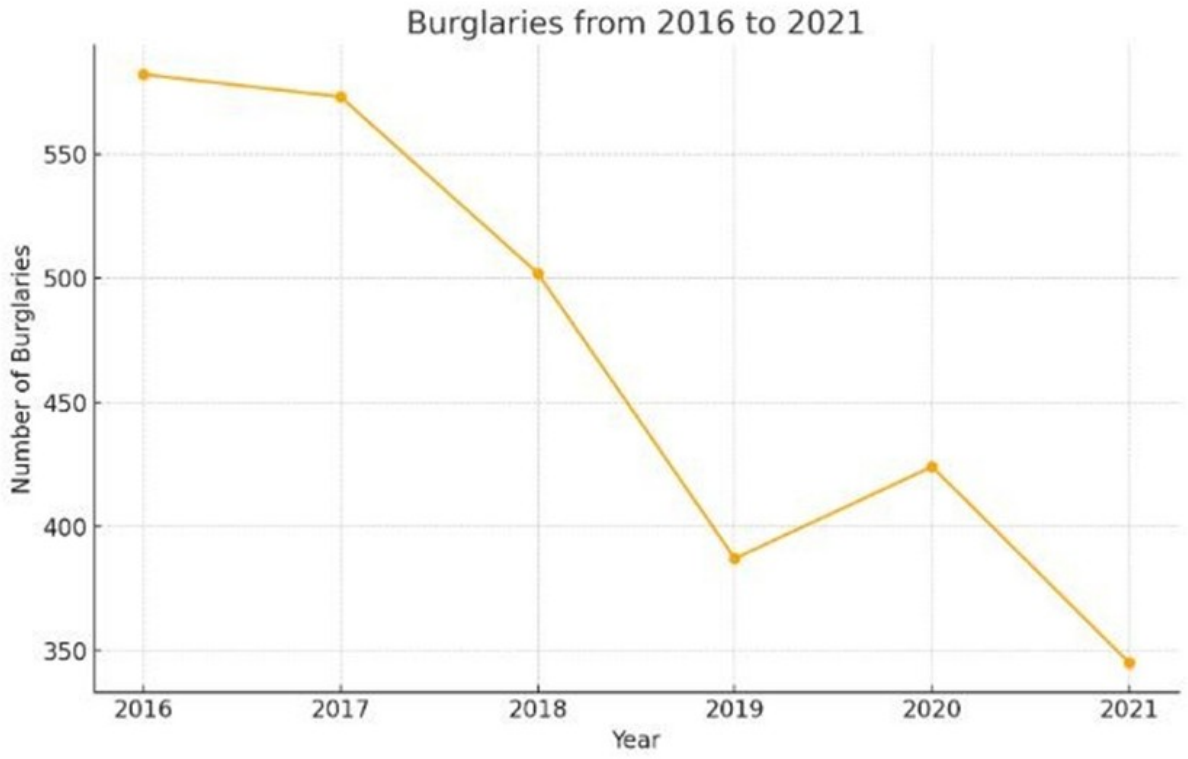
The above chart is a five-year snapshot of our UCR-reported data. Overall, there was a 23% reduction from 2017 to 2021 in total Part I Offenses. This data was, and is, representative of a very promising approach to crime reduction through a data-driven, performance-based approach. However, I would like to highlight a couple of data points within this data.

While I didn't include our data from 2016 in the above chart, I wanted to highlight a few additional data points from that year so we can compare them to the subsequent five years shown in the chart. As stated earlier, we had reached historical highs in Robberies, Aggravated Assaults, Burglary, Larceny, and Auto Theft. Robberies, in particular, were a significant concern, reaching 110, more than triple the 20-year average. Burglaries peaked at 582, and Larcenies at 2,218.



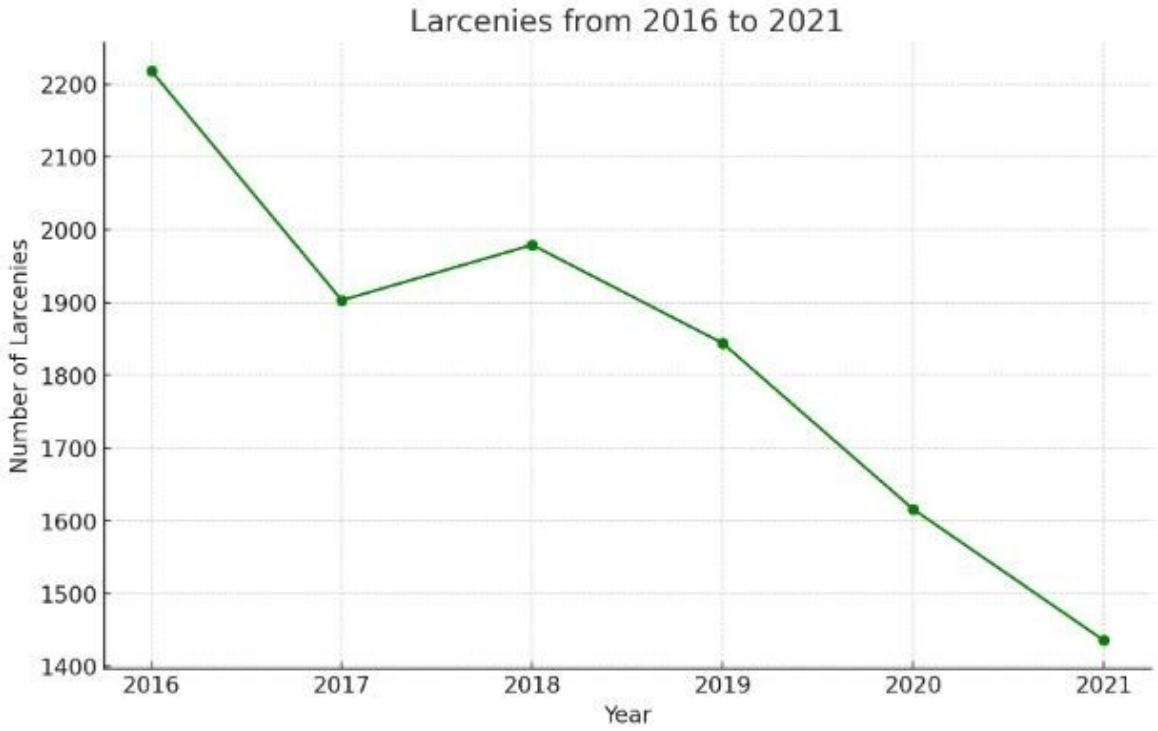
Lafayette (IN) UCR Data on Robberies (2016-2021)

Here is the chart showing the number of robberies for each year from 2016 to 2021. The data points are connected with a line, illustrating the trend over the years. As seen in the chart, there's a significant downward trend in the number of robberies over this period. From 110 in 2016 to 47 in 2021. This represents a 57% decrease.



Lafayette (IN) UCR Data on Burglaries (2016-2021)

Here is the chart depicting the number of burglaries from 2016 to 2021. Similar to the robbery data, there's a downward trend in the number of burglaries over these years, with a slight increase in 2020 before decreasing again in 2021. A move from 582 in 2016 to 345 in 2021 represents a 41% reduction.



Here is the chart showing the number of larcenies from 2016 to 2021. This chart also illustrates a general downward trend in the number of larcenies over these years. There's a noticeable decrease, especially between 2019 and 2021. Again, from a peak of 2218 in 2016 to 1436 in 2021, it highlights a 35% reduction in larcenies.

By "focusing" our attention on the issues that impact our agency's core mission, which is to create an environment where citizens can move freely about the city without fearing victimization, we resolved to attack crimes against people proactively. We aligned our purpose with our mission and then provided the resources to make it happen. This starts with getting the right information into the right hands.

"The greatest wisdom not applied to action and behavior is meaningless data." - Peter Drucker

Data is important. However, it is meaningless in the hands of the wrong people. It will need to be used by your best talent, who are oriented toward action and properly resourced. So this brings us back to getting the right people on the right bus. Aligning interest with observed performance is important. For example, if traffic fatalities are the issue being focused upon, the team assigned to that program should have demonstrated proficiency in traffic-related enforcement. The ultimate goal was to build an entire agency that understood the value of information.

Agency culture should focus on data-driven problem-solving, evidence-based practices, and programs across all departments. Not every officer needs to be an analyst or data expert, but they should collaborate with the experts and seek out information that will help make them more productive. This is where value is derived.

Again, this summary is a very high-level introduction to the strategies implemented in our city. It is important to understand that this collaborative approach is data-driven but people-oriented. It was designed to ensure autonomy was respected throughout the organization and where problems were identified and prioritized appropriately.

Policing is a community effort. Leverage partnerships and look for opportunities to collaborate.

When these efforts were underway, we simultaneously partnered with Dr. David Ebert and Abish Malik and their team at Purdue University. They worked on cutting-edge analytical software utilizing Artificial Intelligence and machine learning to automate data collection and analysis. This is where Davista Technologies became instrumental in our efforts to automate our manual processes. There are several other partners that I can talk about in future articles as well. Think "eco-system."

In 2018, we began to test and provide feedback on the Davista Technologies Heimdall Platform. Davista Technologies: Heimdall for Law Enforcement Through years of continual feedback and growth, we have been fortunate enough to participate, and we are now on the cutting edge of the future of policing. The link provided takes you to their website, where you can learn more about the technical details and capabilities of what we believe is the "Game Changer" in modern policing.

Every community is filled with resources and experts who are often willing and eager to work with law enforcement. When you partner with them to tap their expertise and experience, efficiency can be gained.

If you are a leader in a police organization, my recommendation is to stop playing the data "splash pad" and move into the pool. You can start in the shallow end, but your goal should be to develop the confidence to swim with the whales.

Happy Hunting!

Note: Heimdall is just one of many new and emerging technologies that will accelerate the positive and productive use of data. They have been great partners and have spent years building and refining their software based on user feedback. (If you are interested in learning more about their work, feel free to message me directly or contact Scott Sieracki) I'm just a fan of avoiding the process of reinventing the wheel whenever possible. Another attribute about Heimdall that I appreciate is that they have been built to be system agnostic, meaning they can and will work with any potential data source.